

# FOCUS EARTH



# OHB SE FIGURES

## [ THE GROUP ]

in EUR 000		2018	2017	2016	2015	2014
1.	Revenues	976,551	825,894	699,184	719,706	728,147
2.	Total revenues	1,000,392	859,689	728,386	730,368	772,954
3.	EBITDA	65,013	58,809	55,081	52,135	53,416
4.	EBIT	47,751	44,223	42,700	40,214	40,400
5.	EBT	44,092	42,238	38,009	36,698	33,874
6.	Share of OHB SE shareholders in net profit for the year	24,998	23,355	22,212	20,975	25,713
7.	Earnings per share (EUR)	1.44	1.34	1.28	1.21	1.48
8.	Total assets	753,606	719,698	682,914	638,725	640,613
9.	Equity	200,019	207,280	183,590	168,751	145,402
10.	Cash flow from operating activities	60,179	34,977	72,726	3,591	-35,020
11.	Equity investments	40,736	44,885	50,200	24,616	25,048
12.	thereof capital spending	2,342	245	1,966	39	40
13.	Order backlog	2,398,682	2,438,864	1,559,655	1,684,249	2,106,426
14.	Employees on December 31	2,769	2,420	2,298	2,056	2,086

## [ THE SHARE ]

in EUR		2018	2017	2016	2015	2014
1.	Closing price	30.90	44.61	18.54	20.97	19.70
2.	Year high	49.75	47.47	20.78	23.60	25.06
3.	Year low	27.55	18.26	17.02	16.59	17.45
4.	Market capitalization at year-end (in EUR million)	540	779	324	366	344
5.	Number of shares	17,468,096	17,468,096	17,468,096	17,468,096	17,468,096
6.	Dividend (EUR)	0.43*	0.40	0.40	0.40	0.37

\* Subject to approval by the shareholders

# 1,000

→ EUR million  
Consolidated total revenues

# 65

→ EUR million  
EBITDA

# 48

→ EUR million  
EBIT



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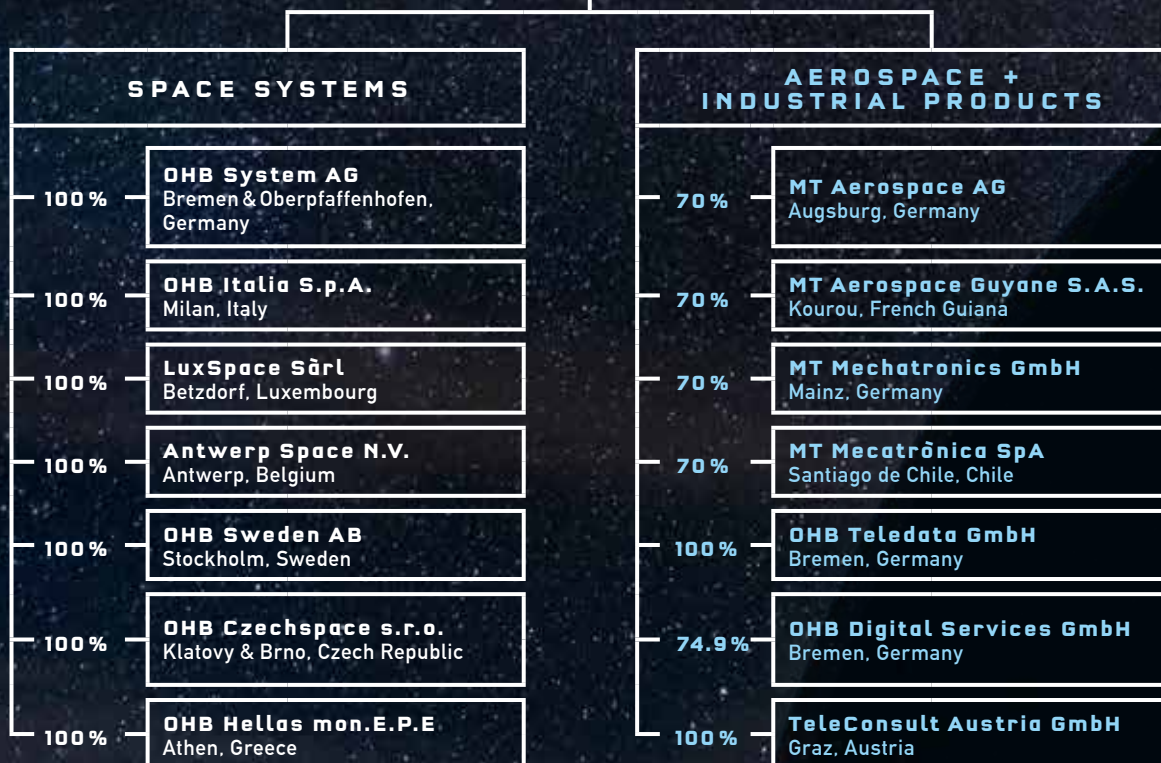
## [ OH B SE AT A GLANCE ]

**OH B SE is a European aerospace and technology Group** and one of the most important independent forces in the European space industry. With more than 35 years of experience in developing and executing innovative space technology systems and projects and its range of specific aviation/aerospace and telematics products, the OH B Group is superbly positioned to face international competition.

Over the last few years, it has broadened its geographic footprint within Europe and now has facilities in many important ESA member countries. These strategic decisions on locations allow the Group to participate in numerous European programmes and missions. The two 'Space Systems' and 'Aerospace + Industrial Products' business units reflect the convergence of these activities and the focus on specific core skills.

The 'Space Systems' business unit focuses on developing and executing space projects. In particular, it is responsible for developing and manufacturing of low-orbiting and geostationary satellites for navigation, science, communications, earth and weather observation and reconnaissance including scientific payloads. Reconnaissance satellites and broadband wireless transmission of image data form core technologies for security and reconnaissance. The exploration segment works on studies and models for exploring our solar system, primarily the Mars, Moon and asteroids. Its human space flight activities chiefly entail projects for the payloads and operations of the International Space Station ISS.

The 'Aerospace + Industrial Products' business unit is primarily responsible for manufacturing aviation and space products as well as engaging in other industrial activities. In this area, OH B has established itself as a leading supplier of aerospace structures; among other things, it is the largest German supplier for the Ariane program and established manufacturer of components for satellites and aircraft. In addition, OH B is an experienced provider of mechatronic systems for antennas and telescopes and is involved in several major radio telescope projects. OH B telematics systems serve the logistics industry around the world by offering efficient transport management and consignment tracking facilities.



# SUB-SIDIARIES

of OHB SE



- **Klaus Hofmann,**  
Born in 1960, degree in business administration  
Member of the Management Board of OHB SE since 2015
- **Marco R. Fuchs,**  
Born in 1962, attorney  
Member of the Management Board of OHB SE since 2000
- **Kurt Melching,**  
Born in 1962, degree in business administration  
Member of the Management Board of OHB SE since 2018
- **Dr. Lutz Bertling,**  
Born in 1962, doctor of engineering  
Member of the Management Board of OHB SE since 2018





# LETTER

## TO THE SHAREHOLDERS

DEAR READERS,

we are in the fortunate position of working in an industry that is highly fascinating and in which many engineers are working eagerly on developing solutions. In addition to this, public interest in space has been steadily rising for a few years now. At the same time, space travel itself is also becoming more and more relevant economically due to the now indispensable space-based applications. This was also evident from the number of visitors to the world's largest space congress, which took place in Bremen in October 2018. With over 6,400 specialists as well as 13,000 visitors on the public day, the International Astronautical Congress attracted a record audience. All these factors are enhancing the appeal of our Group companies as employers. The search for the best minds is one of our ongoing challenges as we continued to grow last year, with our headcount increasing from 2,420 to 2,769.

WITH THE HELP OF A  
 SATELLITE-BASED  
 OBSERVATORY,  
 PLANETS IN THE ORBIT  
 OF OTHER SOLAR  
 SYSTEMS SHALL BE  
 DETECTED AND STUDIED.

→ Marco R. Fuchs  
 Chief Executive Officer

Physically, our capacities are also continuing to expand: With the construction of the largest satellite integration hall to date at our Bremen site, the ground-breaking ceremony for which took place in December, we will be gaining a new ISO-8 clean room. This additional space is necessary for us to execute the current record order books worth EUR 2.4 billion on time. With regard to last year's order intake, I would like to highlight two contract awards in particular: The first one concerns the contract for the construction of the ESA scientific research mission Plato worth EUR 288 million, which our subsidiary OHB System signed in October. This marks the first time that this company is the prime contractor of a scientific mission of this magnitude. It is a satellite-based observatory for use in space to detect and explore planets orbiting in other solar systems. The most exciting outcome of this mission would surely be the discovery of a "second earth" orbiting around a "second sun", in other words, a planet capable of sustaining life. I would also like to mention an order placed with our subsidiary OHB Italia. This company signed a contract worth EUR 168 million with the Luxembourg government for the delivery of a high-resolution optical satellite. This contract diversifies the existing customer base and is an important export success for our Italian company.

A further consequence of the growth of the last few years is the decision to enlarge both the Management Board and the Supervisory Board with the addition of one further member in either case. To replace the long-standing Management Board members Dr. Fritz Merkle and Ulrich Schulz, who left the Company last year after reaching retirement age, the Supervisory Board appointed Kurt Melching and Dr. Lutz Bertling to the Management Board effective April 1, 2018. Kurt Melching had previously been Director of Finance & Controlling at OHB SE for many years and, as a member of the Management Board, is now also responsible for Group finance. Dr. Lutz Bertling is a new member of the OHB Group and heads Corporate & Business Development, Digitalization and Services. The Supervisory Board also gained a fourth member with the election of Ingo Kramer at last year's annual general meeting. He joined the Supervisory Board on June 19, 2018. Christa Fuchs stepped down from the position of Chairwoman of the Supervisory Board upon turning 80 but remains an ordinary member of the Supervisory Board. Robert Wethmar was elected to take over from her and has been Chairman of the Supervisory Board since April 1.

The OHB SE Group structure also changed last year, with four new companies incorporated and one acquired. The subsidiary Blue Horizon Deutschland GmbH was founded in the promising field of life science. OHB Satellitenbetrieb GmbH, a company specializing in the operation of satellite and associated ground systems, was established in the fast-growing field services segment. These two companies will be going into operation in 2019. The two newly established companies OHB Hellas and OHB Czechspace complemented OHB SE's European operations in 2018, strengthening the Group's position in its efforts to gain further ESA contracts. Both companies went into operation successfully last year. In addition, TeleConsult Austria GmbH, based in Graz, Austria, was acquired at the end of December 2018. This company specializes in navigation software solutions and will serve as the starting point for a significant expansion in this area.

In the Aerospace + Industrial Products business unit, MTAerospace last year received what is expected to be the final contract for the delivery of components for the European launch vehicle Ariane 5, which will remain in operation until 2022. The transition phase, during which both the current Ariane 5 and the newly developed Ariane 6 launcher will be used, begins next year. MT Aerospace is also developing and delivering key components for the new launcher.

The Management Board and the Supervisory Board will be asking the shareholders to approve a dividend of EUR 0.43 (previous year: EUR 0.40) per share at this year's annual general meeting.

[ OUTLOOK FOR 2019 ]

Based on the high order backlog of around EUR 2.4 billion (previous year: EUR 2.4 billion, as of December 31 in both cases), the Management Board expects consolidated total revenues to increase to EUR 1.05 billion in 2019 as a whole. EBITDA should come to EUR 80 million and EBIT to EUR 50 million, thus exceeding the previous year's figures in both cases.

At the end of last June, the charismatic Fritz Merkle left OHB SE's Management Board after reaching retirement age. I have always greatly appreciated his experience, loyalty and his talent for spreading his enthusiasm for space and wish to thank him most sincerely for his 18 years of service for the OHB Group.

OHB SE's success is driven by a growing and changing space market, but is underpinned by the skills of our employees. For this reason, the Management Board would particularly like to thank all of them for their services, dedication and their enthusiasm.



Bremen, March 19, 2019

→ Marco R. Fuchs  
Chief Executive Officer

# REPORT

## OF THE SUPERVISORY BOARD

### MEETINGS IN 2018

#### DEAR SHAREHOLDERS,

In 2018, the Supervisory Board performed its duties with due care in accordance with the applicable statutory requirements, the provisions of the Company's bylaws and its rules of procedure, advising the Management Board regularly and monitoring its activities continuously. In addition to its supervisory function, the activities of the Supervisory Board also include formative functions. Thus, the Supervisory Board contributes to the Company's business success not only in the short term, but also in the medium and long term.

The Management Board briefed the Supervisory Board regularly and comprehensively on the Group's business performance, current tendering processes, order intake, the relevant financial indicators and capacity utilization at OHB SE, the other Group companies and the individual business units. The Management Board answered all of the Supervisory Board's questions in full and comprehensively. The Supervisory Board sought and received ongoing information on corporate planning, strategic development and the main acquisition projects and advised the Management Board on individual matters relating to human resources, corporate acquisitions and project tenders.

The Supervisory Board held four ordinary meetings at which it deliberated on the Group's performance, the reports submitted by the Management Board, the status of current projects, pending tender processes, planned acquisitions and the corporate budget for 2019–2021. Ordinary meetings of the Supervisory Board in 2018 were held on March 20, May 24, September 20, and December 12 at the Company's offices in Bremen. Two extraordinary meetings of the Supervisory Board on February 23 and March 5 were devoted exclusively to personnel matters on the Management Board and Supervisory Board. All six meetings of the Supervisory Board held in the year under review were attended in full; in the case of two meetings (February 23 and March 5), two members participated by telephone. The Management Board attended four meetings of the Supervisory Board in full. One member of the Management Board was absent from the meetings held on February 23 and December 12. One member of the Management Board participated in the meeting of March 5 by telephone. The minutes of all of the Supervisory Board's ordinary meetings were taken by the Company's legal counsel. The minutes of the extraordinary meetings held on February 23 and March 5 were taken by a member of the Management Board.



SUPERVISORY BOARD

- Ingo Kramer,  
Member of the Supervisory Board since 2018, born in 1953,  
Partner of J. Heinr. Kamer Holding GmbH & Co. KG, Bremerhaven,  
President of the federation of German employers associations  
BDA, Berlin
- Christa Fuchs,  
Member of the Supervisory Board since 2002, born in 1938,  
business woman, Managing Shareholder of VOLPAIA Beteili-  
gungsgesellschaft mbH, Bremen
- Robert Wethmar,  
Chairman of the Supervisory Board of OHB SE since 2018,  
born in 1961, attorney at law, LL.M., Partner at lawfirm Taylor  
Wessing, Hamburg
- Prof. Heinz Stoewer,  
Member of the Supervisory Board of OHB SE since 2005, born  
in 1940, degree in engineering, Professor em. Space Systems  
Engineering, Technical University of Delft, Netherlands, Managing  
Director of Space Associates GmbH, Munich

At the extraordinary meeting held on **February 23, 2018**, the Supervisory Board deliberated on the appointment of Dr. Lutz Bertling and Kurt Melching to the Management Board of OHB SE as well as the addition of a fourth member of the Supervisory Board.

At its extraordinary meeting held on **March 5, 2018**, the Supervisory Board appointed Dr. Lutz Bertling to the Management Board of OHB SE for a period of four years and Kurt Melching for a period of five years effective April 1, 2018 in both cases. It also approved the service contracts to be entered into with the two new members of the Management Board.

The meeting held on **March 20, 2018** was chiefly devoted to the Management Board's report on the Group's performance in the period commencing January 1, 2017 and ending December 31, 2017, the current state of business as well as the forecasts for 2018. For this purpose, the Management Board submitted the annual financial statements, the consolidated financial statements, the management report for OHB SE and the Group management report for 2017. The statutory auditor from PricewaterhouseCoopers Wirtschaftsprüfungsgesellschaft GmbH, Bremen, personally presented the audit report and elaborated on it at this meeting. The consolidated financial statements and the annual financial statements of OHB SE were unanimously approved and, consequently, duly adopted. The Report of the Supervisory Board including the declaration of consent of the Related Parties Report prepared by the Management Board was also approved. The Supervisory Board took note of and adopted the Management Board's proposal for the allocation of the unappropriated surplus and the distribution of a dividend of EUR 0.40 per share, which was unchanged over the previous year, for approval by the shareholders.

The fully worded invitation to OHB SE's annual general meeting on May 24, 2018 and the agenda for the meeting were approved in a likewise unanimous resolution. In addition to the annually recurring items, the agenda also included a proposal to amend OHB SE's bylaws to increase the number of members of the Supervisory Board from three to four. Mr. Ingo Kramer was nominated as the fourth member of the Supervisory Board.

In addition to the regular topics, an important issue pertaining to the Supervisory Board was on the agenda for the meeting on March 20, 2018: Ms. Christa Fuchs stated that she would be resigning from her position as Chairwoman of the Supervisory Board of OHB SE effective March 31, 2018 but would be retaining her seat on the Supervisory Board. The other members of the Supervisory Board thanked Ms. Fuchs for her many years of service as Chairwoman of the Supervisory Board and welcomed her continued presence on the Supervisory Board. The Supervisory Board then elected the undersigned as the new Chairman of the Supervisory Board with effect from April 1, 2018. The undersigned's term of office ends at the end of the annual general meeting at which a resolution is passed to ratify the actions of the Supervisory Board for 2020.

INGO KRAMER  
HAS BEEN THE  
FOURTH MEMBER  
OF THE  
SUPERVISORY  
BOARD SINCE  
JUNE 19, 2018.

Finally, the Management Board informed the Supervisory Board that in accordance with new statutory requirements OHB SE had prepared a sustainability report for 2017 for the first time, the contents of which were to be reviewed by the Supervisory Board and published by April 30, 2018. This separate non-financial report outside the management report was submitted on time with Bundesanzeiger after being duly reviewed and approved by the Supervisory Board.

At the meeting of **May 24, 2018**, the Supervisory Board and the Management Board confirmed their satisfaction with the annual general meeting that had been held that morning. In particular, the proposals to expand the Supervisory Board to four members and to appoint Ingo Kramer as its fourth member met with strong approval from the shareholders. In addition, the Management Board reported on the Group's business performance in the first quarter of 2018 and the current state of business.

At this meeting, the Supervisory Board also decided unanimously after lengthy discussion to appoint Mr. Marco Fuchs as the Company's Chief Executive Officer for a further three years on unchanged contractual and financial terms.

At the meeting of **September 20, 2018**, the Management Board reported on OHB SE's business performance in the first half of the year and on the current state of business. In addition, it presented various business expansion projects and provided information on the business situation of individual Group companies. Personnel changes on the Management Board in the course of 2018 necessitated a revision of the schedule of responsibilities, which the Management Board explained in detail to the Supervisory Board and which the Supervisory Board subsequently approved unanimously.

After detailed discussion, the Supervisory Board also unanimously passed a resolution to appoint Mr. Klaus Hofmann as the Company's Chief Human Resources Officer for a further five years and also approved the amendments proposed to his existing service contract. In addition, the Management Board submitted the annual report on the leases in force between the OHB operating companies and the Fuchs family's real estate companies in Bremen, Oberpfaffenhofen and Milan.

Held on **December 12, 2018**, the Supervisory Board's final meeting for the year dealt primarily with the Management Board's report on the Group's business performance in the first nine months of 2018 and the expected full-year financial figures for 2018. In addition, the Management Board presented the corporate plan for the years from 2019 to 2021. After extensive discussion, the Supervisory Board approved this corporate plan.

A further key item in the agenda of this meeting was the status of digitization within the OHB Group and future tasks and challenges in this connection. The Management Board outlined the measures that had already been taken as well as those that were being planned to additionally improve the IT infrastructure. The primary goal is to implement a uniform IT strategy throughout the OHB Group. Looking forward, the Management Board will be regularly reporting to the Supervisory Board on the progress of digitization at OHB.

The December meeting of the Supervisory Board also dealt with the presentation of the 2018 internal audit report, the audit activities carried out and the results. Moreover, the audit schedule for 2019 was submitted and duly approved by the Management Board and Supervisory Board. Legal counsel presented the compliance report for 2018, which the Management Board and Supervisory Board duly approved. In accordance with the Act on the Equal Participation of Women and Men in Executive Positions, the targets for the proportion of women on the Supervisory Board and Management Board must be disclosed. After detailed discussion and in the light of the current situation at OHB SE, the Supervisory Board unanimously approved a target of 25% for the Supervisory Board and of 0% for the Management Board. These targets are to apply until December 31, 2020. The Management Board and the Supervisory Board also jointly issued the declaration of conformity to the German Corporate Governance Code in the version of February 7, 2017 stipulated by Section 161 of the Stock Corporation Act.

**CORPORATE GOVERNANCE**

The Management Board also submitted a corporate governance report to the Supervisory Board in accordance with Section 3.10 of the German Corporate Governance Code in connection with the corporate governance declaration stipulated by Section 289f of the German Commercial Code. The corporate governance declaration can be examined at OHB SE's website. The Supervisory Board regularly discussed the application and further development of the principles of corporate governance within the Company. On December 12, 2018, the Management Board and the Supervisory Board issued an updated declaration of conformance in accordance with Section 161 of the German Stock Corporation Act and made this available permanently to shareholders at the Company's website.

**APPROVAL OF THE ANNUAL FINANCIAL STATEMENTS FOR 2018**

The annual financial statements, the consolidated financial statements and the related management reports of OHB SE for 2018 were audited by PricewaterhouseCoopers Wirtschaftsprüfungsgesellschaft GmbH, Bremen, and issued with an unqualified auditor's report.

These documents were made available to all members of the Supervisory Board in sufficient time. At the Supervisory Board's balance sheet meeting held on March 19, 2019, these documents were discussed in the presence and with the involvement of the statutory auditor.

The Supervisory Board did not raise any objections and accepted the results of the audit. It approved the consolidated financial statements, as a result of which they are now deemed to have been duly adopted. The Supervisory Board concurred with the Management Board's proposal for the allocation of the Company's unappropriated surplus. The related parties report prepared by the Management Board was audited by PricewaterhouseCoopers Wirtschaftsprüfungsgesellschaft GmbH, Bremen, and given the following unqualified audit certificate:

"Having examined and assessed the related parties report in accordance with our duties, we hereby confirm that

- 1. the facts stated in the report are correct,
- 2. the Company's transactions as detailed in the Report were not unreasonably high."

The Supervisory Board raises no objections following its own examination and therefore approves the Management Board's related parties report.

**CHANGES TO THE SUPERVISORY BOARD AND THE MANAGEMENT BOARD**

There were significant changes to OHB SE's Supervisory Board and Management Board in 2018:

Ms. Christa Fuchs resigned from her position as Chairwoman of the Supervisory Board of OHB SE effective March 31, 2018 but retained her seat on the Supervisory Board. The Supervisory Board elected the undersigned as the new Chairman of the Supervisory Board with effect from April 1, 2018. At the annual general meeting held on May 24, 2018, the shareholders passed a resolution to increase the size of the Supervisory Board from three to four members. On the basis of this resolution, Mr. Ingo Kramer was additionally appointed to the Supervisory Board. Upon being entered in the commercial register, Mr. Ingo Kramer became the fourth member of the Supervisory Board on June 19, 2018.

Having reached retirement age, Ulrich Schulz left OHB SE's Management Board effective July 30, 2018. Dr. Lutz Bertling was appointed to OHB SE's Management Board effective April 1, 2018 and is responsible for corporate development, space services and digitalization. In addition, Kurt Melching, who had hitherto been a member of the Management Board of OHB System AG and director of finance and controlling of OHB SE, was appointed to OHB SE's Management Board effective April 1, 2018 and is in charge of financial matters.

**VOTE OF THANKS**

The Supervisory Board wishes to sincerely thank the Management Board, all employees and the employee representatives for their work. They have once more made a contribution to a very successful year for OHB SE.

Bremen, March 19, 2019

→ Robert Wethmar  
Chairman of the Supervisory Board

**KURT MELCHING  
AND  
DR. LUTZ BERTLING  
WERE APPOINTED  
TO THE  
MANAGEMENT  
BOARD OF OHB SE  
EFFECTIVE  
APRIL 1, 2018.**

## WHAT IS EARTH OBSERVATION?

Earth observation is the monitoring of our planet and its ecosystems from space. It is one of the most important tasks that space travel fulfils for the benefit of humanity. The state of the Earth's surface and atmosphere is tracked with the aid of satellite systems. Earth observation satellites are designed specifically for such applications. Weather satellites are mainly used for meteorology and environmental satellites for environmental observation, mapping and geology. Reconnaissance satellites are also part of Earth observation. They provide visual and radar information.

## WHY EARTH OBSERVATION?

The measurements taken by earth observation satellites make it possible to detect changes in the environment, for example in soils, oceans and the atmosphere, and to develop measures for protecting the environment and the climate. Earth observation satellites also provide a quick overview of the damage caused by acute catastrophes such as earthquakes, floods or oil spills. The photographs they take show the extent of a disaster and its hot spots, thus supporting relief services on the ground. Earth observation satellites make it possible to produce digital maps of the earth and provide data input for weather forecasts. In this way, they make a contribution to ensuring the safety of air and sea traffic for example.



OUR PROJECTS: MTG, PRISMA, ENMAP, COPERNICUS, EAGLET, SARAH, OPTSAT, NAOS

## [ WEATHER ]

Weather forecasts are one of the most common types of information that we all use day for day. However, agriculture and transport, for example, also depend on precise weather data.

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## [ ENVIRONMENT ]

Changes in the climate, atmosphere and the surface of the earth may pose an existential threat to humanity. Environmental satellites provide data that enable countermeasures to be taken in good time.

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## [ RECONNAISSANCE ]

Reconnaissance satellites provide radar and/or visual information that can be used by countries or government agencies to help them assess the current situation at a given location.

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# [ INTERVIEW ]



THE RETURN OF THE GERMAN ASTRONAUT ALEXANDER GERST FROM ISS SHORTLY BEFORE CHRISTMAS HAS ONCE AGAIN SPARKED PEOPLE'S ENTHUSIASM FOR SPACE TRAVEL. FOR MANY, IT EXUDES AN ENORMOUS FASCINATION. WHERE DOES THIS FASCINATION COME FROM?

It stems from the fact that space travel has made it possible for us to leave Earth. That's what is so spectacular about the things that astronauts do. They see the earth as a whole from above. You can sense the vulnerability of this tiny blue speck in the universe. This impression is reflected most vividly in the now iconic photograph taken by the crew of Apollo 8, who captured the rise of the Earth above the horizon of the moon in 1968. This picture and Neil Armstrong's first step from the Eagle Lunar Module on the surface of the moon in July 1969 are the images that epitomize the fascination of space travel most emotionally. Hardly anyone is left untouched.

→ Marco R. Fuchs has been CEO of OHB SE since 2000 and CEO of OHB System AG since 2011. Aged 56, he is an attorney and has been involved in OHB's management since 1995.

“YOU CAN SENSE  
THE VULNERABILITY  
OF THIS TINY  
BLUE SPECK  
IN THE UNIVERSE.”

Marco R. Fuchs,  
Chief Executive Officer of OHB SE

AFTER HIS RETURN, GERST SHOT A VERY EMOTIONAL VIDEO IN WHICH HE APOLOGIZED TO HIS UNBORN GRANDCHILDREN FOR THE WAY HUMANITY HAS BEEN TREATING THE EARTH. THIS EMOTIONAL APPEAL WAS TRIGGERED BY WHAT IS KNOWN AS THE OVERVIEW EFFECT - THE VIEW FROM SPACE ON ALL HUMANITY. IS IT CONCEIVABLE THAT WITH EARTH OBSERVATION SATELLITE TECHNOLOGY THIS EFFECT COULD SPREAD TO ALL PEOPLE, THUS AROUSING GREATER AWARENESS OF OUR PLANET'S VULNERABILITY?

The emotional element comes from the awareness of the earth's vulnerability. And particularly the realization that we are all dependent on this one small dot floating in space. In addition, knowledge and a realization of the things that we actually already know are rendered more tangible through a visual impression. This one single image of the earth instantaneously shows what is at stake.

WHAT IS THE GREATEST BENEFIT OF EARTH OBSERVATION?

You get the facts straight. Our culture is based on knowledge and on empiricism. You admit that you don't know everything, that observation brings further insight and that this insight may possibly changes your behavior. In this sense, earth observation helps us to learn more about the earth and perhaps find out more effectively and swiftly where it is heading. The deeper purpose of space travel in this case is to do this on a larger scale. And great authority can be derived from this. Because in the end it is always boils down to proving or disproving forecasts or theories. To this end, you have to observe and collect facts. This is at least true of the environment and the climate. In the case of satellite-based reconnaissance, it is perhaps more important to depict reality confidently and independently in order to know what is. Political and, if necessary, military decisions are then made on this basis.

"HOWEVER, ENVIRONMENTAL MONITORING WILL FACE THE QUESTION OF HOW TO EVALUATE AND INFLUENCE LONG-TERM DEVELOPMENTS."



WHICH OF THESE AREAS IS THE MOST IMPORTANT FOR OHB?

This can be seen in terms of waves. For a long time, satellite-based reconnaissance was the most important area for OHB. SARLupe was a project that catapulted us into a new league about 18 years ago. If you take a look inside our facilities at the moment, you will see that our activities mainly focus on satellites for weather observation. In the long term, the environment, including the weather and climate, will certainly be the most important area. Environmental monitoring from outer space will assume a dimension that we cannot even imagine at this point in time.

WHAT DO YOU MEAN?

Environmental monitoring will gain a permanence and complexity that will clearly distinguish it from all other areas. Reconnaissance involves three or four imaging sensors, such as high-resolution electronic optics, radar or infrared. Much more is involved when it comes to monitoring the environment. Indeed, I am convinced that, looking forward, we may possibly even use sensors that require a satellite constellation of their own.

### AND WHAT DEVELOPMENT DO YOU SEE FOR EARTH OBSERVATION AS A WHOLE?

It will advance disparately in a cycle of innovation. Reconnaissance tells us about the status quo. Weather observation provides information about today, tomorrow and the day after tomorrow. However, environmental monitoring will face the question as to how long-term developments are to be assessed and influenced.

### DOES THIS MEAN THAT OHB IS MAKING A CONTRIBUTION TO PROTECTING AND PRESERVING THE PLANET IN THE LONG TERM?

Yes, a contribution. The purpose of space travel is to derive benefits for the earth. When we monitor the environment, we seek to preserve the earth.

### AND THE BENEFITS FOR HUMANITY? DO YOU THINK THAT THEY WILL BE GENERALLY ACKNOWLEDGED IN DAY-TO-DAY LIFE?

As far as weather observation is concerned, there is no doubt that this is the case. That's the most every-day form of information that you can currently get. And many older people still remember that for a long time the weather forecast had more to do with fortune-telling than with empiricism. Today it's completely different. Weather forecasts have become reliable. They have become a science that provides precise predictions. In short, the weather is the most important day-to-day question that interests everyone. Everyone, in all cultures, in all situations, is interested in the weather.



"THE WEATHER IS THE MOST IMPORTANT DAY-TO-DAY QUESTION THAT INTERESTS EVERYONE."

### THAT SOUNDS LIKE A PERMANENT BUSINESS MODEL.

This is what I firmly believe. Weather observation will still be very, very important for a very, very long time to come. Business in satellites in this area will benefit from this because weather observation satellites have become much better in recent decades. The question is always the same: What can we observe, what insights can we gain and what can we deduce from them? From this point of view, space travel has contributed much to weather forecasting; by the same token, however, the weather has also brought a lot to space travel.

### THE NEXT GENERATION OF WEATHER SATELLITES IS CURRENTLY BEING BUILT AT OUR FACILITIES, MTG. WHAT MAJOR ADVANCES HAVE BEEN ACHIEVED?

There are imager and sounder satellites. In the case of imager satellites, the aim is to additionally improve imaging capabilities. But the sounder satellites are where the real progress is being made. Profile measurements in the vertical plane are now possible, enabling the three-dimensional acquisition of atmospheric data. This innovation in the sounder permits a more accurate long-term forecast and it will also be possible to predict local weather events with greater precision.

### WITH EAGLET WE ALSO HAVE SMALL SATELLITES IN OUR RANGE. WHAT ROLE WILL THESE SMALL SATELLITES BE PLAYING?

Hopefully, they will become an important addition to our current portfolio. As a result, we will have a very wide range of satellites from five kilograms to five tons. The small satellites have an advantage in that they can take measurements in swarms and thus in many places at the same time. This swarm intelligence generates a large picture of a given situation. For this reason I am convinced that these small satellites will find their market.

AT THE ESA COUNCIL OF MINISTERS CONFERENCE IN NOVEMBER, A DECISION WILL ALSO BE TAKEN ON THE EUROPEAN EARTH OBSERVATION MISSION COPERNICUS. OHB IS CURRENTLY INVOLVED IN THE MISSION WITH A TOTAL OF FIVE FEASIBILITY STUDIES. HOW IMPORTANT IS COPERNICUS TO OHB?

Very important. So far, we have only been involved in the program via a limited share of the Sentinel 4 project. There is great future potential for us. From a strategic point of view, it is the largest new field for OHB that we intend to tap.

WHAT IS THE GOAL FOR OHB WITH COPERNICUS?

We would like to become the system leader for two out of six possible new missions and take on a substantial role in two more, such as payload responsibility.

ANOTHER AMBITIOUS BUT VERY COMPLEX PROJECT IS THE ENMAP ENVIRONMENTAL SATELLITE. HOWEVER, THERE HAVE BEEN MANY MAINLY TECHNICAL PROBLEMS AND DELAYS. IN THE MEANTIME, HOWEVER, THE PROJECT IS NEARING COMPLETION. ARE YOU HAPPY?

Yes, because it shows that at our company we have the courage to tackle things that have never been done before and that we have the stamina to find solutions to the enormous challenges. In this respect, I am very pleased, especially since a similar satellite – Prisma from our subsidiary OHB Italia – has been completed and was successfully launched recently.

WHAT WAS THE CHALLENGING PART OF ENMAP?

The observation instrument of the satellite is a brand new development and, from this point of view, technically enormously challenging. The project was much more difficult than we had thought at the beginning. But it has developed enormously over the years. What was originally a simple small satellite has become a very complex medium-sized satellite both technically and financially.

ENMAP IS A HYPERSPECTRAL SATELLITE. WHAT DOES THAT MEAN?

Hyperspectral means that data is recorded in 20 to 250 spectral channels, ranging from ultraviolet wavelengths to long-wave infrared. Measurements from space were previously not possible with the accuracy that we can now achieve with EnMAP. There are only two projects in the world for which hyperspectral satellites of this complexity are being developed and built – and both of them are being executed at OHB.



“WE ARE LEADERS IN THE FIELD OF RECONNAISSANCE AND, VIA THE MTG PROGRAM, ONE OF THE BIG PLAYERS FOR WEATHER SATELLITES.”

“THERE ARE ONLY TWO PROJECTS IN THE WORLD FOR WHICH HYPERSPECTRAL SATELLITES OF THIS COMPLEXITY ARE BEING DEVELOPED AND BUILT - AND BOTH ARE BEING EXECUTED AT OHB.”

#### WHAT DOES THIS TECHNOLOGICAL LEAD MEAN STRATEGICALLY?

This technology delivers high-quality and, above all, more useful data for environmental monitoring in particular. Hyperspectral technology allows conclusions to be drawn on dynamic environmental influences. It is about being able to make qualitative statements about the development of soils or vegetation, for example.

#### DOES THIS MEAN THAT THE MORE EARTH OBSERVATION DATA IS USED FOR THE EVERYDAY AND EVEN ECONOMIC BENEFIT OF PEOPLE, THE MORE INDISPENSABLE THE SERVICE WILL BE SEEN AS BEING?

That's right. The ideal situation for us is indeed the permanent monitoring of the earth's environment, climate and safety. Because then we are part of the infrastructure, a kind of knowledge infrastructure that makes data available around the clock.

#### WHAT PROJECTS ARE MOST IMPORTANT FOR OHB IN THE AREA OF RECONNAISSANCE?

SAR-Lupe has been running very successfully in full operational mode for over eleven years without even the slightest failure in a decade. The follow-up SARah system is currently being implemented and has reached an advanced stage of development. We also have two important projects for Germany and Luxembourg in the field of high-resolution electro-optical reconnaissance. We would also like to work with the Italian government on our Eaglet series of small satellites. Eaglet 1 was successfully launched at the end of 2018 and Eaglet 2 is currently being built for the Italian Ministry of Defense.

#### HOW MANY OF THESE SMALL SATELLITES ARE POSSIBLE IN AN IDEAL SITUATION?

Around 60. Eaglet 1 is in orbit and transmitting images, the contract for Eaglet 2 has been awarded and negotiations are currently ongoing for Eaglet 3 and 4. We hope to get this fleet of four demonstration satellites into space to prove that the concept works.

#### WHAT POTENTIAL DO YOU LOOK AT WHEN YOU CONSIDER THE ENVIRONMENT AND CLIMATE?

As far as weather satellites are concerned, we are looking at the imager and sounder satellites as part of the MTG project. Our third contribution in the weather segment is the microwave imager (MWI), which will be assembled by OHB Italia as a further payload for the future polar-orbiting European weather satellites. With respect to the environmental satellites, I would mention Sentinel 4, our contributions to the Flex payload, EnMap, Prisma and the new Copernicus missions. Our main focus is of course on the upcoming Copernicus missions. Being a part of this project on a reasonable scale is the most important thing for us.

#### HOW DO YOU DEFINE OHB IN THE FIELD OF EARTH OBSERVATION?

We can be pretty self-confident in this respect. We are leaders in the field of reconnaissance and, via the MTG program, one of the big players for weather satellites. With Copernicus, we're the new kid on the block. As I said, we want to have a say in this, moving forward.



# FOCUS ON THE WEATHER

“AT CERTAIN ALTITUDES,  
GALES AND THUNDERSTORMS  
ARE SO INTENSE THAT  
THEY POSE A THREAT TO  
LIFE AND LIMB.  
THEY CAN TEAR THE WINGS  
OFF SMALLER PLANES  
IN PARTICULAR.”

„Today, the five-day forecast today is as accurate as the weather forecast for the next day was in 1980.“

“There are  
**2,000**  
thunderstorms  
per minute worldwide.”



“**-89.2°C**  
is the lowest  
temperature ever  
recorded on earth.”

## PRECISE WEATHER FORECASTS ARE INDISPENSABLE FOR HIKERS, FARMERS AND PILOTS

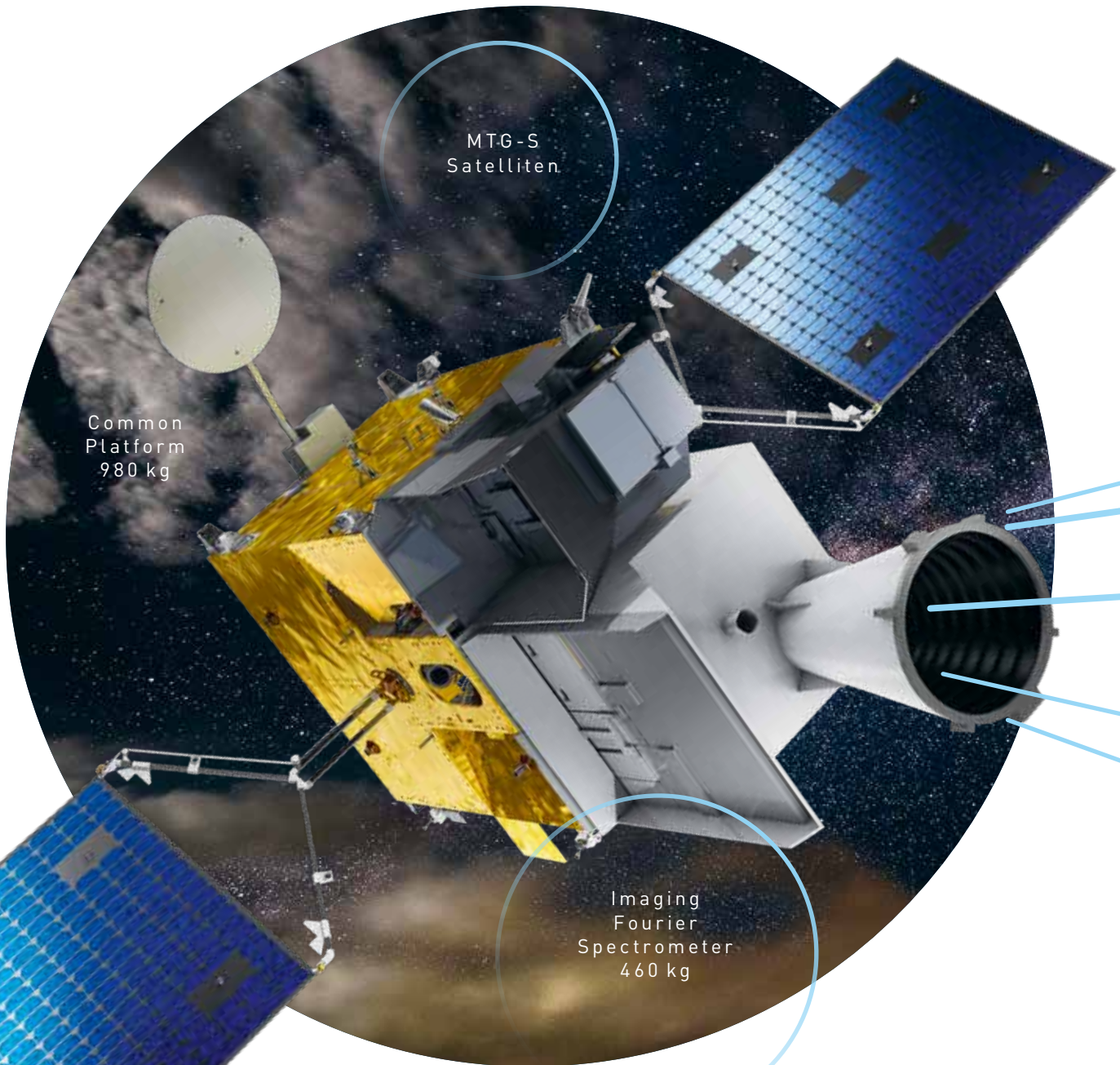
**“Do I need to take an umbrella to work today?”**

An answer to this question can be gained by looking out the window, watching the conventional weather forecast on TV or going on to Facebook (“Good morning. It looks like rain today in Oberpfaffenhofen. Make sure you take your umbrella”). In our daily lives, weather forecasts like these are convenient more than anything else.

Yet, there are situations in which accurate weather forecasts are crucial – for hikers for example. For them, conditions can quickly become very treacherous. Given the nature of mountain ranges, dangerous swings in the weather may occur locally. If I am a hiker and know that a snow storm is already raging behind the mountain ridge, this can prompt me to descend to a valley or find a shelter. Consequently, this can be a matter of life or death.

Agriculture is equally as dependent on accurate weather forecasts, e.g. warnings of frosty conditions, hailstorms or heavy rain, which in some cases may occur as very local phenomena. Another important example is aviation. If the pilot knows the location of a thunderstorm or gale, he can fly around it or at least give his passengers early warning. He can also make better use of tail winds with this knowledge to save fuel and power the environmental impact.

# [ METEOSAT THIRD GENERATION ]



MTG-S  
Satelliten

Common  
Platform  
980 kg

Imaging  
Fourier  
Spectrometer  
460 kg

4 x 4 Kilometer  
On Ground Spatial Sampling

# BETTER WEATHER FORECASTS FOR EUROPE

In order to maintain and improve Europe's leading weather forecasting capabilities, the European Meteorological Satellite Organisation (EUMETSAT) is currently commissioning a new third-generation Meteosat weather satellite (Meteosat Third Generation, MTG). The development of the systems will be lead-managed by the European Space Agency ESA, with the six satellites to be launched one after the other from 2021 onwards.

→ Four of these MTG-I satellites will capture significantly improved images with the main "Imager" instrument. The other two MTG-S satellites carry a new type of high-resolution spectrometer ("sounder"), which will be used to track the three-dimensional movement of water vapor and other gases in the atmosphere.

Once the MTG satellites are operational in their geostationary orbit, their new and enhanced capabilities will produce much more accurate weather forecasts. Thus, for example, storms with heavy precipitation can be predicted earlier and more accurately, air traffic can be planned more efficiently and economically and farmers can determine precisely the optimum time for harvesting. In addition, the measurements taken by the MTG satellites will improve our understanding of the Earth's climate system, something from which not only Europe will benefit.

## PARTNERS

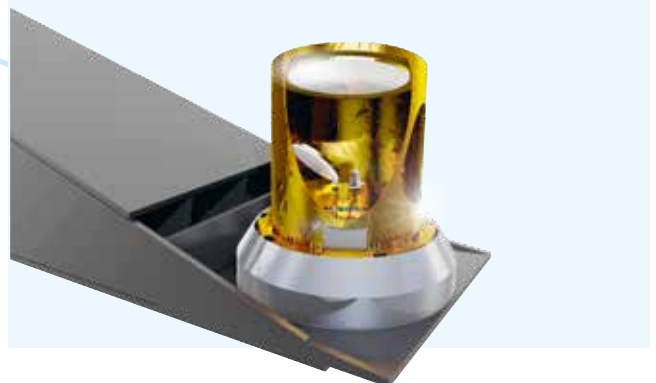
The industrial consortium for the development of the MTG program is being lead-managed by French company Thales Alenia Space with OHB System AG as its partner. OHB System AG is responsible for the development of all six satellite platforms and for the development of the sounder satellites.

In addition to its activities at the system level, OHB System AG is working on the instruments for MTG at the "Optics & Science" space center. OHB System AG is overseeing the entire development of the infrared sounder, the highly sophisticated imaging spectrometer which is the main instrument fitted to the two sounder satellites.



## [ MWI INSTRUMENT FOR EUROPEAN METOP-SG WEATHER SATELLITES ]

OHB Italia is responsible for designing and engineering the MicroWave Imager (MWI) instrument for the MetOp Second Generation (SG) weather satellite (Satellite B series) and the final in-orbit verification of three flight models. The total value of the contract with Airbus stands at approximately EUR 170 million. The extremely high radiometric accuracy of the MWI and the high-quality data which it will generate will lead to a significant improvement in weather forecasts and a better understanding of climate change.





# FOCUS ON THE ENVIRONMENT

“SATELLITE TECHNOLOGY IS MAKING A DIRECT CONTRIBUTION TO TRACKING AND MONITORING THE CONDITION OF THE EARTH AT ALL TIMES IN VERY MANY DIFFERENT AREAS AS A BASIS FOR IMPROVING IT.”

CLIMATE CHANGE, POPULATION GROWTH,  
THE SCARCITY OF RESOURCES MAKE  
RELIABLE DATA ON THE DEVELOPMENT  
OF OUR EARTH OF EXISTENTIAL  
IMPORTANCE

Climate change has been causing major changes in our environment over the past few decades: The climate is changing, glaciers and the polar ice are melting and natural disasters are increasing. With the latest technology in satellite-based earth observation, these changes can now be measured and tracked precisely. This enables scientists to better assess the consequences and thus provide policy makers with recommendations for possible countermeasures.

Environmental monitoring also helps to understand changes in soils and seas; this benefits agriculture, which can derive information on fertility from a hyperspectral analysis of fields, for example. This, in turn, can help to improve harvests by enabling the targeted use of irrigation or fertilisers.

The observation of forests and meadows provides a comprehensive overview of the situation with respect to forestry and biodiversity. Data on wind speeds and solar radiation also provides the power industry with important information required for the production of electricity using renewable energies. Soil analyses using hyperspectral technology provide insights into the location of new sources of raw materials.



“There are  
**8.7 million**

different species of animals  
on earth (but up to 200 of them  
become extinct every day.”

“The EU spends about

**40 %**

of its budget on agricultural subsidies,  
and satellite data can be used to  
check whether farmers are declaring  
everything correctly.”

# [ PRISMA ]



THERE ARE ONLY TWO  
PROJECTS WORLDWIDE  
THAT CAN OFFER  
HYPERSPETRAL ANALYSIS  
FROM SPACE AND  
BOTH ARE BEING  
EXECUTED BY OHB

→ PRISMA is a satellite mission financed by the Italian Space Agency. The aim was to develop a satellite equipped with a hyperspectral optical sensor. PRISMA will be launched in March 2019 from the European Spaceport in Kourou, French Guiana. OHB ITALIA is responsible for the entire program management, planning, systems technology, development and integration of the platform as well as all validation activities.

**PRISMA is an earth observation satellite equipped with an innovative electro-optical instrument** that combines a hyperspectral sensor with a medium-resolution panchromatic camera. This type of combined instrument unites the advantages of conventional observation based on the detection of the geometric properties of a region with the ability to determine the chemical and physical properties of the objects present in the section using hyperspectral sensors.

The scientific community and other users will be able to use these capabilities for a range of applications, including environmental monitoring, resource management, plant identification and classification, pollution control, etc. Other applications are also possible, including homeland security. The PRISMA satellite built by OHB Italia will be placed in a sun-synchronous orbit at an altitude of 615 kilometers. It has a launch mass of around 900 kilograms.

## [ EnMAP ]

A GERMAN SPACE-BASED  
SCIENTIFIC MISSION

## FACTS TABLE

**Global coverage** with a constant  
70°S – 70°N AOI performance

Maximum cross rail angle of 21° for  
observation of the ground track

Orbit cycle: **29 days maximum  
revisit time for solid ground**

→ Goal: 6 days

Acquisition latency time, defined as the  
maximum time from a certain acquisition  
request until its availability on board:  
**approx. 9 days.**

Processing latency time, defined as the  
maximum time from the availability of the  
on-board data from a single capture to that  
for related associated products requested by  
the user: **approximately 2 days.**

Surface of the earth that can be captured  
in a single day: **200,000 km<sup>2</sup>, equivalent to  
about 223 30 km x 30 km spot images.**

The system can be operated either in **spot  
mode** (30 km x 30 km) or in **strip mode** up to  
a **maximum length of 1,800 km.**

System point accuracy less than 1 km;  
**geolocalization <200 m without GCP <15 m  
with GCP**



The Environmental Mapping and Analysis Program (EnMAP) describes the Earth's environment on a global scale. The hyperspectral imager (HSI) measures solar radiation reflected from the earth's surface as a high-resolution continuous spectrum from visible light to short-wave infrared light.

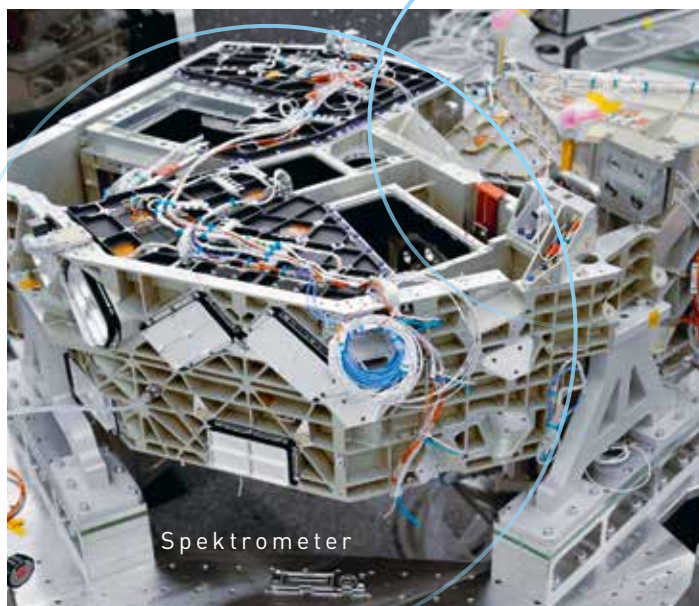
This can be used to precisely determine the state of and changes in the earth's surface. The mission will be commencing in 2020 for a period of five years. DLR Space Administration has the overall project management for the EnMAP mission.

**SEGMENTS:** Environment Agricultural sound, land use,  
water management and geology on a global scale

The scientific topics addressed by EnMAP cover a wide range of applications: from the effects of climate change to changes in land use, material identification, vegetation diagnostics and geo risk assessments.

This can provide information on such things as the mineralogical composition of the rocks, damage to plants by air pollutants or the degree of soil pollution.

With a significant improvement in the signal-to-noise ratio and a remarkable spectral resolution, EnMAP will drive space-based hyperspectral earth observation and enable unique measurements to be made to quantify the earth's main scientific parameters, offering outstanding potential for a wide range of future commercial applications.



# [ COPERNICUS ]

THE EUROPEAN UNION'S EARTH  
OBSERVATION PROGRAM

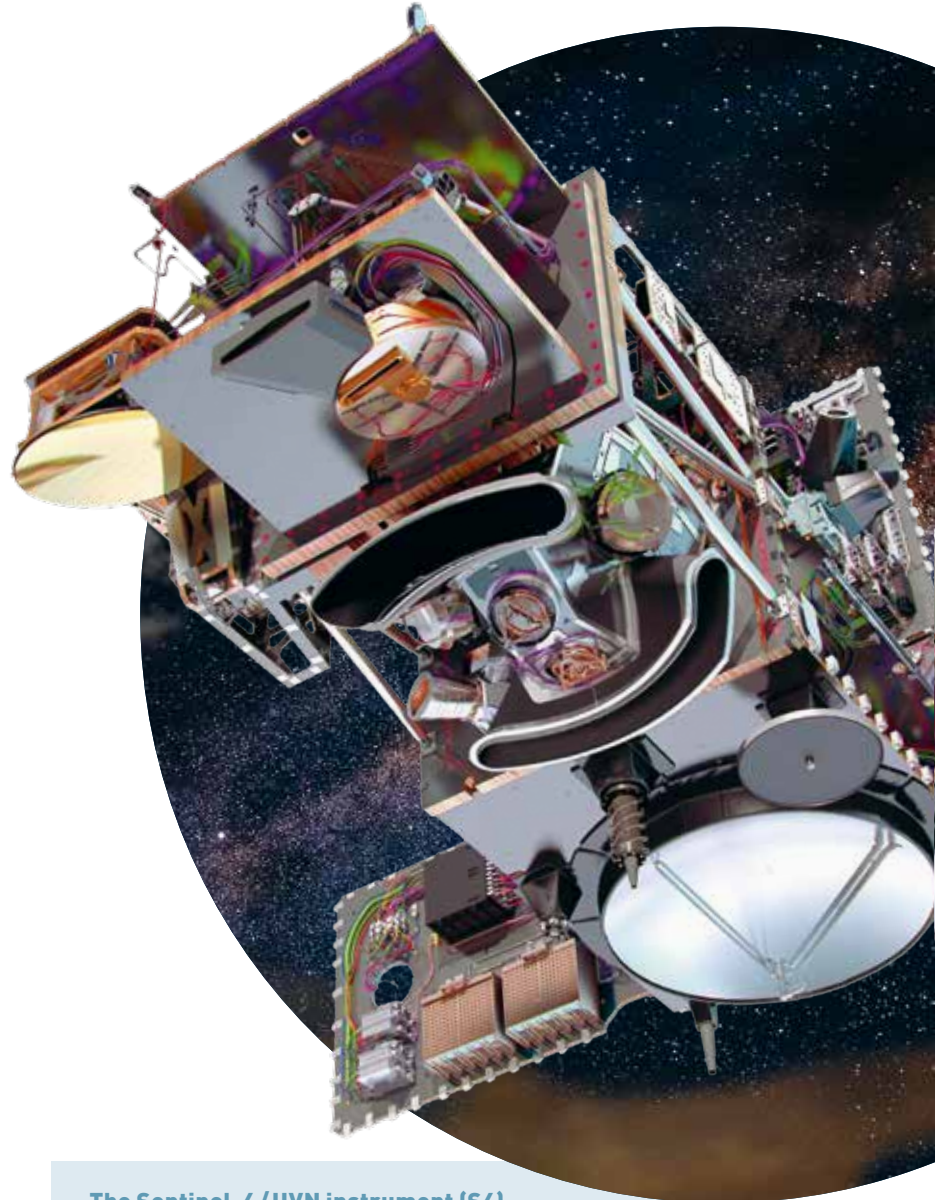
## SIX SENTINELS OBSERVING PROGRAM

The program comprises six families of satellites known as "Sentinels". They measure our planet's condition on the surface, in the water and in the air. Together, they collect data allowing us to observe the condition of and changes in the climate, vegetation, soils and the seas.

The launch of Sentinel-1A in 2014 marked the commencement of the Copernicus mission. By 2030, around 20 satellites will be monitoring the condition of the Earth. The EU is currently preparing the next generation of the Sentinel family:

"SENTINEL EXPANSION". The main potential comes from the fact that Copernicus links satellite-based Earth observation instruments with data sources on the ground, in the water and in the air (e.g. aircraft). This results in six different Copernicus services that can help to analyze the condition of the Earth:

- Land monitoring
- Monitoring the marine environment
- Atmospheric monitoring
- Disaster support and crisis management
- Monitoring climate change
- Security



**The Sentinel-4/UVN instrument (S4) is part of ESA's Copernicus program. It is mounted as an additional payload on the MTG-S satellites. In the case of Sentinel-4,** OHB is responsible for the procurement of the TSTA mechanisms (scanner, aperture cover and calibration assembly), the thermal hardware (e.g. MLI, radiators, heat pipes), the instrument checkout system and the mechanical ground support equipment. OHB is also overseeing the design, assembly and qualification of the Sentinel-4 instrument structure (OIMS). With a total value of EUR 51 million for OHB, the contract will be completed by mid-2019.

OHB INVOLVED  
IN FIVE FEASIBILITY  
STUDIES FOR  
FUTURE COPERNICUS  
MISSIONS

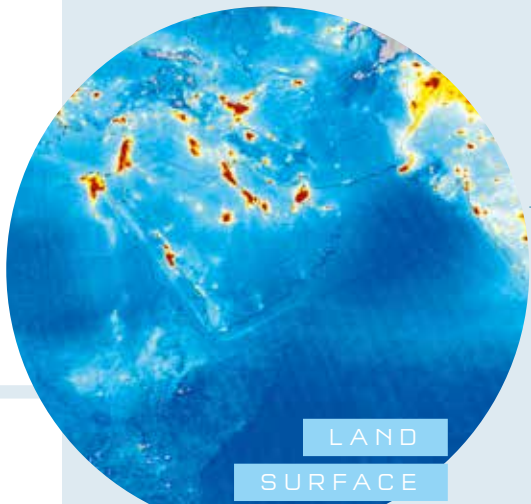


[ CO<sub>2</sub>M ]

OHB SYSTEM AG MAIN  
CONTRACTOR

CO<sub>2</sub>  
MONITORING

→ The purpose of the mission is to discover regions with high CO<sub>2</sub> emissions and to monitor compliance with the Paris climate agreement in general.



LAND  
SURFACE  
TEMPERATURE  
MONITORING

[ LST M ]

OHB SYSTEM AG  
MAIN CONTRACTOR

→ The "LAND SURFACE TEMPERATURE MONITORING" mission is designed to measure changes in the temperature of the Earth's surface, particularly in coastal regions. Improved monitoring of changes of the soil and the temperature will make it possible to provide more precise agricultural data for growing, irrigating and harvesting crops.

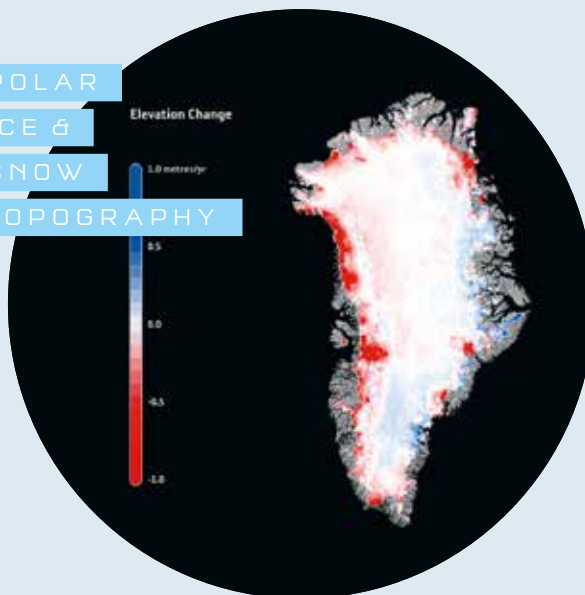


## [ PIST ]

OHB SWEDEN MAIN CONTRACTOR

→ The aim of the "POLAR ICE AND SNOW TOPOGRAPHY" mission is to calculate the consequences of climate change by monitoring the sea level using measurements of the polar ice caps, sea ice variations and snow depths.

POLAR  
ICE &  
SNOW  
TOPOGRAPHY

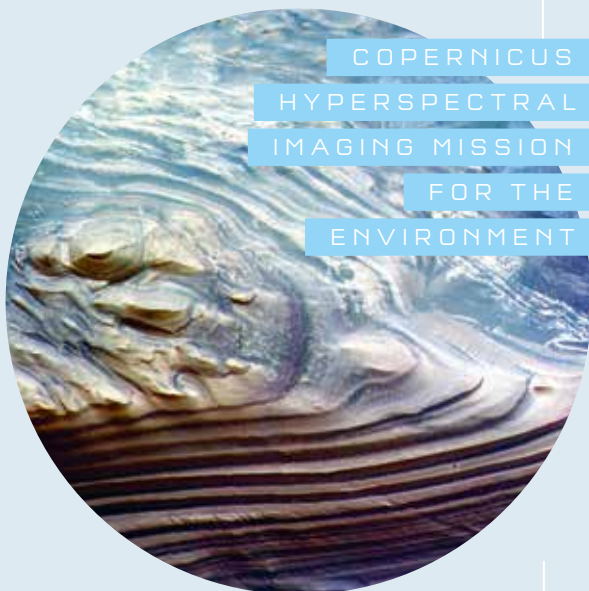


## [ CHIME ]

OHB SYSTEM AG MAIN CONTRACTOR

→ The "COPERNICUS HYPERSPECTRAL IMAGING MISSION FOR THE ENVIRONMENT" will provide completely new insights into soil properties and the chemical composition of minerals, rocks and soils through hyperspectral analyses. This will generate useful information for sustainable agriculture, mining, food production and the preservation of biodiversity.

COPERNICUS  
HYPERSPECTRAL  
IMAGING MISSION  
FOR THE  
ENVIRONMENT



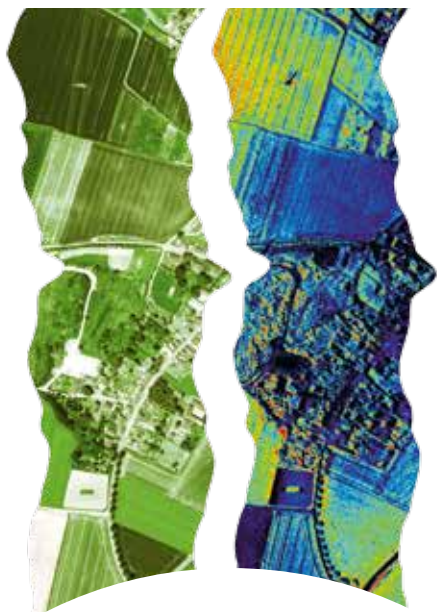
## [ CIMR ]

OHB ITALIA SUBCONTRACTOR

→ Among other things, the "COPERNICUS IMAGING MICROWAVE RADIOMETER" will be observing the concentration of ice on the sea. Its purpose is to improve the continuity of measurements of sea ice concentration and possibly also to provide further information by taking additional measurements of the temperature of the sea surface in the polar regions.

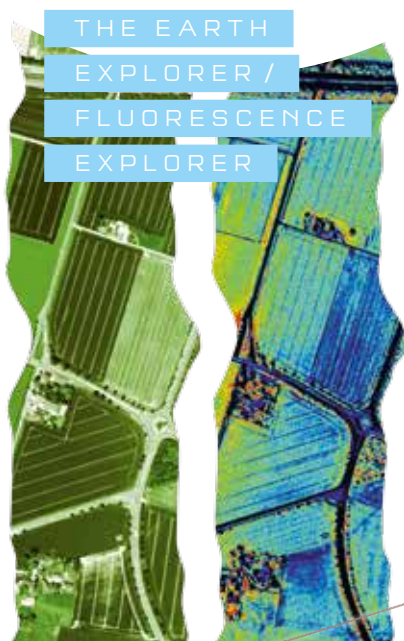
COPERNICUS  
IMAGING  
MICROWAVE  
RADIOMETER





[ FLEX ]

OHB is developing and implementing key components for the **FLEX (FLuorescence EXplorer) satellite**, ESA's 8<sup>th</sup> earth observation satellite. OHB will be supplying one of the two spectrometers, both camera systems and the optical slit assembly. The FLEX spectrometer will enable plant photosynthesis to be observed directly from space for the first time. The fluorescence effect caused by photosynthesis will be used to determine the health of plant life.



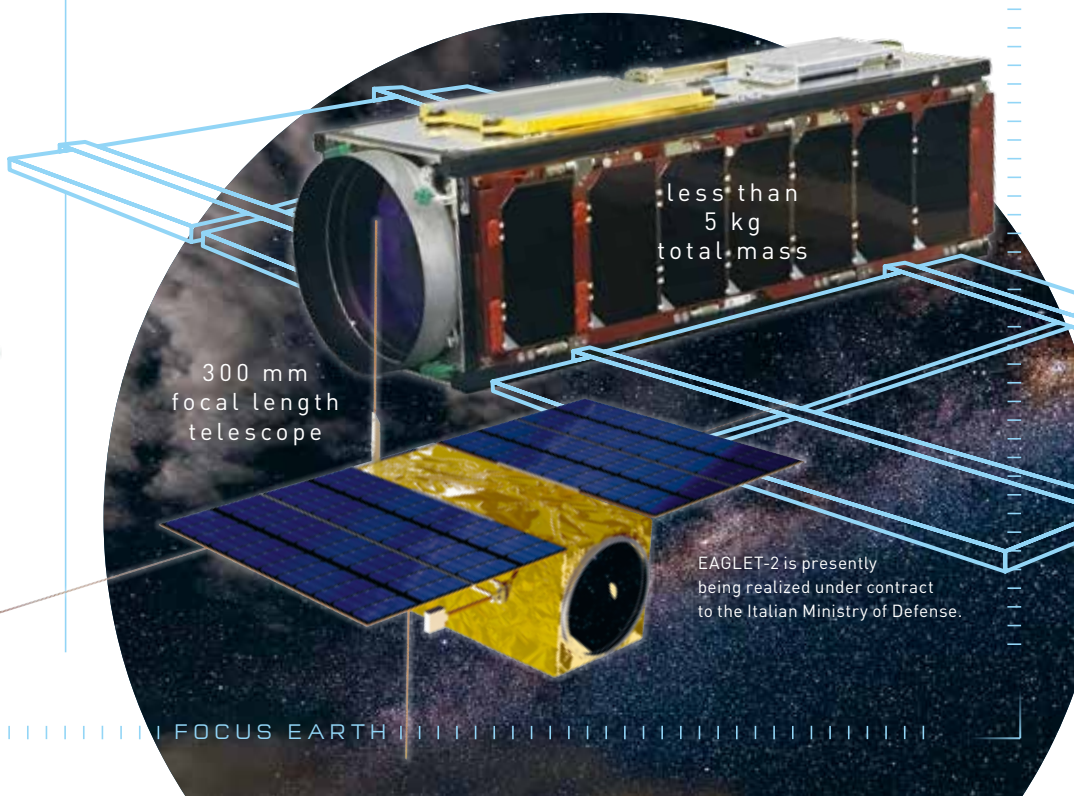
[ EAGLET-1 ]

SATELLITES ARE INDISPENSABLE FOR PEOPLE AND SOCIETY

On December 4, 2018, OHB Italia successfully launched the EAGLET-1 satellite, the first nanosat prototype for earth observation and maritime surveillance, from the Californian Air Force Base in Vandenberg on board a Falcon 9 launcher on SpaceX's SSO-A mission. EAGLET-1 is a nanosatellite placed in a sun-synchronous orbit at an altitude of 575 kilometers and capable of carrying two payloads:

- a high-resolution optical payload that captures panchromatic images
- a payload capable of receiving and transmitting to Earth AIS (Automatic Information System) signals transmitted by ships in the area covered by the satellite

This launch marked an important milestone in the deployment of the EAGLET constellation. EAGLET-1 is the in-orbit validation of a nanosat developed in accordance with an industrial approach for reliability and performance. It is the forerunner of a constellation of highly innovative, rapidly deployable and cost-effective satellites that deliver optical and AIS data of a given point with very short revisit times. The aim is to enable a wide range of monitoring and security applications. EAGLET-1 is a 3U+ satellite with 5 meter panchromatic resolution using a 300 millimeter focal length telescope with an 85 millimeter aperture. The total mass is less than 5 kilograms. The satellite has a precise attitude control system based on earth, sun and star tracking and GPS sensors. The position control system is based on reaction wheels which use magnetic torquers for detumbling.



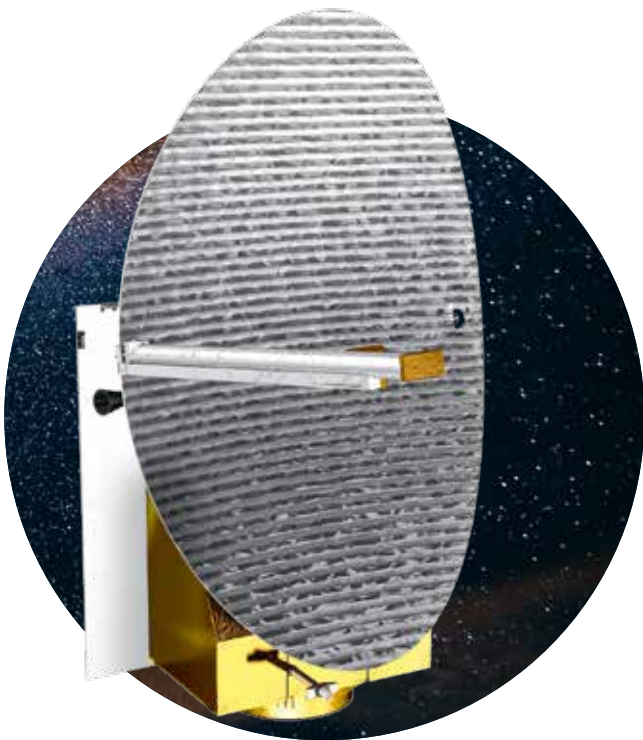


# FOCUS ON RECONNAISSANCE



“EARTH OBSERVATION SATELLITES  
OPEN UP NEW DIMENSIONS  
IN THE MANAGEMENT OF  
CRISES AND CATASTROPHES.”

→ From the space strategy of the German federal armed forces



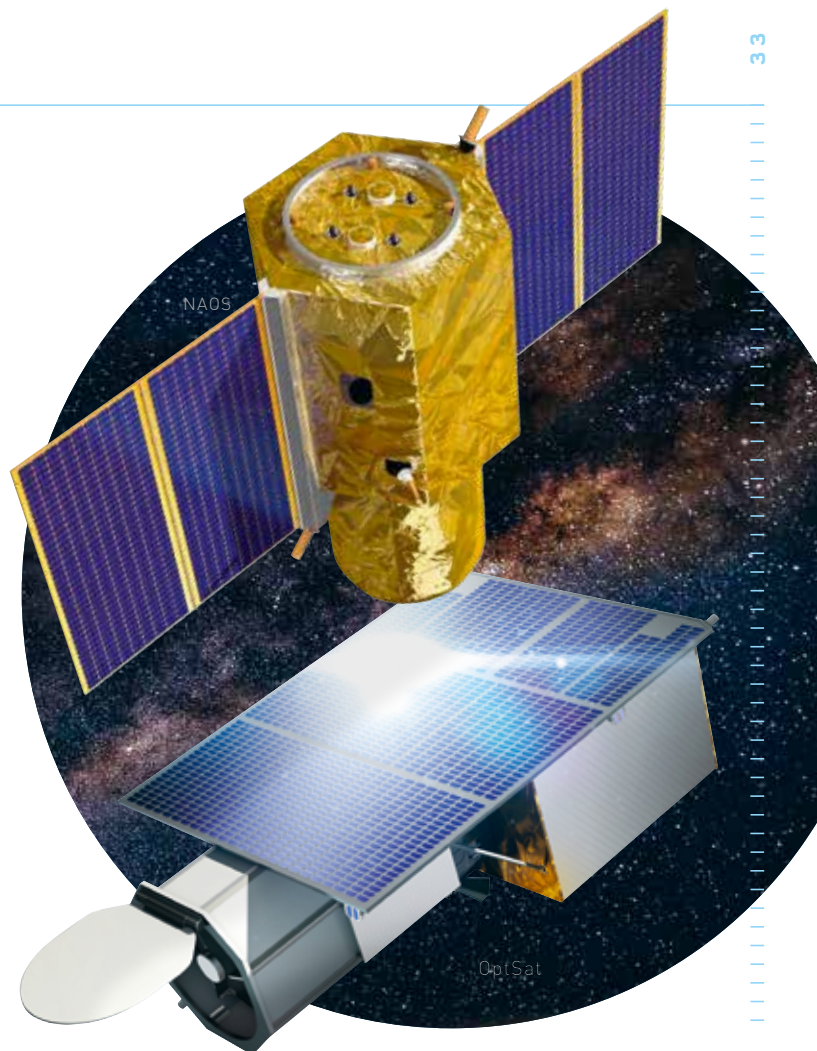
## [ SARah ]

Two of the SARah satellites are technically based on a development of the reflector technology used in the German federal armed forces' SAR-Lupe system, which has been used for radar reconnaissance since 2007. The third SARah satellite is based on a further development of Airbus Defence and Space's phased array radar technology, which has already proven itself in orbit. The general aim is to achieve significant improvements in the performance of the overall radar reconnaissance system.

→ The images generated by radar satellites are independent of cloud cover and time of day. Thus, the reflector satellites will generate razor-sharp images of unprecedented quality.

## [ OptSat + NAOS ]

OHB is the Federal Republic of Germany's leading technology partner in the field of satellite-based reconnaissance. This position is underlined by the order placed at the end of 2017 for a satellite system for worldwide electro-optical reconnaissance (OptSat). In addition, OHB subsidiary OHB Italia received an order from the Luxembourg government to supply a high-resolution optical satellite. The value of this "National Advanced Optical System" (NAOS) amounts to EUR 168.2 million. NAOS will weigh around 600 kilograms on its planned launch in 2022 and is designed for a nominal service life of at least 7 years once it is positioned in a sun-synchronous orbit at an altitude of some 500 kilometers. The high-resolution reconnaissance satellite was developed for government and military purposes and can take more than a hundred pictures per day. By collecting satellite data, Luxembourg intends to participate more actively in the defense efforts of NATO (Europe and North Atlantic Treaty Organization).



YEAR IN REVIEW

# 1ST QUARTER

→ February 2, 2018, Bremen

OHB AWARDED STUDY FOR BETTER PREDICTION OF SPACE WEATHER PHENOMENA IN SPACE



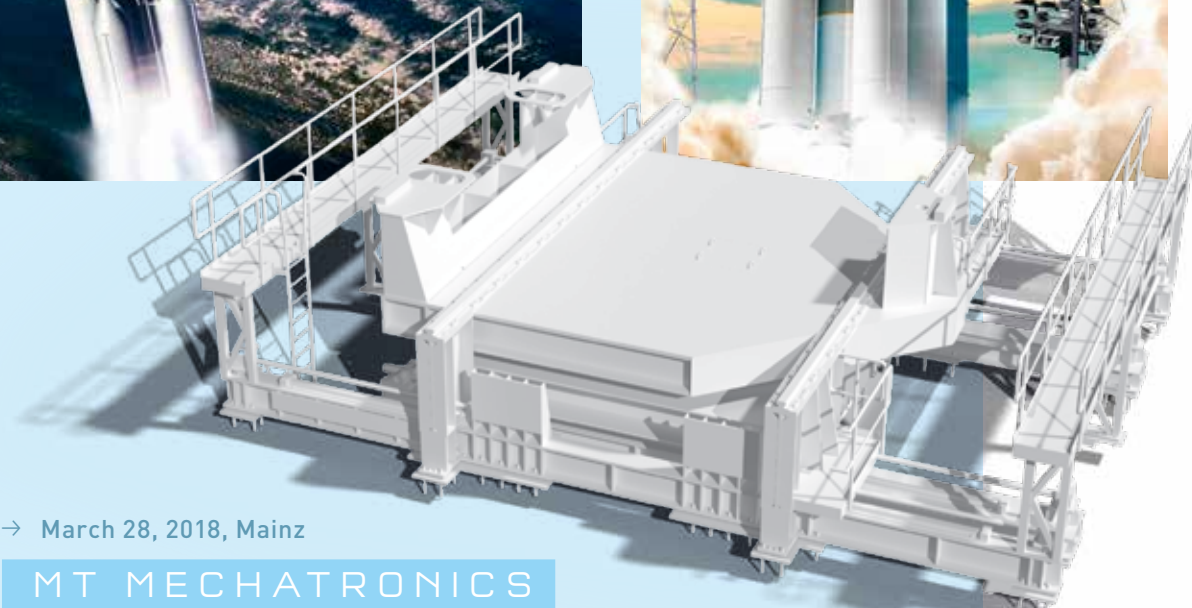
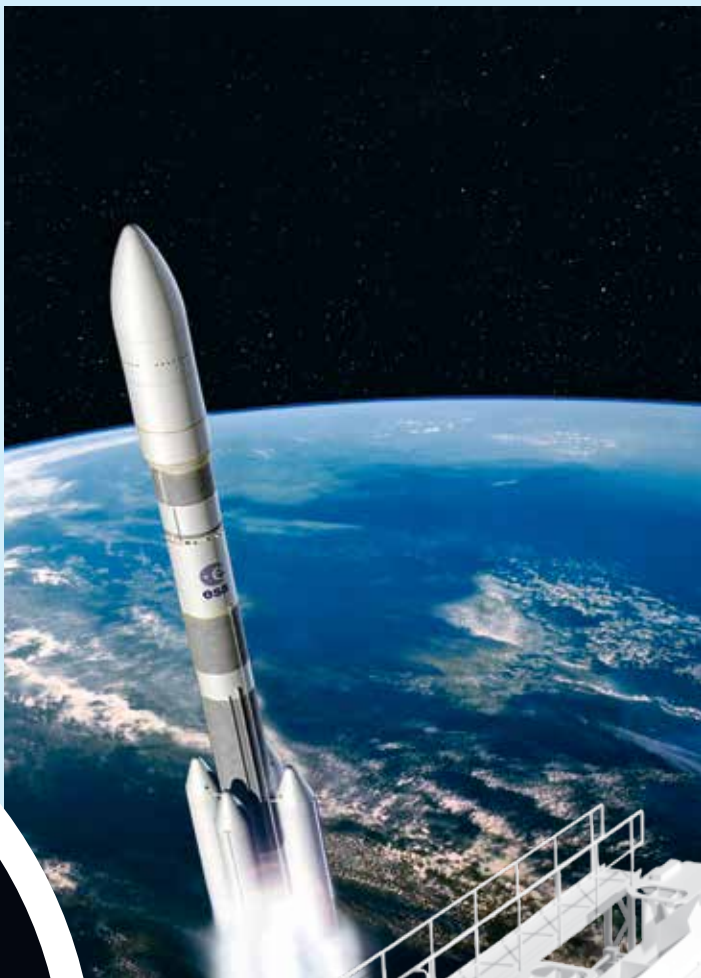
→ February 13, 2018, Augsburg

MT AEROSPACE RESEARCHES NEW CONCEPTS FOR COMMERCIAL MICRO-LAUNCHERS ON BEHALF OF ESA



→ March 8, 2018, Bremen

OHB WITH SIGNIFICANT INVOLVEMENT IN SECOND EXOMARS MISSION



→ March 28, 2018, Mainz

MT MECHATRONICS  
COMMISSIONED WITH  
LARGE PRECISION SYSTEM  
FOR ARIANE 6 LAUNCH  
SITE IN KOUROU





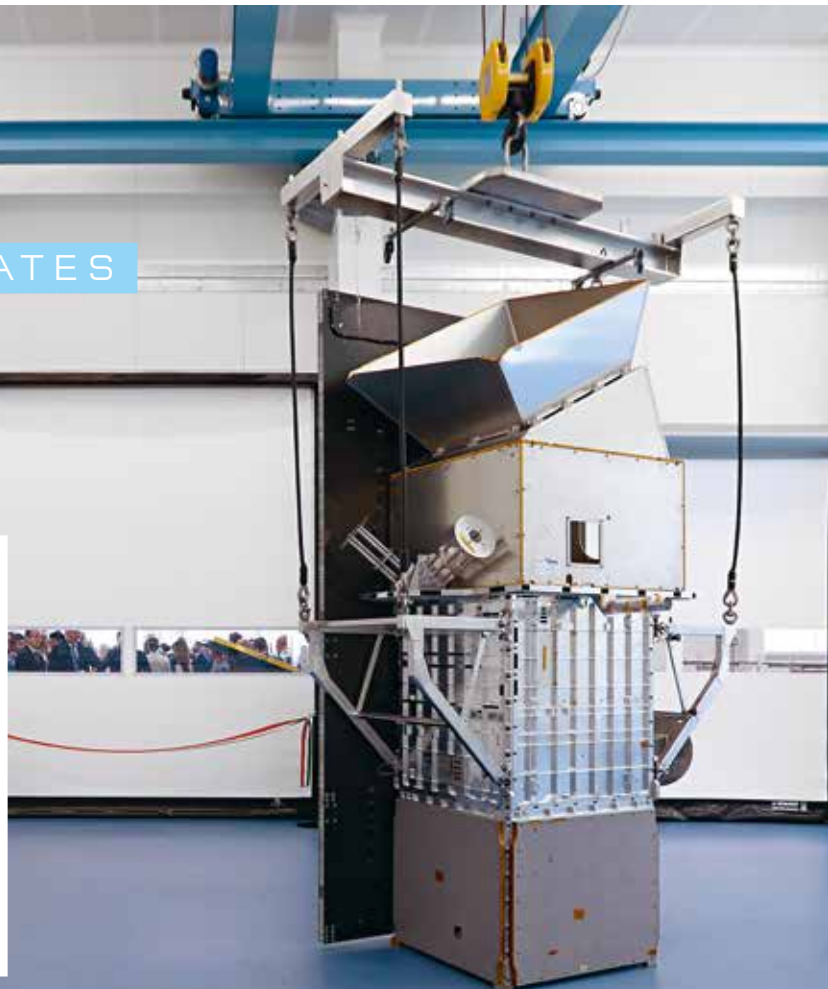
April 20, 2018, Bremen

OHB EXHIBITING  
AT ILA  
IN BERLIN



→ June 25, 2018, Milan

OHB ITALIA INAUGURATES  
NEW PRODUCTION  
AND INTEGRATION  
HALL IN MILAN





→ June 21, 2018, Augsburg

## TECHNOLOGICAL QUANTUM LEAP

- MT Aerospace officially opens state-of-the-art facilities for Ariane 6 production in Augsburg
- MT Aerospace ships the first tank for Ariane 6 to ArianeGroup in Bremen
- MT Aerospace awarded contract for the production of ten Ariane 5 sets



YEAR IN REVIEW

# 2<sup>ND</sup> QUARTER



→ August 10, 2018, Bremen / Ottobrunn

SUCCESSFULLY  
COMPLETED

- First test for OHB's EDRS-C satellite
- EDRS-C satellite later performs well also in the acoustic test



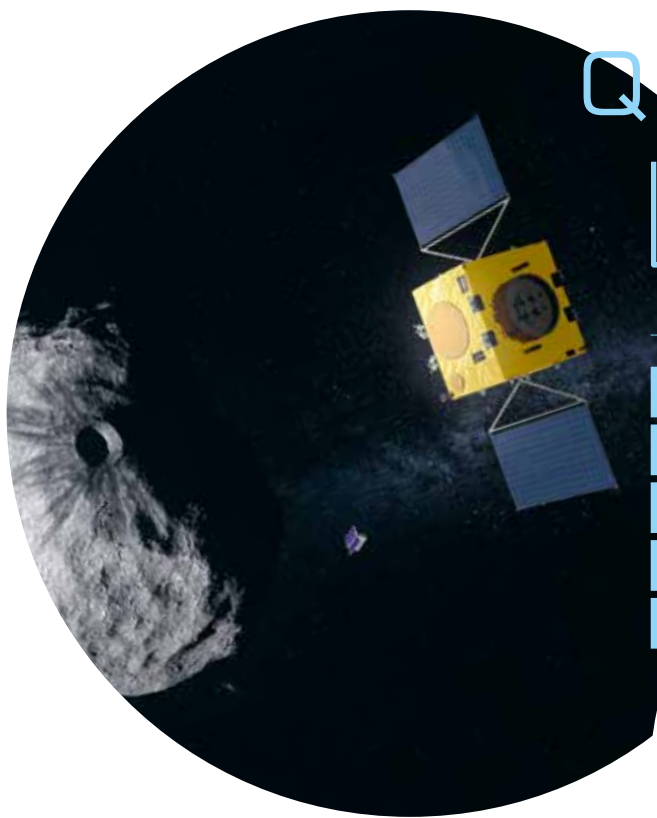
→ July 25, 2018, Kourou / Bremen

FOUR  
IN ONE GO

- OHB Galileo satellites successfully launched

YEAR IN REVIEW

# 3<sup>RD</sup> QUARTER



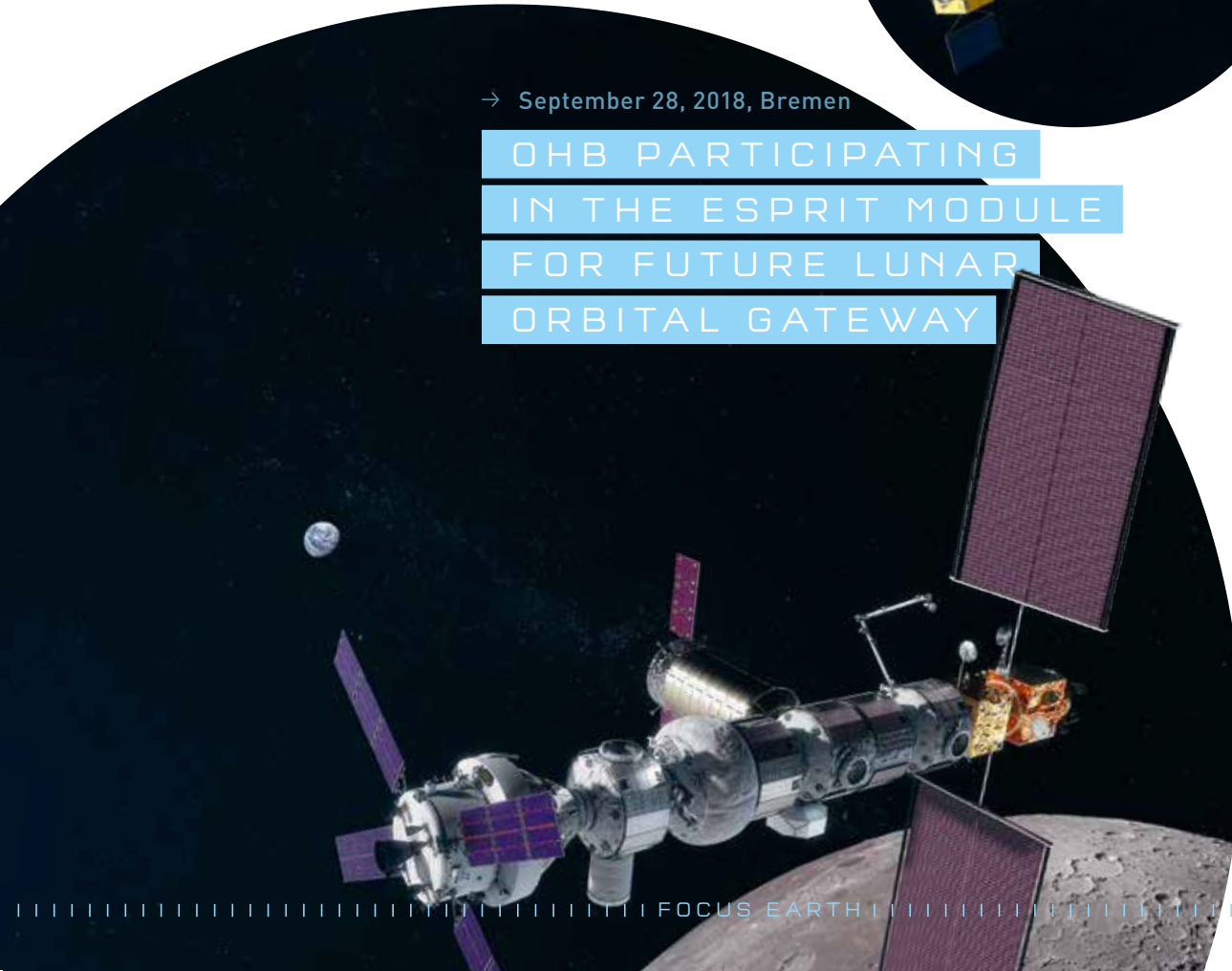
→ August 6, 2018, Bremen

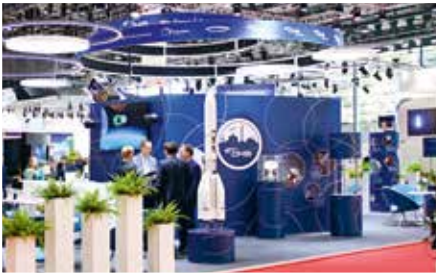
ESA AWARDS  
OHB STUDY  
ON THE HERA  
ASTEROID  
MISSION



→ September 28, 2018, Bremen

OHB PARTICIPATING  
IN THE ESPRIT MODULE  
FOR FUTURE LUNAR  
ORBITAL GATEWAY





→ October 1–5, 2018, Bremen

# INTERNATIONAL ASTRONAUTICAL CONGRESS IAC

→ Including visit from NASA, EC to OHB

YEAR IN REVIEW

# 4<sup>TH</sup> QUARTER



→ October 4, 2018, Bremen

# PLATO CONTRACT

→ Awarded during IAC



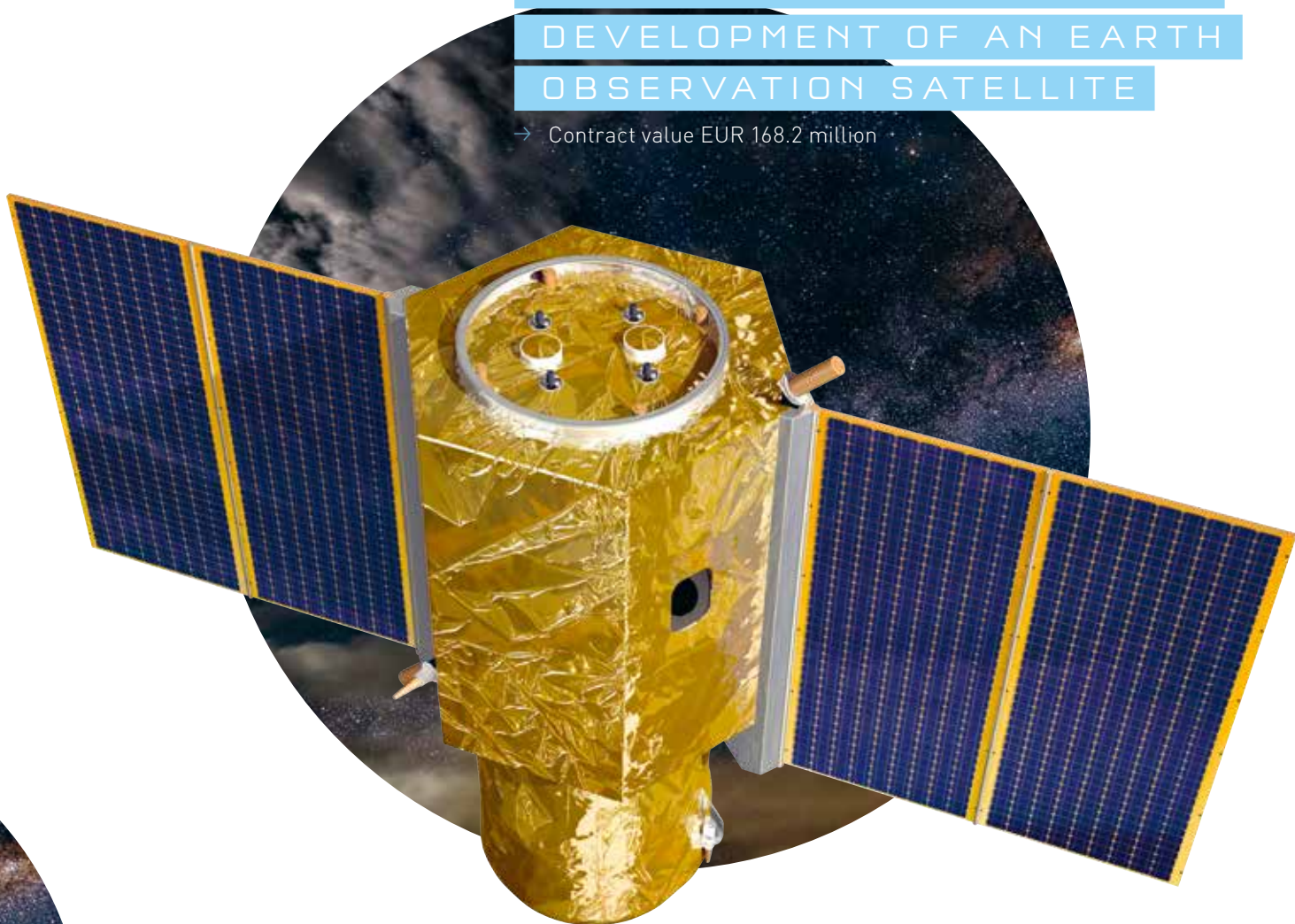
→ October 2, 2018, Bremen

# LETTER OF INTENT FOR COOPERATION WITH BLUE ORIGIN

→ October 10, 2018, Betzdorf/Milan

CONTRACT SIGNED FOR THE DEVELOPMENT OF AN EARTH OBSERVATION SATELLITE

→ Contract value EUR 168.2 million



→ December 3, 2018, Bremen

GROUND-BREAKING CEREMONY FOR OHB'S LARGEST SATELLITE HALL; SQUARE IN FRONT OF OHB HEAD-QUARTERS NAMED AFTER COMPANY FOUNDER MANFRED FUCHS



# CORPORATE GOVERNANCE REPORTT

In June 2002, a commission installed by the German Federal Government published recommendations known jointly as the "German Corporate Governance Code" setting out standards of conduct and behavior for companies. Corporate governance includes the entire management and supervision system and seeks to make the rules applicable in Germany more transparent to national and international investors in the interests of strengthening confidence in the management of German companies. The Supervisory Board and the Management Board of OHB SE are committed to the principles embodied in the Code as a means of ensuring value-oriented corporate governance and supervision and welcome the adoption of these principles in Germany.

## MANAGEMENT BOARD AND SUPERVISORY BOARD SHAREHOLDINGS

As of the reporting date, Christa Fuchs, Member of the Supervisory Board, held 1,401,940 shares and Prof. Heinz Stoewer, a member of the Supervisory Board, 1,000 shares. Marco Fuchs, Chief Executive Officer, held 6,046,610 shares. Lutz Bertling, a member of the management board, held 14,500 shares as of the balance sheet date. On December 31, 2018, VOLPAIA Beteiligungs-GmbH held 3,730,170 shares. Christa Fuchs held 20% and Marco Fuchs 60% of this entity's capital as of the reporting date.

## DIRECTORS DEALINGS

In the year under review, Lutz Bertling received an allotment of 12,500 shares as part of the remuneration of the Executive Board. No securities transactions were carried out by the remaining members of the Management Board and Supervisory Board or by related legal entities.

## OBJECTIVES REGARDING THE COMPOSITION OF THE SUPERVISORY BOARD

OHB SE seeks to implement the principle of diversity in the composition of the Supervisory Board and has formulated the following objectives in this connection. The members of the Supervisory Board as a whole (i.e. in its entirety and not necessarily each individual member of the Supervisory Board) should meet the following requirements:

- knowledge of the aviation/aerospace industry, particularly space technology
- several years of practical experience in industry and public organizations/agencies
- extensive knowledge gained over many years in finance, accounting, bookkeeping and administration.

In addition, the principle of diversity is implemented by ensuring an appropriate degree of female representation on the Supervisory Board. As well as this, a combination of members from technical and commercial backgrounds is sought. The number of independent members as defined in Article 5.4.2 of the Corporate Governance Code is to equal at least one.

### STATUS OF IMPLEMENTATION

A high degree of diversity in terms of gender, expertise and international experience has been achieved with the appointment of Mrs. Christa Fuchs, the founder of OHB System AG and commercial managing director with many years of experience, Prof. Heinz Stoewer as an internationally renowned space technology expert and former senior manager of ESA and managing director of the German Space Agency and Robert Wethmar as a partner in an internationally active law firm. As a result of the company's growth in recent years, another member was added to the Supervisory Board in the year under review: Ingo Kramer, President of the Federation of German Employers' Associations (BDA) and long-standing Managing Director of the family-owned company Kramer GmbH & Co. KG. has been a member of the Supervisory Board since 19 June 2018.

### DECLARATION OF CONFORMITY TO THE GERMAN CORPORATE GOVERNANCE CODE BY OHB SE PURSUANT TO SECTION 161 OF THE GERMAN STOCK CORPORATION ACT

The principles of responsible and good corporate governance guide the actions of OHB SE's Management Board and Supervisory Board. They are oriented to achieving sustained business success. For this reason, OHB SE welcomes the German Corporate Governance Code and the fact that it is embodied in statutory law. The Management Board and the Supervisory Board of OHB SE declare that the Company has conformed to the recommendations of the Corporate Governance Code Commission appointed by the German Federal Government and will continue to do so in the future. This declaration of conformity is based on the February 7, 2017 version of the German Corporate Governance Code. OHB SE departs from the recommendations of the German Corporate Governance Code in a small number of points:

### DEDUCTIBLE FOR MEMBERS OF THE SUPERVISORY BOARD [ 3.8 ]

The D&O insurance cover taken out by OHB SE does not provide for any deductibles for the members of the Supervisory Board.

The D&O cover is a group policy for members of the Company's Management Board and Supervisory Board as well as numerous domestic and non-domestic Group employees. In the past, it was believed that there was no good reason to draw any distinction between employees on the one hand and the members of the Company's Management Board and Supervisory Board on the other. However, in accordance with the Act on the Appropriateness of Management Board Compensation, deductibles for members of the Management Board have now been added to the Company's D&O insurance cover of an amount stipulated by the Act and the Code. On the other hand, the legislation expressly does not stipulate a corresponding deductible for members of the Supervisory Board. Only the Code contains a recommendation to this effect. For this reason, the Management Board and Supervisory Board continue to see no reason to depart from the previous practice. The reasoning of the Management Board and Supervisory Board in this respect is based on their view that the prime imperative is to encourage suitably qualified persons to serve on the Supervisory Board, enhancing it with their experience for the Company's benefit. These efforts would be adversely affected if the members of the Supervisory Board gained in this way were to enjoy only limited insurance cover for their activities.

For this reason, OHB SE takes the view that the existence of a deductible would not serve to improve the motivation or sense of responsibility of members of the Supervisory Board especially as they would be able to take out cover of their own to override the deductible.

**VARIABLE REMUNERATION - MULTI-YEAR ASSESSMENT BASIS [ 4.2.3 ]**

The German Corporate Governance Code recommends a multi-year assessment basis for calculating the variable remuneration paid to the Management Board, which should essentially be forward-looking. In view of the Company's origins, the variable remuneration paid to the members of the Management Board is calculated on the basis of its business performance in the previous year. The current service contracts with the members of the Management Board do not provide for the application of a multi-year assessment basis.

**DISCLOSURES ON COMPENSATION OF THE MANAGEMENT BOARD [ 4.2.5 ]**

OHB SE already discloses the compensation paid to its Management Board in detail in the annual compensation report, which is included in the management report. We do not consider any additional disclosures such as those recommended in 4.2.5 to be appropriate in the light of reporting relevance. In particular, the tables recommended for the presentation of these disclosures do not fit the structure of the components of the compensation paid to the Management Board and have therefore been dispensed with.

**AGE LIMITS FOR THE MANAGEMENT BOARD [ 5.1.2 ]**

OHB SE does not set a maximum age for members of the Management Board as this would limit the availability of Management Board members for appointment by the Supervisory Board.

**FORMATION OF SUPERVISORY BOARD COMMITTEES [ 5.3 ]**

OHB SE's Supervisory Board has not formed any committees on account of the small number of members (four).

**AGE LIMITS FOR THE SUPERVISORY BOARD / REGULAR LIMIT TO TERM OF SUPERVISORY BOARD MEMBERS' OFFICE [ 5.4.1 ]**

The Corporate Governance Code recommends defining maximum ages as well as a regular limit for the term of the Supervisory Board members' office. The Supervisory Board is elected by the shareholders of OHB SE. An age limit may result in rigid rules and an unwanted exclusion criterion detrimental to the Company's goal of encouraging persons with great experience to serve on the Supervisory Board. For this reason, a more flexible approach, in which a decision is based on the merits of the individual case, is preferred over a rigid rule. The Management Board and Supervisory Board do not consider the introduction of a limit to Supervisory Board members' term of office to be appropriate.

**PROPOSALS FOR THE SUPERVISORY BOARD CHAIR [ 5.4.3 ]**

Proposals for the Supervisory Board chair are not disclosed to the shareholders because in accordance with statutory stipulations the Supervisory Board alone is responsible for electing its chair.

→ Management Board and Supervisory Board of OHB SE  
Bremen, December 12, 2018

# OH B STOCK

## LOSSES IN THE MAJOR INDICES IN THE 2018 TRADING YEAR

### UPWARD TREND OF THE PREVIOUS YEARS REVERSED IN 2018

For the first time since 2012, the German blue-chip share index (DAX) closed lower at the end of the year under review. After rising at the beginning of the year, it reached a high for the year of 13,559 points on January 23. This was followed in February by a decline of over 1,600 points, which continued until the end of March. The recovery to 13,169 points in mid May gave way to a protracted decline that continued until the end of the year. On December 27, the index hit a low for the year of 10,381 points. Closing at 10,558 points on December 28, the DAX thus dropped by 18% in the course of the year, sustaining the greatest losses of the main international indices (the Dow Jones closed the year 6% lower and the Nikkei Index 12% lower). The main concerns preoccupying the stock markets were the trade conflict between China and the USA, the Brexit negotiations, economic worries and the fear of rising interest rates.

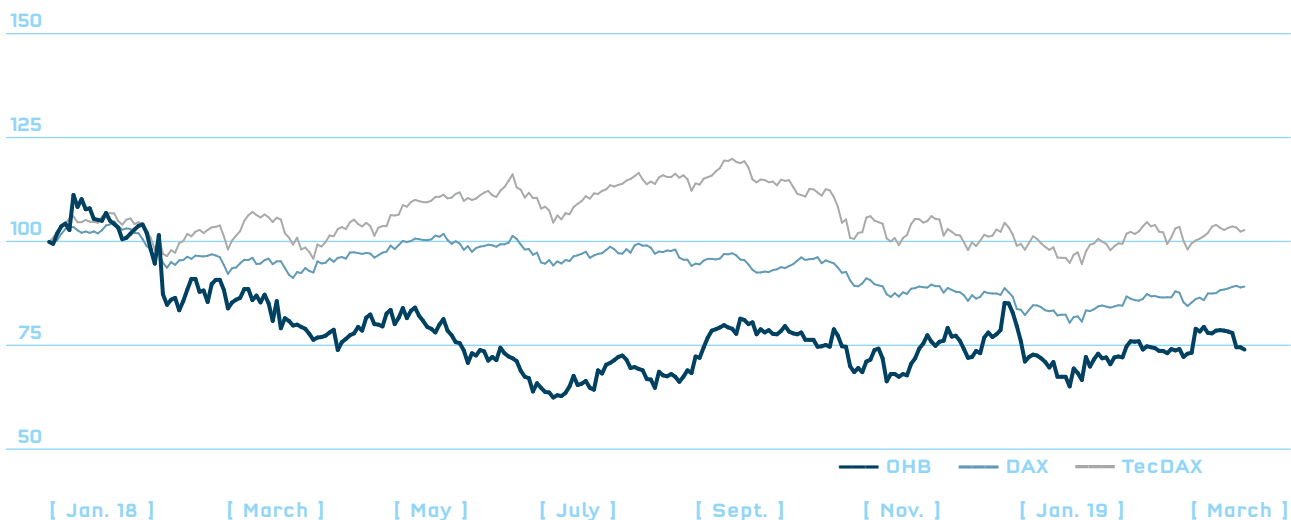
The TecDAX, which tracks the most important German technology shares below the DAX, closed the year under review at 2,450 points, thus sustaining a decline of 3% over the year as a whole.

### OH B SHARE LAGGING BEHIND THE MARKET AS A WHOLE

The OHB share amplified the negative performance of the reference DAX and TecDAX indices. Having failed to repeat the previous year's very strong performance, it closed the trading year with a loss of 31%. It moved in a range of EUR 22.20 between the high for the year of EUR 49.75 on January 15 (simultaneously its all-time high) and a low for the year of EUR 27.55 on June 28, 2018. Average daily trading volumes of OHB stock (Xetra and Frankfurt floor-trading) dropped from 19,295 shares in the previous year to 15,659 shares in the year under review.

[ 01 ]

PERFORMANCE OF OHB SHARE PRICE IN COMPARISON TO DAX AND TECDAX FOR THE PERIOD FROM JANUARY 1, 2018 TO FEBRUARY 28, 2019 [ INDEXED ]



OHB STOCK PARAMETERS

in EUR	2018	2017	2016	2015
End-of-year price	30.90	44.61	18.54	20.97
High for the year	49.75	47.47	20.78	23.60
Low for the year	27.55	18.26	17.02	16.59
Market capitalization (end of year) in million	540	779	324	366
Average daily trading volumes (Xetra + floor)	15,659	19,295	4,752	9,600
Price/earnings ratio (P/E) (final trading day of the year)	21.46	33.29	14.59	17.33
Earnings per share (EPS)	1.44	1.34	1.28	1.21
Dividend per share	0.43*	0.40	0.40	0.40
<b>Dividend yield (end of year)</b>	<b>1.39%</b>	<b>0.90%</b>	<b>2.16%</b>	<b>1.91%</b>

\* Subject to approval by the shareholders

ANALYST RATINGS

Date	Bank	Target price in EUR	Rating
March 2019	DZ Bank AG	42.00	buy
February 2019	Pareto Securities	42.00	buy
January 2019	Bankhaus Lampe	43.00	buy
November 2018	HSBC Trinkaus & Burkhardt	33.00	hold
November 2018	Commerzbank AG	31.50	hold

## TREASURY STOCK

As of December 31, 2018, OHB SE's treasury stock comprised a total of 67,996 shares, equivalent to 0.39% of its issued capital → [SEE CHART \[02\]](#). This marks a decline of 12,500 compared with December 31, 2017 due to the allocation of shares to one member of the Management Board as a component of his remuneration.

### OHB STOCK DATA

ISIN	DE0005936124
Ticker	OHB
Trading segment	Prime Standard
Sector	Aerospace, Telecommunication, Information Technology
Indexes	Prime All Share, Tec All Share, CDAX
Designated Sponsor	DZ Bank AG, HSBC Trinkaus & Burkhardt KGaA
Issued capital	EUR 17,468,096
Share type	Bearer shares without par value

## INVESTOR RELATIONS ACTIVITIES

OHB SE's annual capital market day was held in February of the year under review at MT Aerospace. Members of the Management Board and directors provided an overview of the current projects being conducted by OHB SE's subsidiaries and guidance for the main Group financials for 2018. The final results for the previous year were announced on the morning of March 21 at the annual press conference held in Bremen and during the analyst conference taking place on the afternoon of the same day in Frankfurt. After publication, the quarterly figures for the year under review were presented and discussed in telephone conferences on the same day. During the year, OHB SE actively participated in capital market conferences in Paris, Düsseldorf, Baden-Baden, Frankfurt am Main and Munich. In addition, reverse roadshows were held in Bremen and Oberpfaffenhofen to provide further investors with an insight into the current projects and developments at OHB SE.

[ 02 ]

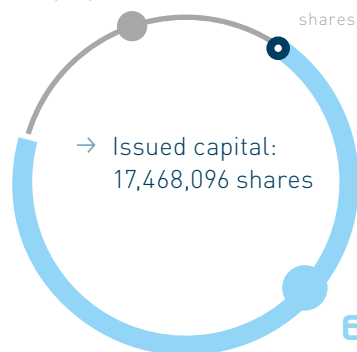
### SHAREHOLDER STRUCTURE OHB SE ON DECEMBER 31, 2018

**29.89%**

Free float  
shares: 5,221,380

**0.39%**

Treasury stock  
shares: 67,996



→ Issued capital:  
17,468,096 shares

**69.72%**

Fuchs pool  
shares: 12,178,720

### [ IR CONTACT ]

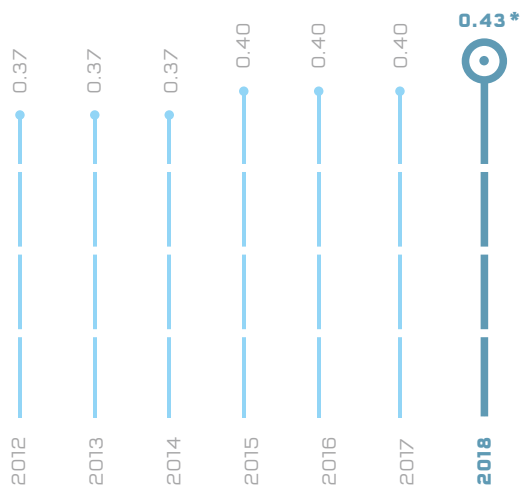
→ **Martina Lilienthal**  
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Email: [ir@ohb.de](mailto:ir@ohb.de)

# INGO KRAMER ELECTED TO THE SUPERVISORY BOARD AT THE ANNUAL GENERAL MEETING

At the annual general meeting held on May 24, 2018, the shareholders elected Ingo Kramer with a large majority as an additional fourth member of the Supervisory Board, which had previously comprised three members. On this day, they also approved a dividend of → SEE CHART [03] per dividend-entitled share for 2017 (unchanged over the previous year). Accordingly, the total distribution amount for the 17,387,600 dividend-entitled shares came to EUR 6.96 million. The remaining unappropriated surplus of EUR 5.93 million as shown in the financial accounts prepared in accordance with German GAAP (HGB) was carried forward. The other items of the agenda, specifically the ratification of the actions of the Management Board and Supervisory Board and the election of PricewaterhouseCoopers, Bremen, as the independent auditor for the annual and consolidated financial statements for 2018, were also passed with large majorities.

[ 03 ]  
**DIVIDEND PERFORMANCE**  
 2012-2018



IN EUR

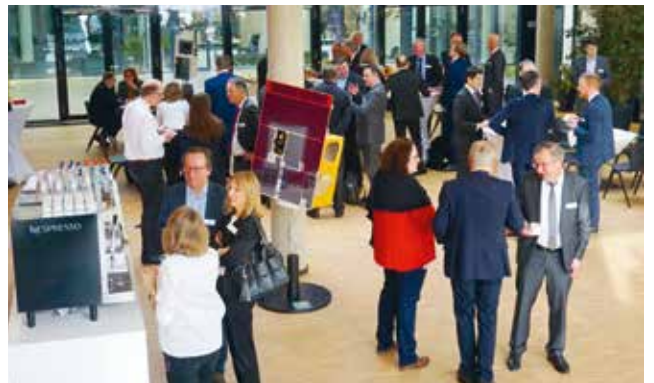
\* Subject to approval by the shareholders



Dr Lutz Bertling during his presentation



Dr Wolfgang Paetsch and Marco Fuchs during the discussion



Networking in the foyer of the main building at the Oberpfaffenhofen site

# CAPITAL MARKET DAY

→ February 12, 2019



View into the auditorium



# 1 GROUP MANAGEMENT REPORT

for the Period from  
January 1, 2018 until  
December 31, 2018

## BASIS OF THE GROUP

→ Page 51

## BUSINESS REPORT

→ Page 53

## OUTLOOK, RISK AND OPPORTUNITY REPORT

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## INTERNAL CONTROL AND RISK MANAGEMENT

→ Page 69

## REMUNERATION REPORT

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## DISCLOSURES IN ACCORDANCE WITH SECTION 315A (1) OF THE GERMAN COMMERCIAL CODE

→ Page 71

## CORPORATE GOVERNANCE DECLARATION

→ Page 72

## I. BASIS OF THE GROUP

### [ A ] GROUP BUSINESS MODEL

As a space technology group, OHB SE combines activities from different areas of high technology. Because the individual subsidiaries are spread geographically across different European countries, the Group has facilities in many major countries that are members of the European Space Agency ESA. This is a crucial requirement for successfully taking part in certain space projects. The individual companies are able to retain their individuality and corporate culture within the Group, while still being bound by the decisions made by the Group holding company. OHB SE itself does not engage in any operating business but supports the subsidiaries in their sales and marketing activities and thus assumes the role of an active holding company.

OHB SE comprises two business units:

#### SPACE SYSTEMS

This business unit focuses on developing and executing space projects. In particular, it is responsible for developing and fabricating low-orbiting and geostationary small satellites for navigation, research, communications, earth and weather observation and reconnaissance including scientific payloads. Reconnaissance satellites and broadband wireless transmission of image data form core technologies for security and reconnaissance. The exploration segment works on studies and models for exploring our solar system, primarily the moon, Mars and the asteroids. Its human space flight activities chiefly entail projects for the assembly and outfitting of the International Space Station ISS.

#### AEROSPACE + INDUSTRIAL PRODUCTS

This segment is primarily responsible for fabricating and developing aviation and space products as well as performing other industrial activities. In this area, OHB has established itself as a significant supplier of aerospace structures; among other things, it is the largest German supplier of components for the Ariane program and an established producer of components for satellites and aircraft. In addition, OHB is an experienced vendor of mechatronic systems for antennas and telescopes and is involved in major radio telescope projects. OHB telematics systems serve the logistics industry around the world by offering efficient transport management and consignment tracking facilities.

### [ B ] GOALS AND STRATEGIES

The Group is continuing to pursue a policy of steady growth and increased total revenues. This involves preserving and broadening its employees' expertise and protecting jobs. The profitability margin (EBIT margin or EBITDA margin relative to total revenues) is being specifically increased in certain areas. These goals are to be reached by increased business development activities and further technological developments. Generally speaking, a positive cash flow from operating activities is being targeted. No exceptional increase in capital requirements to achieve the medium-term goals is expected. The Group will continue to focus on the space industry. The growth referred to above is primarily to be generated organically in this sector. Business with institutional customers still forms the basis of OHB SE's activities. In this connection, the Group is clearly oriented to the European market. With the SmallGEO series developed by the Space Systems business unit, the Group is additionally able to offer satellite products to commercial customers. These activities are not confined to the European market.

## [ C ] MANAGEMENT PROCESS SYSTEM

OHB SE's overarching goal is to steadily increase its enterprise value by improving its earnings potential on a sustained basis. The Group manages its financial position by reference to the following performance indicators: total revenues, earnings before interest and taxes (EBIT) and earnings before interest, taxes, depreciation and amortization (EBITDA). These parameters are defined in an annual budget and tracked during the year by means of forecasts and reports on actual figures together with deviation analyses at the project level. Cash flows are managed at the project level by means of individual measures taken in consultation with customers and suppliers in order to optimize liquidity. Further management factors include productivity ratios, particularly employee productivity. Other important non-financial performance indicators are employee numbers in the individual companies as well as the fluctuation rate, for which a target of less than 5% has been defined. Given the dynamic recruitment process for increasing the Group's personnel capacity, it is crucial for fluctuation to be managed and monitored. After the marked-induced volatility of earlier years, it stabilized below the 5% threshold in 2018. Fluctuation monitoring is aided by the measurement of employee satisfaction carried out last year at OHB System AG using the Organizational Health Index (OHI) offered by the McKinsey Group. The fields of action identified as a result are systematically addressed in corresponding internal projects.

## [ D ] RESEARCH AND DEVELOPMENT

In the year under review, OHB spent EUR 25.4 million (previous year: EUR 32.3 million) on research and development (R+D). Of this, the Space Systems business unit accounted for EUR 23.0 million (previous year: EUR 28.5 million) and the Aerospace + Industrial Products business unit EUR 2.4 million (previous year: EUR 3.8 million). Part of the R+D activities (EUR 3.1 million; previous year: EUR 3.9 million) are being funded by various institutions such as the European Union and national government agencies. Subsidies account for between 25% and 75% of the total costs depending on the percentage of completion of the development project.

In the Space Systems business unit, one of the main aspects again entailed technological enhancements. One focus was on new and enhanced technologies for future projects in astronautical space, science and exploration. Further aspects involved enhanced mission design on the basis of the

universal platforms being developed for low-orbit satellites and inexpensive launch systems for these satellites. A further important area being addressed by OHB System AG entailed technologies for enhancing and future-proofing the SmallGEO platform particularly in the light of commercial customers' requirements and public communications. One particular aspect involves internal studies and design work targeted at constellations comprising a large number of low and medium-orbit satellites. These latter activities are particularly performed by LuxSpace Sàrl, OHB Sweden AB and OHB Italia S.p.A. OHB System AG has established a task force to study and explore quantum cryptology and quantum computing to determine the relevance of these technologies for use in space.

Aspects from the field of space surveillance/space situational awareness such as space traffic management or space surveillance and tracking (e.g. space debris detection and removal) as well as the detection and potential deflection of near earth objects, such as asteroids, will play an important role in the future. OHB is preparing for this potential market by engaging in customer-funded and internally funded studies.

The Aerospace + Industrial Products business unit concentrated on development work in connection with new technologies for future-generation launchers and on engineering a new range of satellite tanks. The ESA Future Launcher Preparatory Program (FLPP 3 NEO) has initiated two major development projects focusing on the technical and economic optimization of the future European launcher Ariane 6. The results of these projects will be used in the Black Upper Stage Technology Demonstrator (BSTD) project, which will be developing and testing the prototype of a highly efficient, lighter-weight upper stage launcher. The aim is to achieve a further reduction in payload costs for Ariane 6 or other future launch vehicles. The ESA ARTES program is currently driving forward the development of a new family of large high-pressure xenon tanks. The L-XTA project entails the development and qualification of a new generation of high-pressure tanks for electric satellite propulsion. Initial applications for these tanks are being planned as part of the Elektra and NeoSat programs. In addition to the above-mentioned matters, MT Aerospace AG would like to additionally expand its existing activities by acquiring new manufacturing skills, such as additive production (3D printing).

## II. BUSINESS REPORT

### [ A ] UNDERLYING CONDITIONS

#### I. MACROECONOMIC ENVIRONMENT

Last year, German gross domestic product (GDP) expanded by 1.5%, thus falling short of the previous years (2.2% in 2017, 2.2% in 2016, 1.7% in 2015). However, a longer-term view indicates that the growth of the German economy in 2018 was still almost one percentage point above the average of +1.2% for the past ten years. On the production side, virtually all segments made a positive contribution to the growth in gross domestic product in 2018. Above-average growth was recorded in information and communications (up 3.7%) and in the construction industry (up 3.6%). In the retail, transport and hospitality sectors, price-adjusted gross value added also rose at an above-average rate of 2.1%. By contrast, the manufacturing sector (excluding construction), which accounts for a good quarter of the overall economy, expanded at a below-average rate of 1.0% in 2018. Average annual economic output in Germany in 2018 was generated by 44.8 million employed persons based in Germany, around 562,000 more than in the previous year. This 1.3% rise is mainly due to an increase in employees subject to compulsory social security. As in earlier years, higher labor market participation as well as immigration from outside Germany made up for the age-related demographic effects on the employment market. This positive trend in the labor market was accompanied by a rising inflation rate, which increased slightly from an annual average of 1.8% in the previous year to 1.9% in 2018 in Germany.

→ In Europe, the programs initiated by the European Space Agency (ESA) and the European Union (EU) as well as national space activities ensure stable development thanks to their multi-year planning horizons.

#### II. SECTOR ENVIRONMENT

Measured in terms of direct annual sales, the space industry still holds only a niche position compared with other industries in Europe and also the rest of the world but is indirectly of crucial importance for the economy as a whole. Navigation, earth observation and communications satellites orbiting in space constitute vital elements of our infrastructure with an importance similar to that of high-voltage power lines, roads, water ways and air transportation. Total failure or shutdown would trigger a worldwide social and economic collapse. In addition to their original positioning function, navigation satellites also provide a global time reference. For example, they allow IT systems to be synchronized globally, providing the basis for international financial transactions to be executed and documented reliably. The data collected by weather satellites ensures safe flying conditions and more frequent flights, improved efficiency in agriculture, the avoidance of poor harvests and more planable logistics and holiday travel. Space makes an important contribution to improving environmental protection, allows

the causes of and flows in migration to be observed and thus makes a decisive contribution to civil and military security. Space may be a small industry but one that is of crucial importance for a modern and sustainable economic system. Space activities vary greatly from region to region but are particularly important in North America and Europe (including Russia). In recent years, China has almost reached eye level with the historically strong regions, while activities in India have also developed significantly. Space is acknowledged socially and politically as a key industry. Given

the long-term nature of the programs and projects, macroeconomic and political conditions in individual countries have only a limited direct impact on current programs and projects. Moreover, depending on the region in question,

commercial, civil and military space programs are often linked with each other to very differing extents or are completely independent of each other. In Europe, the programs initiated by the European Space Agency (ESA) and the European Union (EU) as well as national space activities ensure stable development thanks to their multi-year planning horizons. Last year, ESA had a budget of EUR 4.0 billion and the figure for 2019 is slightly higher at EUR 4.2 billion. The European Commission has proposed a significant increase in the budget from EUR 11.1 billion for the period from 2014 to 2020 to EUR 16.0 billion for the next multiannual financial framework from 2021 to 2027. The German contribution to the ESA space program stood at EUR 920.7 million in 2018, while the budget for the German national space program was approximately EUR 280 million in 2018.

In the United States, NASA's budget exceeded USD 19.7 billion in 2017. In addition, the US Department of Defense's budgets for space projects come to a total of more than USD 20.7 billion. All in all, the US space budget for 2017 was more than USD 43.3 billion. Although the figures for 2018 are not yet available, it can be assumed that the budget was of a similar magnitude. After more than two decades of uncertainty as to their future direction, space activities in the Russian Federation still do not have any clear perspective. It is still not possible to assess the ramifications for space programs of the current situation in the Russian economy following the imposition of Western sanctions and the effects of current oil prices. In particular, the United States has substantially scaled back joint activities with the Russian Federation but still remained dependent on Russia for the transportation of supplies and astronauts to the International Space Station ISS in 2018. It expects to regain the independence which it had held prior to the termination of the Shuttle program from 2019, when national commercial operators become available. China, India, Japan, South Korea, Turkey and Brazil are still pursuing their ambitions of establishing their own national space flight programs and infrastructures. The installation of a national satellite-based navigation system, the country's

→ **The European Commission has proposed a significant increase in the budget from EUR 11.1 billion to EUR 16.0 billion for the next multiannual financial framework.**

own space station and long-term successful lunar landings with rovers and later with national astronauts ("taikonauts") form key elements of the Chinese space program. The successful landing on the far side of the moon underscores China's ambition of becoming a leading space nation or perhaps even the leading one. For the first time, China launched more rockets into space in 2018 than the United States did.

Held in December 2016 in Lucerne, the last ESA Conference of Ministers was of crucial importance for the European space industry both economically and in terms of programs. The decisions taken there are currently being implemented. Programs worth EUR 10.3 billion, including a German contribution of around EUR 1.9 billion, were approved at the conference. Intensive preparations are now under way for the next ESA Conference of Ministers, which is taking place in Seville, Spain in November 2019. ESA plans to propose to the governments of the member states a comprehensive

program known as "Space 2019+" with an enlarged budget. In addition to this established market with mostly institutional financing, strong worldwide momentum can also be observed as new, largely privately financed companies enter the market. In addition, a large number of start-ups are building microsatellites and developing innovative applications for using the data gained from them. This is triggering a revival in the space industry, which OHB views as an enrichment rather than a threat.

In the launch services market, there is still demand for the European Ariane 5 launch vehicle. The Ariane 5 program owes its sustained technical success to the unique reliability of this launch vehicle, which is unrivaled anywhere in the world. Six launches were executed in 2018. The final launch for 2018 marked the 88th consecutive successful campaign. As things currently stand, launches will continue until 2022, with five scheduled for 2019. The maiden flight of the new-generation Ariane 6 launcher is planned for 2020. Weaker demand for geostationary satellites in recent years as well as the intensified competition in the launcher sector have generally led to a more difficult market environment for the Ariane program.

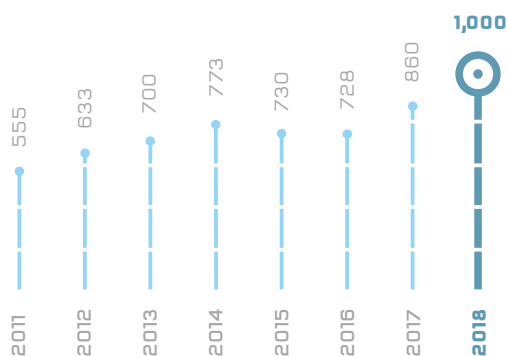
## [ B ] OHB SE'S BUSINESS PERFORMANCE IN 2018

The Group's business performance in the year under review and the resultant growth in its performance indicators lived up to the Management Board's positive expectations. In February 2018, the Company published full-year guidance for total revenues, EBITDA and EBIT. At EUR 65 million and EUR 48 million respectively, the EBITDA and EBIT guidance (EUR 65 million and EUR 47 million respectively) was exceeded slightly. Total revenues → [SEE CHART \[04\]](#) in the period under review came to EUR 1,000 million, thus matching expectations exactly (EUR 1,000 million). The further substantial increase in the relative proportion of subcontractor input in total revenues caused the EBITDA and EBIT margins to fall short of the previous year. As forecast, the EBITDA margin came to 6.5% in the year under review (previous year: 6.8%), while an EBIT margin of 4.8% was recorded (previous year: 5.9%). Consolidated net profit after non-controlling interests → [SEE CHART \[05\]](#) rose from EUR 23.4 million in the previous year to EUR 25.0 million and earnings per share from EUR 1.34 to EUR 1.44 in the year under review. The previous year's high order (EUR 2,439 million) was retained, with a figure of EUR 2,399 million recorded on the reporting date, thus ensuring high capacity utilization and good forward planning visibility.

## [ C ] BUSINESS PERFORMANCE

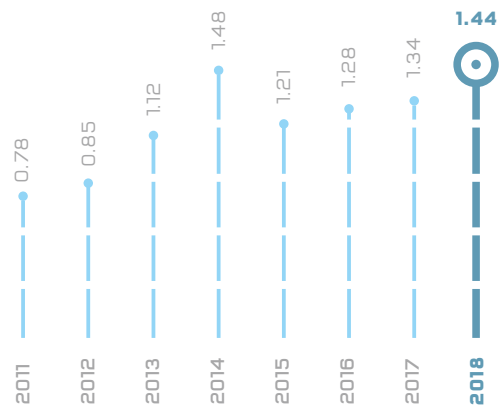
The OHB Group's favorable business performance continued in 2018. Total revenues increased over the previous year (EUR 860 million) by 16% to EUR 1,000 million. Sales also climbed by 18% to EUR 977 million, up from EUR 826 million in the previous year. The transformation of the space industry from what was once a solely research or politically/ideologically driven segment into a user-oriented and economically significant market has formed the basis for Group's continuous and sustained growth over the last one-and-a-half decades. The areas in which it engages via its subsidiaries place it in an excellent position: After the growth of the last few years, the space market will continue to expand as new possibilities for utilizing new or existing technologies are yielding new requirements. The existing applications are based on satellite systems already in operation which have a limited life expectancy and must therefore be replaced with new systems offering potentially improved technology or efficiency.

[ 04 ]  
CONSOLIDATED TOTAL REVENUES  
2011-2018



IN EUR MILLION

[ 05 ]  
EARNINGS PER SHARE  
2011-2018



IN EUR

## I. SPACE SYSTEMS BUSINESS UNIT

Business in the Space Systems business unit is chiefly characterized by long-term projects which are generally awarded by public-sector customers. The further increase in the already high order backlog of EUR 2,231 million (December 31, 2018) and the broad potential for generating new project business provide the basis for high forward planning visibility for the targeted deployment of the Group's resources.

### The Galileo European satellite navigation constellation

In July 2018, a further four satellites (from "Lot 2") for the Galileo European satellite navigation constellation were launched on schedule from the launch site in Kourou on board an Ariane 5. No problems arose during the launch and activation of these full operational capability (FOC) satellites. The four new satellites have been in operation since January 2019. In summer 2016, OHB System AG submitted a bid for Galileo FOC Lot 3 for 12 satellites. The European Commission and, acting on its behalf, the European Space Agency ESA awarded the contract for an initial eight satellites in April 2017. At the same time, the European Commission ordered a further four satellites in October 2017. Consequently, OHB System AG is supplying a total of 34 Galileo satellites worth around EUR 1.3 billion, of which 22 satellites have so far been launched. Development work on the Lot 3 satellites is proceeding according to plan, with production of the satellites to begin in 2019. In order to allay the possible effects of a "hard Brexit", any security-related activities affected will be relocated to the continent with ESA's approval. A study on the follow-up generation for the current Galileo satellites has been completed, with work on a further study completed in January 2018. The aim of these studies is to ensure that the next generation of satellites featuring the latest technology will be available after the planned operating period of twelve years and that Europe's leading position will be further strengthened. The European Commission and, working on its behalf, ESA plan to award a contract in 2020 for a transitional batch in the form of Lot 4, which will already feature some of these new technologies offering expanded capabilities. The new satellites will differ substantially from the Lot 1-3 satellites in terms of size, electrical power etc. Given the great success that it has achieved with the previous satellite lots and the intensive preparatory work performed, OHB is very well positioned for the next generation.

### Earth observation and reconnaissance

Developed and built by OHB System and put into operation between 2006 and 2008, the SAR-Lupe system with its five radar satellites, ground segments and the combined German-French reconnaissance satellite system made up of SAR-Lupe (radar images) and Helios 2 (optical images) is still exhibiting a high degree of stability. The contract entered into for the operation of the system by OHB System AG over a period of ten years duly expired on November 30, 2017 after the satellites reached their contractually guaranteed service life. The customer (Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw)) and the German armed forces took this opportunity to express their extreme satisfaction with the system and the partnership with OHB System AG. At the same time, an amendment to the contract was signed, providing for continued operation of the system until at least 2020 with the option of a further extension. Work on the SAR-Lupe successor SARah, which offers substantially improved performance, proceeded according to plan, with the scheduled milestones duly achieved in 2018. The system comprises three satellites, namely two satellites based on OHB System's reflector antenna technology and one satellite using phased-array technology, which has been subcontracted out to Airbus Defence and Space GmbH. OHB System AG has supplied the necessary ground equipment, which has also been used for the operation of the SAR-Lupe satellites since the end of January 2018. In response to a request received from the customer, OHB has submitted a further proposal covering new IT security requirements and is confident that it will be awarded the contract for these additional services in 2019.

In October 2018, OHB System AG signed a further contract for the development and assembly of the French SARah Partner Ground Segment (F-SPGS) in Koblenz with the Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support. F-SPGS is a ground segment which is linked to the German SARah radar satellite system and gives France access to radar images. In connection with the operation of the F-SPGS system, there is a possibility of OHB being commissioned with the delivery of data on two five-year options that have already been negotiated. In return, Germany will be able to submit image orders to the French CSO optical system via its own ground segment.

Commissioned in 2017, the development and construction of the electro-optical reconnaissance system for the Federal Republic of Germany is progressing according to plan. With a budget framework of up to EUR 400 million, this system will be used for global electro-optical reconnaissance. In addition to the SAR-Lupe and SARah programs, OHB has thus been able to additionally position itself as a supplier and partner for security-relevant space-based optical reconnaissance systems for the Federal Republic of Germany. Here, as well, the project and payment milestones were reached on schedule last year.

The development and construction of the third-generation European weather satellites Meteosat Third Generation (MTG) are continuing, with the satellites now in the production phase. Currently, all the satellite platforms are in various phases of production at OHB System AG's clean rooms in Bremen. The Company is also responsible for the design, development, procurement, assembly and delivery of a prototype flight model and for three flight models of the instrument (Telescope Assembly of the Flexible Combined Imager (FCI-TA)) as a subcontractor to Thales Alenia Space S.A. The first FCI-TA platform as well as the first flight model will be shipped to project partner Thales Alenia Space S.A. in Cannes, France, in May and June 2019 for the integration of the imager instrument. This instrument will be supplying the familiar images used in weather forecasts but in a substantially greater quality. Work on the IRS structural and thermal model is progressing according to plan. The MTG satellites will permit a further significant improvement in the internationally leading European weather forecasting models.

At OHB Italia S.p.A, development work on the microwave imager (MWI) for the METOP mission is ongoing. The microwave imager instrument will provide Europe's national meteorological services as well as international users and the science community with meteorological and climatic data. OHB Italia is responsible for designing and developing the MWI through to final in-orbit verification of three flight models for delivery to an Airbus Group company, which is the principal contractor for this mission. In October 2018, OHB Italia S.p.A also signed a contract worth EUR 168.2 million

with the Luxembourg Ministry of Foreign and European Affairs. The subject matter of this contract is the development of a high-resolution optical satellite. The NAOS satellite is a medium-sized reconnaissance satellite with a weight of about 600 kg and will be launched in 2022 on board the European VEGA with a planned lifetime of seven years.

Developed by OHB Italia, the EAGLET-1 Nanosat prototype for earth observation and maritime surveillance was successfully launched in December 2018. EAGLET-1 is a nanosatellite currently being prepared for operation in a sun-synchronous orbit at an altitude of 575 kilometers. This satellite carries two payloads, a high-resolution optical camera and a transmitter/receiver capable of receiving and distributing AIS (Automatic Information System) signals from ships all around the world.

In November 2016, OHB System AG was selected by principal contractor Leonardo S.p.A. as a core team partner for ESA's European earth exploration mission FLEX, which is to commence in 2023. The decisive milestone at the beginning of hardware development (preliminary design review) was successfully completed in September 2018, after which the integration phase (Phase C/D) commenced in December together with ESA and Leonardo.

The national optical earth observation program EnMAP (Environmental Mapping and Analysis Program) for the German Aerospace Center has now reached the integration phase at OHB System AG's clean rooms in Oberpfaffenhofen. EnMap is scheduled for launch in 2020. With its new type of hyperspectral sensors, this environmental satellite is primarily designed to characterize and monitor the condition of the earth. It is an innovative system which can be used for many new applications, e.g. security. Alongside this program, OHB Italia S.p.A. is working on the PRISMA project, an Italian program similar to EnMAP. In June 2017, OHB Italia signed a launch contract for this mission with Arianespace on behalf of the Italian space agency. The PRISMA satellite has successfully completed all necessary testing and is expected to be launched in March 2019.

→ All contracted European weather satellites **METEOSAT THIRD GENERATION** are in the production phase.

Under the Copernicus program of the European Commission and ESA, OHB SE subsidiaries are prime contractors or core team partners in preparation phases A/B1 for five of the six new Copernicus expansion mission proposals. OHB System AG was selected by the European Space Agency ESA as prime contractor for three studies in 2018. Proposals for these phase A/B1 studies, which have a value of EUR 17 million, were invited across Europe. The three studies to be performed by OHB System AG entail the "CO2M" (CO2 monitoring), "LSTM" (land surface temperature monitoring) and "CHIME" (Copernicus hyperspectral imaging mission for the environment) missions. OHB Sweden has also been selected as principal contractor for a further study under the Copernicus program. It will be working on the "PIST" (polar ice and snow topography) mission under a contract valued at EUR 5 million. OHB Italia has been named subcontractor for the "CIMR" (Copernicus imaging microwave radiometer) mission.

→ **Final integration and TESTING ACTIVITIES FOR THE SATELLITE EDRS-C ARE NEARING COMPLETION, with the satellite to be transported to the launch site in Kourou in mid-2019.**

Alongside the Galileo navigation system, Copernicus is the European Commission's second main space program and is being co-financed by ESA. OHB is working hard and purposefully on becoming a reliable and skilled long-term partner to Europe for earth observation, just as it already is in navigation. In this regard, OHB's experience gained over ten years in complex series-produced space systems is standing it in good stead. Invitations for proposals for the realization of the six Copernicus expansion missions are expected for the second half of 2019.

OHB System AG is already involved in the Copernicus program as a subcontractor to Airbus for the Sentinel-4 instrument. OHB is responsible for designing, assembling and qualifying the instrument structure (OIMS) and for procuring three critical mechanisms, thermal hardware and ground support equipment. The two flight models will fly on board the MTG-S satellite built by OHB.

In January 2018 the intermediate system requirements review for Tandem-L was successfully completed. Tandem-L is a proposal by the DLR Institute for High Frequency Technology and Radar Systems involving a highly innovative satellite mission for the global observation of dynamic processes on the earth's surface in an unprecedented quality and resolution. With its new type of imaging techniques and its enormous recording capacity, Tandem-L will provide information urgently needed to solve highly relevant scientific problems relating to the bio-, geo-, cryo- and hydrosphere. OHB System will be conducting one of two design studies awarded in parallel. Invitations for proposals for the realization of two Tandem-L satellites are expected to be forthcoming in 2020.

With these activities, OHB SE subsidiaries are active in all areas of earth and weather observation and reconnaissance with a broad portfolio of products ranging from radar satellites to optical observation systems of many different sizes and performance classes.

**Satellite communications**

OHB System AG developed and built a telecommunications satellite for the commercial satellite operator HISPASAT S.A. for the first time under the ESA-Artes 11 "SmallGEO" program. Known as 36W-1, the satellite lifted off from the European space center Kourou on board a Soyuz launcher on January 28, 2017. Since then it has been operating perfectly and to the customer's complete satisfaction for two years. This satellite marks the first time that the OHB-developed SmallGEO platform is being deployed directly in a satellite operator's commercial system and will be supplying Spain, Portugal, the Canary Islands and South America with broadband capabilities for a period of at least 15 years.

ESA has also selected the SmallGEO platform as the basis for the European Data Relay Satellite (EDRS-C) within the ARTES-7 program. Final integration and testing activities are nearing completion, with the satellite to be transported to the launch site in Kourou, French Guyana, in mid-2019.

The expansion of the SmallGEO model for use as a specialized data relay satellite with laser-based ultra-high-speed satellite-to-satellite communications is an important strategic goal for OHB System AG. Looking forward, optical technologies will play an increasingly important role in civil as well as military applications. SmallGEO has also been chosen by the German Aerospace Center as the basis for the "Heinrich Hertz" national telecommunications mission. This mission will be used to test new types of satellite communications technology under real conditions to safeguard national system competence in geostationary communications satellites. In addition, it is also to support the military communications of the German federal armed forces. The contract was awarded in the second quarter of 2017 and work proceeded according to plan in 2018. After signing a contract with launch service provider Arianespace SAS for the launch of the "Heinrich Hertz" satellite, which is to be placed in orbit in the fourth quarter of 2021 on board an Ariane 5, OHB duly entered into all the main contracts with the subcontractors in 2018.

In order to additionally enhance the competitiveness of the SmallGEO family, a contract was signed in March 2016 for the development of the "Electra" satellite, which is known as the "all-electric spacecraft". As it does not require any chemical propellant, this satellite will be substantially lighter. This will lower the launch costs on the one hand and permit substantially larger payloads on the other. Electra is thus the most efficient version of the SmallGEO series for certain missions. Development work on the platform was continued with the completion of the design activities and the corresponding milestone (PDR) in the year under review and is expected to have progressed sufficiently in 2019 for the first mission to be planned and implemented. Talks are currently being held with potential customers. At the same time as the SmallGEO geostationary satellite range was established, Group company LuxSpace Sàrl was also selected by ESA to develop microsatellites in the 100-kg class in 2017. In addition to providing communication services, these satellites can also be used as a base for earth observation missions. With the development and assembly of inexpensive microsatellites known as "Triton-X" at its Luxembourg facility, the Group is thus readying itself for the "new space" market. Working on behalf of the Swedish space agency SNSB, OHB Sweden AB is developing a platform known as InnoSat for

the 50-kg class, while OHB Italia S.p.A. has developed and assembled the "Eaglet-1" satellite in the under-10-kg class using the QubeSat format consequently, OHB SE companies are addressing the entire gamut of platforms for communications and earth observation applications.

### Space exploration

The central unit for the Trace Gas Orbiter developed and built in 2016 under the ESA ExoMars 2016 program is continuing to operate perfectly. Development and assembly work on the second part of the ExoMars twin mission, for which OHB System is supplying the carrier and the central system for the payload in the Mars Rover is on schedule. Under this mission, Antwerp Space N.V. is building the lander radio instrument, which uses sophisticated communications technologies to transmit data from Mars to the earth. The Company is also involved in the Jupiter JUICE mission, for which it is supplying the communications subsystem. By participating in the study to plan the next Mars mission, MSR (Mars Sample Return), which is to bring samples of Martian soil back to the earth before 2030 in a joint ESA/NASA project, OHB System AG has already positioned itself effectively for involvement in the next ESA exploration mission through the contribution of its experience from the ExoMars mission.

### Space science and robotics

After being awarded the contract for the payloads for the ESA PLATO science mission, OHB System also prevailed in the competition for the ESA contract to realize the overall mission. The purpose of the PLATO mission is to search for exoplanets, i.e. planets that orbit around other stars, and to determine the extent to which they are comparable to the earth. The satellite is to be launched in 2026. OHB SE companies were again involved in several studies in connection with ESA's next European scientific research missions in 2018. In this way, it is also building up a position for itself in this classic segment of space technology. OHB Sweden is continuing to work intensively on subsystems for the ESA Solar Orbiter research satellite. In May 2018, further TEXUS flights were executed in intervals of 18 days. As part of a dual campaign to harness synergistic effects, two rockets were launched from the Esrange launch site near Kiruna in northern Sweden. OHB System AG has been participating in this national DLR program, which conducts research in weightless conditions, since 1976.

### Human spaceflight

OHB System AG continued to provide extensive support for work on board the ISS International Space Station in 2018. This included the management of experiments as well as maintenance and repair work for the equipment developed and supplied by OHB System AG. OHB System is working on several studies analyzing possible scenarios for transporting supplies to the ISS after the expiry of the ATV program and exploring potential alternatives in microgravitation research following the decommissioning of the ISS in 2024 or later. One key aspect of this is a future major role in the "Deep Space Gateway", a potential international partnership led by NASA with the participation of ESA. NASA plans to place a temporarily human-occupied space station in an orbit around the moon in the late 2020s. This station is to serve as a gateway for a future landing on the moon or as a "springboard" for later flights to Mars. OHB System is playing a central role in the ESA definition study for the ESPRIT supply module, the future NASA Lunar Orbital Platform Gateway. Subsidiaries Antwerp Space and OHB Sweden will also be contributing their special expertise in radio links and electric propulsion systems to the definition of the ESPRIT module. MT Aerospace is also involved in studies on the gateway and will be contributing its skills in complex structures in the "Habitat" – a human-occupied station module.

→ HERA is preliminary groundwork for a mission which may become necessary at **SOME TIME TO SHIELD THE EARTH FROM THE IMPACT OF AN ASTEROID.**

### Space situational awareness

Growing attention is being paid to asteroid defense. In a detailed study on a possible mission known as HERA, preliminary groundwork is to be completed for a mission which may become necessary at some time to shield the earth from the impact of an asteroid. HERA is investigating the possibilities for deflecting asteroids that are on a collision course with the Earth from their original orbit by means of a targeted impact on the asteroid. Decisions on the funding for this program are expected at the forthcoming ESA Conference of Ministers in 2019. A definition study for one of the Lagrange missions is also being conducted at OHB to improve observations of space weather. This involves a large satellite weighing about two tons, which will be positioned

at Lagrange point L5, where it will observe the solar surface continuously and provide early warning of solar flares. These explosions on the surface of the sun can severely disrupt or even destroy satellites and electronics on the ground.

In a contract awarded by the Italian space agency ASI as well as ESA, OHB Italia S.p.A. has developed and patented the core technology for a new and innovative telescope for detecting space debris in low and geostationary orbits. Known as the "Fly Eye", the telescope combines a very large field of view with very high resolution. Development work has been largely completed, with the installation of the first telescope to begin in Sicily in 2019. ESA is currently designing an assembly for a global optical network comprising up to 27 telescopes to monitor space.

### Ground stations and operations

The SAR-Lupe operations handled by OHB System AG came to their contractual end in late November 2017. A contract for the continuation of the activities was signed with the German federal armed forces at an early stage to avoid any disruptions in the satellite operations. The SARah ground facilities

were activated at the end of January 2018 and are already handling the operating of the SAR-Lupe satellites. As part of the contract for the Heinrich Hertz satellite communications mission, OHB has received an order for a further ground segment, which will commence operations in 2021.

## II. AEROSPACE + INDUSTRIAL PRODUCTS BUSINESS UNIT

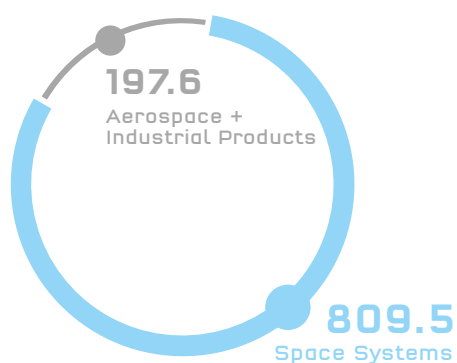
Business in the Aerospace + Industrial Products business unit is chiefly characterized by long-term projects. The order backlog of EUR 168 million (December 31, 2018) together with projects that have already been approved but not yet awarded ensures forward planning visibility.

There were six Ariane 5 launches in 2018. The scheduled production and shipment of four flight sets by MT Aerospace AG also kept capacity utilization stable in line with expectations. At the end of the year, the final order for this launcher was reduced from ten to eight flight sets. The maiden flight

of the new-generation Ariane 6 is scheduled for 2020. With this new generation, the Ariane launch system is to be technically enhanced to ensure that it can operate competitively on the world market in the future. MT Aerospace AG holds around 50% of the German portion of a total of 23% in the development and production of the Ariane 6 and is thus well positioned. The company holds system responsibility for the metallic structural components and tanks. In addition, it will be supplying around 40% of the central stage structure for the Vulcain engine. In the first half of 2018, an addendum to the development contract was signed with the principal contractor Ariane Group for the development of the Ariane 6 launcher with a total budget of EUR 171 million on the basis of the resolution passed by the ESA Conference of Ministers in December 2014. The contract covers the components of the upper and central stage tanks and the metallic structures as well as the main components of the central stage structure of the Vulcain engine. An important milestone was reached in November 2018 with the completion of the critical design review. Following numerous customer change requests, verification of this CDR to finalize the generic Ariane 6 configuration will not be finished until mid-2019. The configurations for the first two flight models will be approved on the basis of this generic configuration. At the same time, negotiations for the Ariane 6 series contract have begun and are expected to last until the end of the first quarter of 2019

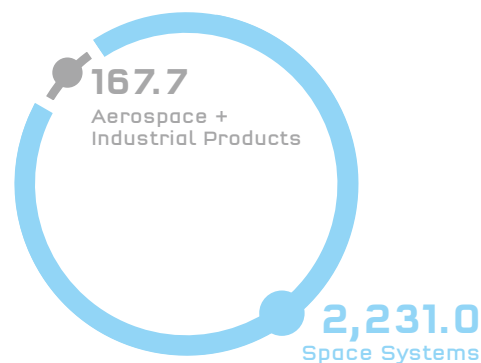
due to the extensive new developments involved. Construction and conversion work at the production facilities in Augsburg and Bremen has been completed. In the first quarter of 2018, production of the main and upper stage tanks as well as the structural components of the Ariane 6 was transferred to new machinery. At the beginning of 2018, the responsible ESA bodies decided to discontinue the activities for the second Ariane 6 P120C booster line. This involved a transfer of the remaining budgets to the FLPP development program (development of a composite upper stage). The final activities under the Ariane 6 P120C booster development contract were completed at the end of 2018. At the same time, the first ESA FLPP projects were launched to initiate investigations into partial aspects of a future Ariane 6 upper stage made of composite material. MT Aerospace AG, together with its subsidiary MT Mechatronics GmbH (MTM), is handling the order received from the French space agency CNES in 2016 entailing mechanical services for the Ariane 6 ground systems in Kourou, French Guyana. Originally worth EUR 23 million, this value of this contract has since increased to EUR 31 million as a result of additions. The facilities are to be handed over to CNES and ESA in the second quarter of 2019. MTM also received several orders from Xinjiang Astronomical Observatory China for design and consulting services for the world's largest fully-mobile radio telescope with a diameter of 110 meters. It will also be

[ 06 ]  
**TOTAL REVENUES**  
by business units  
before Consolidation and Holding 2018



IN EUR MILLION

[ 07 ]  
**ORDER BACKLOG**  
by business units  
as of Dec. 31, 2018



IN EUR MILLION

Total order backlog: 2,398.7

supplying several antennas for the Heinrich Hertz program. A contract awarded by ESA for a study on a hybrid satellite communication antenna, which is to operate both in the optical range and with conventional frequency bands, will open up new market potential for the company.

In the aviation segment, volume production of the fresh and waste water tanks for the Airbus A320/330 program continued according to plan in terms of schedule and quality. Temporary problems caused by the loss of a supplier for A350 and A330 tanks were overcome before the end of the year. In general, aviation tank business is facing increased competitive pressure, which is being countered with efficiency enhancement programs. At the same time, new market segments (particularly satellite tanks) are increasingly being explored.

**Telematics and navigation services**

OHB Logistic Solutions GmbH continues to supply a major German automotive components supplier with visioboxx container tracking equipment as planned.

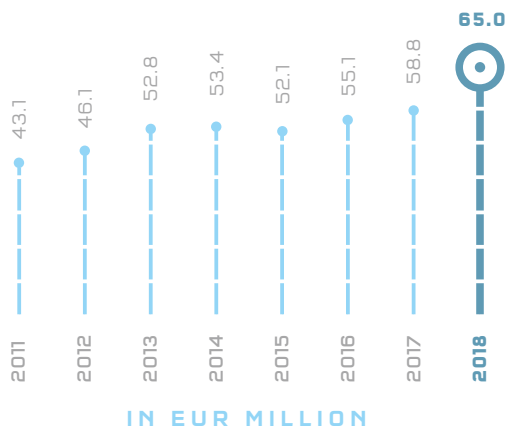
OHB SE acquired TeleConsult Austria (TCA) in Graz effective December 31, 2018. With 16 employees, TCA specializes in software solutions for navigation applications and thus complements the portfolio of other subsidiaries in this sector.

**[ D ] RESULTS OF OPERATIONS**

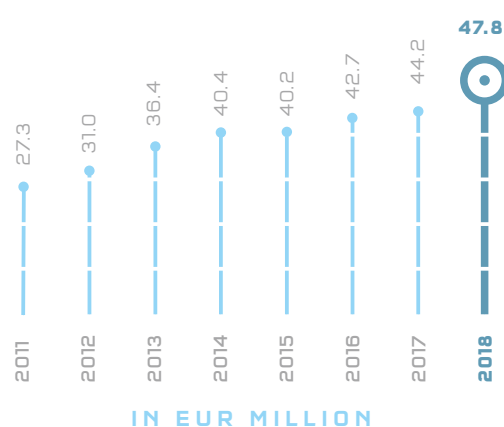
In 2018, the OHB Group's total revenues rose by EUR 140.7 million or 16% over the previous year to EUR 1,000.4 million. Consolidated sales came to EUR 976.6 million (previous year: EUR 825.9 million), primarily underpinned by the further ramp-up of satellite system contracts and the simultaneous production activities for Ariane 5 together with the development work on the Ariane 6. Non-consolidated total revenues → SEE CHART [06] in the Space Systems business unit reached EUR 809.5 million in 2018 (previous year: EUR 661.3 million). Non-consolidated sales increased significantly by 24% to EUR 788.9 million (previous year: EUR 635.3 million). At EUR 197.6 million in 2018, non-consolidated total revenues in the Aerospace + Industrial Products business unit were down 7% on the previous year. Non-consolidated sales dropped from EUR 203.9 million in the previous year to EUR 194.3 million. All in all, the increase of 349 in employee numbers to 2,769 left traces on personnel expenses, which increased by 15.1%. Reflecting the increase in total revenues, the cost of services purchased, which is reported within the cost of materials, climbed by 25.6% over the previous year. Other operating expenses increased by 4.0%.

Valued at EUR 2,399 million as of the reporting date, the OHB Group's order backlog → SEE CHART [07] fell slightly short of the previous year (previous year: EUR 2,439 million). Of this, the Space Systems business unit accounted for EUR 2,231.0 million (previous year: EUR 2,198.1 million) due, among other things, to orders received for a scientific

**[ 08 ] DEVELOPMENT OF EBITDA 2011-2018**



**[ 09 ] DEVELOPMENT OF EBIT 2011-2018**



research mission, an earth observation satellite and participation in an exploration mission. Order backlog in the Aerospace + Industrial Products business unit stood at EUR 167.7 million as of the reporting date (previous year: EUR 240.7 million).

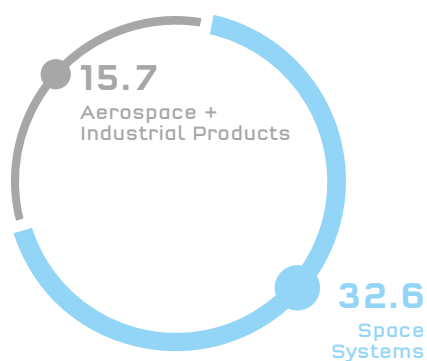
In the period under review → SEE CHART [08], the OHB Group generated EBITDA of EUR 65.0 million (previous year: EUR 58.8 million) and EBIT → SEE CHART [09] of EUR 47.8 million (previous year: EUR 44.2 million). Net profit after tax and non-controlling interests stood at EUR 25.0 million in the year under review (previous year: EUR 23.4 million), while earnings per share equaled EUR 1.44 in 2018, up from EUR 1.34 in 2017. EBIT before consolidation in the Space Systems business unit → SEE CHART [10] increased significantly from EUR 24.1 million in the previous year to EUR 32.6 million due, among other things, to work performed on the extraordinarily large order backlog. Development work on the "SmallGEO" satellite platform for communications applications, which is already being used as a basis for various satellite programs, has resulted in greater capitalized development activities over the last few years in this business unit. These stood at EUR 16.7 million at the Group level in the year under review (previous year: EUR 20.2 million). EBIT in the Aerospace + Industrial Products business unit dropped from EUR 20.2 million to EUR 15.7 million. The OHB Group recorded net finance expense of EUR 3.7 million in 2018 (previous year: EUR 2.0 million). This includes finance expense of EUR 5.6 million (previous year: EUR 5.2 million) chiefly comprising interest expense of EUR 2.0 million (previous year: EUR 1.8 million) on retirement benefit provisions

and interest of EUR 3.0 million (previous year: EUR 3.0 million) on financial liabilities. The parent-company financial statements prepared according to German GAAP (HGB) for OHB SE carry an unappropriated surplus of EUR 11.5 million for 2018. The Management Board and Supervisory Board will be asking the shareholders to approve a dividend of EUR 0.43 per share for 2018 at this year's annual general meeting. The Management Board considers the year under review to be generally successful.

## [ E ] FINANCIAL CONDITION AND NET ASSETS

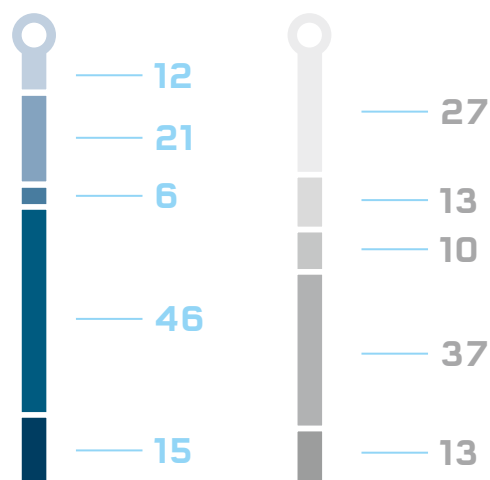
In the year under review, the OHB Group's total assets → SEE CHART [11] widened from EUR 719.7 million to EUR 753.6 million. As a result of the transition from the previous accounting standards IAS 11 (Construction Contracts)

[ 10 ]  
EBIT by business units before consolidation and holding



IN EUR MILLION

[ 11 ]  
ASSET STRUCTURE  
as of Dec. 31, 2018



### [ ASSETS ]

- Property, plant and equipment
- Other fixed assets
- Other non-current assets
- Trade receivables and contract assets
- Other current assets

### [ SHAREHOLDERS' EQUITY AND LIABILITIES ]

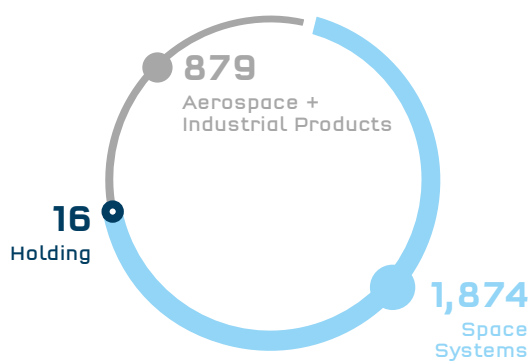
- Equity
- Provisions for retirement benefits and similar obligations
- Other non-current liabilities
- Trade payables and contract liabilities
- Other current liabilities

IN A PERCENTAGE OF  
TOTAL ASSETS

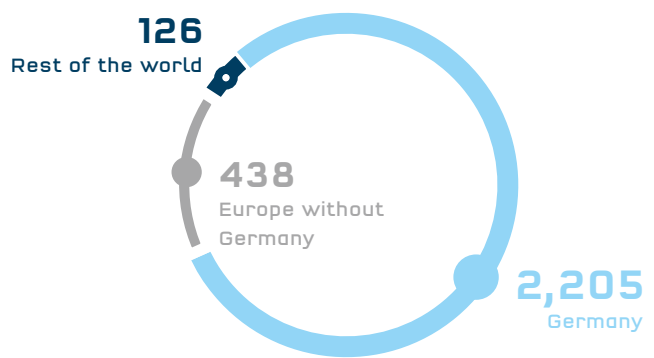
and IAS 18 (Revenues) to the new guidance contained in IFRS 15 (Revenue from Contracts with Customers) as of January 1, 2018, equity decreased by EUR 7.3 million compared to the previous year, coming to EUR 200.0 million as of December 31, 2018 (previous year: EUR 207.3 million), resulting in an equity ratio of 26.5% (previous year: 28.8%). Group capital spending on property, plant and equipment and intangible assets totaled EUR 38.4 million in 2018 (previous year: EUR 44.6 million). Of this, the Space Systems business accounted for EUR 23.4 million (previous year: EUR 23.3 million). This includes a sizeable amount of EUR 16.6 million for capitalized development activities, primarily in connection with the telecommunications platforms. The Aerospace + Industrial Products business unit accounted for EUR 12.9 million (previous year: EUR 21.3 million), with a substantial part of this attributable to production capacities for components for launchers. Capital spending is expected to drop to around EUR 30 million in the following year due to the completion of work on expanding production capacities in the Aerospace + Industrial Products business unit together with a decline in the capitalized development activities in the Space Systems business unit. Inventories increased from EUR 48.8 million to EUR 50.2 million. Cash and cash equivalents including securities were valued at EUR 48.7 million as of December 31, 2018, compared with EUR 59.0 million in the previous year. A detailed analysis of the cash flow can be found in the cash flow statement in the consolidated financial statements. At EUR 60,2 million, the

net cash inflow from operating activities is primarily due to the consolidated net profit generated and was used to finance capital spending as well as the dividend distribution. The retirement benefit provisions of EUR 99.6 million at the end of 2018 continue to constitute the largest item on the right-hand side of the balance sheet. Current financial liabilities dropped from EUR 63.9 million to EUR 25.4 million as of the reporting date. These liabilities continue to arise from drawdowns on part of a credit facility obtained in December 2013. This facility was modified in May 2016 and renewed by a further two years until 2023. At the same time, the original amount was lowered from EUR 250 million to EUR 225 million, thus ensuring that any financial requirements can still be covered inexpensively. The loan facility is related to the timing differences between the services completed under long-term projects and the corresponding payment schedules for these projects. In addition, a loan for EUR 30 million was provided by the European investment Bank, Luxembourg, in March 2017 to finance the Electra project at OHB System AG. The loans are not secured but are subject to three covenants, none of which were breached in the year under review. Total trade receivables and contract assets came to EUR 348.1 million and were thus up on the previous year (EUR 328.2 million). Trade payables stood at EUR 177.0 million on the reporting date, thus increasing sharply over the previous year (EUR 83.1 million). Total contract liabilities and current prepayments received on orders came to EUR 100.4 million and were thus down on the

[12]  
**NUMBER OF EMPLOYEES  
 BY BUSINESS UNITS**  
 as of Dec. 31, 2018



[13]  
**NUMBER OF EMPLOYEES  
 BY REGIONS**  
 as of Dec. 31, 2018



previous year (EUR 139.8 million). The cyclical nature of project business in the space industry calls for flexible funding structures. The Company pursues the goal of securing its irregular liquidity requirements to finance current assets by means of corresponding credit facilities on which it can draw at any time. In the light of this goal, the Management Board generally considers OHB SE's net assets and financial condition to be solid.

## [ F ] EMPLOYEES

With the addition of 349 new employees → SEE CHART [12] in 2018, OHB SE recorded the largest increase in its workforce to date. Once again, the Space Systems business unit had the greatest requirements, recruiting 250 additional employees.

Consequently, a total of 2,769 people were employed by the Group in 2018, 2,205 of them in Germany and 564 in other countries → SEE CHART [13]. The fact that the above-mentioned recruitment rate was achieved despite an increasingly tight employment market for engineers underscores the efficiency of the diverse employer branding measures taken. The high percentage of foreign employers, which is of advantage for a European space company, was widened to about 25% as a result of the new recruitment drive. The average age of the workforce dropped to 42.3 years. The regular dialog with OHB SE employee representatives, which has been in place since November 2015, was held in two scheduled meetings in Bremen and Stockholm.

## III. OUTLOOK, RISK AND OPPORTUNITY REPORT

### [ A ] OUTLOOK

#### I. SPACE SYSTEMS BUSINESS UNIT

In 2019 and beyond, the Space Systems business unit will be concentrating on the continuation of its successful work on the Galileo, EDRS-C, Electra, Meteosat Third Generation, EnMAP, SARah, Heinrich Hertz, electro-optical satellite system and Plato projects. Numerous feasibility studies are currently being conducted on areas of research to be addressed by ESA's earth observation and exploration missions. The focus will be on the future Sentinel earth observation missions, in which OHB System AG in particular is involved through study contracts. Further activities and

studies will concentrate on space surveillance, asteroid defense, continued operation of the ISS and its successor programs. Depending on the program, OHB companies are acting either as a principal contractor or a subcontractor. With respect to national Italian programs, OHB Italia S.p.A. intends to systematically broaden its role as second player in Italy for satellite missions, both for science and remote sensing. Budgetary decisions on the part of the European Commission, ESA and in the national space programs in Germany and Italy as well as the other countries in which OHB companies are located point to largely stable underlying conditions and a sufficiently firm basis for future planning. With its current and planned projects and programs, OHB SE's Space Systems business unit is ideally positioned to maintain the level which it has achieved on a sustained basis and to continue growing successfully.

#### II. AEROSPACE + INDUSTRIAL PRODUCTS BUSINESS UNIT

In the launch vehicle segment, the existing order backlog will ensure continued production and delivery of components for the Ariane 5 and thus largely underpin sales performance in 2019. The existing cost-optimization program is having an effect towards the end of the A5 program and will be continued more intensively with a greater focus on series production of the Ariane 6 launcher. The development of launch vehicle components will again be dominated by the ramp-up of the Ariane 6 development and production program. Acceptance testing and qualification of the production facilities already configured for the Ariane 6 commenced in 2017 and will continue until full discontinuation of Ariane 5 production. More intensive efforts to address other market segments are necessary to develop business in the aerospace components segment and are showing initial success. MT Mechatronics GmbH continues to have good business potential worldwide in its core business (antennas and ground systems) and is continuing to expand its business. Its range has been expanded with the development of a new line of high-energy computer tomography systems. The new technology will make it possible, for example, to X-ray entire passenger cars, trucks, containers, etc. to obtain high-resolution 3D images. Preliminary orders for complete systems under the leadership of MT Mechatronics are expected in 2019.

**III. OUTLOOK**

The Management Board expects consolidated total revenues in the OHB Group of EUR 1.05 billion in 2019 thanks to the high order backlog at the end of 2018. EBITDA should come to EUR 80 million and EBIT to EUR 50 million in 2019. The first-time application of the new accounting standard IFRS 16 is expected to have an impact on EBITDA of approximately EUR 10 million and has been taken into account accordingly. One important non-financial performance indicator is the fluctuation rate, for which a target of less than 5% has been defined. It should be expressly noted in connection with forward-looking statements that actual events may differ materially from expectations of future performance.

**[ B ] RISK AND OPPORTUNITY REPORT**

**I. RISK AND OPPORTUNITY MANAGEMENT SYSTEM**

OHB SE's Management Board permanently monitors the Group's operating, market and financial risks in order to safeguard the Group's sustained business success. Assisted by the central departments, the Management Board observes and analyzes trends in the sector, markets and economy as a whole on an ongoing basis. In this connection, OHB SE's risk management system controls the uncertainties to which the Group companies are exposed by identifying and evaluating opportunities and risks systematically and regularly and, if necessary, defining and implementing suitable measures and precautions. This applies to operating risks as well project-related and technical risks. In this connection, product and quality assurance officers continuously monitor design, construction and integration activities as well as deliveries received from upstream suppliers.

In addition to the aforementioned systematic identification, evaluation and management of risks, a detailed monthly report for tracking orders and costs provides important input for overall risk management. Reporting also covers all business acquisition, research and development activities and allows potential opportunities and risks to be identified at an early stage. The subsidiaries submit standardized monthly or quarterly reports to OHB SE covering all processes, opportunities and risks of relevance for the Group.

The individual subsidiaries deploy different software systems for generating reports, e.g. SAP or business intelligence solutions. We consider the following types of risk to be relevant for OHB SE's business activities.

**II. INDIVIDUAL RISKS**

**Sector risks, risks in underlying conditions**

The Space Systems business unit primarily works for public-sector customers. Order intake is exposed to risks arising from the budgets of public-sector customers (chiefly the European Commission, the European Space Agency ESA, national ministries such as the German Federal Ministries of Economics, Defense and Transportation as well as the national space agencies). However, this situation is becoming increasingly favorable for OHB SE in view of its special standing as a German and European systems provider for space technology with a special focus on security.

Further significant growth is only possible within the confines of this market. Other opportunities beyond this are primarily to be found in the commercial and export markets. This segment has been closely observed and analyzed for a number of years and preliminary activities in this direction are being prepared. The focus is on projects in the areas of telecommunications satellites, radar satellites and electro-optical satellites for earth observation. Given the large order backlog and, resulting from this, the high-level utilization of existing capacities, the Company has not yet given top priority to market entry in this currently price-competitive segment.

In the Aerospace + Industrial Products business unit, the US competition is posing a challenge for Ariane Group, which held a dominant market position in the launch vehicle segment for a long time. After successful launches, SpaceX in particular has secured a firm position in the market for commercial satellite launch services and is striving for cost and price leadership. With respect to mechatronic systems for antennas and telescopes, a risk arises from the heavy dependence on the global market for scientific radio and optical telescopes, which is subject to strong fluctuation. In the aviation segment, market share may be ceded to emerging competitors.

### Strategic risks

The Space Systems business unit is exposed to risks related to the scheduled completion of the currently ongoing programs particularly in the principal contractor role with overall responsibility in accordance with the agreed schedule and budget. Advance outlays were made in 2018 for the development of strategically important product segments, the costs of which must be recouped from the development of business in the corresponding applications. Looking ahead, a balanced book-to-bill-ratio is required to maintain the current high order backlog. However, a minor decline can be accepted in the short term without any adverse effect on the business outlook.

The Aerospace + Industrial Products business unit is heavily dependent on the continuation of successful launches of the Ariane 5 and the successful implementation of the Ariane 6 in the market as well as the implementation of the cost-cutting initiatives through the introduction of new production technology and processes in the Ariane program.

### Sourcing risks

The OHB Group constantly optimizes its supply chain by monitoring the buy-side market continually, auditing local development and production activities and increasingly taking measures to safeguard the local availability of supplies. In addition, efforts are being stepped up to identify alternative procurement sources on a global basis. This must be done in the light of any restrictions which may be stipulated by customers for specific products, reducing the scope for free selection of suppliers. The Space Systems business unit is exposed to sporadic supply-side risks in the sourcing of subsystems. This includes scheduling and development risks. These possible risks are already minimized by means of an intensive selection process for the corresponding suppliers.

In the Aerospace + Industrial Products business unit, development risks may occur in connection with the sourcing of items for the Ariane 6 as a result of delays in customer input, resulting in supply chain delays. Turnaround and sourcing times are defined and tracked carefully to minimize these risks. In this way, the impact of any changes on the schedule

are known in good time and can be addressed jointly with the customer if necessary. In individual service groups (electroplating, metal forming), niche skills may lead to bottlenecks on the part of individual suppliers, which can be mitigated by long-term planning and targeted second-source strategies.

### Project risks

The risk management system used for bid-costing and ongoing project management involves regular escalated reporting to the project managers, the management of the operating companies and OHB SE. All projects are integrated in a continuous controlling and monitoring process. Projects exceeding a certain size threshold are additionally subject to regular reviews by the responsible management to specifically monitor and manage technical performance as well as schedule, cost and budget compliance as well as project risks. Given the systems underlying our business model, there are inherent risks in the observance of schedules as well as development risks liable to cause considerable project delays and costs.

### IT risks

The ongoing enhancement process for information services and systems has heightened the standards achieved in data protection and quality to maximize confidentiality, availability and integrity. The Group companies have been modernizing and expanding the security features of their hardware and software solutions for a number of years now by using best-in-class components sources from renowned OEMs. In particular, the network infrastructure at the main location in Bremen was almost completely replaced in 2018 with fully redundant, state-of-the-art components.

The optimization of complex IT security systems simultaneously necessitates adjustments to IT processes and systems in order to reduce vulnerability to external attacks and internal risks on a continuous basis. For this reason, IT is working on comprehensive security solutions including dual-step security gateways (next-generation firewalls), end-point protection scenarios, complex segmentation of

the enterprise networks, software solutions to avert zero-day exploit attacks, analyses of inbound and outbound data and many other aspects to ensure data integrity and to protect the confidentiality of data and, hence, the Group's knowledge.

The roll-out of product data management (PDM) systems adapted to the different business models of the various Group companies will set a new standard in the consistency of the data used in business processes.

**Financial risks**

Most goods and services procured are invoiced in euro. Foreign-currency transactions in the dollar region may result in translation gains or losses. The Aerospace + Industrial Products business unit hedges dollar-denominated orders and receivables. The securities entail long-term investments with acceptable risks. Working capital requirements can be reduced substantially by means of progress billings. However, as this cannot be achieved continuously in all project phases, liquidity may fluctuate sharply. The credit facility agreement signed in December 2013 with a syndicate of seven banks to avert liquidity risks was expanded in May 2016 and renewed until 2023 in May 2018. In addition, a supplementary loan contract was entered into with the European Investment Bank EIB in Luxembourg in 2017 with a term expiring in 2024. With respect to pension provisions, we do not expect to see any further significant change in interest rates in the future.

**Personnel risks**

The main risk with respect to human resources remains the recruitment of new employees in a timely manner and in line with the required qualifications, primarily in engineering. To address this risk, experience gained from pilot projects has now been leveraged to launch broad-based standardized procurement and further education measures. In particular, dual training programs for different engineering profiles and extended trainee programs, including for the employees of foreign subsidiaries, are helping to allay the risk of bottleneck risks in the key programs.

**Management assessment of the risk situation**

Throughout 2018, the OHB Group's exposure was for the most part confined to the risks described. In the light of current market trends in the areas of the greatest relevance for the Company and the outlook for its business, order backlog and financial situation, the Management Board considers future risks to the Group to be manageable. No risks to the Group's going-concern status are currently discernible.

**III. MATERIAL OPPORTUNITIES**

The space market offers OHB companies in both business units a fertile basis for continued growth given the constant flow of new applications. Systematic observation of all relevant requests for proposals on a European and also a national level allows the OHB companies to take part in virtually all major bidding processes in Europe. With its European-wide presence and strong national companies specializing in selected technologies and applications in the space industry, OHB additionally has the opportunity of bidding for space contracts which are awarded to individual nations in accordance with the geographic return principle within ESA alongside EU-wide bids. In the individual countries, the Group's national companies are additionally able to bid for contracts and projects awarded by the national space agencies. The high degree of specialization of the individual companies within the OHB Group generally means that when the individual companies bid for a major ESA project they receive the status of lead-manager or subcontractor to the lead-manager. The OHB companies' specific space expertise is based on the long-standing experience of the responsible persons within the Group as well as basic research and development performed in this area allowing promising future areas and developments in space to be identified and responses to them adopted. Recent studies (source: Euroconsult) expect more than two thirds of satellite orders in 2018-2027 to come from civil or military public budgets, i.e. the area in which OHB is particularly strongly positioned. The largest single market will be earth observation, which is another strong field for the OHB Group. Growth will also be spurred by widening budgets in Germany for civil and military space (source: German federal budget) as well as larger ESA budgets (source: ESA). Secular trends such as Internet of Things, autonomous mobility, etc. will

spur the need for space-based solutions. In addition to public-sector contracts and development projects, this will additionally drive the commercialization of space worldwide. Telecommunications, navigation, cartography and the increasing exploration of the earth by means of space technology are of key importance in this connection. OHB also sees good opportunities for entering the nascent "new space economy" market. For this purpose, the Group will also apply its own funds in close consultation with its customers. As with business risks, project management may also generate opportunities from systematic claim management based on the project review process.

## IV. INTERNAL CONTROL AND RISK MANAGEMENT SYSTEM

The control and risk management system forms an integral part of the corporate, planning, accounting and control processes and constitutes a material element of the management system of OHB SE and the Group companies. OHB SE's risk management system addresses the uncertainties to which the Group companies are exposed by identifying and evaluating opportunities and risks systematically and regularly and, if necessary, defining and implementing suitable measures and precautions. This applies to operating risks as well project-related and technical risks. In this connection, product and quality assurance officers continuously monitor design, construction and integration activities as well as deliveries received from upstream suppliers.

Monthly and quarterly reporting forms an integral part of OHB Technology's risk management operations and has been additionally improved. Group-wide controlling instruments supported by business intelligence software are used for reporting purposes. This primarily entails comparisons of the actual/required figures and deviation analyses. Budgeting, regular forecasts and ongoing reporting discussions supplement standardized reporting.

OHB SE secures the process for preparing the consolidated financial statements in several different ways. In addition to an accounting manual which all subsidiaries must observe, this entails regular evaluations of the quarterly and monthly reports and ad-hoc detailed analyses on matters and developments at the level of the individual subsidiaries as well as for the Group as a whole. In addition, the consolidation process as well as the process for preparing the management report and the notes to the consolidated financial statements are reviewed by the finance department and the Management Board. Appropriate precautions are taken in the accounting process to ensure full implementation of the double-sign-off principle. Access restrictions in the information management system ensure a high degree of data security. These and other measures are subject to regular review by Group Internal Auditing. In addition, the accounting system used by subsidiaries complies with the requirements of public-sector contract awarding rules.

Customer payment practices are monitored on an ongoing basis to minimize financial risks. In addition to a multi-level reminder system, controlling methods include regular reports to the responsible management. The OHB Group's customer base comprises a large proportion of public-sector customers both directly and indirectly. For this reason, the risk of payment defaults is very small. Over the past few years, there have been virtually no payment defaults. Prepayments received comprise part payments remitted upon the completion of specific project milestones. In this way, it is possible to minimize liquidity risks and working capital requirements.

## V. REMUNERATION REPORT

The remuneration of the members of the Management Board is generally composed of non-performance-related and performance-related components. In the Management Board contracts (term of the contract of Marco Fuchs until June 30, 2021, term of the contract of Dr. Fritz Merkle until June 30, 2018, term of the contract of Klaus Hofmann until October 31, 2023, term of the contract of Kurt Melching from April 1, 2018 until March 31, 2023 (service contract with OHB System AG), term of the contract of Dr. Lutz Bertling from April 1, 2018 until March 31, 2022) the variable remuneration of Marco Fuchs and Dr. Lutz Bertling is determined by a percentage profit share (% quota of EBT). For Dr. Fritz Merkle, Klaus Hofmann and Kurt Melching, the variable remuneration consisted or consists of a combination of agreed personal targets and the business success of the company. Only Dr. Lutz Bertling currently has share-based remuneration components with a long-term incentive effect. In the event of the death of a member of the Management Board, the surviving dependants are entitled to continued payment of the non-performance-related remuneration of the deceased for six months.

During the 2018 financial year, the Management Board members Marco Fuchs, Dr. Fritz Merkle, Klaus Hofmann, Kurt Melching and Dr. Lutz Bertling were each provided with a company car for the term of their contracts. The remuneration of the members of the Management Board is made up as follows: In total, the fixed remuneration plus ancillary benefits such as health and pension insurance contributions, the assessment of vehicle use and the remuneration received for group-internal supervisory activities amounted to EUR 1,482 thousand in 2018 (previous year: EUR 1,038 thousand). The expected variable remuneration amounts to EUR 1,485 thousand. Variable remuneration components of EUR 1,022 thousand were paid out for the 2017 financial year in the 2018 financial year. The payments included EUR 33 thousand for Marco Fuchs, EUR 35 thousand for Dr. Fritz Merkle and EUR 23 thousand for Ulrich Schulz in excess of the amount already accrued as variable remuneration in 2017. Marco Fuchs received EUR 365 thousand (previous year: EUR 347 thousand) as fixed remuneration plus all ancillary benefits such as health insurance and pension contributions. The variable remuneration for the 2018 financial year is expected to amount to EUR 660 thousand (previous year: EUR 600 thousand). Dr. Fritz Merkle received a fixed salary of EUR 174 thousand (previous year: EUR 266 thousand), including all ancillary benefits such as health insurance and pension contributions. In addition,

Dr. Fritz Merkle is expected to receive EUR 100 thousand (previous year: TEUR 100) as variable remuneration for the 2018 financial year. Klaus Hofmann received fixed remuneration in the year under review, including all ancillary benefits such as subsidies for health insurance and pensions, amounting to EUR 293 thousand (previous year: EUR 292 thousand). In addition, Klaus Hofmann is expected to receive variable remuneration of EUR 130 thousand for fiscal year 2018 (previous year: EUR 135 thousand). Kurt Melching received fixed remuneration of EUR 192 thousand in the year under review (from April 1, 2018), including all ancillary benefits such as health insurance and pension contributions, and is expected to receive EUR 100 thousand as variable remuneration for fiscal year 2018. Dr. Lutz Bertling received fixed remuneration of EUR 448 thousand in the year under review, plus all ancillary benefits such as health insurance and pension contributions (of which EUR 253 thousand as regular remuneration and EUR 195 thousand as a one-time payment after conclusion of the contract). The variable remuneration for the 2018 financial year is expected to amount to EUR 495 thousand. He received an advance payment of TEUR 49 on this amount. He also received an advance payment of EUR 146 thousand, which will be offset against future variable remuneration. In addition, it received a long-term incentive in the form of an annual allotment of 12,500 OHB SE shares for the 2018 to 2021 fiscal years (total fair value at the grant date of EUR 1,563 thousand). The shares transferred on June 5, 2018 or to be transferred on April 1 of the following years are to be transferred back pro rata temporis if Mr. Bertling leaves the Executive Board prematurely, which is contractually possible without good cause by revoking his appointment.

Christa Fuchs received a survivor's pension of EUR 22 thousand from OHB System AG for Prof. Manfred Fuchs, who died on the Management Board in 2014.

Christa Fuchs, as Chairwoman of the Supervisory Board (until 31 March 2018), received EUR 30 thousand (previous year: EUR 30 thousand) for the 2017 financial year in the 2018 financial year for the 2017 financial year, Robert Wethmar received EUR 25 thousand (previous year: EUR 20 thousand) and Prof. Heinz Stoewer received EUR 20 thousand (previous year: EUR 20 thousand). No variable remuneration components were paid to members of the Supervisory Board. A provision of EUR 88 thousand was recognized for the 2018 financial year, which also includes the pro rata claims of Ingo Kramer, who joined the Supervisory Board in June 2018. In accordance with a framework agreement with the law firm Taylor Wessing, in which Robert Wethmar is a partner, a total fee of EUR 198 thousand was charged in the past financial year in connection with consulting services for Group companies.

## VI. DISCLOSURES IN ACCORDANCE WITH SECTION 315A (1) OF THE GERMAN COMMERCIAL CODE

### [ A ] BREAKDOWN OF SUBSCRIBED CAPITAL (NO. 1)

Issued capital stood at EUR 17,468,096.00 on the balance sheet date and was divided into 17,468,096 no-par-value bearer shares.

### [ B ] RESTRICTIONS TO VOTING RIGHTS OR THE TRANSFER OF SHARES (NO. 2)

Prof. Dott. Ing. h.c. Manfred Fuchs, Christa Fuchs and Marco Fuchs, who are also shareholders of VOLPAIA Beteiligungs-GmbH, and VOLPAIA Beteiligungsgesellschaft mbH in their capacity as shareholders of OHB Teledata AG (as the Company was then known), entered into a pooling contract on December 20, 2001 providing for the coordinated exercise of voting rights with respect to present and future share holdings.

On February 4, 2009, the parties signed an addendum to this pooling contract imposing on them restrictions with respect to the sale of the shares held in the pooling contract. On July 10, 2009, the parties signed a revised version of the pooling contract. Romana Fuchs Mayrhofer joined this pool in January 2010. A total of 69.72% of the Company's issued capital is held in this pooling contract. There were no changes in the total number of pooled voting rights as a result of Prof. Manfred Fuchs' death in April 2014. The pooling contract between Marco Fuchs, Romana Fuchs Mayrhofer, Christa Fuchs and VOLPAIA Beteiligungsgesellschaft mbH was revised on February 21, 2017, although there were no material changes in the main elements outlined above.

### I. SHARES EXCEEDING 10% OF THE VOTING CAPITAL (NO. 3)

As of the reporting date, Marco Fuchs held 34.62% of OHB SE's subscribed capital (6,046,610 shares). VOLPAIA Beteiligungs GmbH holds a further 21.35% of the Company's shares. Together with the shares held by Christa Fuchs (8.03%, 1,401,940 shares) and Romana Fuchs Mayrhofer (5.72%, 1,000,000 shares), 69.72% (12,178,720) of the Company's shares are subject to a pooling contract providing for the coordinated exercise of voting rights as of the balance sheet date. Romana Fuchs Mayrhofer holds an additional 378,626 shares in OHB SE (2.17%) outside the scope of the pooling contract.

### II. STATUTORY STIPULATIONS AND PROVISIONS CONTAINED IN THE COMPANY'S BYLAWS WITH RESPECT TO THE APPOINTMENT AND DISMISSAL OF MEMBERS OF THE MANAGEMENT BOARD AND AMENDMENTS TO THE BYLAWS (NO. 6)

With respect to the appointment and dismissal of members of the Management Board, reference is made to the provisions contained in Article 39 and Article 9 (1) c) ii) of the Statute for a European Company (SE) in connection with Sections 84 and 85 of the German Stock Corporation Act. Under Article 8 (2), the Supervisory Board is empowered to appoint a member of the Management Board as Chairman and further members of the Management Board as Deputy Chairman. The procedure for amending the bylaws is governed by Sections 133, 179 of the German Stock Corporation Act. Article 21 of OHB SE's bylaws also authorizes the Supervisory Board to make amendments to the bylaws affecting only their wording.

**III. POWERS OF THE MANAGEMENT BOARD TO ISSUE OR BUY BACK SHARES (NO. 7)**

At the annual general meeting held on May 21, 2015, the shareholders passed a resolution authorizing the Management Board to buy back up to 10% of the Company's share capital in existence as of the date of the resolution on or before May 20, 2020. Authorization was granted to use the Company's shares for all purposes permitted by law including but not limited to:

- the placement of the Company's shares in foreign stock exchanges,
- the acquisition of all or parts of other companies or shares therein,
- offering and transferring shares to the employees of the Company or other companies related with it in accordance with Sections 15 et seq. of the German Stock Corporation Act.
- redeeming treasury stock without any need for a resolution of the shareholders.

The Company held 67,996 shares as treasury stock as of the reporting date. This is equivalent to around 0.39% of the share capital. At the annual general meeting held on May 21, 2015, the shareholders authorized the Management Board to increase with the Supervisory Board's approval the Company's share capital by up to EUR 8,734,048.00 on a cash or non-cash basis by issuing new shares once or several times on or before May 20, 2020. The new shares may also be issued to the Company's employees. In addition, the Company's Management Board was authorized – subject to the Supervisory Board's approval – to exclude the shareholders' subscription rights

- for fractional amounts;
- for part of the authorized capital up to a maximum of EUR 1,746,809.00 provided that the new shares are issued in return for cash capital contributions at a price not materially less than the stock-market price;

- for a part of the authorized capital up to a maximum of EUR 8,734,048.00 provided the new shares are issued as consideration for the acquisition of all or part of other companies or other assets or in return for a cash capital contribution and provided that such acquisition is in the interests of the Company;
- or are issued as consideration for cash capital contributions to have the Company's stock listed in a foreign market in which it has previously not been admitted to trading.

The Management Board is additionally authorized subject to the Supervisory Board's approval to determine the extent and nature of the option rights and the other conditions of issue. Please refer to the corresponding parts of the notes on the consolidated financial statements for further information.

**VII. CORPORATE GOVERNANCE DECLARATION**

The corporate governance declaration was officially published on OHB SE's website on March 18, 2019.

The Internet address is:

<https://www.ohb.de/en/investor-relations/corporate-governance/corporate-governance-declaration/>

# 2

# CONSOLIDATED FINANCIAL STATEMENTS

for the Period from  
January 1, 2018 until  
December 31, 2018

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## OTHER DISCLOSURES

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## MANAGEMENT BOARD AND SUPERVISORY BOARD

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## I. CONSOLIDATED INCOME STATEMENT

in EUR 000	Notes	2018	2017
Sales	[1]	976,551	825,894
Decrease/increase in inventories of finished goods and work in progress	[2]	-3,327	515
Other own work capitalized		16,697	20,207
Other operating income	[3]	10,471	13,073
<b>Total revenues</b>		<b>1,000,392</b>	<b>859,689</b>
Cost of materials	[4]	645,588	542,673
Staff costs	[5]	226,836	196,846
Amortization and depreciation	[11], [12]	17,262	14,586
Impairments/reversal of impairments	[30]	-869	0
Other operating expenses		63,824	61,361
<b>Operating profit (EBIT)*</b>		<b>47,751</b>	<b>44,223</b>
Interest and similar income	[6]	1,609	1,495
Interest and other borrowing costs	[6]	5,580	5,240
Currency translation losses/gains		-263	147
Share of profit of associates	[7], [13]	820	1,809
Result from investments		-245	-196
<b>Net finance income/expense</b>		<b>-3,659</b>	<b>-1,985</b>
<b>Earnings before taxes (EBT)**</b>		<b>44,092</b>	<b>42,238</b>
Income taxes	[8]	15,699	14,514
<b>Consolidated net profit for the year</b>		<b>28,393</b>	<b>27,724</b>
Share of OH B SE shareholders in net profit for the year		24,998	23,355
Minority interests	[9]	3,395	4,369
Average number of shares (in units)		17,394,718	17,387,600
Earnings per share (basic, in EUR)	[10]	1.44	1.34
Earnings per share (diluted, in EUR)	[10]	1.44	1.34

\* EBIT = Earnings before interests and taxes

\*\* EBT = Earnings before taxes

## II. CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

in EUR 000	Notes	2018	2017
<b>Consolidated net profit for the year</b>		<b>28,393</b>	<b>27,724</b>
Remeasurement of defined benefit pension plans	[23], [25]	-2,199	1,529
Remeasurement of defined benefit pension plans of associates	[23]	-130	-93
Net gains/losses from the measurement of financial assets recorded under equity (Equity instruments)	[14], [23]	-2,811	0
<b>Items that will not be reclassified to profit and loss</b>		<b>-5,140</b>	<b>1,436</b>
Foreign currency translation differences	[23]	-141	-99
Foreign currency translation differences of associates	[23]	0	12
Net gains/losses from the measurement of financial assets recorded under equity	[14], [23]	0	1,423
Cash flow hedges	[23]	-433	155
Cash flow hedges of associates	[23]	-118	103
<b>Items which may be subsequently reclassified to profit and loss</b>		<b>-692</b>	<b>1,594</b>
<b>Other comprehensive income after tax</b>		<b>-5,832</b>	<b>3,030</b>
<b>Comprehensive income</b>		<b>22,561</b>	<b>30,754</b>
Of which attributable to			
Equity holders of OHB SE		19,604	25,938
Non-controlling interests		2,957	4,816

## III. CONSOLIDATED BALANCE SHEET

in EUR 000	Notes	31/12/2018	31/12/2017
<b>ASSETS</b>			
Goodwill	[11]	7,131	7,131
Other intangible assets	[11]	113,204	103,217
Property, plant and equipment	[12]	88,252	77,698
Shares in associates	[13]	2,960	2,388
Other financial assets	[14]	31,973	32,610
Other non-current receivables and assets	[17]	30,913	2,152
Securities	[18]	0	219
Deferred tax assets	[8]	16,905	14,134
<b>Non-current assets</b>		<b>291,338</b>	<b>239,549</b>
Inventories	[16]	50,192	48,837
Trade receivables	[15]	69,092	328,247
Contract assets	[1]	278,995	0
Income tax receivables		4,458	3,396
Other financial and non-financial assets	[17]	10,880	40,630
Securities	[18]	335	461
Cash and cash equivalents	[19]	48,316	58,578
<b>Current assets</b>		<b>462,268</b>	<b>480,149</b>
<b>Total assets</b>		<b>753,606</b>	<b>719,698</b>

in EUR 000	Notes	31/12/2018	31/12/2017
<b>EQUITY AND LIABILITIES</b>			
Subscribed capital	[20]	17,468	17,468
Share premium	[21]	15,462	14,923
Retained earnings	[22]	521	521
Unrealized gains and losses recognized under equity	[23]	-7,747	-2,099
Treasury stock	[24]	-710	-781
Consolidated net profit		152,315	157,599
<b>Shareholders' equity excluding minority interests</b>		<b>177,309</b>	<b>187,631</b>
Non-controlling interests	[9]	22,710	19,649
<b>Equity</b>		<b>200,019</b>	<b>207,280</b>
Provisions for retirement benefits and similar obligations	[25]	99,583	96,587
Non-current other provisions	[26]	2,156	1,891
Non-current financial liabilities	[27]	30,363	30,414
Non-current prepayments received on orders		6,704	8,291
Deferred tax liabilities	[8]	37,543	36,505
<b>Non-current liabilities</b>		<b>176,349</b>	<b>173,688</b>
Current provisions	[26]	29,820	27,977
Current financial liabilities	[28]	25,374	63,886
Trade payables		176,964	83,141
Current prepayments received on orders		0	139,789
Contract liabilities	[1]	100,431	0
Income tax liabilities		5,101	2,711
Financial and non-financial liabilities	[29]	39,548	21,226
<b>Current liabilities</b>		<b>377,238</b>	<b>338,730</b>
<b>Total equity and liabilities</b>		<b>753,606</b>	<b>719,698</b>

## IV. CONSOLIDATED CASH FLOW STATEMENT

in EUR 000	Notes	31/12/2018	31/12/2017
EBIT		47,751	44,223
Income tax paid		-7,681	-14,047
Other non-cash expenses (+)/income (-)		610	0
Amortization and depreciation	[11], [12]	17,262	14,586
Changes in pension provisions	[25]	-3,857	-3,650
Profit (-)/loss (+) from the disposal of assets		582	44
<b>Gross cash flow</b>		<b>54,667</b>	<b>41,156</b>
Increase (-)/decrease (+) in own work capitalized		-16,555	-20,207
Increase (-)/decrease (+) in inventories		-1,355	1,378
Increase (-)/decrease (+) in receivables and other assets		-48,582	-3,991
Increase (+)/decrease (-) in liabilities and current provisions		112,949	8,348
Increase (+)/decrease (-) in contract liabilities and prepayments received		-40,945	8,293
<b>Net cash generated by/used in operating activities</b>		<b>60,179</b>	<b>34,977</b>
Payments for investments in intangible assets and property, plant and equipment	[11], [12]	-24,181	-24,676
Payments received from the disposal of assets		350	25
Consolidation-related changes to cash and cash equivalents		1,585	0
Interest received		1,216	1,222
<b>Net cash generated from/used in investing activities</b>		<b>-21,030</b>	<b>-23,429</b>
Dividends distributed		-6,955	-6,955
Payment made for the settlement of financial liabilities	[27], [28]	-39,748	-37,384
Payments received from new loans	[27], [28]	1,185	38,227
Dividend distributed to non-controlling interests		0	-109
Interest paid	[6]	-3,388	-3,029
Other financial payments made	[6]	0	-367
<b>Net cash generated from/used in financing activities</b>		<b>-48,906</b>	<b>-9,617</b>
Changes to cash and cash equivalents		-9,757	1,931
Exchange rate-induced change in cash and cash equivalents		-505	80
Cash and cash equivalents at the beginning of the period		58,578	56,567
<b>Cash and cash equivalents at the end of the period</b>	<b>[19]</b>	<b>48,316</b>	<b>58,578</b>

## V. CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

in EUR 000	Sub- scribed capital	Share premium	Retained earnings	Unreal- ized gains and loss- es recog- nized under equity	Consoli- dated net profit	Treasury stock	Equity excluding minority interests	Non-con- trolling interests	<b>Total equity</b>
See Note	[20]	[21]	[22]	[23]		[24]		[9]	
<b>Balance on January 1, 2017</b>	<b>17,468</b>	<b>14,923</b>	<b>521</b>	<b>-4,682</b>	<b>141,199</b>	<b>-781</b>	<b>168,648</b>	<b>14,942</b>	<b>183,590</b>
Dividend payment (EUR 0.40 per share)	0	0	0	0	-6,955	0	-6,955	0	-6,955
Consolidated comprehensive income	0	0	0	2,583	23,355	0	25,938	4,816	30,754
Dividends distributed to non-controlling interests	0	0	0	0	0	0	0	-109	-109
<b>Balance on December 31, 2017</b>	<b>17,468</b>	<b>14,923</b>	<b>521</b>	<b>-2,099</b>	<b>157,599</b>	<b>-781</b>	<b>187,631</b>	<b>19,649</b>	<b>207,280</b>
Changes in accounting methods*	0	0	0	0	-23,821	0	-23,821	0	-23,821
<b>Balance on January 1, 2018</b>	<b>17,468</b>	<b>14,923</b>	<b>521</b>	<b>-2,099</b>	<b>133,778</b>	<b>-781</b>	<b>163,810</b>	<b>19,649</b>	<b>183,459</b>
Dividend payment (EUR 0.40 per share)	0	0	0	0	-6,955	0	-6,955	0	-6,955
Consolidated comprehensive income	0	0	0	-5,394	24,998	0	19,604	2,957	22,561
Changes to consoli- dated companies	0	0	0	-254	494	0	240	104	344
Share-based payments	0	539	0	0	0	71	610	0	610
<b>Balance on December 31, 2018</b>	<b>17,468</b>	<b>15,462</b>	<b>521</b>	<b>-7,747</b>	<b>152,315</b>	<b>-710</b>	<b>177,309</b>	<b>22,710</b>	<b>200,019</b>

\* See notes on changes to accounting methods

NOTES

VI. NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

GENERAL INFORMATION

The Company has its head office at Manfred-Fuchs-Platz 2-4 in 28359 Bremen, Germany. It is entered in the commercial register of the Local Court of Bremen under the number HRB 30268. OHB SE exercises the function of an active holding company which manages the subsidiaries within the OHB Group. At the same time, it is the ultimate parent company. The Group is primarily engaged in the production and distribution of products and projects as well as the provision of high-technology services particularly in the areas of space and aeronautic technology, telematics and satellite services. OHB SE comprises two business units: Space Systems and Aerospace + Industrial Products.

The Space Systems business unit focuses on developing and executing space projects. In particular, it is responsible for developing and fabricating low-orbiting and geostationary small satellites for navigation, research, communications, earth and weather observation and reconnaissance including scientific payloads. Its human space flight activities chiefly entail projects for the assembly and outfitting of the International Space Station ISS. The exploration segment works on studies and models for exploring our solar system, primarily the moon, asteroids and Mars. Reconnaissance satellites and broadband wireless transmission of image data form core technologies for security and reconnaissance.

The Aerospace + Industrial Products business unit is primarily responsible for fabricating aviation and space products as well as other industrial activities. In this area, OHB has established itself as a significant supplier of aerospace structures for the aviation and space industry; among other things, it is the largest German supplier of components for the Ariane-5 program and an established producer of structural elements for satellites. In addition, OHB is an experienced vendor of mechatronic systems for antennas and telescopes and is involved in major radio telescope projects. OHB telematics systems serve the logistics industry around the world by offering efficient transport management and consignment tracking facilities.

ACCOUNTING PRINCIPLES AND METHODS

In accordance with Regulation (EC) 1606/2002 issued by the European Parliament and the Council on July 19, 2002, OHB SE is required to prepare consolidated financial statements in accordance with international accounting standards (IFRS/IAS). The consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS/IAS) applicable in the EU in the light of the interpretations of the International Financial Reporting Interpretations Committee (IFRIC/SIC) as well as the supplementary provisions contained in Section 315e of the German Commercial Code.

The consolidated financial statements have been prepared on the basis of the going-concern assumption and the historical cost principle with the exception of derivative financial instruments used for hedging purposes and available-for-sale financial instruments, which are measured at fair value. The consolidated annual financial statements are composed of the consolidated balance sheet, the consolidated income statement and the consolidated statement of comprehensive income, the consolidated cash flow statement and the consolidated statement of changes in consolidated equity. The notes contain the declaration required by Section 285 No. 16 of the German Commercial Code confirming that the disclosures stipulated by Section 161 of the German Stock Corporation Act have been duly made. The income statement has been compiled using the total-cost method. The reporting currency is the euro. Unless otherwise stated, all amounts are reported in millions of euros (EUR million). It should be noted that the use of rounded figures and percentages may result in differences due to commercial rounding.

CONSOLIDATION METHODS

The purchase method of accounting is used to account for the acquisition of subsidiaries by the Group. All material subsidiaries under the legal or constructive control of OHB SE have been consolidated.

Any remaining positive difference between the cost of acquiring the shareholdings and the net assets calculated at their fair values is recognized as goodwill under IAS 3.32. The full goodwill method is applied.

Sales, expenses, income as well as receivables and liabilities between consolidated companies are netted and any inter-Group profits eliminated. The carrying amounts of companies consolidated using the equity method are adjusted to allow for the proportionate profit/loss attributable to such companies.

## ACQUISITIONS

On December 21, 2018, OHB SE acquired TeleConsult Austria GmbH (TCA) with registered offices in Graz, Austria. The acquisition costs came to EUR 260 thousand. The company offers a wide range of services and products based on the use of data obtained from satellite systems. The focus here is on the development and linking of navigation, communication and information technologies and services for applications for transport and mobility.

The preliminary annual revenue for 2018 equals around EUR 1.6 million (2017: EUR 1.3 million), the profitability indicators EBITDA and EBIT reached EUR 66 thousand and EUR 59 thousand, respectively, in 2017. The company currently has 16 employees.

## COMPANIES CONSOLIDATED

OHB SE's consolidated financial statements include OHB SE, nine domestic and five non-domestic subsidiaries and a further equity-accounted domestic associate. The table entitled "Companies consolidated" sets out the subsidiaries and associates together with the relative size of the share held.

MT Management Service GmbH was consolidated for the first time as of January 1, 2018 following a revised consideration of its materiality. First-time consolidation did not have any material effect on the assets and liabilities presented in the consolidated financial statements. Established in 2013, MT Management Service GmbH is a wholly owned subsidiary of MT Aerospace Holding. First-time consolidation did not give rise to any goodwill. The company was consolidated with retroactive effect and its profit prior to the date of first-time consolidation of EUR 344 thousand was allocated to equity after due allowance for non-controlling interests.

In addition, shares were held in other companies (see table entitled "Further equity interests and financial assets", page 82).

## COMPANIES CONSOLIDATED

Name of company	Share held (%)	Consolidation
OHB System AG, Bremen, Germany	100.0	fully consolidated
ORBCOMM Deutschland Satellitenkommunikation AG, Bremen, Germany <sup>1</sup>	100.0	fully consolidated
OHB Italia S.p.A., Milan, Italy	100.0	fully consolidated
OHB Sweden AB, Stockholm, Sweden	100.0	fully consolidated
Antwerp Space N.V., Antwerp, Belgium	100.0	fully consolidated
LuxSpace Sàrl, Betzdorf, Luxembourg	100.0	fully consolidated
MT Aerospace Holding GmbH, Bremen, Germany	70.0	fully consolidated
MT Aerospace AG, Augsburg, Germany <sup>2</sup>	100.0	fully consolidated
MT Aerospace Grundstücks GmbH & Co. KG, Augsburg, Germany <sup>3</sup>	100.0	fully consolidated
MT Mechatronics GmbH, Mainz, Germany <sup>3</sup>	100.0	fully consolidated
MT Aerospace Guyane S.A.S., Kourou, French Guyana <sup>3</sup>	100.0	fully consolidated
MT Mangement Service GmbH, Augsburg, Germany <sup>2</sup>	100.0	fully consolidated
Aerotech Peissenberg GmbH & Co. KG, Peissenberg, Germany <sup>2</sup>	43.3	At-Equity
OHB Teledata GmbH, Bremen, Germany	100.0	fully consolidated
OHB Digital Services GmbH, Bremen, Germany	74.9	fully consolidated

1 held by OHB System AG

2 held by MT Aerospace Holding GmbH

3 held by MT Aerospace AG

In accordance with the principle of materiality pursuant to the IFRS/IAS framework, the companies stated in the table, which are fundamentally subject to compulsory consolidation (OHB share of greater than 20%), are not consolidated. These companies' cumulative current sales and EBIT are not considered to make any material contributions to consolidated earnings. Subsidiaries with discontinued or minimal business activities which are of only minor importance for obtaining a true and fair view of the OHB Group's net assets, financial condition and results of operations as well as its cash flow are not consolidated.

The share holdings shown in the tables entitled "Companies consolidated" and "Further investments and financial assets" correspond to the voting rights held.

#### Further investments and financial assets

OHB SE's consolidated financial statements include the following companies: see table "Further investments and financial assets".

#### FURTHER INVESTMENTS AND FINANCIAL ASSETS

Name of company	Share held (%)	Equity EUR 000	Net profit/ Loss for the year EUR 000	Year of most recent financial statements
OHB France S.A.S, Paris, France*	100.0	13	1	2017
OHB Venture Capital GmbH, Wessling, Germany*	100.0	125	-2	2017
OHB Logistic Solutions GmbH, Bremen, Germany*	55.0	2,224	-646	2017
KT Verwaltungsgesellschaft mbH, Bremen, Germany*	100.0	19	-1	2016
MT Dezentrale Energiesysteme GmbH, Augsburg, Germany*	100.0	1,023	0	2017
MT Mecatronica s.r.l., Cagliari, Italy*	100.0	47	5	2018
M2M Europe Network and Solutions Ges.mbH, Bregenz, Austria*	100.0	-649	-302	2017
MT Mecatrónica SpA, Santiago de Chile, Chile*	99.9	213	10	2018
MT Satellite Products Ltd., Wolverhampton, UK*	100.0	376	6	2017
MILET Grundstücks-Verwaltungsgesellschaft mbH, Augsburg, Germany*	100.0	27	0	2017
Aerotech Beteiligungs GmbH, Peissenberg, Germany*	43.0	25	1	2017
Rocket Factory Augsburg GmbH, Augsburg, Germany*	100.0	25	n/a	n/a
COSMOS Space Systems AG, Bremen, Germany*	66.6	70	-6	2017
COSMOS International Launch Services GmbH (formerly: COSMOS International Satellitenstart GmbH), Bremen, Germany*	49.9	208	-5	2017
RST Radar Systemtechnik GmbH, Salem, Germany*	22.7	515	-69	2017
Antares S.c.a.r.l., San Giorgio Del Sannio, Italy*	24.0	126	-35	2017
beos GmbH i.L., Bremen, Germany	12.0	507	26	2017
Arianespace Participation, Evry, France	8.3	n/a	n/a	n/a
ORBCOMM Inc., Rochelle Park NJ, United States	2.8	225,203	-22,936	2018
Orbcomm Europe LLC, Delaware, United States*	50.0	n/a	n/a	n/a
OHB Satellitenbetrieb GmbH, Bremen, Germany*	100.0	601	-1	2017
Blue Horizon s.à r.l., Betzdorf, Luxembourg*	100.0	3	-9	2017
Blue Horizon Deutschland GmbH, Bremen, Germany*	100.0	n/a	n/a	n/a
Institut für angewandte Systemtechnik Bremen GmbH, Bremen, Germany	5.0	637	27	2017
OHB Hellas mon.E.P.E, Athens, Greece*	100.0	n/a	n/a	n/a
TeleConsult Austria GmbH, Graz, Austria*	100.0	75	-15	2017
Nexus Space LLC, Centennial CO, United States*	45.0	n/a	n/a	n/a
OHB Uzay, Teknolojileri Limited Sirketi, Ankara, Turkey*	100.0	269	-81	2017
OHB Czechspace s.r.o., Klatovy, Czech Republic*	100.0	n/a	n/a	n/a
OHB Digital Maritime Services GmbH, Bremen, Germany*	50.0	n/a	n/a	n/a

\* Not consolidated in the year under review for materiality reasons

## CURRENCY TRANSLATION

Most outgoing invoices are denominated in euro. Incoming and outgoing invoices denominated in a foreign currency are converted and recognized on the reporting date. Any hedges in existence are translated at the hedge rate. Foreign-currency bank balances were translated at the end-of-year exchange rate. The annual financial statements of the independent non-domestic subsidiary OHB Sweden AB were prepared in its domestic currency (SEK) and translated using the functional currency principle in accordance with IAS 21. The foreign-currency difference arising from translation of the equity capital is recorded in "currency translation differences" within other comprehensive income.

## ACCOUNTING METHODS

### Newly issued standards and interpretations

The International Accounting Standards Board (IASB) and IFRIC have revised the following standards and interpretations which are subject to compulsory application from 2018:

- Financial instruments (IFRS 9)
  - › The standard provides comprehensive guidance on accounting for financial instruments. In particular, the classification rules for financial assets have been revised. These are based on the characteristics of the business model and the contractual cash flows of financial assets. The guidance on the recognition of loss allowances, which are now based on a model of expected losses, is also new. IFRS 9 also includes revised guidance on accounting for hedge relationships with the aim of providing a clearer impression of operational risk management.
- Revenue from Contracts with Customers (IFRS 15)
  - › The standard provides guidance on when and to what extent revenue is to be recognized. IFRS 15 replaces IAS 18 Revenue, IAS 11 Construction Contracts and a number of revenue-related interpretations. Application of IFRS 15 is mandatory for all IFRS preparers. The standard applies to nearly all contracts with customers with the exception of leases, financial instruments and insurance contracts.

- Classification and measurement of share-based payment transactions (IFRS 2)
  - › The amendments entail clarifications in connection with the recognition of cash-settled share-based payments. The most significant amendment/addition is that IFRS 2 now provides guidance on the determination of the fair value of obligations arising from share-based payments.
- Foreign Currency Transactions and Advance Consideration (IFRIC 22)
  - › The purpose of this interpretation is to clarify the accounting treatment of transactions involving the receipt or payment of consideration in a foreign currency.
- Amendments to IAS 40
  - › The amendments clarify the requirements relating to transfers to or from the investment property portfolio. In particular, they deal with whether property under construction or development previously classified as inventories may be reclassified as investment property if there has been an obvious change in use.

The Group applied all the accounting standards which were mandatory for accounting periods commencing on or after January 1, 2018. The application of these standards and interpretations has in some cases had a material impact on these consolidated financial statements, which is described in detail in the Section entitled "Changes to accounting policies".

### Newly issued standards and interpretations that have not yet been applied

The IASB has issued standards, interpretations and revisions to existing standards which are not yet compulsory and do not become so until future reporting periods and which OHB SE has not adopted on a voluntary early basis.

IFRSs endorsed by the EU	To be applied from (EU)
Uncertainty over income tax treatments IFRIC 23	January 1, 2019
Amendment to IFRS 9: Prepayment Features with Negative Compensation	January 1, 2019
IFRS 16 Leases	January 1, 2019
Amendment to IAS 28: Long-term Interests in Associates and Joint Ventures	January 1, 2019

Not yet endorsed by the EU	To be applied from (EU)
Annual improvements to the IFRS (2015–2017 cycle) – IFRS 3, IFRS 11, IAS 12, IAS 23	January 1, 2019
Insurance Contracts IFRS 17	January 1, 2021
Amendment to IAS 19: Plan Amendments, Curtailments or Settlements	January 1, 2019
Amendments to IFRS 3	January 1, 2020
Amendments to conceptual framework	January 1, 2020
Amendments to IAS 1 and IAS 8: Definition of material	January 1, 2020

In January 2016, the IASB issued IFRS 16 Leases, which must be applied in accounting periods beginning on or after January 1, 2019. IFRS 16 abolishes the distinction between operating and finance leases on the part of the lessee. Instead, IFRS 16 introduces a uniform lessee accounting model under which the lessee is required to recognize assets (for the right of use) and the lease liabilities in the case of leases with a duration of more than twelve months. This means that leases that were previously not accounted for must be recognized in the balance sheet as a right of use in the future. The OHB Group will be applying the practical expedients for short-term leases and assets of a minor value. OHB will be utilizing the modified retrospective method when it applies IFRS 16. Assets and liabilities under leases are initially recognized at their present value at the same amount. The rights of use and lease liabilities are shown as separate items on the face of the balance sheet. OHB Group companies generally do not act as lessors.

OHB expects the application of IFRS 16 to have a material impact due to the inclusion of the leases for real estate used for business purposes. Leases for non-real-estate assets are of only subordinate importance for the OHB Group. The rights of use and lease liabilities are expected to range between EUR 55 million and EUR 60 million. EBITDA is expected to increase by around EUR 10 million due to the first-time application of IFRS 16.

#### CHANGES TO ACCOUNTING METHODS

The Group has assessed the effects of the first-time application of IFRS 9 and IFRS 15 on the consolidated financial statements as presented below.

The effects as of the beginning of 2018 are presented in the following table.

in EUR 000	31/12/17	Reclassifications	Adjustments IFRS 9	Adjustments IFRS 15	01/01/2018
Non-current assets	239,549				239,549
Inventories	48,837				48,837
Trade receivables	328,247	-257,634	-185		70,428
Contract assets	0	257,634	-162	-30,439	227,033
Cash and cash equivalents	58,578				58,578
Other current assets	44,487				44,487
<b>Total assets</b>	<b>719,698</b>	<b>0</b>	<b>-347</b>	<b>-30,439</b>	<b>688,912</b>
Equity	207,280		-236	-23,585	183,459
Provisions	126,455				126,455
Financial liabilities	94,300				94,300
Deferred tax liabilities	36,505		-111	-6,854	29,540
Liabilities under receivables	83,141				83,141
Contract liabilities	0	133,978			133,978
Current prepayments received	139,789	-133,978			5,811
Other liabilities	32,228				32,228
<b>Total equity and liabilities</b>	<b>719,698</b>	<b>0</b>	<b>-347</b>	<b>-30,439</b>	<b>688,912</b>

The impact on the consolidated unappropriated surplus as of January 1, 2018 was as follows:

in EUR 000	
<b>Closing balance sheet value as of December 31, 2017</b>	<b>157,599</b>
Increase in loss allowances for trade receivables and contract assets	-236
Total effects of IFRS 9	-236
Effect of individual valuation of customer orders previously measured on a combined basis	-23,585
Total effects of IFRS 15	-23,585
<b>Opening balance of consolidated unappropriated surplus value as of January 1, 2018</b>	<b>133,778</b>

## FINANCIAL INSTRUMENTS (IFRS 9)

IFRS 9 replaces the guidance provided by IAS 39 with regard to the recognition, classification and measurement of financial assets and financial liabilities, the derecognition of financial instruments, the impairment of financial assets and hedge accounting.

The Group applied IFRS 9 for the first time from January 1, 2018. This resulted in changes to the accounting policies and adjustments to the figures stated in the financial statements. The new accounting policies are described in the note on financial investments and other financial assets. In accordance with the transitional provisions in IFRS 9 (7.2.15) and

(7.2.26), comparative figures have not been retroactively restated, with the exception of certain aspects of hedge accounting.

### Classification and measurement

The Group has decided to recognize changes in the fair value of all equity instruments which were previously classified as available for sale in other comprehensive income (excluding recycling) as these investments are held as long-term strategic investments that are not expected to be sold in the short to medium term. As a result, assets with a fair value of EUR 18.9 million which had previously been classified as available for sale were measured at fair value through other comprehensive income and related effects from an increase in fair value of EUR 11.3 million were transferred from the reserve for available-for-sale financial assets to the FVOCI reserve on January 1, 2018.

Under IFRS 9, equity instruments held for trading must be measured at fair value through profit and loss. The first-time application of IFRS 9 did not have any impact on the amounts recognized for these assets.

As of the date of first-time application, i.e. January 1, 2018, the Group's financial instruments, including reclassifications, were as follows:

#### MEASUREMENT CATEGORIES FOR FINANCIAL INSTRUMENTS

in EUR 000	Measurement categories in accordance with IAS 39	Measurement categories in accordance with IFRS 9	Carrying amounts in accordance with IAS 39 as of December 31, 2017	Carrying amounts in accordance with IFRS 9 as of January 1, 2018	Difference*
<b>FINANCIAL ASSETS</b>					
Trade receivables	Loans and receivables	Amortized historical cost	70,614	70,429	-185
Securities	Loans and receivables	Amortized historical cost	219	219	0
Other financial assets	Loans and receivables	Amortized historical cost	31,624	31,624	0
Cash and cash equivalents	Loans and receivables	Amortized historical cost	58,578	58,578	0
Securities	Financial assets held for trading	Recognized in profit and loss measured at fair value	461	461	0
Shares in equity measured at fair value through other comprehensive income	Instruments available for sale	Measured at fair value through other comprehensive income	32,610	32,610	0
			<b>194,106</b>	<b>193,921</b>	<b>-185</b>
<b>FINANCIAL LIABILITIES</b>					
Trade payables	Amortised cost	Amortized historical cost	83,141	83,141	0
Financial liabilities	Amortised cost	Amortized historical cost	94,300	94,300	0
Other financial liabilities	Amortised cost	Amortized historical cost	4,261	4,261	0
			<b>181,702</b>	<b>181,702</b>	<b>0</b>

\* The differences shown in this column result from the application of the new expected credit losses model. The reclassification of financial instruments upon first-time application of IFRS 9 did not result in any measurement changes.

Reference is made to Note 23 with regard to the effects of the changes on equity.

#### Impairments of financial assets and contract assets

The Group has four types of financial assets that are subject to the credit loss model defined by IFRS 9:

- Trade receivables,
- Contract assets,
- Debt instruments and loans at amortized cost, and

→ Debt instruments at fair value through other comprehensive income (FVOCI).

Cash and cash equivalents are also subject to loss allowances under IFRS 9. However, the loss allowances identified were immaterial and therefore not recognized.

The simplified approach is used to determine expected credit losses on trade receivables and contract assets. Details of the calculation of the loss allowances as of January 1, 2018 can be found in Note 30.

As debt instruments measured at amortized cost and at fair value through other comprehensive income are considered to have a low risk of default, the loss allowance was

calculated on the basis of expected 12-month credit loss. The application of the model did not result in any loss allowances as of January 1, 2018.

#### Revenue from contracts with customers (IFRS 15)

The Group applied IFRS 15 for the first time from January 1, 2018. This resulted in changes to the accounting policies and adjustments to the figures stated in the financial statements.

OHB is applying the modified retrospective method, under which the changes over the consolidated financial statements for 2017 are recognized through corresponding adjustments to the unappropriated surplus within equity. The timing of the recognition of revenue under individual long-term development and production contracts has changed in individual cases as a result of the new guidance. Up until 2017, individual related contracts in the "Space Systems" business unit were viewed as a single economic unit under IAS 11 and the corresponding revenue recognized using a uniform approach. As this is no longer possible under IFRS 15, each of these contracts must be measured individually. This has resulted in a retroactive reduction in the share in profit already recognized in previous periods due to the lower proportionate revenue.

The contract assets and contract liabilities arising from the application of this standard are shown separately in the balance sheet. In the previous year, these were mainly receivables from the measurement of the percentage of completion, which were reported under trade receivables. The figures for the previous year were not restated. The contract assets arise from the fact that the Group has partially fulfilled its obligations but is not unconditionally entitled to payment or receipt of consideration. In addition, prepayments received were reclassified as contract liabilities following the first-time application of IFRS 15. Here as well, the figures for the previous year were not restated.

The simplified model of expected credit losses in accordance with IFRS 9 is applied to contract assets (see comments on the first-time application of IFRS 9, page 85).

#### REVENUE RECOGNITION

As the Group applied the modified retrospective method for IFRS 15, no comparative information was adjusted. Accordingly, the comparative figures for 2017 are still reported in accordance with the accounting policies applicable up until December 31, 2017.

Revenue is recognized according to the principle that revenue equaling the consideration is not recognized until control of the goods or services is transferred to the customer. The contractual provisions and all relevant facts and circumstances must be taken into account in this connection. As a general rule, individual contracts with a customer are accounted for unless the conditions for combining contracts are satisfied. The guidance provided by the standard is applied uniformly to similarly structured contracts and under similar circumstances.

#### Development contracts

Development contracts usually involve a longer period of time and many individual development phases. These are so closely interrelated and interdependent that often only a single performance obligation can be identified when the individual contract is assessed. In this case, the transaction price is assigned to only a single performance obligation. When the transaction price is determined, variable consideration in the form of performance bonuses or contractual penalties may have to be taken into account in individual cases. The amount of the variable consideration is regularly estimated by applying a suitable method, or constraints on the estimate are taken into account.

The transaction price reflects the present value of money if the contract contains a significant financing component, regardless of whether this is explicitly or implicitly stated in the contract. If there is a financing component, the transaction price is calculated on the basis of the nominal value of the consideration, adjusted for the financing effect. The Group does not identify a significant financing component if, at the inception of the contract, the period between transfer of the goods or services to the customer and payment by the customer is not expected to exceed one year.

Long-term development contracts generally satisfy the prerequisites for revenue recognition over time. Input-based

“cost-to-cost” methods are used to determine the progress towards complete satisfaction of the performance obligation. For this purpose, the percentage of completion is determined on the basis of the contract costs which have arisen as of the reporting date relative to the expected total contract costs. Revenues from contracts are calculated by multiplying the percentage of completion with the contractually agreed proceeds including any subsequently agreed additions. Long-term projects in progress on the reporting date (remaining durations of between one and seven years) are recognized as revenue on the basis of production costs plus refundable administrative overhead costs if a partial profit cannot be estimated with a reasonable degree of reliability on account of the early stage of the project. The corresponding contract costs are included in the cost of materials and other costs in the year under review.

Any receivables resulting from the application of the “cost-to-cost” method generally entail a conditional payment claim, which is shown separately on the face of the balance sheet as a contract asset. The Group has fulfilled its contractual obligations by transferring goods and services to the customer before payment is made or become due. The simplified model of expected credit losses in accordance with IFRS 9 is applied to contract assets (see Section on financial investments and other financial assets). An unconditional claim arises from a final invoice or a partial settlement with the result that a trade receivable is recognized.

Depending on the earlier payment or due date, a contract liability must be reported separately on the face of the balance sheet if a customer has paid consideration (e.g. prepayment) or if OHB Group company has an unconditional right to consideration (i.e. a receivable or right to receive prepayment) and before a good or service has been transferred to the customer.

Contract assets and contract liabilities arising from one and the same contract must be shown net and broken down into settlement periods (non-current and current).

Where contract performance costs do not fall within the scope of another standard, they are capitalized provided that the conditions for capitalization are met and amortized over the expected period of performance of the obligation.

Provisions are recognized for individual obligations of the Group to repair or replace defective products under

statutory or standard warranty conditions (see “Other provisions”). IFRS 15 does not provide any guidance on the recognition of provisions for impending losses from orders, but instead references IAS 37. Reference is made to the contract itself and not to the individual performance obligations.

### Sale of goods and services

In addition, revenue is recognized on a point-in-time basis, mainly from the sale of goods and the provision of services, if the performance obligation is not fulfilled over a period of time in accordance with IFRS 15.35–37. In this connection, the guidance for determining the date of transfer of control including a wide variety of indicators for this are taken into account.

As a rule, payment of the transaction price falls due in 30 days. Receivables due for settlement in more than one year are classified as non-current.

### OWN WORK CAPITALIZED AND GOVERNMENT GRANTS

Development expenditure is recognized as an asset pursuant to IAS 38.57 if a newly developed product or process can be clearly delineated, is technically feasible and is intended either for the Company’s own use or for sale. A further condition is that it must be sufficiently likely for the development expenditure to be recouped from future cash flows. Such expenditure is recognized on the basis of the production costs incurred, primarily development hours multiplied by the applicable hourly rate. In the year under review, research and development costs of EUR 5.8 million (previous year: EUR 9.7 million) were recorded as expense as the criteria provided for in IAS 38.57 were not satisfied. Of the total development costs of EUR 25.4 million (previous year: EUR 32.3 million), an amount of EUR 16.5 million (previous year: EUR 18.7 million) was capitalized. An amount of EUR 3.1 million (previous year: EUR 3.9 million) was received in the form of grants. The income from development grants is recognized upon the occurrence of the related costs. Income from grants is reported gross, i.e. it is not netted with expenses. At the moment, there is no evidence indicating that the conditions imposed by the providers of grants cannot be satisfied.

## NET FINANCE INCOME / EXPENSES

Net financial income/expense includes the share of profits of associates accounted for at equity as well as other investments including profit from the sale of financial assets, adjustments to the value of financial assets, other interest expenditure on liabilities, dividends, interest income on receivables and currency gains and losses. Interest income is recorded in the income statement in accordance with the effective interest method. Dividends are reported in the income statement upon a resolution to distribute a dividend being passed. Interest expense on retirement benefit provisions are also reported as other interest expenditure.

## INTANGIBLE ASSETS

As of each reporting date, OHB reviews the carrying amounts of its intangible assets to identify any evidence of impairment. In this case, the recoverable amount of the asset in question is calculated to determine the amount of any impairment. The recoverable amount is defined as the fair value less possible costs of sale or the value in use, whichever is the greater. Intangible assets acquired from third parties primarily comprise software programs and licenses. These are recognized at historical cost and amortized on a straight-line basis over a useful life of between one and 15 years. Internally generated assets, which are capitalized with the directly attributable costs, are written down on a straight-line basis over the expected useful life of four to 15 years. For the purpose of identifying any impairment, goodwill must be allocated to each cash-generating unit within the Group expected to derive any benefit from the synergistic effects of the business combination. Cash-generating units to which part of the goodwill is allocated are tested for impairment at least annually. If the recoverable amount of a cash-generating unit is less than its carrying amount, the impairment loss is initially assigned to the carrying amount of all goodwill allocated to the unit and then on a proportionate basis to the other assets on the basis of the carrying amount of each asset within the unit.

## PROPERTY, PLANT AND EQUIPMENT

As of each reporting date, OHB reviews the carrying amounts of its property, plant and equipment to identify any evidence of impairment. In this case, the recoverable amount of the asset in question is calculated to determine the amount of any impairment. The recoverable amount is defined as the fair value less possible costs of sale or the value in use, whichever is the greater. Assets classed as property, plant and equipment are carried at historical cost less scheduled straight-line depreciation over their expected useful lives. Subsequent expenditure on assets which does not increase their value or materially extend their useful lives is expensed. Material additions and improvements are recognized as assets. Disposals are reflected in historical acquisition costs as well as accumulative depreciation. Gains and losses from the disposal of assets are recorded within operating income/expenses. The following depreciation periods are applied to property, plant and equipment: between ten and 33 years for buildings, five to ten years for machinery and technical equipment and three to ten years for other equipment as well as operating and business equipment.

## ASSOCIATES

Shares in associates are reported at historical cost with due allowance made for the share in their profit/loss for the year (profit/loss, other comprehensive income). Dividends received are recognized as a reduction of the carrying amount. In an impairment test, the carrying amount of the associate is compared with the recoverable amount and, if it is lower than the carrying amount, an impairment equaling the difference recognized.

## INVENTORIES

Inventories are recognized at historical cost or the lower net recoverable value prevailing on the reporting date. Production costs comprise the individual costs of material and production, overhead costs of material and production as well as depreciation and amortization expense in connection the production equipment. They also include overhead administration costs. Part of the inventories are measured using the moving average method.

## FINANCIAL INVESTMENTS AND OTHER FINANCIAL ASSETS

The Group has applied IFRS 9 retrospectively but has elected not to restate comparative information. Accordingly, the comparative figures for 2017 are still reported in accordance with the accounting policies applicable up until December 31, 2017.

Financial assets are assigned to the following categories depending on the business model from January 1, 2018:

- those subsequently measured at fair value (either through other comprehensive income – FVOCI – or through profit or loss – FVPL –), and
- those measured at amortized cost (AmC).

In the case of assets measured at fair value, gains and losses are recognized either in profit and loss or in other comprehensive income. With respect to investments in equity instruments that are not held for trading, this depends on whether the Group irrevocably decides upon initial recognition to measure the equity instruments at fair value through other comprehensive income.

A customary purchase or sale of financial assets is recognized on the trading day, i.e. the day on which the Group undertakes to buy or sell the asset. Financial assets are derecognized when the rights to receive cash flows from the financial assets expire or have been transferred together with substantially all risks and opportunities arising from ownership.

Financial assets are initially measured at their fair value plus – in the case of financial assets that are not subsequently measured at fair value through profit and loss – the transaction costs directly attributable to the purchase of this asset. The transaction costs of financial assets measured at fair value through profit and loss are recognized as expense in profit and loss.

The Group assigns its debt instruments to the following three categories: AmC, FVOCI or FVPL. No financial assets are currently classified as FVOCI.

AmC: Assets that are held to collect the contractual cash flows and for which these cash flows constitute solely payments of principal and interest are measured at amortized cost. Interest income from these financial assets is reported within finance income using the effective interest method. Gains and losses from the derecognition of the asset are reported directly in profit and loss and – together with currency translation gains and losses – included in other operating expenses and income. Trade receivables, cash and cash equivalents, loans and other financial assets are allocated to this category.

FVPL: Assets that do not meet the criteria for measurement at amortized cost or at fair value through other comprehensive income are measured at their fair value through profit and loss. Gains and losses from a debt instrument that is subsequently measured at fair value through profit and loss are netted within profit and loss and reported in other operating expenses and income for the period in which they arise. Derivatives that are not part of a hedging relationship and securities that are classified as debt instruments are allocated to this category.

The Group subsequently measures all equity instrument that it holds at their fair value. If management has decided to include the effects of any change in the fair value of equity instruments in other comprehensive income, these gains and losses are not subsequently recycled to profit and loss when the instrument is derecognized. Accumulated balances in the FVOCI reserve are recycled to consolidated net profit. The dividends from such instruments are still reported through profit and loss and included in other income provided that the Group's claim to receive payments has been established. The decision on allocation to this category is made for each equity instrument upon initial recognition. Currently, all equity instruments are measured at fair value through other comprehensive income.

Any changes in the fair value of financial assets measured at fair value through profit and loss are reported through profit and loss and included in other income/(losses). Impairments (and reversals of impairments) of equity instruments at fair value through other comprehensive income are not presented separately from other changes in fair value.

The Group assesses on a forward-looking basis the expected credit losses associated with its debt instruments that are measured at amortized cost or at fair value through other comprehensive income. The loss allowance method depends on whether there is a significant increase in credit risk (general model). The expected credit losses approach uses a three-step process for allocating loss allowances. All instruments are assigned to level 1 on receipt. In this case, the present value of the expected credit losses resulting from possible default events within the next 12 months after the reporting date must be recognized as expenses. Interest is recognized on the basis of the gross carrying amount, i.e. the effective interest method is applied on the basis of the carrying amount before risk provisions are taken into account. Level 2 includes all instruments that exhibit a significant increase in credit risk at the reporting date compared with the date of acquisition. In level 3, there is additionally objective evidence of a credit loss. No instruments were allocated to level 2 or level 3 at the reporting date.

With respect to trade receivables, the Group applies the simplified approach permitted under IFRS 9, under which the life-time expected credit losses are recorded upon initial recognition of the receivables.

Under the simplified model, life-time expected credit losses are recognized for all trade receivables.

Trade receivables and contract assets were combined on the basis of common credit risk characteristics and days past due to measure the expected credit losses. Contract assets relate to work in progress that has not yet been invoiced and have essentially the same risk characteristics as trade receivables for the same contract types. The Group has therefore concluded that the expected loss rates for trade receivables are a reasonable approximation of the loss rates for contract assets.

The regularly reviewed expected loss rates are based on historical default rates adjusted for future-oriented components relating to the creditworthiness of customers. In the light of the Group's customer structure, historical default rates are minimal. Loss allowances are shown in net operating profit.

## DEFERRED TAXES

Under IAS 12, temporary differences between the carrying amount of assets or liabilities on the balance sheet and their tax base in accordance with IFRS/IAS give rise to deferred taxes. The OHB Group applies a uniform domestic tax rate of 32% for calculating deferred taxes. Income taxes in 2018 were calculated in detail using different tax rates. Deferred tax assets are recognized pursuant to IAS 12.

Deferred tax assets are recognized to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilized. This also applies to deferred tax assets on unused tax losses. If the deferred tax assets are unlikely to be realized, they are impaired by the appropriate amount.

Deferred tax assets and liabilities are only offset if they relate to income taxes levied by the same taxation authority and the actual income tax assets can be offset against the actual income tax liabilities.

## EQUITY

IAS 32 (Financial Instruments: Disclosure and Presentation) stipulates that equity must not include any contractual obligation to deliver cash or any other financial asset to another entity. Equity is composed of subscribed capital, the share premium, unrealized gains and losses recognized within other comprehensive income, retained earnings and accrued profit brought forward.

**PROVISIONS FOR RETIREMENT BENEFITS AND SIMILAR OBLIGATIONS**

Obligations under defined-benefit plans are calculated using the projected unit credit method in accordance with IAS 19 (Employee Benefits). The expected benefits are deferred over the entire period of service of the employees.

**OTHER PROVISIONS**

Other provisions have been reliably assessed for transactions resulting in an outflow of enterprise resources to settle present obligations in accordance with IAS 37. Estimates are primarily based on detailed calculations. Provisions for which a cash outflow is not expected before 12 months are classified as non-current and recognized at the present value of the future cash outflows.

**FINANCIAL LIABILITIES**

Liabilities comprise financial liabilities, trade payables and other liabilities and are classified as financial liabilities at amortized cost ("FLAC"). Financial liabilities are recognized at amortized cost using the effective interest method. They are initially recognized at their fair value including transaction costs. Financial liabilities are derecognized when the contractual obligations are settled or suspended or expire. If the financial liabilities are not due for settlement within 12 months of the end of the reporting period, they are classified as non-current, otherwise as current.

**LEASES**

A lease is an agreement whereby the lessor conveys to the lessee the right to use an asset for an agreed period of time in return for a payment or series of payments. A distinction is made between operating leases and finance leases.

The assets used under operating leases are not recognized. Lease payments are recorded through profit and loss on an accrual basis.

A finance lease is a lease that transfers substantially all the risks and rewards incidental to ownership of an asset. The Company did not have any finance leases in the year under review.

**ESTIMATES**

Proper and full preparation of the consolidated financial statements requires to some degree the use of estimates and assumptions which affect the assets and liabilities reported, the disclosure of contingent liabilities and receivables on the face of the balance sheet and the income and expenses recognized. The actual amounts may vary from these estimates and assumptions in individual cases. Any adjustments are taken to the income statement upon further knowledge becoming available.

Internally funded development expenses are assessed on the basis of estimated future cash flows. The value of goodwill is determined in an annual impairment test. This test involves estimates of future cash inflows. Future changes in the general economic environment and the conditions within the sector or the Company may result in a reduction in net cash inflows and, hence, impair the value of the goodwill. Technical progress, deterioration in the market situation or damage may necessitate non-scheduled depreciation of property, plant and equipment. A sensitivity analysis can be found in the disclosures on impairment testing (Note 11).

In identifying the performance obligations in a contract with a customer, the Group makes judgments as to the extent to which the contractual obligations are significantly inter-related, highly interdependent and interconnected. The input-based cost-to-cost method is applied to long-term construction contracts provided that the applicable conditions are satisfied. For this purpose, the costs incurred are divided by the total costs to calculate the percentage of completion. Direct changes may arise from changed estimates with respect to hours or costs or as a result of contract addenda. The estimate of the amount of variable consideration over the period in which services are provided or constraints on the estimate are also estimating uncertainties.

Retirement benefit provisions are calculated on the basis of a number of premises and assumed trends, the application of biometric probabilities as well as generally accepted approximation methods to determine pension obligations. Actual payment obligations arising over time may vary from these (see note on retirement benefits for possible changes).

Tax provisions and impairment testing of deferred tax assets are also based on estimates. In determining the value of deferred tax assets, uncertainty may arise with respect to the interpretation of complex tax legislation as well as the amount and timing of future taxable income.

Other provisions are recognized in the light of available knowledge and using the customary scope for discretion.

In view of the current conditions in the economy and the financial markets, it is not possible at this stage to make any reliable assumptions on the range of possible adjustments which may need to be made to the estimates in 2018.

Impairments of financial assets are based on assumptions about default risk and expected loss rates. The Group uses its discretionary judgment in making these assumptions and selecting input factors for calculating impairments based on the Group's historical experience, existing market conditions and forward-looking estimates at the end of each reporting period.

## VII. NOTES TO THE CONSOLIDATED INCOME STATEMENT

### [1] SALES

in EUR 000	Space			Aviation		
	Germany	Rest of Europe	Rest of the world	Germany	Rest of Europe	Rest of the world
Sales	330,001	628,788	5,187	14,206	518	0
less intercompany revenue	-22,021	-1,103	0	-220	0	0
<b>Revenues from external customers</b>	<b>307,980</b>	<b>627,685</b>	<b>5,187</b>	<b>13,986</b>	<b>518</b>	<b>0</b>
Timing of revenue recognition						
point-in-time	27,088	47,528	2,424	13,986	518	0
over-time	280,892	580,157	2,763	0	0	0
	<b>307,980</b>	<b>627,685</b>	<b>5,187</b>	<b>13,986</b>	<b>518</b>	<b>0</b>

Sales break down by product group and service as follows:

in EUR 000	2017
Space technology	792,567
Aviation	14,635
Antennas	9,786
Other	8,906
<b>Total</b>	<b>825,894</b>

Revenues from construction contracts as defined in IAS 11 came to EUR 738.997 million in the previous year. The related contract costs stood at EUR 705.215 million in the previous year.

			2017
in EUR 000	Net amount due from customers	Net amount due to customers under construction contracts	Total
Expenses + profit	3,191,918	778,150	3,970,068
Prepayments received	2,934,284	912,128	3,846,412
<b>Amount shown on balance sheet</b>	<b>257,634</b>	<b>-133,978</b>	<b>123,656</b>

Contract assets and contract liabilities:

in EUR 000	31/12/2018	01/01/2018
Contract assets	279,208	227,195
less loss allowances*	-213	-162
<b>Contract assets</b>	<b>278,995</b>	<b>227,033</b>
<b>Contract liabilities</b>	<b>100,431</b>	<b>133,978</b>

\* See Note 30

Due to the first-time application of IFRS 15, sales for 2018 were EUR 429 thousand higher than they would have been if revenue had continued to be recognized in accordance with IAS 11.

Sales of EUR 122.632 million, which were included in the contract liabilities at the beginning of the year, were generated in 2018.

The total outstanding transaction price for the performance obligations not met fully or met only partially at the end of the reporting period amounts to EUR 2,399 million. OHB SE expects to recognize around 44% of these amounts in 2019 and around 27% in 2020.

	Antennas			Others			Total
	Germany	Rest of Europe	Rest of the world	Germany	Rest of Europe	Rest of the world	
	1,216	2,758	9,077	8,144	0	0	999,895
	0	0	0	0	0	0	-23,344
	<b>1,216</b>	<b>2,758</b>	<b>9,077</b>	<b>8,144</b>	<b>0</b>	<b>0</b>	<b>976,551</b>
	176	114	1,266	388	0	0	93,488
	1,040	2,644	7,811	7,756	0	0	883,063
	<b>1,216</b>	<b>2,758</b>	<b>9,077</b>	<b>8,144</b>	<b>0</b>	<b>0</b>	<b>976,551</b>

### [ 2 ] DECREASE / INCREASE IN INVENTORIES OF FINISHED GOODS AND WORK IN PROGRESS

The decrease in inventories of finished goods and work in progress primarily relates to the decrease of EUR 3.145 million (previous year: increase of EUR 0.949 million) in the Aerospace + Industrial Products business unit. Total inventories decreased by EUR 3.327 million (previous year: increase of EUR 0.515 million).

### [ 3 ] OTHER OPERATING INCOME

The other operating income of EUR 10.471 million (previous year: EUR 13.073 million) comprises income from grants of EUR 3.070 million (previous year: EUR 3.921 million) and income of EUR 3.226 million (previous year: EUR 4.262 million) from the reversal of provisions.

### [ 4 ] COST OF MATERIALS

in EUR 000	2018	2017
Cost of raw materials and supplies	88,186	98,886
Expenditure on services purchased	557,402	443,787
<b>Total</b>	<b>645,588</b>	<b>542,673</b>

### [ 5 ] STAFF COSTS

in EUR 000	2018	2017
Wages and salaries	190,699	164,717
Social security charges and expenditure on old age pensions and support	36,137	32,129
<b>Total</b>	<b>226,836</b>	<b>196,846</b>

Retirement benefits came to EUR 4.658 million (previous year: EUR 5.139 million). In 2018, the Group paid contributions of EUR 12.434 million (previous year: EUR 10.830 million) to the German statutory pension scheme. These are classified as a defined contribution plan.

**[ 6 ] NET INTEREST AND OTHER  
INCOME NET FINANCE  
INCOME / EXPENSES**

in EUR 000	2018	2017
<b>FINANCE INCOME</b>		
Other interest income from loans and receivables*	0	1,222
Other interest income from financial assets measured at AmC*	1,411	0
Other financial income	198	273
	<b>1,609</b>	<b>1,495</b>
<b>FINANCIAL EXPENSES</b>		
Interest expense from liabilities at amortized cost	3,047	2,948
Interest expense on retirement benefit provisions and similar obligations	2,039	1,878
Other borrowing costs	494	414
	<b>5,580</b>	<b>5,240</b>

\* Changed categories IFRS 9 first-time adoption

**[ 7 ] SHARE OF PROFIT OF  
ASSOCIATES**

The proportionate share in the profit or loss of Aerotech Peissenberg GmbH & Co. KG stands at EUR 0.820 million in 2018 (previous year: EUR 1.809 million). This associate contributed EUR -0.248 million (previous year: EUR 22 thousand) to other comprehensive income.

**[ 8 ] INCOME TAXES**

in EUR 000	2018	2017
Expected taxes at a tax rate of 32.00% (previous year: 32.00%)	14,130	13,516
Reductions to tax expenses as a result of partially tax-exempt income	-21	-766
Transfer of tax result of associates	312	0
Unused (previous year: used) loss carryforwards	1,092	-298
Non-deductible operating expenses	534	822
Other tax effects	279	205
Changes in the recognition of deferred taxes due to changes in tax rates	-1,004	718
Off-period tax expense	195	242
Differences in foreign tax rates	182	75
<b>Total</b>	<b>15,699</b>	<b>14,514</b>

Tax expense breaks down as follows:

in EUR 000	2018		2017	
	Actual taxes	Deferred income taxes	Actual taxes	Deferred income taxes
Domestic	8,871	6,635	5,565	8,279
Non-domestic	144	49	144	525
	<b>9,015</b>	<b>6,684</b>	<b>5,709</b>	<b>8,804</b>

No deferred tax assets were recognized on unused tax losses and interest expenses carried forward of EUR 17.604 million (previous year: EUR 8.697 million). The unused tax losses do not expire.

The change in deferred income taxes recognized through equity stands at EUR 1.126 million (previous year: EUR -0.407 million).

Analysis of deferred taxes and assets:

in EUR 000	31/12/18		31/12/17		2018	2017
	Deferred income tax assets	Deferred income tax liabilities	Deferred income tax assets	Deferred income tax liabilities	Cash change	
Intangible assets and property, plant and equipment	0	28,347	0	26,089	-2,259	-3,213
Financial assets	0	506	116	552	-115	-90
Current assets	2,876	24,983	0	21,539	-7,739	-6,796
Provisions	16,559	51	15,777	172	-298	856
Liabilities	7,699	0	3,698	0	4,001	3,190
Unused tax losses and tax credits	6,435	320	6,730	340	-274	-2,751
Netting	-16,664	-16,664	-12,187	-12,187	0	0
<b>Total</b>	<b>16,905</b>	<b>37,543</b>	<b>14,134</b>	<b>36,505</b>	<b>-6,684</b>	<b>-8,804</b>
Of which current	300	2,990	611	2,643		

## [ 9 ] NON-CONTROLLING INTERESTS

Non-controlling interests in the net profit for the year are valued at EUR 3.395 million (previous year: EUR 4.369 million) and chiefly relate to MT Aerospace Holding GmbH.

The non-controlling interests of EUR 22.710 million (previous year: EUR 19.649 million) primarily relate to the co-shareholders in the MT Aerospace subgroup. The non-controlling interests did not receive any dividends in the year under review (previous year: EUR 0.109 million).

in EUR 000	OHB Digital Services GmbH	MT Aerospace Holding GmbH (subgroup)
<b>ASSETS</b>		
Non-current assets	604	117,536
Current assets	2,207	110,920
<b>Total</b>	<b>2,811</b>	<b>228,456</b>
<b>EQUITY AND LIABILITIES</b>		
Equity	2,359	54,687
Non-current liabilities	207	107,960
Current liabilities	245	65,809
<b>Total</b>	<b>2,811</b>	<b>228,456</b>
<b>EBIT</b>	<b>-239</b>	<b>15,340</b>

## [ 10 ] EARNINGS PER SHARE IN ACCORDANCE WITH IFRS / IAS

Basic earnings per share are calculated by dividing the post-tax earnings attributable to the shares in question by the total number of shares with dividend entitlement. This indicator may be diluted by so-called potential shares – particularly options and subscription rights. There were no comparable rights as of the reporting date. Accordingly, there is no difference between basic and diluted earnings per share. The Company's share capital stands at EUR 17,468,096.00. The calculations were based on 17,394,718 shares (previous year: 17,387,600 shares) as the Company held an annual average of 73,378 treasury shares (previous year: 80,496 shares). The change in the average number of treasury shares held during the year results from the issue of 12,500 shares from the treasury stock in 2018. In the absence of any change in the number of outstanding shares, this equals the weighted average of the outstanding shares. The consolidated net profit of EUR 24.998 million (previous year: EUR 23.355 million) net of non-controlling interests was used for calculation purposes.

Earnings per share for 2018 came to EUR 1.44 (previous year: EUR 1.34).

## VIII. NOTES ON THE CONSOLIDATED BALANCE SHEET

### [11] GOODWILL AND OTHER INTANGIBLE ASSETS

in EUR 000	2018	2017
<b>GOODWILL FROM CONSOLIDATION OF</b>		
OHB System AG	5,684	5,684
OHB Italia S.p.A.	801	801
OHB Digital Services GmbH	646	646
<b>Total</b>	<b>7,131</b>	<b>7,131</b>

### CHANGES IN INTANGIBLE ASSETS - HISTORICAL COST

in EUR 000	Goodwill	Concessions and industrial property rights	Intangible assets acquired	Internally generated intangible assets	Total
<b>Balance on January 1, 2017</b>	<b>8,957</b>	<b>2,069</b>	<b>17,299</b>	<b>118,480</b>	<b>146,805</b>
Additions	0	0	1,305	18,720	20,025
Disposals	0	0	70	10	80
<b>Balance on December 31, 2017 / January 1, 2018</b>	<b>8,957</b>	<b>2,069</b>	<b>18,534</b>	<b>137,190</b>	<b>166,750</b>
Change in companies consolidated	0	0	129	0	129
Additions	0	0	2,203	16,555	18,758
Disposals	0	0	4,642	0	4,642
<b>Balance on December 31, 2018</b>	<b>8,957</b>	<b>2,069</b>	<b>16,224</b>	<b>153,745</b>	<b>180,995</b>

### CHANGES IN INTANGIBLE ASSETS - CUMULATIVE AMORTIZATION

in EUR 000	Goodwill	Concessions and industrial property rights	Intangible assets acquired	Internally generated intangible assets	Total
<b>Balance on January 1, 2017</b>	<b>1,469</b>	<b>2,005</b>	<b>12,232</b>	<b>33,644</b>	<b>49,350</b>
Additions	357	3	1,940	4,822	7,122
Disposals	0	0	70	0	70
<b>Balance on December 31, 2017 / January 1, 2018</b>	<b>1,826</b>	<b>2,008</b>	<b>14,102</b>	<b>38,466</b>	<b>56,402</b>
Additions	0	3	2,046	6,851	8,900
Disposals	0	0	4,642	0	4,642
<b>Balance on December 31, 2018</b>	<b>1,826</b>	<b>2,011</b>	<b>11,506</b>	<b>45,317</b>	<b>60,660</b>
Net carrying amount on December 31, 2018	7,131	58	4,718	108,428	120,335
Net carrying amount on December 31, 2017	7,131	61	4,432	98,724	110,348

Goodwill was tested for impairment at the level of the cash generating units as designated in the above table. Goodwill underwent impairment testing as of December 31, 2018. In addition, stable business performance in the light of the expected inflation effects on earnings and expenses was assumed during the forecast period. The recoverable amount was calculated on the basis of the value in use, which in turn was determined by using a discounted cash flow method. This was based on the forecasts covering a period of five years approved by management for the companies concerned. A growth rate of 1% (previous year: 1%) based on historical data and applying a risk discount was assumed

for the period after the forecast horizon. A pre-tax weighted average cost of capital (WACC) of 8.47% (previous year: 8.08%) was applied to domestic goodwill and of 11.55% (previous year: 11.13%) to non-domestic goodwill. An increase of 1 percentage point in the WACC and for possible changes in the other assumptions would not result in any further impairment.

Other intangible assets primarily comprise capitalized expense for the development of a range of geostationary communications satellites (carrying amount: EUR 72.267 million, previous year: EUR 64.252 million) as well as purchased software.

## [ 12 ] PROPERTY, PLANT AND EQUIPMENT

### PROPERTY, PLANT AND EQUIPMENT - HISTORICAL COST

in EUR 000	Operating and business equipment	Technical equipment and machinery	Land and buildings	Total
<b>Balance on January 1, 2017</b>	<b>61,453</b>	<b>48,879</b>	<b>48,617</b>	<b>158,949</b>
Additions	6,058	15,133	3,425	24,616
Disposals	1,162	1,612	107	2,881
Reclassifications	0	-3,460	3,460	0
<b>Balance on December 31, 2017/ January 1, 2018</b>	<b>66,349</b>	<b>58,940</b>	<b>55,395</b>	<b>180,684</b>
Changes to consolidated companies	0	15	0	15
Additions	9,412	10,150	431	19,993
Disposals	7,933	3,443	15	11,391
Reclassifications	120	-142	22	0
<b>Balance on December 31, 2018</b>	<b>67,948</b>	<b>65,520</b>	<b>55,833</b>	<b>189,301</b>

### PROPERTY, PLANT AND EQUIPMENT - CUMULATIVE DEPRECIATION

in EUR 000	Operating and business equipment	Technical equipment and machinery	Land and buildings	Total
<b>Balance on January 1, 2017</b>	<b>37,202</b>	<b>35,489</b>	<b>25,618</b>	<b>98,309</b>
Currency translation changes	33	0	0	33
Additions	4,789	1,585	1,090	7,464
Disposals	1,130	1,583	107	2,820
<b>Balance on December 31, 2017/ January 1, 2018</b>	<b>40,894</b>	<b>35,491</b>	<b>26,601</b>	<b>102,986</b>
Currency translation changes	50	0	0	50
Additions	5,435	1,701	1,226	8,362
Disposals	6,893	3,441	15	10,349
Reclassifications	27	-27	0	0
<b>Balance on December 31, 2018</b>	<b>39,513</b>	<b>33,724</b>	<b>27,812</b>	<b>101,049</b>
Net carrying amount on December 31, 2018	28,435	31,796	28,021	88,252
Net carrying amount on December 31, 2017	25,455	23,449	28,794	77,698

Additions in the year under review relate primarily to production machinery for technical equipment. These primarily entail technical/electronic laboratory equipment, hardware, other operating and business equipment and minor-value assets. There are unrestricted ownership rights to the remaining assets classed as property, plant and equipment with the exception of land charges which currently have no value.

### [ 13 ] SHARES IN ASSOCIATES

This item comprises the share in the equity of associated company Aerotech Peissenberg GmbH & Co. KG, Peissenberg, which is recognized at amortized cost. The majority shareholder exercises a controlling influence on this entity's business model. It is recognized at equity. ATP recorded total revenues of EUR 147.273 million (previous year: EUR 137.203 million), EBIT of EUR 5.761 million (previous year: EUR 3.907 million) and EBITDA of EUR 9.420 million (previous year: EUR 7.528 million) in 2018. It had non-current assets of EUR 38.990 million (previous year: EUR 29.633 million) and current assets of EUR 47.593 million (previous year: EUR 46.647 million) as of December 31, 2018. Non-current and current liabilities stood at EUR 81.356 million (previous year: EUR 72.752 million). This item breaks down as follows:

in EUR 000	2018	2017
<b>January 1</b>	<b>2,388</b>	<b>558</b>
Share in net profit/loss	820	1,809
Share in other comprehensive income	-248	21
<b>December 31</b>	<b>2,960</b>	<b>2,388</b>

### [ 14 ] OTHER FINANCIAL ASSETS

The decrease (previous year: increase) is primarily due to the fair value recognized through other comprehensive income of EUR -2.857 million (previous year: EUR +1.447 million) in connection with the remeasurement of the shares held in ORBCOMM Inc. It was remeasured on the basis of the stock market price of ORBCOMM Inc. as of December 31, 2018 and the USD/EUR exchange rate as of the same date. The opposite effect arose from investments in various newly incorporated entities and the acquisition of TeleConsult Austria GmbH.

### [ 15 ] TRADE RECEIVABLES

Receivables were predominantly denominated in euros as of the reporting date. The maximum default risk equals the carrying amount of the receivables reported on the face of the balance sheet.

in EUR 000	31/12/18	31/12/2017 <sup>2</sup>
Trade receivables	69,249	71,505
POC receivables <sup>1</sup>	0	257,634
	<b>69,249</b>	<b>329,139</b>
less impairments	-157	-892
	<b>69,092</b>	<b>328,247</b>
Impairment January 1 <sup>3</sup>		270
Added		892
derecognition of receivables		-28
Reversed		-242
<b>Balance on December 31</b>		<b>892</b>

1 See section Changes in accounting policies

2 Contrary to previous year, see Note 17 Financial and non-financial assets (current and non-current)

3 See section 30

Analysis of trade receivables as of December 31, 2017:

in EUR 000	Up to 30 days	31-60 days	61-90 days	91-180 days	More than 180 days
Trade receivables	39,035	8,870	166	737	5,884

## [ 16 ] INVENTORIES

Inventories increased over the previous year to EUR 50.192 million (previous year: EUR 48.837 million). Prepayments received were not netted with inventories.

in EUR 000	31/12/2018	31/12/2017
Raw materials, supplies and consumables	22,599	18,637
Work in progress	20,157	23,484
Finished goods	769	591
Advance payments made	6,667	6,125
<b>Total</b>	<b>50,192</b>	<b>48,837</b>

Prepayments made were allocated to inventories due to their close relationship.

The main impairments of inventories came to EUR 1.629 million at the end of the year (previous year: EUR 1.856 million). Impairments of EUR 0.138 million (previous year: EUR 0.521 million) are reported as expense.

## [ 17 ] FINANCIAL AND NON-FINANCIAL OTHER ASSETS (CURRENT AND NON-CURRENT)

in EUR 000	31/12/18		31/12/17	
	Current	Non-current	Current	Non-current
<b>NON-FINANCIAL ASSETS</b>				
VAT receivables	1,939	0	999	0
Deferrals	3,776	0	956	0
Others	5,088	0	8,858	0
<b>FINANCIAL ASSETS</b>				
Loans to associates*	0	28,758	27,700	0
Derivatives in hedging relationships	0	0	346	0
Other financial assets*	77	248	1,771	257
Deposits	0	1,907	0	1,895
	<b>10,880</b>	<b>30,913</b>	<b>40,630</b>	<b>2,152</b>

\* See Note 30 on impairments

The maximum default risk equals the carrying amount of the financial assets reported on the face of the balance sheet.

## [ 18 ] SECURITIES

As of the reporting date, the securities portfolio was valued at EUR 335 thousand (previous year: EUR 680 thousand). Securities solely (previous year: EUR 461 thousand) comprise financial assets at fair value through profit or loss; in the previous year, this item had also included loans and receivables of EUR 219 thousand. The maximum default risk equals the carrying amount reported on the face of the balance sheet.

## [ 19 ] CASH AND CASH EQUIVALENTS

Cash and cash equivalents were valued at EUR 48.316 million on the reporting date (previous year: EUR 58.578 million) and primarily comprise cash in hand and cash at banks. The cash at banks is due within three months and is exposed to only a minimal risk of any change in value. Cash and cash equivalents are the same as the cash and cash equivalents included in the cash flow statement.

## [ 20 ] SUBSCRIBED CAPITAL

Since September 30, 2009, the Company's issued capital has equaled EUR 17,468,096.00 and is divided into 17,468,096 no-par-value ordinary bearer shares equivalent to a notional share of EUR 1.00 each in the Company's issued capital. Of the total of 17,468,096 shares, OHB SE holds treasury stock comprising 67,996 shares (previous year: 80,496 shares), meaning that 17,400,100 (previous year: 17,387,600 shares) have been issued and are fully paid up (see Note 24). Of these shares, 5,221,380 shares (previous year: 5,208,880 shares) are free float. There is one vote for each share held.

### (a) Contingent capital

At their annual general meeting held on January 23, 2001, the Company's shareholders increased the Company's share capital by approving the issue of a total of EUR 516,404.00 in the form of up to 516,404 bearer shares on a contingent basis. The contingent capital increase is to be used for granting options to entitled persons under a staff compensation system. No such staff compensation systems are currently in operation. The contingent capital increase may only be implemented if the holders of such options exercise these. The new shares are dividend-entitled for the first time in the year in the course of which they are issued. The Management Board is authorized subject to the Supervisory Board's approval to determine the specific conditions for such contingent capital increase. In the event that options are granted to members of the Company's Management Board, the Supervisory Board is authorized to determine the specific conditions for such contingent capital increase.

### (b) Authorized capital

At their annual general meeting held on May 21, 2015, the shareholders passed a resolution authorizing the Company's Management Board – with the Supervisory Board's approval – to raise the share capital once or repeatedly by a total of up to EUR 8,734,048.00 on a cash or non-cash basis on or before May 20, 2020 (authorized capital 2015). The new shares may also be issued to the Company's employees. The Company's Management Board was authorized – subject to the Supervisory Board's approval – to exclude the shareholders' subscription rights in the following cases:

- [1] for fractional amounts;
- [2] for part of authorized capital 2015 up to a maximum of EUR 1,746,809.00 provided that the new shares are issued in return for cash capital contributions at a price not materially less than the stock-market price (Section 186 (3) Sentence 4 of the German Stock Corporation Act);
- [3] for a part of authorized capital 2015 up to a maximum of EUR 8,734,048.00 provided the new shares
  - > are issued as consideration for the acquisition of all or part of other companies or entities or other assets and such acquisition is in the interests of the Company; or
  - > are issued as consideration for cash capital contributions to have the Company's stock listed in a foreign market in which it has previously not been admitted to trading.
  - > The Management Board is additionally authorized subject to the Supervisory Board's approval to determine the extent and nature of the option rights and the other conditions of issue.

### (c) Authorization to acquire and sell treasury stock

At the annual general meeting held on May 21, 2015, the shareholders authorized the Company to buy back treasury stock of up to a total of 10% of the Company's share capital on or before May 20, 2020.

- a) The Company is authorized to buy back a total of up to 10% of its own share capital in the amount existing as of the date on which the resolution was passed. At no time may the shares acquired by the Company together with other treasury stock already acquired or still held by it or attributable to it in accordance with Sections 71d, 71e of the German Stock Corporation Act exceed more than ten percent (10%) of its share capital. The authorization may be exercised by the Company in full or in part, once or repeatedly or for different purposes and may also be exercised by dependent companies or companies in which OHB SE holds a majority stake for their account or for third-party account.

- b) The acquisition of shares must comply with the equal treatment principle (Section 53a of the Stock Corporation Act) and is executed at the Management Board's discretion either via the stock market (1) or in a public offering addressed to all shareholders (2). In the second case, the provisions of the Securities Acquisition and Transfer Act must be observed where applicable.
  - [1] If the Company buys back its own shares via the stock market, the purchase price paid per share (net of transaction costs) may not be any more than 10% above or below the average closing price of the stock in XETRA trading (or an equivalent replacement system) on the Frankfurt stock exchange on the last three trading days prior to acquisition of the shares.
  - [2] If the Company buys back its own shares in a public offering addressed to all shareholders, the purchase price paid per share (net of transaction costs) may not be any more than 10% above or below the average closing price of the stock in XETRA trading (or an equivalent replacement system) on the Frankfurt stock exchange on the fifth, fourth and third trading days prior to the publication of the offer. If such a public offering is oversubscribed, the shares must be bought back on a quota system. Provision may be made for the preferred acceptance of a lower volume of up to 100 shares offered per shareholder and rounding in accordance with commercial provisions.
- c) The Management Board is authorized to utilize the treasury stock acquired through the exercise of the authorization mentioned above for all purposes permitted by law, including but not limited to the following:
  - [1] Acting with the approval of the Supervisory Board it may use the treasury stock to have the Company's stock traded on foreign stock exchanges to which it has hitherto not been admitted.
  - [2] Subject to the approval of the Supervisory Board, it may offer or transfer the treasury stock to third parties for the purpose of acquiring companies, parts of companies or equity interests including but not limited to additions to existing equity interests.
  - [3] It may offer the treasury stock to the employees of the Company or other entities related to it in accordance with the definition in Sections 15 et seq. of the German Stock Corporation Act as employee shares.
  - [4] Acting with the approval of the Supervisory Board, it may redeem the treasury stock without any need for a resolution of the shareholders approving such redemption or related activities.
- d) The Management Board is authorized – subject to the approval of the Supervisory Board and without any obligation for a further resolution to be passed by the shareholders – to sell the treasury stock acquired in accordance with the above authorization or in any other manner either publicly or in the form of an offer to the shareholders provided that the sale is for cash and the price offered is not materially less than the price at which equivalent stock issued by the Company is trading on the stock market on the date of the sale. For the purposes of the above rule, the stock market price is defined as the arithmetic mean of the price fixed for the Company's stock in the closing auctions in XETRA trading (or an equivalent replacement system) on the Frankfurt/Main stock exchange on the last five trading days before the date of the sale. This authorization is limited to a total of 10% of the Company's share capital. The maximum of 10% is reduced by the prorated share in the share capital accounted for by shares which are issued during the term of this authorization as part of an equity issue in which pre-emptive shareholder rights are excluded in accordance with Section 186 (3) Sentence 4 of the German Stock Corporation Act. The volume covered by the authorization is also reduced by an amount equaling the prorated share in the share capital accounted for by conversion and/or option rights under bonds issued on or after the date on which this authorization takes effect in connection with which pre-emptive shareholder rights are excluded in accordance with Section 186 (3) Sentence 4 of the German Stock Corporation Act.

- e) The aforementioned authorizations may be utilized once or repeatedly, in part or in full, individually or jointly.
- f) The shareholders' pre-emptive subscription rights with respect to the Company's treasury stock are excluded in cases in which it is used in accordance with the authorizations described in c) (1) – (3) and d) above.

**[ 21 ] SHARE PREMIUM**

The share premium primarily comprises the cash proceeds from the stock-market flotation. The change in 2018 results from the share-based compensation for one member of the Management Board.

**[ 22 ] RETAINED EARNINGS**

Retained earnings includes the negative goodwill arising from the consolidation of newly acquired companies up until 2002.

**[ 23 ] UNREALIZED GAINS AND LOSSES RECOGNIZED UNDER EQUITY**

This equity item mainly relates to a reserve for actuarial gains and losses from the measurement of retirement benefit obligations, which will not be recycled to profit and loss at a later date. The reserve for equity instruments measured at fair value through other comprehensive income mainly includes the cumulative gains and losses from the fair value measurement of the shares in ORBCOMM Inc. When the equity instruments are sold, the reserve will be recycled to consolidated profit and loss in an amount equaling the corresponding cumulative amount for the equity instrument concerned. The reserves (with and without recycling to profit or loss) for associates include the associates' pro rata cumulative other comprehensive income. The hedge reserve contains the cumulative amounts of the effective fair value changes of the designated components.

**CHANGES IN EQUITY NOT RECOGNIZED IN PROFIT AND LOSS**

in EUR 000	Currency translation difference	Financial assets at FVOCI	Measured through other comprehensive income Financial assets	Cash flow hedges	Actuarial gains/ losses	From associated companies:			Total
						Currency translation difference	Cash flow hedges	Actuarial gains/ losses	
<b>December 31, 2017</b>	<b>-269</b>	<b>0</b>	<b>11,286</b>	<b>20</b>	<b>-13,158</b>	<b>12</b>	<b>103</b>	<b>-93</b>	<b>-2,099</b>
Changes in accounting methods	0	11,286	-11,286	0	0	0	0	0	0
<b>January 1, 2018</b>	<b>-269</b>	<b>11,286</b>	<b>0</b>	<b>20</b>	<b>-13,158</b>	<b>12</b>	<b>103</b>	<b>-93</b>	<b>-2,099</b>
Other changes	-141	0	0	0	0	0	0	0	-141
Gains/losses from effective hedge relationships	0	0	0	-647	0	0	-118	0	-765
Reclassifications	0	0	0	9	0	0	0	0	9
Present value adjustments	0	-2,857	0	0	0	0	0	0	-2,857
Adjustment to actuarial assumptions	0	0	0	0	-3,074	0	0	-130	-3,204
Deferred taxes	0	46	0	205	875	0	0	0	1,126
Non-controlling interests	0	0	0	129	309	0	0	0	438
Change in consolidated companies	0	0	0	0	-254	0	0	0	-254
<b>December 31, 2018</b>	<b>-410</b>	<b>8,475</b>	<b>0</b>	<b>-284</b>	<b>-15,302</b>	<b>12</b>	<b>-15</b>	<b>-223</b>	<b>-7,747</b>

in EUR 000	2017		
	Before tax	Tax effect	Net
Currency translation differences	-99	0	-99
Net gains/losses from the measurement of financial assets recorded	1,447	-24	1,423
Cash flow hedges	227	-72	155
Actuarial gains/losses	1,842	-313	1,529
from associates:			
Currency translation difference	12	0	12
Cash flow hedges	151	-48	103
Actuarial gains/losses	-137	44	-93
<b>Total</b>	<b>3,443</b>	<b>-413</b>	<b>3,030</b>

#### [ 24 ] TREASURY STOCK

On September 13, 2011, the Management Board of OHB SE decided to implement a stock buyback program and to acquire up to 250,000 of the Company's shares in accordance with a resolution passed by the shareholders at the annual general meeting on May 19, 2010. This authorization expired on May 18, 2015. The purpose of the treasury stock was to place the Company's shares in foreign stock markets, to pay for the acquisition of other companies, parts of companies or shares in such companies and to issue shares to the Company's employees. In the year under review, 12,500 shares from the treasury stock were transferred to a member of the Management Board (see notes on remuneration). As of December 31, 2018, OHB SE's treasury stock comprised a total of 67,996 shares, equivalent to 0.39% of its issued capital.

Number of shares outstanding	2018		2017
Balance on January 1	17,387,600		17,387,600
Transfer of treasury stock	12,500		0
<b>Balance on December 31</b>	<b>17,400,100</b>		<b>17,387,600</b>

#### [ 25 ] PROVISIONS FOR RETIREMENT BENEFITS AND SIMILAR OBLIGATIONS

Provisions for retirement benefits and similar obligations break down as follows:

in EUR 000	31/12/2018	31/12/2017
Retirement benefits	93,503	91,233
Similar obligations	6,080	5,354
<b>Retirement benefit obligations</b>	<b>99,583</b>	<b>96,587</b>

The similar obligations primarily comprise lifetime work accounts and the support fund at OHB System AG.

The OHB Group has made arrangements for retirement benefits for entitled employees in both business units. The amount of the future benefits is generally based on the length of service, amount of remuneration and position held within the Company. The retirement age stipulated in the contracts is 65 years. The direct and indirect obligations encompass those under existing pensions and entitlement to future pensions and retirement benefits. Reinsurance has been taken out to cover retirement benefit obligations. Not all of these reinsurance policies satisfy the conditions for classification as plan assets. The latter are reported within other non-current assets. The reinsurance policies which satisfy the conditions for classification as plan assets are netted with the retirement benefit obligations. In addition there are plan assets of EUR 3.146 million (previous year: EUR 2.744 million) to cover the lifetime working accounts in the form of fixed-income securities which are netted against the pension-like obligations. There were no extraordinary expenses or income as a result of the termination of any plans or on account of the curtailment or transfer of benefits in the year under review. The calculation of post-retirement benefit obligations takes account of market interest rates as well as trends in wages and salaries, pensions and fluctuations on the basis of the following actuarial assumptions:

- Discount rate: 2.00% (previous year: 2.00%)
- Wage/salary trend: 2.75% (previous year: 2.75%)
- Wage drift: 0.00% (previous year: 0.00%)
- Pension trend: 1.50% (previous year: 1.40%)

In some cases, differing assumptions were made for small volumes in foreign subsidiaries. These parameters are also applied in the following year to the calculation of the cost of the entitlement acquired. The total cost of defined benefit commitments breaks down as follows:

in EUR 000	2018	2017
Current service	1,097	895
Interest	2,039	1,878
Expected rate of return (-) on plan	-165	-163
<b>Total</b>	<b>2,971</b>	<b>2,610</b>

The present values of the defined benefit obligations changed as follows:

in EUR 000	2018	2017
Present value of the defined benefit obligations on January 1	103,063	107,086
Change Companies consolidated	1,893	0
Present value of the entitlement acquired in the year	871	895
Interest expenditure on entitlement already acquired	2,039	1,878
Payments from provisions	-4,658	-5,139
Actuarial gains (-)/losses (+)	3,103	-1,657
<b>Present value of the defined benefit</b>	<b>106,311</b>	<b>103,063</b>

The plan assets break down as follows:

in EUR 000	2018	2017
Value of plan assets on January 1	6,476	6,649
Payments received	124	124
Payments made	-7	-644
Expected income	164	164
Actuarial gains (-)/losses (+)	-29	183
<b>Value of plan assets on December 31</b>	<b>6,728</b>	<b>6,476</b>

Of the remeasurements, EUR 1.237 million (previous year: EUR 0) is due to changes in demographic assumptions, EUR 0.903 million (previous year: EUR -1.189 million) to changes in financial assumptions, EUR 0.733 million (previous year: EUR 0.658 million) to changes as a result of historical data and EUR 0.029 million (previous year: EUR -0.183 million) to the remeasurement of returns on plan assets.

The plan assets (EUR 4.994 million, previous year: EUR 4.928 million) chiefly comprise savings plans with insurance companies that are classified by the Belgian Financial Services and Markets Authority (FSMA) as Class 21 and Class 23 insurance policies and a support fund (EUR 1.568 million, previous year EUR 1.382 million).

Actual income from plan assets came to EUR 0.135 million (previous year: EUR 0.347 million). The present value is reconciled with the defined benefit (defined benefit liability (+)/defined benefit asset (-)) as follows:

in EUR 000	31/12/2018	31/12/2017
Actual present value of the defined benefit obligation	106,311	103,063
Fair value of plan assets	-6,728	-6,476
<b>Retirement benefit obligations recorded in the balance sheet</b>	<b>99,583</b>	<b>96,587</b>

The retirement benefit obligation breaks down into a defined benefit liability and defined benefit asset as follows:

in EUR 000	31/12/2018	31/12/2017
Defined benefit asset	0	0
Defined benefit liability	99,583	96,587

Contributions of EUR 0.840 million are expected to be paid in 2019. The following cash outflows are expected in the following periods:

Years	in EUR
2019	4,656,999
2020	5,618,440
2021	5,399,697
2022	5,055,359
2023	5,308,413
2024–2028	27,286,175

The present value of the defined benefit obligations of EUR 0.445 million (previous year: EUR 0.436 million) was calculated in accordance with the entry age normal method. The fractional values are computed using actuarial principles on the basis of the 2018 G biometric tables compiled by Prof. Dr. Klaus Heubeck and an interest rate of 3.68%. With respect to these provisions, it is assumed that the application of the projected unit credit method provided for in IAS 19 does not result in any major differences in this item. If the discount rate were 0.25% lower, the present value of the retirement benefit obligations would increase by EUR 3.409 million. If the discount rate were 0.25% higher,

the present value of the retirement benefit obligations would decrease by EUR 3.235 million. If the rate by which retirement benefits rise were 0.25% higher, the present value of the retirement benefit obligations would increase by EUR 2.622 million. If the rate by which retirement benefits rise were 0.25% lower, the present value of the retirement benefit obligations would decrease by EUR 2.524 million.

## [ 26 ] OTHER PROVISIONS (CURRENT AND NON-CURRENT)

Non-current personnel-related provisions primarily comprise provisions for phased retirement scheme obligations in the Aerospace + Industrial Products business unit. The phased retirement agreements expire in 2023. Plan assets in the form of funds (EUR 1.395 million, previous year: EUR 1.348 million) were netted with the provisions for phased retirement obligations (EUR 0.200 million, previous year: EUR 0.538 million), resulting in a netted figure of EUR 1.195 million (previous year: EUR 0.846 million). Other personnel-related provisions primarily relate to obligations towards employees of EUR 18.986 million (previous year: EUR 15.758 million) under recurring wage and salary obligations. An outflow in the current personnel-related provisions is expected in the first quarter of 2019.

in EUR 000	01/01/2018	Utilized	Reversed	Additions	Changes from companies consolidated	31/12/2018	Of which non-current
Pending losses and risks	5,397	1,517	2,629	3,365	0	4,616	65
Remaining work on fully invoiced projects	3,107	1,070	122	1,034	0	2,949	0
Other provisions	4,760	2,600	431	2,457	43	4,229	896
Personnel-related provisions	16,604	11,952	44	14,756	818	20,182	1,195
	<b>29,868</b>	<b>17,139</b>	<b>3,226</b>	<b>21,612</b>	<b>861</b>	<b>31,976</b>	<b>2,156</b>

**[ 27 ] NON-CURRENT FINANCIAL LIABILITIES**

This mostly entails non-current liabilities towards banks owed by the subsidiary OHB System AG in an amount of EUR 30 million (previous year: EUR 30 million). In addition OHB Italia S.p.A has bank borrowings of EUR 0.363 million (previous year: EUR 0.414 million). These liabilities are due for settlement in more than twelve months after the reporting date.

The loan contract for OHB System AG provides for three covenants, which were duly observed in the year under review.

**[ 28 ] CURRENT FINANCIAL LIABILITIES**

This entails current liabilities towards banks held by OHB SE (EUR 0 million, previous year: EUR 33 million), OHB System AG (EUR 15.008 million, previous year: EUR 15.212 million), OHB Italia S.p.A. (EUR 9.133 million; previous year: EUR 15.601 million), OHB Sweden AB (EUR 1.158 thousand), Luxspace Sàrl (EUR 0.026 million, previous year: EUR 0) and OHB Teledata GmbH (EUR 0.049 million, previous year: EUR 0.073 million).

The syndicated loan, which had a value of EUR 15 million as of the reporting date (previous year: EUR 48 million), provides for two covenants, which were duly observed in the year under review.

**[ 29 ] CURRENT FINANCIAL AND NON-FINANCIAL OTHER LIABILITIES**

The other non-financial liabilities primarily comprise outstanding invoices of EUR 25.429 million (previous year: EUR 8.668 million).

in EUR 000	31/12/2018	31/12/2017
<b>NON-FINANCIAL LIABILITIES</b>		
Value added tax	980	819
Social security and payroll tax liabilities	2,131	3,714
Others	25,759	12,432
<b>FINANCIAL LIABILITIES</b>		
Derivatives in hedge relationships	375	48
Other financial liabilities	10,303	4,213
<b>Total</b>	<b>39,548</b>	<b>21,226</b>

**[ 30 ] ADDITIONAL DISCLOSURES ON  
FINANCIAL INSTRUMENTS AND  
HEDGE RELATIONSHIPS**

The financial instruments were allocated to the following categories:

in EUR 000	31/12/2018		31/12/2017	
	Current	Non-current	Current	Non-current
<b>Amortized cost (AmC)</b>				
Other financial assets	77	30,913	0	0
Cash and cash equivalents	48,316	0	0	0
Trade receivables	69,092	0	0	0
	<b>117,485</b>	<b>30,913</b>	<b>0</b>	<b>0</b>
<b>At fair value through other comprehensive income (FVOCI)</b>				
Equity instruments traded on the active market	0	16,084	0	0
Other equity instruments	0	15,889	0	0
	<b>0</b>	<b>31,973</b>	<b>0</b>	<b>0</b>
<b>At fair value through profit and loss (FVPL)</b>	335	0	0	0
Available-for-sale financial assets (AFS)	0	0	0	32,610
Financial assets held for trading (FAHfT)	0	0	461	0
<b>Loans and receivables (LaR)</b>				
Trade receivables and PoC	0	0	328,247	0
Securities	0	0	0	219
Other financial assets	0	0	29,471	2,152
Cash and cash equivalents	0	0	58,578	0
	<b>0</b>	<b>0</b>	<b>416,296</b>	<b>2,371</b>
	<b>117,820</b>	<b>62,886</b>	<b>416,757</b>	<b>34,981</b>
<b>Historical cost</b>				
Trade payables	176,964	0	83,141	0
Financial liabilities	25,374	30,363	63,886	30,414
Other financial liabilities	10,678	0	4,261	0
	<b>213,016</b>	<b>30,363</b>	<b>151,288</b>	<b>30,414</b>

It is assumed that the carrying amount of other financial assets, trade receivables and cash and cash equivalents equals their fair value due to their short-term status.

The carrying amount of the non-current assets measured at amortized cost (EUR 30.913 million, previous year: loans and receivables of EUR 2.152 million) approximates their fair value. These chiefly comprise a loan of EUR 28.758 million to an associate and non-interest-bearing deposits of EUR 1.907 million. However, in view of the current low interest rates, there is virtually no difference.

The shares in ORBCOMM Inc., which are measured at fair value through other comprehensive income, are recognized at their fair value (EUR 16.084 million, previous year: available for sale, EUR 18.941 million) as determined by the price of the shares quoted on the New York Stock Exchange (level 1 of the fair value hierarchy). As in the previous year, the shares in Arianespace Participation (EUR 8.328 million), MAN Dezentrale Energiesysteme GmbH (EUR 1.022 million), MT Mechatronica SpA (EUR 0.530 million) and other minor investments are recognized at historical cost unless there was any evidence of impairment as it was not possible to reliably calculate a fair value.

The securities classified as financial assets held for trading (FAHFT) were recognized at their fair value, meaning that the carrying amount equals the fair value. The fair value was derived from the listed stock exchange price on the reporting date.

The carrying amount of current financial liabilities measured at amortized cost as well as financial liabilities and trade payables equals their fair value due to their short-term nature.

Other financial liabilities include a loan of EUR 1.568 million (previous year: EUR 1.382 million) received from the support fund which is subject to interest of 5%. As the loan can be

terminated at any time, the carrying amount is close to its fair value. The loan must be repaid in a single sum upon termination at the latest.

Non-current financial liabilities measured at amortized cost (FLAC) have a carrying amount of EUR 30.363 million (previous year: EUR 30.414 million), which is close to their fair value. It would currently be possible to raise a loan on the same terms.

Net profit/loss does not include any interest income or interest expense. These are described in the Section on net finance income/finance expense. From 2018, impairments are also no longer a component of net earnings.

#### NET PROFIT / LOSS BY MEASUREMENT CATEGORY 2018

in EUR 000		Other income and expense items or profit and loss items	
Financial assets	FVPL	Measured at fair value through profit or loss	126
	AmC	Measured at amortized cost	0
	FVOCI	At fair value through other comprehensive income	-2,857

#### NET PROFIT / LOSS BY MEASUREMENT CATEGORY 2017

in EUR 000		2017
Assets held for trading		0
Available-for-sale financial assets		1,251
Loans and receivables		-650
of which impairments		-650
Financial liabilities at amortized cost		0

The OHB Group has two types of financial assets to which the expected credit loss model is applied: trade receivables and contract assets.

Cash and cash equivalents are generally also subject to the measurement requirements of IFRS 9, but are not taken into account due to the expected insignificant effects.

OHB applies the simplified IFRS 9 approach to the calculation of expected credit losses, which results in a residual maturity-based allowance for all trade receivables and contract assets.

in EUR 000	31/12/2018					01/01/2018				
	Not yet due for settlement	Past due by up to 1 year	Past due by more than 1 year	Impaired	Total	Not yet due for settlement	Past due by up to 1 year	Past due by more than 1 year	Impaired	Total
Expected loss rate	0.11%	0.21%	0.10%			0.11%	0.39%	0.33%		
Carrying amount of trade receivables	55,677	6,445	4,664	2,463	69,249	55,956	9,773	2,990	2,894	71,613
Impairments	60	14	5	79	157	61	38	10	76	185
					<b>69,092</b>					<b>71,428</b>
Expected loss rate	0.08%					0.07%				
Carrying amount of contract assets	279,208				279,208	227,195				227,195
Impairments	213				213	162				162
					<b>278,995</b>					<b>227,033</b>

in EUR 000	Contract assets	Trade receivables
December 31, 2017	0	892
	<b>162</b>	<b>185</b>
January 1, 2018	162	1,077
Added	51	0
Reversed	0	-920
December 31, 2018	213	157

All other current debt instruments measured at amortized cost are considered to exhibit a low credit risk because the risk of non-fulfilment is low and it is assumed that the debtors will be able to meet their contractual payment obligations. No loss allowance has been recognized for 12-month credit losses (level 1).

No non-current financial assets are overdue and the entire amount of EUR 22.963 million has been allocated to level 1 of the credit risk model. As there was no significant increase in the credit risk, no loss allowances were recognized.

### Measurement hierarchy for financial assets at fair value through profit and loss

Level 1: Financial instruments traded in active markets, the listed prices of which are applied for measurement purposes.

Level 2: Financial instruments are measured using methods with parameters which are derived directly or indirectly from observable market data.

Level 3: Financial instruments are measured using methods with parameters which are not based solely on observable market data.

31/12/2018			
in EUR 000	Level 1	Level 2	Level 3
<b>FINANCIAL ASSETS</b>			
Financial assets at fair value through profit and loss (FVPL)			
Securities	335	0	0
Financial assets at fair value through other comprehensive			
Equity interest in ORBCOMM	16,084	0	0
<b>Total</b>	<b>16,419</b>	<b>0</b>	<b>0</b>
<b>FINANCIAL LIABILITIES</b>			
Hedging derivatives – foreign currency forwards	0	375	0
<b>Total</b>	<b>0</b>	<b>375</b>	<b>0</b>

31/12/2017			
in EUR 000	Level 1	Level 2	Level 3
<b>AVAILABLE-FOR-SALE FINANCIAL ASSETS</b>			
Equity interest in ORBCOMM	18,941	0	0
<b>FINANCIAL ASSETS HELD FOR TRADING</b>			
Securities	461	0	0

The fair value of the securities is derived from their listed market price. There were no transfers between the individual hierarchical levels in the year under review.

### Derivatives and hedge relationships

The OHB Group engages in buying and selling operations in foreign currencies, which exposes it to a currency translation risk with a direct impact on profit and loss. In order to hedge this risk, OHB mainly uses forward exchange contracts, which must generally be designated as hedges. The Group Policy prohibits the use of derivatives for speculative purposes. The hedging relationship is formally designated at the time the derivatives are entered into by preparing the necessary hedge documentation.

The following table presents the time profile for the nominal amount and the average price of the derivatives.

in EUR 000	Remaining period			Nominal volume Total	Nominal volume Total	Average hedging rate
	Less than 1 year	1 to 5 years	More than 5 years			
				31/12/2018	31/12/2017	31/12/2018
<b>Currency hedges</b>						
Currency forwards USD	5,082	0	0	5,082	7,063	1.2625
Currency forwards GBP	300	0	0	300	0	0.8753
Currency forwards Other currencies	161	0	0	161	522	n/a
<b>Total</b>	<b>5,543</b>	<b>0</b>	<b>0</b>	<b>5,543</b>	<b>7,585</b>	

Cash flow hedges are formed for anticipated future transactions. All hedge relationships are accounted for in accordance with IFRS 9 – Guidance for Hedge Accounting for the first time from the transition date of November 1, 2018.

With respect to the hedge relationships already existing under IAS 39, OHB exercises the option to apply hedge accounting prospectively in accordance with IFRS 9. This resulted in insignificant effects from the transition from IAS 39 to IFRS 9. With the introduction of the new standard, the previous

effectiveness limit of 80 % to 125 % and the retrospective effectiveness test no longer apply. Furthermore, voluntary de-designation of hedge relationships is no longer possible. It can therefore be expected that the prospective application of IFRS 9 will reduce volatility within profit and loss in the future. In addition, IFRS 9 permits the recognition of a change in the fair value of non-designated components of derivatives in a separate equity account, known as the cost of hedging reserve. However, OHB has decided to continue recognizing any change in fair value of the undesignated components through profit and loss.

#### DISCLOSURES ON HEDGES IN CASH FLOW HEDGES

31/12/2018				
in EUR 000	Carrying amount	Balance sheet items	Change in fair value to Ineffectiveness	Nominal volume
<b>Cash flow hedges</b>				
<b>Currency hedges – Currency forwards</b>				
Derivatives – assets	0	n/a	0	0
Derivatives – liabilities	-541	Financial Liabilities	-541	5,543

A prerequisite for applying hedge accounting under IFRS 9 is the prospective effectiveness of the hedge relationship, which OHB demonstrates on a periodic basis using the critical terms match method. As a rule, a derivative is entered into on identical contractual terms to the underlying transaction, so that it can be assumed that the hedging relationship is effective. The only source of ineffectiveness is the counterparty credit risk, which is not expected to play a dominant role in existing hedge relationships. In the case of cash flow hedges, the forward-to-forward designation applies, under which the spot and forward components of the FX forwards are designated in hedge accounting. In addition, OHB uses the dollar offset method and the hypothetical derivative method to retrospectively determine the effective portion of the designated components in the current period. The effective change in fair value of the designated components is recognized in the hedge reserve in equity (other comprehensive income) and the ineffective portion of the designated components and the change in fair value of the undesignated components are recognized directly through profit and loss.

Derivatives can turn into standalone derivatives, to which hedge accounting no longer applies, due to a postponement or even default of the underlying transactions. No such reasons occurred in previous periods for OHB to terminate hedge relationships.

#### DISCLOSURES ON HEDGED TRANSACTIONS IN CASH FLOW HEDGES

in EUR m	31/12/2018		
	Changes in the hedged transaction during the period to identify ineffectiveness	Balance of the hedge reserve and foreign currency reserve for active cash flow hedges	Balance of the hedge reserve and foreign currency reserve for terminated cash flow hedges
Currency hedges			
Designated components	365	-365	-165
Non-designated components	0	0	0

#### GAINS AND LOSSES FROM CASH FLOW HEDGES

in EUR m	Cash flow hedging gains or losses through other comprehensive income	Ineffectiveness recognized through profit and loss	Items in the statement of comprehensive income which include the ineffectiveness recognized	31/12/2018		
				Reclassification of cash flow hedges reserve recycled to profit and loss		Items in the statement of comprehensive income which include the reclassified amount
				due to premature termination Cash flow hedges	due to hedged item recognized through profit and loss recognition	
Currency hedges	-365	-10	Net finance	0	174	Sales

As of the December 31, 2017, currency forwards with a nominal value of USD 8.152 million (EUR 7.064 million) had been transacted to cover the exports of two Group companies. Of this, cash flow hedges account for USD 4.762 million (EUR 4.059 million). An amount of USD 4.056 million (EUR 3.473 million) fell due in the second half of 2018. Other financial liabilities include currency forwards in ZAR (cash flow hedges) with a fair value of EUR 48 thousand. Of this,

currency forwards with a nominal value of ZAR 6.1 million (EUR 0.402 million) fall due in the first half of 2019. Other financial assets include currency forwards with a fair value of EUR 0.197 million for fair value hedges and EUR 0.149 million for cash flow hedges. The fair value of the derivatives was calculated on the basis of forward prices on the reporting date.

[ 31 ] CASH FLOW STATEMENT

Reconciliation of financial liabilities

in EUR 000	Non-current financial liabilities	Current financial liabilities	Total Liabilities from financing activities
<b>January 1, 2018</b>	<b>30,414</b>	<b>63,886</b>	<b>94,300</b>
Cash flows			
Payments received from new loans	0	1,185	1,185
Repayments of loans	-51	-39,697	-39,748
<b>December 31, 2018</b>	<b>30,363</b>	<b>25,374</b>	<b>55,737</b>
<b>January 1, 2017</b>	<b>349</b>	<b>93,108</b>	<b>93,457</b>
Cash flows			
Payments received from new loans	30,650	7,577	38,227
Repayments of loans	-585	-36,799	-37,384
<b>December 31, 2017</b>	<b>30,414</b>	<b>63,886</b>	<b>94,300</b>

## IX. FINANCIAL RISK MANAGEMENT

### LIQUIDITY RISKS

Prudent liquidity risk management means maintaining sufficient cash and cash equivalents as well as having an appropriate amount of committed credit facilities available to meet due obligations. Management uses rolling forecasts

to monitor the Group's liquidity reserves (consisting of the following unused credit facilities) and cash and cash equivalents on the basis of expected cash flows. This is generally done locally at the level of the Group's operating companies in accordance with the Group's policies. Under the syndicated loan (Note 28), an open credit facility of EUR 180 million was available at the end of the year. The agreement runs until May 2023. There are currently no indications of any liquidity shortfalls.

## BREAKDOWN OF SETTLEMENT PERIODS FOR FINANCIAL LIABILITIES

in EUR 000	31/12/2018					Total	31/12/2017					Total
	Less than 1 year	1 to 2 years	3 to 5 years	More than 5 years			Less than 1 year	1 to 2 years	3 to 5 years	More than 5 years		
Non-current financial liabilities*	0	13,978	17,164	382		31,524	0	1,078	20,719	10,111		31,908
Current financial liabilities	25,374	0	0	0		25,374	63,886	0	0	0		63,886
Trade payables	176,964	0	0	0		176,964	83,141	0	0	0		83,141
Other current financial liabilities	10,678	0	0	0		10,678	4,213	0	0	0		4,213
<b>Total</b>	<b>213,016</b>	<b>13,978</b>	<b>17,164</b>	<b>382</b>		<b>244,540</b>	<b>151,240</b>	<b>1,078</b>	<b>20,719</b>	<b>10,111</b>		<b>183,148</b>

\* including borrowing costs

### Credit risks

Credit risks are generally considered to be small. However, general risks of default may always occur as a result of specific economic conditions. Receivables comprise a large proportion of amounts owed by public-sector customers free of any credit risk, while there is no risk clustering with respect to the other amounts owed. For this reason, the Group as a whole does not take out any credit insurance for receivables. The loss rates applied for the simplified loss allowance model are therefore based on historical loss rates to only an insignificant extent. The inclusion of current and forward-looking information is based on the Group's estimates with regard to its exposure to credit risk within its customer structure, in particular with regard to public-sector customers.

### Currency risks

The Group operates predominantly within the Eurozone and is therefore exposed to low foreign currency risks from its operating activities. Sales in foreign currencies (USD, AED) are conducted to a limited extent. In the space segment, 100% of the expected future transactions are generally hedged, while in the aviation segment the hedging ratio of the planned future revenues at the end of the current fiscal year is approx. 64%, as the forecast revenues are compared with the planned purchases. As of the reporting date, these mainly comprise receivables denominated in USD equaling EUR 2.530 million (previous year: EUR 3.388 million).

Purchases in a foreign currency (USD, GPD) are of a negligible amount. The USD/EUR exchange rate influences income and expenses in aviation business. All orders and receivables denominated in US dollars have been hedged by means of currency forwards for 2018 (see Note 30 on derivatives and hedge relationships).

### Interest risks

Generally speaking, investments with low interest rates are preferred so as to avert interest risks and are subject to normal market fluctuation. Short-term loans are raised to cover requirements of current assets arising from project payment cycles. For this purpose, funds under a loan facility agreement with a market-based floating interest rate component depend on the observance of covenants are used. A 1% change in the interest rate on such drawings would result in additional expense of around EUR 0.560 million (previous year: EUR 0.940 million). There is unlikely to be any further decline in interest rates. The non-current financial liabilities expire in 2024 are subject to fixed interest rates. The interest rate risk is currently considered to be low.

### Capital risk management

One of the OHB Group's most important financial targets is to achieve sustained growth in enterprise value and to ensure solvency at all times in the interests of protecting its going-concern status and to achieve an optimum capital structure. In this connection, the creation of adequate liquidity reserves, while preserving the Company's ability to pay out a dividend, is of crucial importance. These goals are achieved by means of an integrated controlling system in connection with which management receives various data on individual items of the balance sheet as part of a monthly analysis. This provides information on trends in the Company's equity and also serves as a basis for necessary business decisions. The equity ratio stood at 26.54% as of December 31, 2018 (previous year: 28.8%). The equity ratio was calculated relative to the Group's total assets. The Company is seeking an equity ratio of over 25%. The overall strategy pursued by the Group was unchanged over 2017.

## X. OTHER DISCLOSURES

### SEGMENT REPORT

IFRS 8 stipulates that operating segments are to be defined on the basis of internal segment reporting which is regularly reviewed by the Company's chief operating decision maker with respect to the allocation of resources to these segments and the assessment of their profitability. The main management indicators used within the OHB Group are total revenues, EBIT and EBITDA. Information reported to the Management Board as the chief operating decision maker for the purposes of allocating resources to the Company's segments as well as the assessment of their profitability mostly covers the types of goods and services which are produced or provided. The Group comprises the following reportable segments as defined in IFRS 8:

- Space Systems
- Aerospace + Industrial Products

The Space Systems segment chiefly develops and executes space projects. The Aerospace + Industrial Products segment is primarily responsible for fabricating aviation and space products as well as other industrial activities. The segments are described in detail in the Group management report. Segment income, expenses and earnings also entail business relations between the business units. These transfers were netted in full. The measurement principles applied in segment reporting are identical to those applied in the preparation of the consolidated financial statements. The holding company is shown separately as most of the equity interests are held on this level. OHB SE exercises the function of an active holding company. Sales break down by product group as follows:

#### SALES BY PRODUCT GROUP

in EUR 000	2018	2017
Space technology	940,852	792,567
Aviation	14,504	14,635
Antennas	13,051	9,786
Others	8,144	8,906
<b>Total</b>	<b>976,551</b>	<b>825,894</b>

#### SALES BY GEOGRAPHIC REGION

in EUR 000	2018	2017
Germany	331,325	301,604
Rest of Europe	630,962	519,221
Rest of the world	14,264	5,069
<b>Total</b>	<b>976,551</b>	<b>825,894</b>

With sales of EUR 238.140 million, EUR 176.218 million and EUR 144.327 million, respectively, three customers each account for more than 10% of the OHB Group's total sales.

Total non-current assets (excluding financial instruments and deferred tax assets) amount to EUR 171.187 million (previous year: EUR 152.641 million) in Germany and EUR 37.401 million (previous year: EUR 35.624 million) abroad. This includes non-current assets of EUR 31.566 million (previous year: EUR 30.794 million) attributable to the subsidiary in Italy. Post-employment benefits stand at EUR 97.100 million (previous year: EUR 94.389) in Germany and EUR 2.482 million (previous year: EUR 2.197 million) abroad.

## Segment reporting

in EUR 000	Space Systems		Aerospace + Industrial Products	
	2018	2017	2018	2017
Sales	788,861	635,322	194,349	203,943
of which internal sales	170	272	6,489	13,099
Total revenues	809,482	661,252	197,649	211,876
Cost of materials and services purchased	566,077	451,776	85,914	102,290
<b>EBITDA</b>	<b>44,015</b>	<b>32,977</b>	<b>21,426</b>	<b>25,468</b>
Depreciation/amortization	11,461	8,911	5,774	5,314
<b>EBIT</b>	<b>32,554</b>	<b>24,066</b>	<b>15,652</b>	<b>20,154</b>
Non-current assets	145,621	130,506	124,349	85,060
Current assets	410,988	317,857	116,991	185,302
<b>Total assets</b>	<b>556,609</b>	<b>448,363</b>	<b>241,340</b>	<b>270,362</b>
Equity	111,445	115,790	63,960	55,498
Liabilities	445,164	332,573	177,380	214,864
<b>Total assets</b>	<b>556,609</b>	<b>448,363</b>	<b>241,340</b>	<b>270,362</b>
Investments net of financial assets	23,419	23,317	12,855	21,294

## Other financial obligations

in EUR 000	2018				2017			
	Less than 1 year	1 to 5 years	More than 5 years	Total	Less than 1 year	1 to 5 years	More than 5 years	Total
Rental contracts (operating leases)	9,891	31,872	27,417	69,180	11,867	28,851	27,509	68,227
Leases (operating leases)	1,013	1,235	16	2,264	852	1,599	0	2,451
<b>Total</b>	<b>10,904</b>	<b>33,107</b>	<b>27,433</b>	<b>71,444</b>	<b>12,719</b>	<b>30,450</b>	<b>27,509</b>	<b>70,678</b>

In the year under review, expenditure on operating leases came to EUR 10.344 million (previous year: EUR 9.528 million) and was included in other operating expenses. There are no purchase options.

## CONTINGENT LIABILITIES

As of the reporting date, there were obligations under guarantees of EUR 38.558 million (previous year: EUR 37.487 million). The participating companies have assumed joint and several liability for obligations under the credit facility.

There were obligations under guarantees of EUR 0 million (previous year: EUR 3.874 million) for the loan liabilities of an associate. They are not expected to be drawn.

## EMPLOYEES

The average head count stood at 2,616 in the year under review (previous year: 2,368). As of December 31, 2018, there were 1,874 employees in the Space Systems business unit (previous year: 1,624), 879 employees in the Aerospace + Industrial Products business unit (previous year: 786) and 16 employees in the holding company (previous year: 9).

Reconciliation					Total	
Holding		Consolidation				
2018	2017	2018	2017	2018	2017	
0	0	-6,659	-13,371	976,551	825,894	
0	0	-6,659	-13,371	0	0	
9,267	7,889	-16,005	-21,330	1,000,393	859,687	
0	0	-6,403	-11,393	645,588	542,673	
<b>-428</b>	<b>364</b>	<b>0</b>	<b>0</b>	<b>65,013</b>	<b>58,809</b>	
27	25	0	336	17,262	14,586	
<b>-455</b>	<b>339</b>	<b>0</b>	<b>-336</b>	<b>47,751</b>	<b>44,223</b>	
67,322	63,305	-45,954	-39,322	291,338	239,549	
48,653	42,350	-114,364	-65,360	462,268	480,149	
<b>115,975</b>	<b>105,655</b>	<b>-160,318</b>	<b>-104,682</b>	<b>753,606</b>	<b>719,698</b>	
58,805	62,854	-34,191	-26,862	200,019	207,280	
57,170	42,801	-126,127	-77,820	553,587	512,418	
<b>115,975</b>	<b>105,655</b>	<b>-160,318</b>	<b>-104,682</b>	<b>753,606</b>	<b>719,698</b>	
2,119	30	0	0	38,393	44,641	

## XI. SUPERVISORY BOARD

The Company's Management Board comprises

- Mr. Marco Fuchs, Lilienthal, Chief Executive Officer
- Dr. Fritz Merkle (until June 30, 2018), Eching/  
Freising; business development and marketing
- Mr. Klaus Hofmann, Bremen;  
Chief Human Resources Officer
- Dr. Lutz Bertling (since April 1, 2018), Bremen;  
corporate development, space services and  
digitalization
- Dr. Kurt Melching (since April 1, 2018), Bremen;  
finance

The Company's Supervisory Board comprises:

- Mr. Robert Wethmar, Hamburg,  
partner at law firm Taylor Wessing
- Mrs. Christa Fuchs, Bremen, managing shareholder  
of VOLPAIA Beteiligungs-GmbH, Bremen, chairwoman

→ Prof. Heinz Stoewer, Munich, Professor em. Space  
Systems Engineering, Technical University of Delft,  
Netherlands, managing director of Space Associates  
Beratungs GmbH, Munich

→ Mr. Ingo Kramer (since June 19, 2018), businessman,  
Bremerhaven

Offices held by members of the Company's Management  
Board and Supervisory Board in other supervisory boards  
and management bodies in 2018:

→ Mr. Marco Fuchs

Group mandates:

- › MT Aerospace AG, Augsburg,  
chairman the supervisory board;
- › ORBCOMM Inc., Rochelle Park, NJ, United States,  
member of the board of directors
- › OHB Italia S.p.A., Milan, Italy,  
chairman of the board of directors
- › OHB Sweden AB, Stockholm, Sweden,  
chairman of the board of directors

- > Antwerp Space N.V., Antwerp, Belgium, chairman of the board of directors
- > LuxSpace Sàrl, Betzdorf, Luxembourg, chairman of the board of directors

Non-group mandates:

- > SV Werder Bremen GmbH & Co. KGaA., Bremen deputy chairman of the Supervisory Board
- > ZARM Technik AG, Bremen, chairman of the supervisory board
- > Jacobs University Bremen gGmbH, Bremen, member of the supervisory board

→ Mrs. Christa Fuchs

- > ORBCOMM Germany AG, Bremen, chairwoman of the supervisory board (Group mandate)
- > COSMOS Space Systems AG, Bremen, chairwoman of the supervisory board (Group mandate)
- > OHB System AG, Bremen, chairwoman of the supervisory board (Group mandate)

→ Ingo Kramer

- > Lenze SE, Aerzen, member of the supervisory board

**SECURITIES HELD BY MEMBERS OF THE MANAGEMENT BOARD AND SUPERVISORY BOARD**

as of December 31, 2018	Shares	Changes 2017/18
Christa Fuchs, Chairwoman of the Supervisory Board	1,401,940	-
Prof. Heinz Stoewer, member of the Supervisory Board	1,000	-
Marco Fuchs, Chief Executive Officer	6,046,610	-
Dr. Lutz Bertling, member of the Management Board	14,500	14,500

**EXEMPTION FROM DISCLOSURE OF THE ANNUAL FINANCIAL STATEMENTS OF THE GROUP COMPANIES**

At their meeting of May 24, 2018, the shareholders of OHB System AG passed a resolution to adopt the exemption provisions in Section 264 (3) of the German Commercial Code with respect to disclosure of the annual financial statements.

At their meeting of March 27, 2018, the shareholders of ORBCOMM Deutschland AG passed a resolution to adopt the exemption provisions in Section 264 (3) of the German Commercial Code with respect to disclosure of the annual financial statements.

**RELATED PARTIES**

Related parties as defined in IAS 24 comprise Christa Fuchs, Romana Fuchs Mayrhofer, Marco Fuchs, Ulrich Schulz, Dr. Fritz Merkle, Kurt Melching, Dr. Lutz Bertling, Klaus Hofmann, Prof. Heinz Stoewer, Ingo Kramer and Robert Wethmar. The following companies are related parties:

- OHB Grundstücksgesellschaft, Achterstraße GmbH & Co. KG, Bremen
- OHB Grundstücksgesellschaft, Kitzbühler Straße GmbH & Co. KG, Bremen
- OHB Grundstücksgesellschaft, Universitätsallee GmbH & Co. KG, Bremen
- OHB Grundstücksgesellschaft, Karl-Ferdinand-Braun-Straße GmbH & Co. KG, Bremen
- VOLPAIA Beteiligungs-GmbH, Bremen
- Apollo Capital Partners GmbH, Munich
- Immobiliare Gallarate S.r.l., Milan
- KT Grundstücksverwaltungs GmbH & Co. KG, Munich
- Schloß Annaberg GmbH, Latsch, Italy
- Aerotech Peissenberg GmbH & Co. KG, Peissenberg
- ORBCOMM Inc., Rochelle Park, NJ, United States

Business transactions with related parties are conducted on arm's length terms. In the year under review, sales and other income of EUR 0.117 million (previous year: EUR 0) arose from transactions with related parties, while expenditure on goods and services purchased and rentals came to around EUR 7.470 million (previous year: EUR 7.342 million) at Group companies. As of the reporting date, there were receivables of EUR 25 thousand (previous year: EUR 25 thousand) and liabilities of EUR 0 (previous year: EUR 460 thousand) in respect of related parties.

Under a contract with the law firm Taylor Wessing, of which Robert Wethmar is a partner, fees of a total of EUR 0.198 million were paid in consideration of the advisory services for Group companies. Outstanding receivables as of the reporting date were valued at EUR 0 million (previous year: EUR 0 million). As of December 31, 2018, there were liabilities of EUR 0 (previous year: EUR 0).

There were retirement benefit obligations towards related parties of EUR 0.199 million (previous year: EUR 0.215 million) as of the reporting date. No contributions were made to the plan. Benefits for surviving dependants of EUR 22 thousand were paid.

Sales of EUR 2.702 million (previous year: EUR 0) were generated with associates in the year under review. The resultant receivables outstanding as of the reporting date stood at EUR 1.232 million (previous year: EUR 0).

There are non-current loans to associates with a carrying amount of EUR 20.758 million (previous year: EUR 27.700 million) subject to a subordination agreement with banks. The loans are subject to a fixed interest rate of 3–5% and are automatically renewed unless terminated before the expiry date. Interest of EUR 0.908 million (previous year: EUR 1.060 million) was recognized. All loans expire within one year. The outstanding loan amount is payable in a single amount upon termination. No collateral has been provided for the loans.

## CORPORATE GOVERNANCE DECLARATION IN ACCORDANCE WITH SECTION 161 OF THE GERMAN STOCK CORPORATION ACT

The Management Board and the Supervisory Board have published the declaration required pursuant to Section 161 of the German Stock Corporation Act confirming that save for a few small exceptions (see Corporate Governance on page 42) the Group already conforms to the German Corporate Governance Code and will continue to do so in the future. The declaration of conformance is available on the Internet at:

<https://www.ohb.de/en/investor-relations/corporate-governance/declaration-of-compliance/>

## ALLOCATION OF UNAPPROPRIATED SURPLUS

OHB SE exercises the function of an active holding company. Its main assets comprise investments which were carried at a value of EUR 59.344 million on the reporting date. OHB SE's equity stood at EUR 50.797 million on December 31, 2018. The Company's single-entity financial statements carry cash and cash equivalents of EUR 1.141 million. Income of EUR 10.013 million under profit transfer agreements particularly made a contribution to net profit of EUR 5.241 million for 2018. The single-entity financial statements prepared by OHB SE pursuant to German GAAP (HGB) for the year ending December 31, 2018 carry an unappropriated surplus of EUR 11,374,578.92. The Management Board will be asking the shareholders to pass a resolution providing for the allocation of the Company's unappropriated surplus of EUR 11.375 million for 2018 (as specified in the table entitled "Allocation of unappropriated surplus"). The figures stated for the total dividend and the amount to be carried forward are based on the number of dividend-entitled shares as of the date of the Management Board's allocation proposal. Pursuant to Section 71b of the Joint Stock Companies Act, treasury stock held by the Company as of the reporting date (67,996 shares) is not dividend-entitled. If the number of shares held as treasury stock on the date on which the shareholders pass a resolution adopting the proposal for the allocation of the Company's unappropriated surplus is

greater or smaller than on the reporting date, the amount payable to the shareholders will be increased or, as the case may be, decreased by the amount attributable to the difference in the number of shares. The amount to be carried forward will be adjusted accordingly. However, there will be no change in the distributable dividend per dividend-entitled share. If necessary, the shareholders will be presented with a correspondingly modified proposal for the allocation of the Company's unappropriated surplus. The dividend distributed for 2017 came to EUR 0.40 per dividend-entitled share (17,387,600 shares), resulting in a total payout of EUR 6,955,040.00. In addition, an amount of EUR 5,927,999.53 was carried forward. The unappropriated surplus came to EUR 12,883,039.53 in 2017.

#### Allocation of unappropriated surplus

in EUR 000	2018
Unappropriated surplus	11,374,578.92
Distribution of a dividend of EUR 0.43 for each dividend entitled share (17,400,100 shares)	7,482,043.00
Amount to be carried forward	3,892,535.92

#### REMUNERATION

As a matter of principle, the compensation paid to the members of the Management Board comprises fixed and variable components. Share-based compensation components or compensation components with a long-term incentive have been granted to Dr. Lutz Bertling. In the event of the death of a Management Board member, his surviving dependents are entitled to receive continued payment of that member's fixed compensation for a further period of six months. The principles of the compensation system as well as the individualized compensation paid to the Management Board are described in detail in the compensation report, which forms part of the management report (page 70). The total compensation including share-based payments paid to the members of the Management Board for 2018 came to EUR 4.598 million (previous year: EUR 1.973 million). Of this, an amount of EUR 1.553 million (previous year: EUR 0.935 million) comprises variable remuneration, fixed remuneration components of EUR 1.482 million (previous year: EUR 1.038 million) including benefits such as advances towards health insurance and the use of a company car and share-based payments with a long-term incentive of EUR 1.563 million. Christa Fuchs received surviving-dependents benefits of EUR 22 thousand from OHB System AG for the Management

Board member Prof. Manfred Fuchs, who had passed away in 2014. The total compensation paid to members of the Supervisory Board for 2018 came to EUR 88 thousand (previous year: EUR 70 thousand). Of this, the chairman of the Supervisory Board received EUR 30 thousand (previous year: EUR 30 thousand) and the other two members of the Supervisory Board EUR 58 thousand (previous year: EUR 40 thousand) Variable compensation components were dispensed with. Under a contract with the law firm Taylor Wessing, of which Robert Wethmar is a partner, fees of a total of EUR 0.198 million were paid in consideration of the advisory services for Group companies.

#### Share-based payments

In 2018, 12,500 OHB SE shares were granted to a member of the Management Board for the years 2018 to 2021 as of April 1 of each year as part of his compensation. These shares were not tied to a specific price. If the Management Board member concerned resigns before the respective due date, he forfeits the right to receive the shares. The shares have a minimum holding period of two years after allocation. In the year under review, 12,500 shares were withdrawn from treasury stock. Based on the share price date of the grant, this corresponds to a fair value of EUR 0.390 million. Staff costs of the same amount were recorded for the shares transferred. EUR 0.610 million was recognized in staff costs in the year under review for the shares transferred in the year under review and the shares to be transferred in subsequent years.

#### FEES AND SERVICES OF THE INDEPENDENT AUDITORS

In the period under review, the OHB Group recorded the following fees paid to PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, Bremen, the auditors of its financial statements:

- Audit of the consolidated and annual financial statements: EUR 0.236 million (previous year: EUR 0.260 million)
- Other services: EUR 0.088 million (previous year: EUR 0.025 million)
- Tax consulting services: EUR 0.012 million (previous year: EUR 0)

In the year under review, other services entailed the provision of advice on the implementation of new standards. The tax consulting services entailed services in connection with possible foreign business.

#### EVENTS AFTER THE BALANCE SHEET DATE

None.

The consolidated financial statements were approved by the Management Board for publication following the Supervisory Board's meeting of March 19, 2019.

The Management Board

Bremen, March 19, 2019



**Marco Fuchs**



**Kurt Melching**



**Klaus Hofmann**



**Dr. Lutz Bertling**

## INDEPENDENT AUDITOR'S REPORT

To OHB SE, Bremen

### REPORT ON THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE GROUP MANAGEMENT REPORT

#### AUDIT OPINIONS

We have audited the consolidated financial statements of OHB SE, Bremen, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at December 31, 2018, and the consolidated statement of comprehensive income, consolidated statement of profit or loss, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from January 1 to December 31, 2018, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of OHB SE for the financial year from January 1 to December 31, 2018. We have not audited the content of those parts of the group management report listed in the "Other Information" section of our auditor's report in accordance with the German legal requirements.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to § [Article] 315e Abs. [paragraph] 1 HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at December 31, 2018, and of its financial performance for the financial year from January 1 to December 31, 2018, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the

opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of those parts of the group management report listed in the "Other Information" section of our auditor's report.

Pursuant to § 322 Abs. 3 Satz [sentence] 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

### BASIS FOR THE AUDIT OPINIONS

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB and the EU Audit Regulation (No. 537/2014, referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided nonaudit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

#### Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from January 1 to December 31, 2018. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In our view, the matters of most significance in our audit were as follows:

- [1] Accounting for construction contracts
- [2] Recoverability of goodwill and internally generated intangible assets with a definite useful life

Our presentation of these key audit matters has been structured in each case as follows:

- [1] Matter and issue
- [2] Audit approach and findings
- [3] Reference to further information

Hereinafter we present the key audit matters:

- [1] Accounting for construction contracts
- [1] The revenues reported in OHB SE's consolidated financial statements as of December 31, 2018 are attributable in an amount of EUR 883,1 Mio. to construction contracts for satellites and other development contracts, which are recognised over time in accordance with IFRS 15.

They are measured according to the percentage of completion on the reporting date. For this purpose, the percentage of completion is estimated by comparing the production costs that have arisen as of the reporting date with the total budgeted production costs. The underlying cost estimates and allocation of the costs incurred in orders to the revenues reported in the consolidated financial statements are based on discretionary judgments and assumptions made by the executive directors of the parent company.

Against this backdrop and in view of the underlying scope for discretionary judgments and estimates by the executive directors and the complexity involved in accounting for construction and development contracts taking into account the accounting standard for revenue recognition to be applied for the first time (IFRS 15), this matter was of particular importance in our audit.

**[2]** In our audit, we assessed the processes and checks implemented by the Group for recording revenues from construction contracts for satellites and other development contracts in the light of the percentage of completion, taking due account of the fact that the complexity and the scope for discretionary judgments and assessments result in a heightened risk of accounting misstatements. With the support of our internal specialists, we also acknowledged the effects of the first-time application of IFRS 15. We have also reviewed customer contracts, tracked the identification of independent service obligations, and assessed whether those services should be recognized over time or at a point in time.

Moreover, we examined the methods for calculating budgeted and actual costs. We also traced the consistency and continuity of the methods applied to calculate the costs incurred.

As well as this, we issued appropriate instructions to the auditors of subsidiaries of the Group to ensure sufficient, appropriate and consistent auditing activities in order to reasonably address the inherent risk in the audit of these matters.

We were duly satisfied that the executive directors' discretionary judgments and estimates underlying the recognition and measurement of revenues on the basis of the percentage of completion were documented adequately and justified in order to ensure proper recognition of sales revenues in accordance with IFRS 15.

**[3]** The Company's disclosures pertaining to the revenues from constructions contracts for satellites and other development contracts and the effects from applying IFRS 15 for the first time can be found in Note 1 "Revenues", respectively in Note "Changes in accounting policies" subsection "Revenue from contracts with customers (IFRS 15)" of the consolidated financial statements.

**[2]** Recoverability of goodwill and internally generated intangible assets with a definite useful life.

**[1]** In the consolidated financial statements of the company a total amount of EUR 120.3 Mio. (16,0% of consolidated total assets or 60.2% of equity) in goodwill and internally generated assets is reported under the balance sheet line item "Goodwill" and "Other intangible assets".

Goodwill is tested for impairment by the company on an annual basis or if there are indications that goodwill may be impaired and internally generated intangible assets with a definite useful life if there are indications that they may be impaired in order to determine a potential impairment loss.

The impairment test is performed on the level of those groups of cash-generating units, represented by the subsidiaries, to which the respective goodwill or the internally generated intangible assets is allocated.

As part of the impairment test, the carrying amount of the respective cash-generating units including goodwill or the internally generated intangible assets is compared against the corresponding recoverable amount.

In general, the recoverable amount is calculated on the basis of the value in use.

The basis for this calculation is usually the present value of future cash flows of the respective group of cash-generating units.

The present values are calculated using discounted cash flow models. Thereby, the approved medium-term planning of the Group serves as a starting point which is extrapolated on the basis of assumption about long-term growth rates. In doing so, expectations of future market development and assumptions regarding the development of macroeconomic factors are considered. The discount rate used is the weighted average costs of capital for the respective group of cash-generating units. Impairments were not necessary in 2018.

The result of this measurement depends to a large extent on management's assessment of future cash inflows of the respective group of cash-generating units, the discount rate and growth rate applied as well as further management assumptions. Therefore it is

subject to considerable uncertainty. Against this background and due to the complexity of the measurement, this matter was of particular importance during our audit.

**[2]** In the course of our audit, we, among other things, assessed the method used for performing the impairment test. After comparing the future cash inflows used in the calculation with the approved medium-term planning of the Group, we evaluated the appropriateness of the calculation especially through reconciliation with general and industry-specific market expectations. Supplementary adjustments to the medium-term planning for the purpose of the impairment test were assessed and discussed by us with the responsible employees of the company. Furthermore, we also evaluated that the costs for Group functions were considered properly. With the knowledge that even relatively small changes in the discount rate applied can have material effects on the corporate value calculated in this way, we also focused our testing on the parameters used to determine the discount rate applied, and evaluated the measurement model. In order to take into account the forecast uncertainties, we assessed the sensitivity analyses performed by the company.

Taking into consideration the information available, we found that the respective carrying amount of the cash-generating units including goodwill was sufficiently covered by discounted future cash flows.

We consider the measurement parameters and assumptions used by management to be in line with our expectations and to lie also within a range that we consider reasonable.

**[3]** The Company's disclosures pertaining to the impairment test as well as goodwill and internally generated intangible assets are contained in Note 11 "Goodwill and other intangible assets" of the consolidated financial statements.

**OTHER INFORMATION**

The executive directors are responsible for the other information. The other information comprises the following non-audited parts of the group management report:

- the statement on corporate governance pursuant to § 289 et seq. HGB and § 315d HGB included in section VII. of the group management report

The other information comprises further the remaining parts of the annual report – excluding crossreferences to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor's report, and the separate non-financial group report pursuant to § 315b Abs. 3 HGB.

The separate non-financial group report pursuant to § 315b Abs. 3 HGB is expected to be made available to us after the date of the auditor's report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

**Responsibilities of the Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report**

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position,

and financial performance of the Group. In addition the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

#### **Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report**

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and

appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with §317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.

- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.

- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

## OTHER LEGAL AND REGULATORY REQUIREMENTS

### Further information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor by the annual general meeting on May 24, 2018. We were engaged by the supervisory board on December 11, 2018. We have been the group auditor of the OHB SE, Bremen, without interruption since the financial year 2016.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the supervisory board pursuant to Article 11 of the EU Audit Regulation [long-form audit report].

### GERMAN PUBLIC AUDITOR RESPONSIBLE FOR THE ENGAGEMENT

The German Public Auditor responsible for the engagement is Dr. Thomas Ull.

Bremen, March 19, 2018

PricewaterhouseCoopers GmbH  
Wirtschaftsprüfungsgesellschaft

Dr. Thomas Ull	ppa. Holger Schreiber
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)

## RESPONSIBILITY STATEMENT

To the best of our knowledge, and in accordance with the applicable reporting principles for financial reporting, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the management report of the Group includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group.

Bremen, March 19, 2019

The Management Board

# 3 SERVICE

for the Period  
from January 1, 2018  
until December 31, 2018

## GLOSSARY

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## AND IMPRINT

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# GLOSSARY

## [ AMC ]

Amortised costs

## [ ARIANE ]

Series of European launch vehicles for space launch use, developed on behalf of the European Space Agency (ESA). Ariane 5 is currently used, Ariane 6 will be the follow-up from 2020 on

## [ ARTES ]

Advanced Research in Telecommunications Systems; Technology program initiated by ESA to support research and development in the area of telecommunication

## [ ARTES-7 ]

Long-term ESA plan for developing a European communications satellite network using the latest laser communications

## [ ASI ]

Agenzia Spaziale Italiana; Italian space agency

## [ BAAINBW ]

Federal Office of Bundeswehr (German Federal Armed Forces) Equipment, Information Technology and In-Service Support (formerly BWB German Federal Office of Defense Technology and Procurement)

## [ COPERNICUS ]

An Earth observation programme jointly established in 1998 by the European Commission and the European Space Agency (ESA) to provide a powerful infrastructure for Earth observation and geo-information services

## [ COVENANT ]

Undertaking that a borrower makes to the lending bank

## [ DAX ]

German bluechip share index, tracking the performance of the 30 largest shares listed on the Frankfurt stock exchange

## [ DLR ]

Deutsches Zentrum für Luft- und Raumfahrt; German Space Agency

## [ EBIT ]

Earnings before interest and taxes

## [ EBITDA ]

Earnings before interest, taxes, depreciation and amortization

## [ EBT ]

Earnings before taxes

## [ EC ]

European Commission

## [ EDRS ]

European Data Relay Satellite System; European system for implementing a data network in space using optical satellite communications

## [ EDRS-C ]

Dedicated satellite for the European Data Relay Satellite System

**[ ELECTRA ]**

Fully electrically driven satellite based on the SmallGEO platform

**[ enMAP ]**

Environmental Mapping and Analysis Programme; satellite for hyperspectral terrestrial observation

**[ EPS ]**

Earnings Per Share

**[ ESA ]**

European Space Agency

**[ EU ]**

European Union

**[ EUMETSAT ]**

European organisation for the use of meteorological satellites based in Darmstadt, Germany, which operates the Meteosat and MetOp weather satellites. It is an inter-governmental organisation with currently 30 European Member States.

**[ EXOMARS ]**

Scientific mission of the European Space Agency and the Russian space agency ROSCOSMOS to explore the Mars – The aim is to search for former or even current life on the planet.

**[ EXOPLANETS ]**

Planets are objects that are subject to the gravitational pull of a star and thus orbit it. Exoplanets or extrasolar planets are located outside our solar system and are thus not subject to the sun's gravitational pull.

**[ FLAC ]**

Financial liabilities measured at amortised cost

**[ FOC\* ]**

\*) The Full Operational Capability phase of the Galileo programme is managed and fully funded by the European Union. The Commission and ESA have signed a delegation agreement by which ESA acts as design and procurement agent on behalf of the Commission. The views expressed here can in no way be taken to reflect the official opinion of the European Union and/or ESA. "Galileo" is a trademark subject to OHIM application number 002742237 by EU and ESA.

**[ FVOCI ]**

Fair value through Other Comprehensive Income

**[ FVPL ]**

Fair value through profit or loss

**[ GALILEO ]**

European global satellite-based navigation system

**[ GEO ]**

Geostationary orbit; circular orbit 35,786 kilometres (22,236 miles) above the Earth's equator and following the direction of the Earth's rotation

**[ HEINRICH HERTZ ]**

Satellite mission based on the SmallGEO platform to explore new communications technologies in space

**[ HGB ]**

German Commercial Code

**[ HISPASAT 36W-1 ]**

formerly: Hispasat Advanced Generation 1; telecommunication satellite for the Spanish satellite operator Hispasat

**[ IAS ]**

International Accounting Standards

**[ IFRS ]**

International Financial Reporting Standards

**[ ISS ]**

International Space Station; it is a cooperation project of different space nations and serves the exploration of the earth and the space, in addition, the international understanding. The ISS has been permanently inhabited since 2 November 2000

**[ MTG ]**

Meteosat Third Generation; programme to develop, build and launch third-generation weather satellites

ON OCTOBER 4, OHB SYSTEM AG,  
AS PRIME CONTRACTOR, SIGNED THE  
CONTRACT FOR THE PLATO SCIENCE  
MISSION. THE AIM OF THE MISSION IS TO  
DETECT EXOPLANETS IN THE ORBIT OF  
OTHER SOLAR SYSTEMS AND TO  
INVESTIGATE THEIR CHARACTERISTICS.

**[ NASA ]**

National Aeronautics and Space Administration; US space agency

**[ PAYLOAD ]**

The payload is the mass transported on the satellite that is necessary to achieve the actual mission objective

**[ PERCENTAGE  
OF COMPLETION  
METHODE ]**

Accounting method under which revenues are allocated to a specific reporting period on the basis of the progress made on the completion of the contract in question.

**[ R+D ]**

Research and development

**[ ROI ]**

Return on Investment; the profit from an activity for a particular period compared with the amount invested in it

**[ SAR-LUPE ]**

Synthetic Aperture Radar-Lupe; system of small satellites with a process for enhancing the quality of radar images

**[ SENTINEL ]**

Name of the satellites of the Copernicus programme of ESA and the European Commission

**[ SMALLGEO ]**

Developed by OHB System AG as part of the ESA ARTES program (Advanced Research in Telecommunications Systems), SmallGEO is a flexible geostationary satellite platform which can be tailored for different mission goals such as telecommunications, Earth observation and technology testing.

**[ SOYUZ ]**

Series of spacecraft (used for medium heavy payloads) designed for the Soviet space programme, since 2011 the rocket has also been launched from the Europe's Spaceport in Kourou

**[ TECDEX ]**

German stock index, that tracks the performance of the 30 largest German companies from the technology sector in terms of order book turnover and market capitalization

**[ TELEMATIK ]**

A system linking telecommunications and IT

**[ USD ]**

US-Dollar

**[ VEGA ]**

European four-stage launch vehicle for small satellites, developed on behalf of the European Space Agency ESA since 1998; it successfully completed its maiden flight in 2012. It is the smallest European launcher and will launch 1.5 tonnes into circular polar orbit

# 2019

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→ March 20, 2019, Bremen

ANNUAL PRESS CONFERENCE  
AND PUBLICATION OF  
ANNUAL REPORT FOR 2018

→ March 20, 2019, Frankfurt am Main

ANALYST CONFERENCE ON THE  
ANNUAL FINANCIAL STATEMENTS FOR 2018

→ May 9, 2019

3-MONTH REPORT /  
CONFERENCE CALL WITH ANALYSTS

→ May 24, 2019, Bremen

ANNUAL GENERAL MEETING

→ August 13, 2019

6-MONTH REPORT /  
CONFERENCE CALL WITH ANALYSTS

→ November 12, 2019

9-MONTH REPORT /  
CONFERENCE CALL WITH ANALYSTS

→ November 25–27, Frankfurt am Main

ANALYST PRESENTATION  
GERMAN EQUITY FORUM

## IMPRINT

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