IVU TRAFFIC TECHNOLOGIES

# ANNUAL REPORT **2018**

# KEY FIGURES
## Overview

### **CONSOLIDATED FINANCIAL STATEMENTS** IN ACCORDANCE WITH IFRS

| (€ MILLION) | 2014 | 2015 | 2016 | 2017 | 2018 | CHANGE 2018 TO 2017 |
|---|---|---|---|---|---|---|
| Revenues | 47.2 | 58.1 | 59.8 | 71.1 | 77.8 | + 6.7 |
| Gross profit | 37.1 | 40.1 | 42.8 | 47.7 | 52.1 | + 4.4 |
| Personnel expenses | 23.9 | 25.2 | 28.6 | 31.2 | 33.9 | + 2.7 |
| EBIT | 4.3 | 4.9 | 1.4 | 6.1 | 6.7 | + 0.6 |
| Consolidated net profit | 4.4 | 3.6 | -0.2 | 5.0 | 6.2 | + 1.2 |
| Cash flow from operating activities | 5.3 | -5.0 | 2.6 | 3.8 | 12.3 | + 8.5 |
| Free Cashflow | 4.0 | -6.3 | 1.1 | 2.9 | 9.8 | + 6.9 |

### KEY FIGURES

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Equity ratio (Equity/total assets) | 56% | 63% | 66% | 64% | 61% |
| EBIT/Gross profit | 11.7% | 12.1% | 3.3% | 12.9% | 12.9% |
| Full-time equivalents as annual average | 332 | 353 | 393 | 419 | 458 |
| Gross profit per FTE (in € thousand) | 112 | 114 | 109 | 114 | 114 |

# LETTER TO THE SHAREHOLDERS

**Dear shareholders,**
**Dear friends of IVU,**

IVU remains on course for success. Revenue for fiscal year 2018 increased by 9% to €77.8 million. Gross profits, which reflect the value added within IVU, continued their positive development. At €52.1 million, it is 9% above the previous year. EBIT also increased sharply to €6.7 million, setting a new record result in the process. We also want you to share in this success and will be proposing an increased dividend of €0.12 at the Annual General Meeting.

One topic in particular that the industry has focused on over the past year is electric mobility. Numerous transport companies in Germany and Europe are currently drawing up plans to introduce electric buses. Having prepared our solutions well in advance, we are perfectly positioned to take advantage of this trend. We are now taking the next step: The strategic partnership with Daimler Buses enables us now to expand our global position in this market of the future and to offer jointly integrated mobility solutions for the public transport of tomorrow.

We are also strongly positioned in the rail sector with IVU.rail. This pays off: DB Long Distance represents yet another major national railway company that has decided to use our solution. As a result, we are further expanding our leading market position and establishing ourselves as the vendor of choice when it comes to resource planning for railways.

Accordingly, we will also be investing heavily in our personnel in future. Despite the challenging situation on the labour market, we continue to attract the calibre of specialists we need. It is not least our exciting mobility and smart city concepts, which embrace climate protection and sustainability and are held in high regard, that argue in our favour. In addition, engineers relish the highly complex assignments that we can offer them.

Matthias Rust, CTO    Martin Müller-Elschner, CEO    Leon Struijk, CCO

This year, we are publishing a CSR report for the first time. In it, we have compiled all our measures for sustainable corporate governance in order to show how we take responsibility – over and above our products – for society and the environment.

And the IVU share also performed well. We see this as confirmation of our strategy and as a mandate to continue our prudent and measured development of IVU in future.

We are confident that IVU will continue to earn your loyalty in 2019.

Yours sincerely,

**THE EXECUTIVE BOARD**
Berlin, March 2019

# REPORT OF THE SUPERVISORY BOARD

**Dear Shareholders,**

With this annual report for 2018, my colleagues and I take great pleasure in announcing yet another outstanding year-end result for IVU Traffic Technologies AG. As the Supervisory Board, our function is to oversee the current and future development of the company and to safeguard it over the long term.

To fulfil all tasks correctly, we continuously monitored and advised the Executive Board in 2018 in line with legislation, the company statutes and the German Corporate Governance Code. We informed ourselves in detail about the economic and financial performance, key business events and the strategy and planning of IVU. The Executive Board notified the Supervisory Board promptly and on a regular basis. All important facts required for pending decisions were made available to us in good time.

In its advisory capacity during the past year, the Supervisory Board dealt in particular with the continued growth of IVU and the organisational adaptations. The focus of our attention was on the profitable core business in the domestic markets, identifying further potential in this sector as well as planning strategic cooperation and partnerships. In addition, we were involved in searching for suitable candidates for the Supervisory Board at the beginning of the year. We are delighted to have found in Ms Ute Witt a candidate of outstanding ability who has been actively supporting our work since July. Welcome!

The Chairman of the Supervisory Board maintained regular contact with the Executive Board above and beyond the meetings. He passed on major findings and information from these discussions to the Supervisory Board members in order to keep them equally informed and give them the opportunity to offer their advice.

## Activities

The Supervisory Board meets regularly in order to discuss the matters described above and take decisions. In 2018, four scheduled meetings were held at which the Executive Board informed the Supervisory Board in detail of the economic situation and development of IVU: The dates in question were 21 March, 29 May, 29 August and 21 November 2018. In addition to these meetings, we held a strategy meeting with the Executive Board on 30 August. All Supervisory Board members attended every meeting. Furthermore, in the context of the meetings and resolutions, a series of preparatory and follow-up discussions took place between the members of the Supervisory Board in order to share information and prepare for decisions.

As it only has three members, the Supervisory Board did not form any committees. We reached joint decisions on all transactions requiring approval.

## Focal Points of Discussions

Discussions focused on the economic situation of the company, its prospects and its future orientation in the international competitive environment. In this context, the Supervisory Board dealt in detail with the Executive Board's strategy to expand the core business in public transport in the domestic markets. We share the Executive Board's view that this will leverage additional potential both with regard to the market position and economic profitability of IVU and with reference to the products and technical capacities within the company.

Other key topics at the meetings were:

- Assessing and approving planning for fiscal year 2018
- Approving the consolidated financial statements
- Adopting the separate financial statements
- Liquidity planning
- Discussing the quarterly financial statements
- Personnel
- Risk management
- Efficiency audit by the Supervisory Board
- Major projects and their economic impacts on the company
- Preparations for the Annual General Meeting
- Cooperation and partnerships

Ulrike Meyer-Johanssen Prof. Dr. Herbert Sonntag Ute Witt

## Corporate Governance

Responsible management and sustainable value creation are hugely important to IVU Traffic Technologies AG. Therefore, in 2018, the Supervisory Board and Executive Board again discussed the recommendations and suggestions of the German Corporate Governance Code and issued the declaration of conformity pursuant to Section 161 of the German Stock Corporation Act (AktG) and published it on IVU's website (www.ivu.de) together with the corporate governance declaration. With just a few exceptions, IVU meets the code's recommendations. Detailed reasons for the deviations are provided. They concern the information and reporting obligations of the Executive Board, the deductible in the case of D&O insurance for the Supervisory Board, the compliance management system and whistle-blower system, the reporting of Executive Board remuneration, the age limit for members of the Executive Board and Supervisory Board, diversity, the formation of committees and the composition and remuneration of the Supervisory Board.

## Annual and Consolidated Financial Statements

At our balance sheet meeting on 28 March 2019, we considered in detail the financial statements of IVU Traffic Technologies AG, the consolidated financial statements of 31 December 2018 as well as the respective management reports. The auditors, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, were available during the meeting to answer questions. After detailed examination and discussion, we approved both the consolidated financial statements and the separate financial statement of the AG.

For the Supervisory Board
Prof Herbert Sonntag
Chairman of the Supervisory Board
Berlin, 28 March 2019

# INTERVIEW WITH THE EXECUTIVE BOARD

**One record follows the next: In fiscal year 2018, revenue, gross profits and EBIT have once again scaled new heights. How have you achieved this?**

MARTIN MÜLLER-ELSCHNER: The year did indeed exceed our expectations. The primary reason for this extremely positive development is our strong position in our core markets of Western Europe. Our decision to concentrate on our domestic regions paid off more quickly and in a more sustained manner than expected.

**In hindsight, your forecast at the beginning of 2018 was very conservative. What is the reason for this?**

MARTIN MÜLLER-ELSCHNER: The forecasts that we publish are based on our internal planning. I should clarify this by pointing out that not all the information is yet available to us at the start of the year. The order backlog, maintenance contracts and long-term projects only represent a part of the reality. For example, we use the percentage-of-completion method to calculate revenue. Extrapolating this over the year means that we must incorporate certain project risks that accordingly have an impact on the outlook.

LEON STRUIJK: If these risks do not occur, then of course the results improve. In addition, we may be in

a position to complete other orders because personnel capacities are freed up. Items such as licence orders based on framework agreements may also require us to adjust the forecast as the year progresses.

**Given the outstanding results, can investors also expect to receive a dividend in future?**

MARTIN MÜLLER-ELSCHNER: We remain committed to ensuring that our shareholders participate appropriately in the success of IVU, provided that no strategic considerations or balance sheet issues stand in the way. In particular, we feel that our long-term shareholders should be rewarded for their loyalty and commitment. Therefore, we are delighted to be able to pay a higher dividend this year.

**You impressed in 2018 with many positive order announcements. What were the issues that particularly inspired you?**

LEON STRUIJK: One of the most exciting projects last year was undoubtedly the order from Istanbul, where we are optimising the schedules and duties for several thousand buses and drivers. This is an important reference for our IVU.suite worldwide. We are also delighted about follow-up orders from long-standing customers such as Qbuzz or Torghatten because they emphasize the good work we do. The new project with NETINERA is a major success for IVU.rail. As a result, all major regional railways in Germany now rely on our system; this represents a combined market share in excess of 80%.

**Electric mobility is another widely discussed topic. Only last month, you announced a partnership with Daimler Buses in this field.**

MATTHIAS RUST: Electric mobility is absolutely a market of the future. It involves much more than the drive system though. The effort required for planning and deploying electric buses efficiently is much greater – which is precisely what makes it so interesting to us. Together with Daimler Buses, we can now offer transport companies a fully integrated solution. At the same time, we profit in technological terms from the cooperation and are opening up new international markets for our business.

**Is there anything to report from the Logistics segment?**

MATTHIAS RUST: Our logistics solutions have accounted for an ever-decreasing share of our revenue. As part of the concentration on our core markets, we have therefore also reviewed and realigned our activities in this area over the past year. Except for IVU.elect, which remains highly profitable, we have integrated the logistics products into our public transport solutions. In doing so, we are creating synergies within IVU and gaining additional development capacities for our key products IVU.suite and IVU.rail.

**Which strategy do you intend using to continue your growth trajectory?**

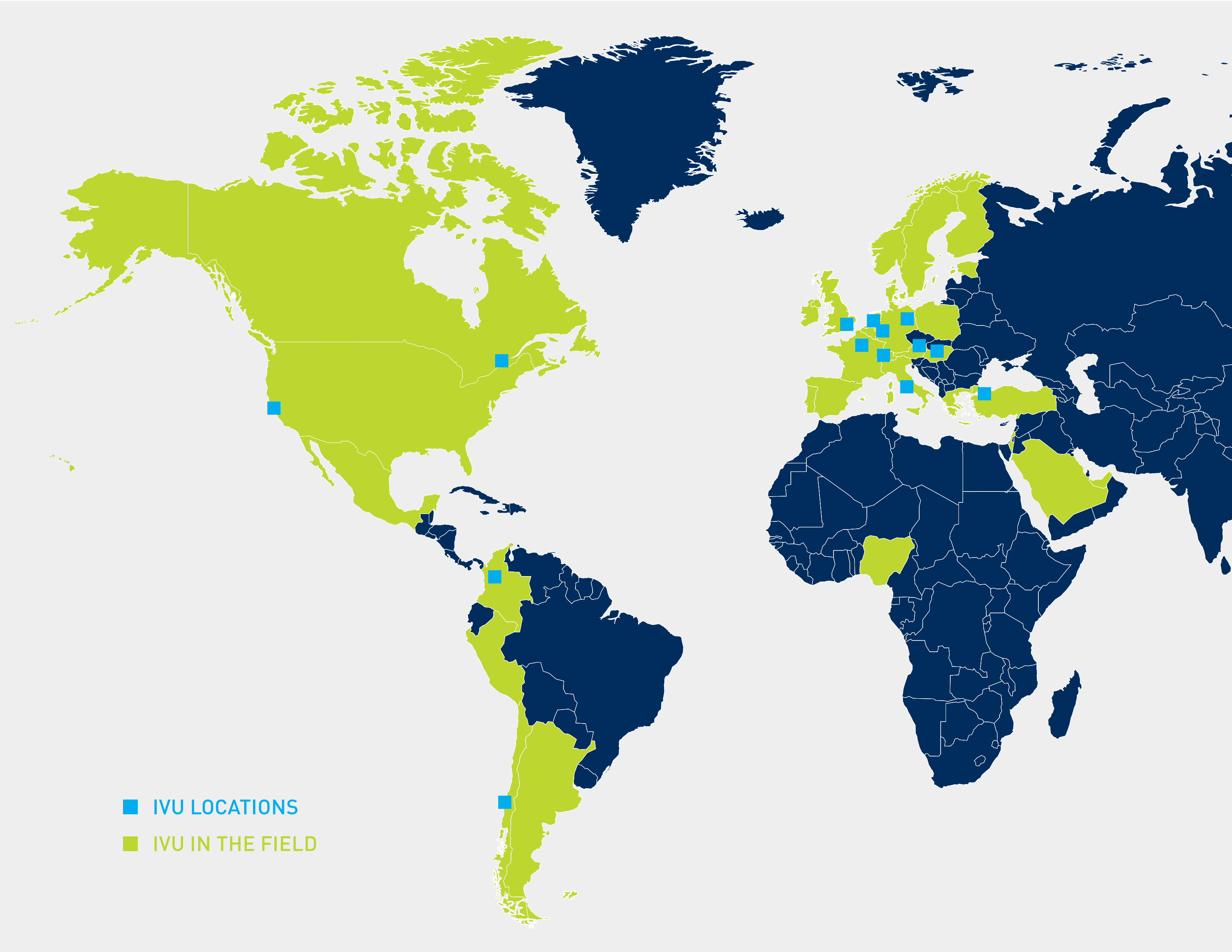
LEON STRUIJK: We are targeting a mixture of strategically important orders in the railway sector and the business with public transport companies in our domestic markets with the aim of opening up new opportunities, particularly in adjacent regions. Against this background, we are particularly proud of the order from DB Long Distance that we recently won. This reference establishes us as a leading provider of resource planning systems in the rail sector and will enable us to further expand our international position. In addition to the project business, we are working to increase the proportion of recurring revenue through measures that include convincing additional customers of the benefits of our IVU.cloud.

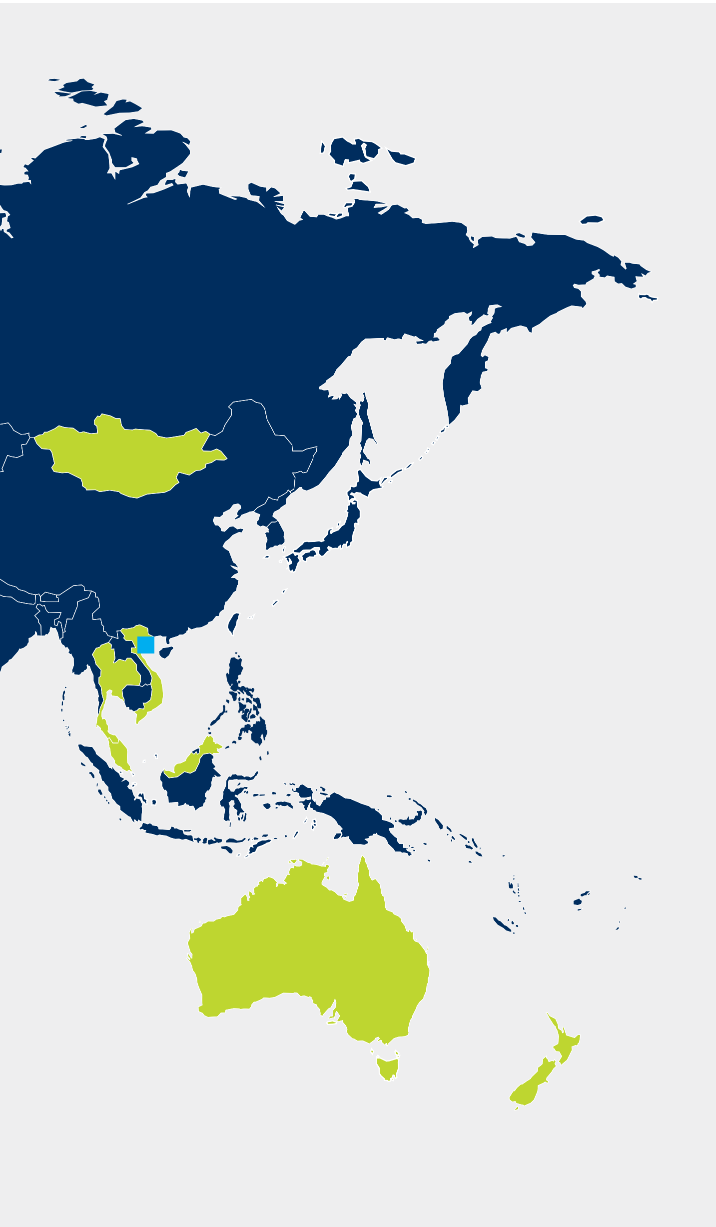
**The high level of cash holdings would also enable acquisitions. Is that an option?**

MARTIN MÜLLER-ELSCHNER: We monitor the market closely and are open to all opportunities. Offers present themselves on a regular basis and we review these in detail. However, a takeover must be the right fit for us and make strategic sense, for instance, by enabling us to enter a new market. Even viewed from a purely organic growth perspective, we are very well positioned for the years ahead.

# IVU WORLDWIDE

**BERLIN** (HEADQUARTER), **AACHEN** (DE), **VEENENDAAL** (NL), **ROM** (IT), **BIRMINGHAM** (GB), **OLTEN** (CH), **WIEN** (AT), **PARIS** (FR), **BUDAPEST** (HU), **MONTRÉAL** (CA), **SAN FRANCISCO** (US), **BOGOTÁ** (CO), **SANTIAGO** (CL), **HANOI** (VN), **ISTANBUL** (TR)





## Selected references 2018

GERMANY
With NETINERA, yet another major German local transport group has chosen IVU.rail. IVU customers now handle more than 80 percent of Germany's regional rail traffic.

TURKEY
More than 15 million inhabitants on two continents: Istanbul is one of the most vibrant of the world's major cities. The transport company IETT will optimise vehicles and drivers in future with IVU.suite.

NORWAY
Be it by bus, ferry or aeroplane: Torghatten gets its customers to their destination. The transport group plans the schedules and duty rosters for its three bus companies in the IVU.cloud.

SWITZERLAND
IVU implemented a real-time integrated data system with on-board computers and background system for Busland. The company now uses the system to inform its customers of current departures on displays, online and via app.

NIGERIA
Lagos is one of the fastest-growing major cities worldwide and has in excess of 21 million inhabitants. Supported by our local partner, IVU.suite ensures reliable transport services in Africa's first Bus Rapid Transit (BRT) system.

# HIGHLIGHTS 2018

# Domestic markets

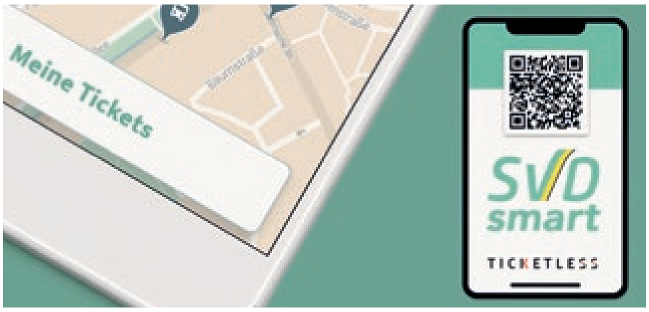
## Berlin. NETINERA chooses IVU.rail

NETINERA, a company of the Italian national railway FS, will plan and dispatch vehicles and employees of its rail companies using IVU.rail in the future. In December, a contract in this regard has been signed by representatives of IVU and NETINERA in Berlin. As one of the largest private public-transport companies in Germany, NETINERA operates numerous regional railways, which together account for a market share of around 5% of German regional rail passenger transport. IVU.rail provides powerful optimisation components for this, ensuring that all resources are used efficiently. In addition, extensive automation and proposal functions make planners' work easier. A flexible rule system also takes account of complex operational and collective wage requirements in the respective subsidiaries. In addition, a mobile employee portal incorporates staff directly in dispatch.

With 358 trains and more than 4,600 employees, the NETINERA Group covers 52 million train kilometres per year. Switching to IVU.rail will facilitate the planning and dispatch of vehicles and employees in the future.

**IVU.rail IS THE LEADING PLANNING SOLUTION FOR RAILWAYS IN GERMANY**:

IVU customers together account for more than 80 percent of local public rail transport in Germany.


## WHETHER IT'S FOR PASSENGER INFORMATION OR FLEET MANAGEMENT:

a continuous flow of digital data is becoming increasingly important. The solutions offered by IVU create a standardised pool of data from the bus through to the app.

## Frankfurt. RMV standardises its IT landscape

A standardised data flow producing harmonised passenger information in a transport association with over 160 transport operators: In order to make this a reality, Rhein-Main-Verkehrsverbund Servicegesellschaft (rms) has now taken a central client system developed by IVU into operation. This is creating the basis for the harmonisation of the IT landscape in the network of Rhein-Main-Verkehrsverbund (RMV). For passengers, this means improvements such as faster, more reliable real-time information, which most importantly covers a wider area. The standard products of IVU.suite are being implemented. As well as providing the system, IVU is also responsible for running it, including hosting and second-level support.

## Chemnitz. VMS orders network-wide solution

With a new fleet management and ticketing system from IVU, the Mittelsachsen public transport association VMS will improve its service for its passengers in the future, providing better information more efficiently and more punctually. In the next few months, IVU will be supplying the IVU.fleet, the multi-client intermodal control system (ITCS), which will be installed within VMS. In future, all transport companies in the VMS network will work with the same technical equipment to monitor the trips of their vehicles and to intervene if necessary. To achieve this, IVU will equip the approximately 1,000 buses and 100 trams that operate within VMS with the on-board computer IVU.ticket.box and the corresponding software components for driver information.

## Detmold. Mobile ticketing for Stadtverkehr

Smartphone instead of change: Stadtverkehr Detmold passengers can now use their mobile device to buy tickets and validate trips. This new service is based on the IVU.ticket.app from IVU and London-based tech start-up UrbanThings. The SVDsmart app allows the roughly 5.5 million passengers Stadtverkehr Detmold is conveying annually to buy a ticket directly on their smartphone. When boarding, they simply hold the digital QR code in front of the reading device to validate their ticket. Customers just need to register once before making their first purchase. The company can then easily manage the accounts and invoices in the fare management system IVU.fare. Everything else is done on the users' devices. This minimises maintenance and costs.

## Bern. Standard solution for real-time data for Busland

On electronic displays, online and via app: From now on, passengers of Busland AG will have access to the latest departure time information at any time and from anywhere. Within just ten months, IVU has supplied a complete system for fleet management and passenger information. The company has been planning and dispatching its vehicles and driving personnel using the IVU.suite since as far back as 2014. To further improve fleet management and passenger information, IVU has now implemented a complete real-time data system consisting of IVU.box.touch on-board computers with IVU.cockpit and background system IVU.fleet.

# International markets

## Brønnøysund. Standardised planning and dispatch

As one of Norway's largest transport operators, Torghatten ASA operates several bus and ferry services and regional airlines in the country. The subsidiary Norgesbuss has been planning and dispatching around 700 buses and 1,000 employees using the IVU.suite since as far back as 2001. Torghatten has now also commissioned the migration of the other three bus companies with around 640 buses and 780 drivers to the standard IVU software. With integrated optimisation, Torghatten will be able to calculate resource-saving run schedules and fair duty schedules in the future. As part of the IVU.cloud, IVU will take care of the hosting and the overall technical operation of the software. The standardised introduction process IVU.xpress also ensures a rapid start of operation of the planning and dispatch products of the IVU.suite.

**BY BUS, FERRY OR AEROPLANE:**

Torghatten gets its customers to their destination. The IVU.suite guarantees efficiency. The transport group optimises schedules and duty rosters for buses and personnel in the IVU.cloud.

From the Middle East to Africa, from the mountains of Switzerland to the plains of Holland, from cities that are home to millions to rural regional transport:

**IVU SYSTEMS ARE THE IDEAL CHOICE FOR EVERY ENVIRONMENT. THIS IS WHAT MAKES THEM SO SUCCESSFUL AROUND THE WORLD.**

## Istanbul. IETT opts for the IVU.suite

One of the liveliest major cities in the world will be using the IVU.suite soon. The Istanbul transport company IETT ordered our standard solution for public transport in order to plan run schedules and duties of vehicles and drivers. The leading optimisation tools of the IVU.suite are part of the package, ensuring maximum efficiency. One of the largest bus operators in the world, IETT provides reliable public transport services in this city of 15 million inhabitants on the border between Europe and Asia. IETT's extensive transport network also includes the Istanbul BRT system Metrobüs, which carries around a million passengers a day between the two continents on its seven routes. All of them will be assigned effectively with the IVU.suite in future.

## Lagos. IVU technology for Nigeria

With a population of around 21 million, Lagos is the largest city in Africa and one of the fastest growing cities on the planet. In 2009, the continent's first BRT entered service here as a system for channelling the dense and chaotic traffic into well-ordered lanes. Since then, buses have been conveying around 180,000 passengers daily to the city's key transport hubs using 22 kilometres of traffic lanes that are largely separate from the main road traffic. However, frequent congestion at the stops kept resulting in irregular operations and long waiting times for passengers. The products that come with IVU.suite are designed to ensure that everything runs more smoothly. The World Bank provided stable and dependable financing of the project.

## Netherlands. Passenger information for Stadler

Latest technology for Stadler: Based on the latest most advanced standard for passenger information, IVU will equip 69 Stadler trains with new on-board technology in the next few years. Stadler will renew 51 Stadler GTW vehicles and supply 18 new WINK multiple units for a customer in the Netherlands. All vehicles are to be equipped with a modern passenger information system. IVU is supplying the on-board software and is integrating the entire third-party hardware for this. The basis for the passenger information on the trains is the future ITxPT standard for a standardised IT architecture on board public transport vehicles.

## Amersfoort. New concession for Qbuzz

Ever since it was founded in 2008, Qbuzz has placed its trust in IVU's integrated systems. Back then, the we implemented the IVU.suite for the emerging transport company in record time and thus ensured that everything ran efficiently and seamlessly right from the word go. Qbuzz is also using the tried-and-tested standard solution for its new concession covering Drechtsteden, Molenlanden and Gorinchem (DMG). To ensure this, the IVU engineers equipped all 156 Qbuzz vehicles with on-board computers within just a few weeks. IVU.fleet provides a clear overview of the current traffic situation and the locations of all vehicles in the Qbuzz control centre and forwards all data to IVU.control for statistical evaluation. Qbuzz will be managing the concession for the next eight years with the option of two contract extensions.

# Events

## IT-Trans. Mobile Ticketing

E-mobility is booming – and changing operations at transport operators. At IT-Trans in Karlsruhe, IVU was showcasing its solutions for using electric buses efficiently and integrating them seamlessly into day-to-day operations. Other products on display for the first time were the new IVU.ticket.app for buying tickets via smartphone. The streamlined IVU.ticket.app comes complete with a connection search tool and generates VDV-KA-compliant barcode tickets for bus and rail travel. Users can easily log in via their existing Facebook or Google accounts and store their payment method directly in the app.

## IVU User Forum. Ready for e-mobility

E-mobility also dominated the 30th IVU User Forum hosted. Participants from all over the world were interested in IVU's latest solutions for efficient deployment of e-buses. Transport expert Prof. Adolf Müller-Hellmann opened the user forum with a passionate keynote in favour of electric mobility. In the subsequent presentations, representatives of transport operators and vehicle manufacturers reported on the challenges and solutions of the "electric bus system" and their experience of day-to-day operation.

**INNOTRANS.** Numerous meetings with representatives of national and international railway and transport companies also made the world's leading trade fair for transport technology the most important date for IVU in 2018.

# Innovations

## Control centre for depots

The introduction of electric mobility and the creation of heterogeneous fleets is ushering in fundamental changes to the administration and control of processes in the depot. Existing processes are mostly designed with diesel vehicles in mind and do not cater for the requirements of electric buses and their long charging times. It is therefore important for transport companies to make the workflows at the depot transparent and clear to ensure that all vehicles can be deployed as efficiently and profitably as possible. They need a control centre for the depot.

To this end, IVU.suite now links depot management with vehicle working dispatch. The dispatch managers can use it to assign parking spaces directly and schedule charging times for electric buses. At the same time, they can see at once if a vehicle is blocked due to a scheduled or unscheduled workshop visit and is therefore unavailable for schedules.

## Track management for railways

Railway transport requires long-term planning of all operating resources: track routes must be ordered from the infrastructure operator and the availability of vehicles and personnel checked in advance. At the same time, volatile conditions such as short-term track route changes present challenges to planners and dispatch managers.

To make it easier for railway companies to deal with track routes, IVU for the first time integrated comprehensive track management into the planning environment. In the future, IVU.rail will help overcome this highly complex task by enabling planners to view the infrastructure operator's currently planned and published timetable in IVU.rail and to incorporate it into their operational timetable and schedule planning.

## Predictive maintenance

An unexpected vehicle breakdown is not only frustrating, but extremely expensive for transport and especially railway companies. A suitable replacement vehicle and driver must be available at short notice to pick up the stranded passengers and complete the scheduled journeys. The defective vehicle must be sent to the workshop, where special capacities must be made available to ready the bus or train for deployment again quickly. Ultimately, the public transport authority may impose severe contractual penalties if the company is unable to perform the contracted services. Transport and railway companies therefore have a keen interest in avoiding cancellations of these kinds.

To enable companies to schedule maintenance as it becomes necessary, IVU has started to we have now also integrated predictive maintenance into its solutions over the past year. This helps identify the threat of damage in good time and takes this into account during planning and dispatch. IVU.rail and IVU.suite evaluate vehicle data, issue warnings if critical values are reached and automatically determine the ideal maintenance window. The seamless integration of workshop systems also allows the system to reserve the necessary capacities immediately.


**ELECTRIC MOBILITY** is changing public transport. **NEW INTELLIGENCE** is required to continue deploying vehicles and personnel efficiently. IVU supplies **INNOVATIVE SOLUTIONS** to do this.

# Personnel

Complex systems need smart thinkers. IVU's employees develop ideas, write software, implement projects, advise customers and provide support. Their expertise is a key factor in our success.

The past year also saw us continue our intensive recruitment program to attract suitable software and project engineers to support the further growth of IVU. To achieve this, we have also recently expanded our workforce in this area. This is paying off: With a total of 570 colleagues (equivalent to a personnel capacity of 458 FTE), we now operate a strong team that is equipped to master all tasks. To ensure that we can continue to handle large projects and develop innovative solutions in future, we will also be investing further in new staff.

We also support the further development of our employees internally. In a special management trainee program, we prepare promising candidates to take on management responsibility. In doing so, we are offering them excellent prospects while also helping to retain valuable knowledge in the company. With great success: The level of staff turnover at IVU in 2018 was just 8 percent.

IVU colleagues at work: Iris Bohorquez, Ursula Fischer, Felix Neumann, Andreas Hermanns, Ann Marie Stapelbroek (from left to right)

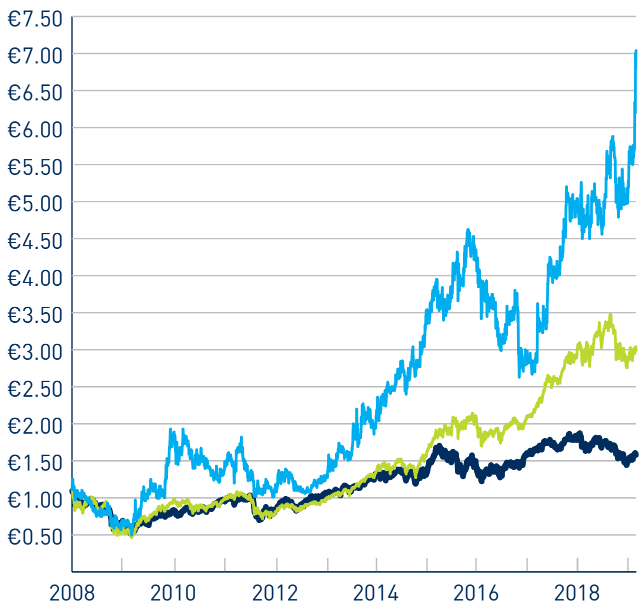
IVU employees are always expanding their knowledge. From brief workshops to training courses and all the way to attending the Developer School for several days – **IVU ENCOURAGES FURTHER TRAINING AND THE TRANSFER OF KNOWLEDGE. THIS PROVIDES MOTIVATION AND NEW PERSPECTIVES.**

# Key figures

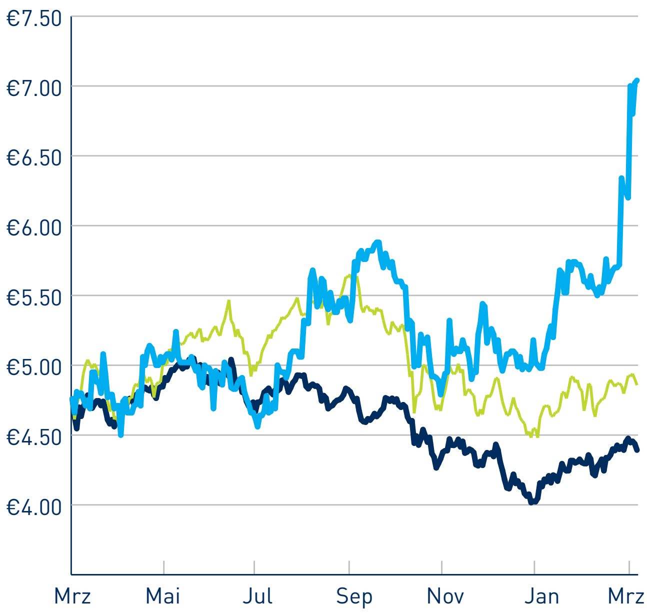
## IVU SHARE IN COMPARISON

IVU AG TecDAX DAX

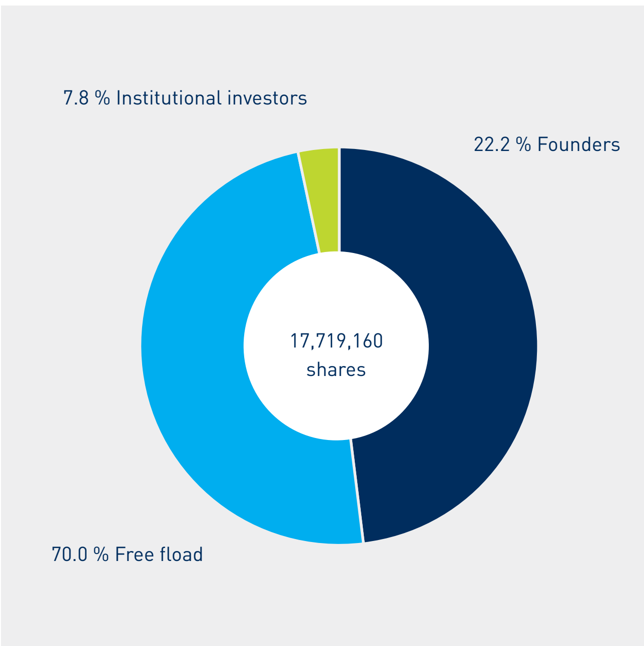
JAN 2008 – FEB 2019




MAR 2018 – FEB 2019



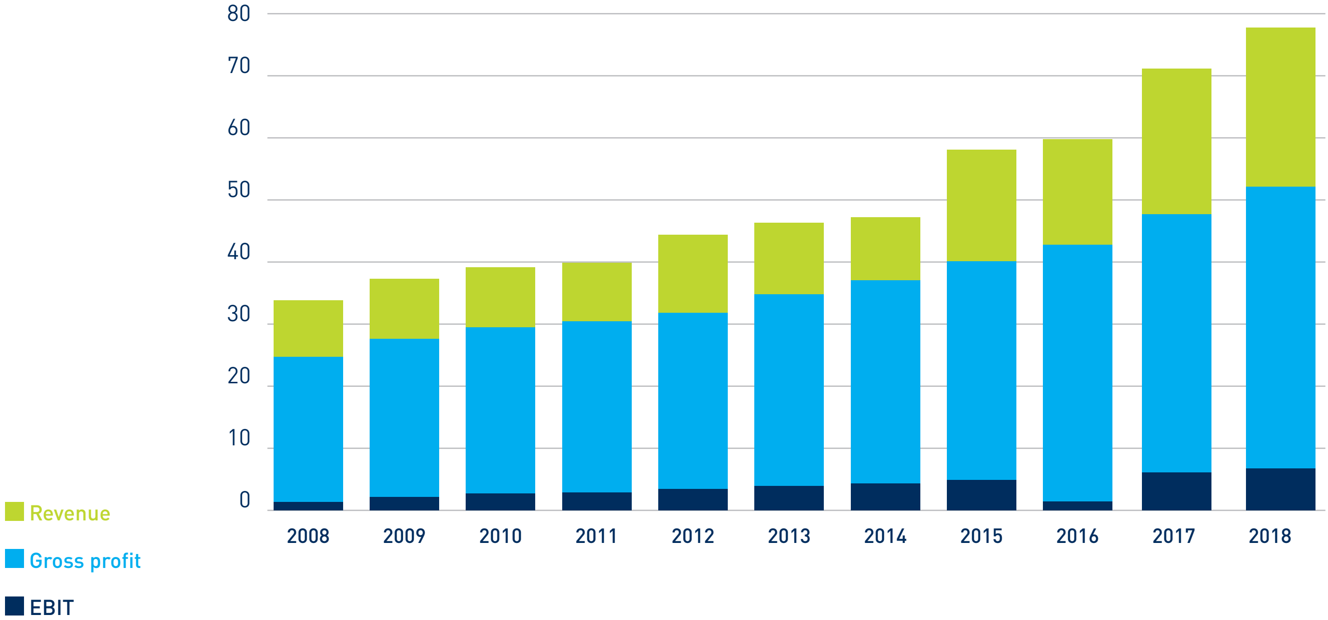

## SHAREHOLDER STRUCTURE AS AT 31 DEC 2018



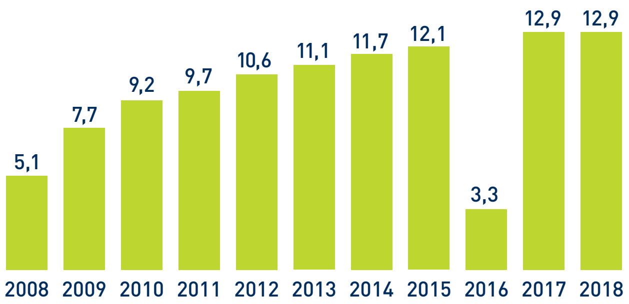

## SHARES HELD BY BOARD MEMBERS AS AT 31 DEC 2018

| EXECUTIVE BOARD | SHARES |
|---|---|
| Martin Müller-Elschner | 225,000 |
| Matthias Rust | 6,800 |
| Leon Struijk | 10,000 |
| Total, Executive Board | 241.800 |
| **SUPERVISORY BOARD** | |
| Prof Herbert Sonntag | 866,000 |
| Ute Witt | 1,000 |
| Total, Supervisory Board | 867,000 |
| **Total, Board Members** | **1,108,800** |

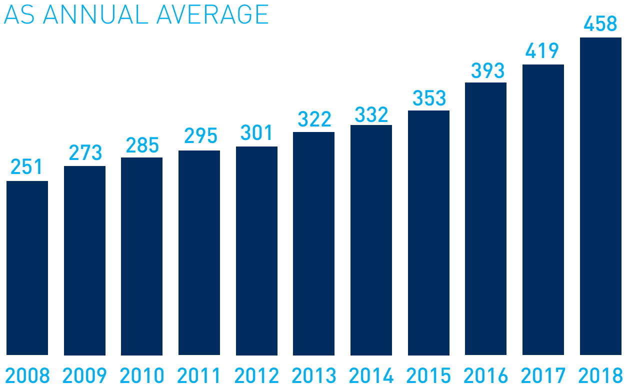
## **KEY FIGURES** 2008-2018
## IN € MILLION



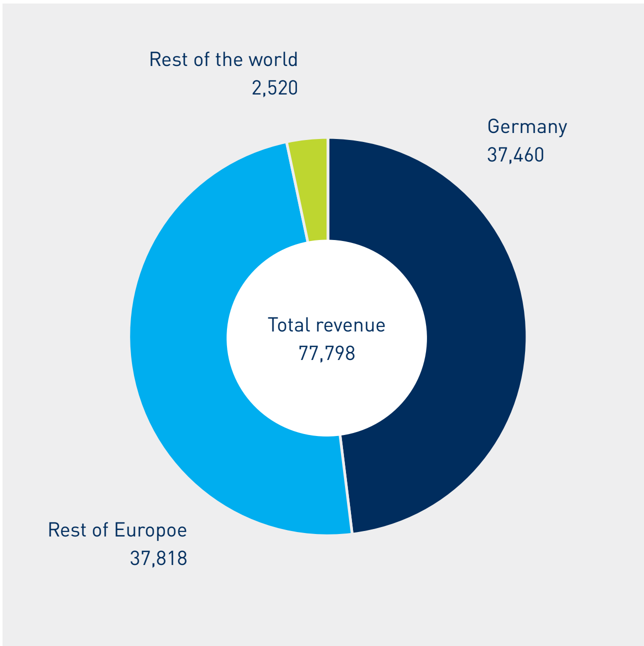

## **EFFICIENCY** 2008-2018
## EBIT/GROSS PROFIT IN %




## **FULL TIME EQUIVALENTS** 2008-2018
## AS ANNUAL AVERAGE




## **REVENUE** 2018
## IN € THOUSAND



# CONSOLIDATED REPORT


THE METLIFE BUILDING
45TH STREET

# Introduction

## GROUP FUNDAMENTALS

IVU develops integrated IT solutions for the segments "Public Transport" and "Logistics":

**Public Transport**

The integrated standard products IVU.suite and IVU.rail cover the whole spectrum of planning, operation and quality assurance for public transport companies. IVU's software and hardware systems create timetables, plan and optimise the deployment of trains and buses, dispatch drivers and vehicles, control and monitor the operation of vehicle fleets, sell tickets, cash up takings and prepare statistics. Consequently, they increase the efficiency and the quality of public transport.

**Logistics**

The logistics products IVU.locate and IVU.workforce optimise the operational processes in information and transport logistics, while the election software IVU.elect supports the preparation and correct execution of political elections.

IVU serves customers worldwide from its locations in Berlin (headquarters), Aachen (Germany), Olten (Switzerland), Vienna (Austria), Veenendaal (Netherlands), Paris (France), Rome (Italy), Birmingham (Great Britain), Budapest (Hungary), Montréal (Canada), San Francisco (US), Santiago (Chile) and Hanoi (Vietnam). The core markets of IVU are Germany, Italy and Switzerland as well as the rest of Europe and railway companies worldwide.

## IVU AND THE MARKET

IVU operates still in a dynamic, fast-growing market environment dominated by the three megatrends of urbanisation, mobility and digitalisation. There is strong demand all over the world for solutions providing efficient, reliable public transport in order to overcome rising traffic volumes. Digitalisation enables transport operators and local authorities to meet this high demand and improve their services.

Building on more than 40 years of experience, digital solutions by IVU help transport companies to standardise their entire operational workflows and provide forward-looking services for the transport of tomorrow. From planning and deployment of resources, operational control, passenger information or performance assessment – IVU products create a consistent digital workflow.

The integrated approach of IVU systems is a particular advantage. In the context of digitalisation, it opens up opportunities to link up departments, use data extensively and optimise and accelerate workflows on a long-term basis. This also enabled IVU to acquire many new customers in the past year.

### A leader in the European rail transport market

Developed specifically for railways, the software solution IVU.rail remains the leading integrated system on the European market for planning and dispatching of vehicles and personnel. The IVU solution is a world leader in the field of highly complex schedule planning in particular. The planning conditions for trains present software with significant challenges: Trains always move on a track, run on sections with varying numbers of coaches and are often in operation for days at a time. Sophisticated mathematical algorithms in the IVU products enable these highly complex problems to be calculated and solved within a very short time. In this way, IVU.rail automatically optimises the challenging schedules of trains, thus helping to conserve valuable resources.

For instance, NETINARA, the German subsidiary of Italian State Railways FS, opted for IVU's integrated standard system last year. As one of the largest privately owned local transport groups in Germany, the company operates numerous regional railways, which together account for a market share of around five percent of German local public rail transport. With 358 trains and more than 4,600 employees, the NETINERA group operates 52 million train-kilometres annually. The switch to IVU.rail aims to streamline the planning and dispatch of vehicles and employees in future. Even smaller transport companies, such as the newly established Start Regionalverkehre GmbH, Frankfurt/Main, have opted for the IVU solution. This makes IVU.rail the leading resource planning system for railway transport in Germany: IVU customers together account for more than 80 percent of local public rail transport in Germany.

## Growth opportunities in the domestic market

IVU has traditionally enjoyed great success in Europe, particularly in the German-speaking region. The company benefits from a high level of recognition and strong networks here. Following the foundation of the two subsidiaries in Austria and Switzerland in fiscal year 2017, where numerous transport companies already relied on IVU products, IVU continued its focus on growing its business activities last year in the expanded domestic markets of Germany, Austria, Switzerland and the Benelux countries. The location in Switzerland in particular has grown significantly over the past year and made an important contribution to the positive development of the annual revenues.

Important sales successes over the past year included orders from the transport associations of Vorarlberg and Mittelsachsen as well as the Rhein-Main-Verkehrsverbund. We also successfully expanded our business with existing customers. For instance, Swiss company Busland AG extended its existing IVU planning environment by including a solution for fleet management and passenger information. After the excellent experience of its subsidiary and long-standing IVU customer Norgesbuss, Norwegian transport group Torghatten ordered the IVU planning system for the entire group.

Outside Europe, the primary focus was on the major metropolitan areas. With Istanbul's transport company IETT, we acquired an important reference customer for IVU.suite. As one of the world's largest bus companies, the company provides reliable local transport in this city of 15 million inhabitants at the crossing point between Europe and Asia. In future, IETT will schedule all its vehicles and drivers using the IVU system.

## Growth of the cloud

The growth in demand for hosting and software-as-a-service offerings was a noticeable trend in fiscal year 2018. With the introduction of IVU.cloud, IVU had already incorporated a corresponding solution for its products in the portfolio at an early stage. This strategy is now paying off: Last year, numerous transport companies including railway company Start Regionalverkehre GmbH, Frankfurt/Main, and bus companies Qbuzz, Netherlands, and Torghatten, Norway, decided to entrust their technical operations management to the experts at IVU and to operate their systems in the IVU.cloud.

## Mobile ticketing

In parallel, mobile payment systems are also becoming increasingly important for the transport companies in Germany. These systems allow passengers to purchase tickets directly on their smartphones. This reduces the access barriers to public transport while at the same time simplifying the complex process of fare management in the transport companies. With the IVU.ticket.app unveiled in the spring, IVU in cooperation with London tech start-up UrbanThings is offering a cost-effective solution in this area for small and medium-sized transport companies. As the launch customer in Germany, Stadtverkehr Detmold enabled its passengers to purchase tickets on the go last November.

## RESEARCH AND DEVELOPMENT

IVU has been developing complex software solutions for public transport and logistics for over 40 years. Continued development and involvement in promising research and standardisation projects are strengthening the IVU.suite products. Close collaboration with transport companies and partners in industry and science generates impetus for new functionalities and application models of IVU systems.

IVU maintains excellent contacts with technical colleges and universities, including Ilmenau University of Technology, RWTH Aachen University, Karlsruhe Institute of Technology, Technical University Munich and the Technical University of Applied Sciences, Wildau. The company cooperates intensively with these education establishments in the area of research and teaching.

In 2018, the DiMo-OMP and DiMo-FuH projects supported by the Federal Ministry of Transport and Digital Infrastructure (BMVI) were completed on schedule. These projects developed a reference architecture for an open mobility platform (OMP) and a new open communication architecture for control centres, vehicles and stops (FuH). This involved adapting the latest technologies from the Internet of Things (IoT) for use in public transport.

Work is currently in progress on the ProTrain project, which is also supported by the BMVI. Other new projects in the pipeline are expected to start in mid-2019.

In the past year, IVU invested €3.5 million in R&D. Most of IVU's research and development work is carried out within the regular product and release cycles. These development costs continue not to be capitalised. The two divisions of IVU cooperate closely in order to utilise existing potential across the entire product range.

## PERSONNEL

The positive development of the order situation is also reflected by the growing headcount at IVU. To handle the acquired projects, enhance the product range and provide customers with high-quality support, IVU needs well-trained software and project engineers with sector-specific specialist knowledge. Their qualifications and motivation form the basis for lasting success and further growth. Therefore, most IVU employees are graduates. In 2018, the proportion of academics was around 85%.

The labour market for IT specialists remained challenging last year. The fact that the required employees were still recruited testifies to IVU's good reputation as an employer and the working environment at the company. As at 31 December 2018, IVU had a total workforce of 570 employees, including part-time employees and students (2017: 525). The average personnel capacity increased by 9% to 458 FTE (2017: 419) and personnel expenses climbed 9% to €33.9 million (2017: €31.2 million). In general, IVU operates in a high-salary environment.

### Ongoing training

Only those who are constantly at the forefront of technical development are equipped to develop complex IT systems. For this reason, IVU provides its employees with ongoing further training opportunities. This is essential to the development of high-quality systems on which customers can rely. This has led to the development of an active knowledge culture within the company. One example of this is the in-house Developer School. It gives software engineers at IVU the opportunity to engage collectively with their colleagues with regard to new technologies and further developments in their programming environments.

Growth at IVU brings with it an increasing demand for management personnel. IVU has developed a management trainee program to prepare suitable candidates for future management roles.

## Recruitment measures

To attract specialists and graduates, IVU regularly attends careers fairs. During the past year, IVU took part in 12 of these events, not only at its main locations of Aachen and Berlin, but also in other relevant university towns such as Cottbus, Potsdam or Dresden.

Cooperations with universities play a key role in recruitment. In this context, IVU's software engineers lend their expertise in projects or prepare seminars and lectures. As a result, students gain insight into the technical challenges in public transport and the day-to-day tasks at IVU. Cooperation partners in 2018 included RWTH Aachen University, the Technical University of Berlin, the Free University Berlin, the Technical University of Applied Sciences, Wildau, Ilmenau University of Technology and the Karlsruhe Institute of Technology (KIT).

To give potential applicants an even more detailed insight into the company, its tasks and corporate culture, IVU created films with employee profiles, for example. In a series of videos, IVU employees talk about their everyday work in order to round out the information available on the company website and in job advertisements.

## Qualification programme

Fast and extensive qualification of new employees is the main ingredient in the success of IVU projects. IVU operates a structured induction programme. In intensive training courses, the future software and project engineers at the German and international offices acquire the basic knowledge they need in order to perform their tasks successfully. The seminars cover topics such as the how public transport works, IVU products and the requirements for customer-oriented project management. This brings new employees up to speed more quickly and enables them to take on their own projects in a short time frame.

## Diversity

IVU is characterised by an open corporate culture. The aim is for employees to feel at home in the company. Therefore, diversity is hugely important to IVU. People from a total of 30 nations work at the various locations. The proportion of women is 30%. It is therefore well above the proportion of female graduates in the relevant MINT subjects, which averages 23%.

# Earnings, finances and assets

## RECORD EARNINGS IN 2018

After posting record earnings (EBIT) of €6.7 million on revenue of €77.8 million, IVU remains on its successful path. The targets for 2018 were exceeded. All key figures are the highest in more than 40 years of company history.

## REVENUE IS INCREASING SIGNIFICANTLY

IVU continued the growth trend of recent years in the 2018 fiscal year. Revenue rose by 9% to €77.8 million (2017: €71.1 million). The forecast of €72 million was comfortably exceeded thanks to the positive business performance in the core markets of IVU.

## REVENUE BREAKDOWN

48% of revenue was generated on the German market and 52% from export business in 2018. Revenue on the German market increased to €37.5 million (2017: €33.8 million), while international revenue rose to €40.3 million (2017: €37.3 million).

The core market of Public Transport accounted for revenue of €74.0 million in 2018 (2017: €65.5 million). The Logistics segment contributed revenue of €3.8 million (2017: €5.5 million).

## COST OF MATERIALS

The increase in revenue with a high hardware share as well as an increased procurement of external services caused the cost of materials to rise by €2.9 million to €27.1 million (2017: €24.2 million).

## RISE IN GROSS PROFIT

The value added within IVU is reflected mainly by its gross profit, which rose by 9% to €52.1 million (2017: €47.7 million). The successful business performance meant that the gross profit forecast for 2018 of €50 million was exceeded.

## PERSONNEL EXPENSES, DEPRECIATION AND OTHER EXPENSES

Staff costs increased in 2018 in line with personnel capacity by 9% to reach €33.9 million (2017: €31.2 million). In the competitive IT industry, IVU operates at a generally high salary level for well-trained specialists.

Depreciation on non-current assets increased slightly to €1.4 million (2017: €1.2 million).

Other operating expenses increased to €10.1 million in 2018 (2017: €9.1 million). The increase can be primarily attributed to risk provisions for various projects amounting to €1.6 million.

## RISING EBIT

Earnings (EBIT) of €6.7 million (2017: €6.1 million) reflect the growth in revenue and gross profits. The key performance indicator of EBIT/gross profit came to 12.9% in the reporting year (2017: 12.9%).

## FINANCIAL STRENGTH EXCELLENT

Equity rose by €4.4 million to €48.4 million in the reporting year (2017: €44.0 million). At 61%, the equity ratio for 2018 was down slightly on the previous year (2017: 64%). The company's net assets are stable, and its overall financial strength remains very good.

## EXCELLENT LIQUIDITY

Due primarily to successful business activities but also driven by the positive effects of the reduction in trade receivables as well as the increase in current liabilities, operating cash flow rose by €8.5 million to €12.3 million (2017: €3.8 million). Taking into account the cash flow for investment activities of €-0,8 million and financing activities of €-1.8 million, cash and cash equivalents increased by €9.8 million. The cash flow from financing activities includes the dividend payment to shareholders of €1.8 million.

With €21.3 million in cash and cash equivalents as at 31 December 2018 (2017: €11.5 million), IVU's financial position can be rated very good.

IVU was able to meet its financial obligations at all times in the reporting year. The company did not utilise its total credit facilities of €3.2 million. IVU's clients have a correspondingly positive assessment of its creditworthiness.

## SUMMARY

IVU enjoyed a successful 2018, with another pleasing growth in revenue, gross profit and EBIT. For 2019, we expect our profitable growth trend to continue and are optimistic about the future on account of the strong order situation and promising sales prospects

# Forecast

## MARKET POSITION

IVU further reinforced its position in the core market of public transport during 2018 and is a sought-after contact partner both in Germany and internationally. In addition to the integrated product range IVU.suite, the standardised implementation process IVU.xpress and the straightforward all-round operations management in IVU.cloud are appreciated by transport companies of all types and sizes.

With the integrated rail solution IVU.rail, we again acquired several new customers during the reporting year and further expanded our extremely strong position in the market. With our IVU.rail product for the overall rail sector (local, intercity, regional and freight transport), the outlook for IVU.rail in 2019 is also exceptional.

The Executive Board of IVU has decided to focus business activities on the successful core business involving public transport and railway companies. As a direct consequence, we are integrating the Logistics segment with effect from 1 January 2019 into the Public Transport segment and will no longer include it as a separate category in the financial reports.

The key performance indicators for achieving the strategic goals are the development of revenue as an indicator of the growth rate, gross profit (gross revenue plus other operating income and less cost of materials) as an indicator of value-added, and EBIT as an indicator of profitability. Our key performance indicator for efficiency is the ratio of EBIT/gross profit.

## GOOD ORDER SITUATION

The order backlog for the current fiscal year 2019 as at 28 February 2019 was around €65 million. A considerable portion of IVU's targets are thus already covered by the order situation.

## OUTLOOK

With the market environment remaining positive, we expect another positive business performance in 2019. Revenue is strongly influenced by project-related hardware deliveries, which can possibly be deferred past the end of the year.

Based on the order backlog and the expected transactions as well as expected orders on the basis of framework agreements for 2019, consolidated revenue is planned at over €80 million (actual figure for 2018: €77.8 million) and gross profit is planned at a minimum of €55 million (actual figure for 2018: €52.1 million). Based on the current order backlog for 2019 and assuming continued growth of the business, we anticipate EBIT at approximately €7 million.

Digitalisation of the transport industry is in full swing, and we aim to be the leading IT partner for public transport in our target markets. To achieve this goal, we are investing resolutely in additional employees for our product development, project work and Sales department, which may result in a slightly lower margin.

As the company continues to grow, we are targeting annual gross profit growth of 7% and an average gross profit margin of 12.5%.

# Risk and opportunity report

## RISK MANAGEMENT

To secure the long-term success of the company, we must identify and manage all types of risks. Our risk management aims to identify, analyse and manage risk at an early stage. The internal control system is embedded in the risk management system. Management uses deviation analyses as an instrument for corporate control.

The Executive Board assumes overall responsibility for internal controlling and risk management systems with regard to the accounting processes at the company. This includes all factors that can significantly influence the accounting and overall assessment of the financial statements, including the management report.

Risk management is based on the monthly reporting system, which contains important key performance indicators and compares planned figures with the actual figures. The subsidiaries are included in the reporting system. Regular meetings held with those responsible for revenue, cost and deadline development ensure that the Executive Board is provided with timely information about critical developments and that corrective measures can be initiated if required. To ensure that available liquidity and credit lines are adequate, liquidity is planned on a rolling basis and developments in cash and cash equivalents are monitored on a daily basis.

Risk management is a fixed item on the agenda at every meeting of the Supervisory Board and is discussed in detail at each of its meetings. The relevant risks are assessed based on the extent of possible damages and the probability of occurrence. The company has identified the following significant risks and classified them as low, medium or high based on its assessment of their estimated probability of occurrence and the extent of possible damages.

## RISKS

### Export business

The opportunities presented by internationalisation have to be balanced against the costs of accessing new markets, which always represent an upfront investment in uncertain successes. In addition, IVU is subject to the general political and economic conditions of the countries in which it operates. This naturally brings with it risks that range from project delays to project cancellation and non-payment. Our assessment of the probability of occurrence and the extent of possible damages remains medium. To limit these types of risks, we try to minimise the costs of accessing new markets by adopting a strategic focus on more promising countries in target markets. To avoid the risk of non-payment, we use a range of instruments for securing payment, such as letters of credit, advance payments or payments on account.

### Defaults

Defaults are a potential risk in all large and, in particular, international projects as experience shows that political and economic conditions can change quickly. In particular, changes in decision makers can have an impact on payment deadlines. The probability of occurrence and the extent of damages remain unchanged at high and medium respectively. Measures to counter these risks include delivery-oriented payment plans and efficient project management. In addition, the payment practices of our customers can generally be considered good as the majority of them are from the public sector.

### Project business

The project business at IVU is based entirely on service contracts that are based on the standard products of IVU.suite. This naturally brings with it the risk that the workload involved turns out to be more than was planned. Any resulting delivery delays may lead to claims being made for compensation. Our assessment of the probability of occurrence and the extent of possible damages remains medium. Measures to reduce these risks are efficient project management as well as adherence to deadlines and quality standards.

## Quality deficits

In the event of deficiencies in the software or hardware supplied, this can delay the acceptance and, consequently, the payment of invoices. The probability of occurrence and the extent of damages both remain unchanged at medium. One measure to counter this risk is consistent quality management in accordance with ISO 9001. In addition, the steadily increasing degree of standardisation of IVU systems reduces the risk of quality deficits because only customer-specific adaptations rather than special developments are required and all products can be subjected to intensive testing.

## Currency risks

Since IVU conducts a part of its business outside the euro zone, exchange rate fluctuations may have an impact on results. Foreign currency risks apply to receivables, liabilities, cash in hand and cash equivalents that do not correspond to the functional currency used by IVU. The probability of occurrence and the extent of potential damages remain unchanged at high and low respectively. As a hedge for cash flows in foreign currency, IVU concludes currency forward transactions as needed and where such transactions make economic sense. Here, the anticipated inflows and outflows are estimated on the basis of contracts concluded and payment agreements made. Currently, no accounting units have been established for showing hedging relationships. On the balance sheet date, there were no open currency forward transactions.

## Shortage of specialists and managers

A specialised software company such as IVU derives its strength on the market from the ability of its highly qualified specialists and managers to carry out demanding projects and meet special customer requirements. There are risks associated with the need to recruit specialists due to the growth in our business and with the potential loss of expertise. Our evaluation of the probability of occurrence is medium (previously low) with the extent of damage still at medium. Measures to reduce these risks include a long-term human resources policy to ensure low rates of staff turnover and a corporate culture based on openness and trust, which promotes a high level of staff loyalty, as well as a policy of actively recruiting highly qualified employees.

## Overall risk assessment

We are still assuming low risk overall.

## OPPORTUNITIES

The marketing strategy adopted by IVU aims to further expand the company's strong position in the domestic market and to systematically exploit the opportunities presented by internationalisation. As one of the few system manufacturers worldwide, IVU offers IT solutions for all processes at a transport company – from planning to operations and through to settlement. Our range of systems for public transport, IVU.suite, puts us among the market leaders for integrated solutions.

In particular, our business on the domestic market and in small and medium-sized projects is stable and therefore easily predictable. Conversely, it is difficult to plan the placement of orders and the progress of major projects. In this context, individual projects can have a major impact on IVU's result, with the potential for adjustments to earnings.

Overall, the opportunities for IVU are assessed as very good. We are profiting from the sustained trends towards urbanisation, digitalisation and mobility, which are forcing cities and transport operators to invest increasingly in the expansion and modernisation of their systems. As a result of successfully implemented projects, IVU has become a sought-after project partner. We will capitalise on our strong reputation and will further expand our market position through targeted marketing activities in our chosen markets.

# Supplementary information

## SUPPLEMENTARY INFORMATION AS PER SECTIONS 315 (1) SENTENCE 5, 315A (1) AND (2) AND 315 (4) OF THE GERMAN COMMERCIAL CODE (HGB)

The Executive Board of IVU AG received remuneration of €1,388 thousand (2017: €850 thousand) for the 2018 financial year. The remuneration of the Executive Board comprises a fixed (€768 thousand) and a variable portion (€620 thousand). The variable portion amounted to 45% (2017: 43%) of total remuneration in the year under review.

On 25 May 2016, the Annual General Meeting resolved to exempt the company from the duty to disclose the remuneration of individual members of the Executive Board for the financial years 2016 to 2020 inclusive. The remuneration of the Supervisory Board does not contain a performance-related component and consists of fixed basic remuneration. No attendance fee is agreed.

The company's share capital of €17,719,160 is divided into 17,719,160 shares with a notional value of €1 each. By way of resolution of the Annual General Meeting on 25 May 2016, the Executive Board was authorised, with the approval of the Supervisory Board, to increase the company's share capital on one or several occasions by up to 30% of the current share capital of €17,719,160, i.e. by €5,315,748, by issuing new no-par value bearer shares against cash or non-cash contributions by 24 May 2021. The Executive Board can make use of this authorisation for any legally permissible purpose. In 2018, the Executive Board did not make use of this authorisation.

Furthermore, by way of resolution of the Annual General Meeting on 25 May 2016, the Executive Board was authorised to acquire shares in the company for any purpose permitted under Section 71 (1) No. 8 of the German Stock Corporation Act (AktG) in the context of the statutory restrictions and in line with the following provisions. The authorisation is restricted to the acquisition of shares with a proportional amount of the share capital of €1,771,916, i.e. 10% of the share capital of €17,719,160. In 2018, the Executive Board did not make use of this authorisation.

There are no restrictions with regard to voting rights or transfer. The Executive Board is not aware of any agreements of this kind between individual shareholders. Furthermore, no material agreements have been made that contain regulations for a change of control as a result of a takeover bid.

According to Article 7 of the company statutes, the Supervisory Board appoints the Executive Board members and determines the number thereof. Further details on appointment and dismissal are governed by Sections 84 ff. AktG.

According to Article 17 of the company statutes, the Supervisory Board is authorised to make changes to the company statutes that relate solely to the wording. Otherwise, the company statutes are adopted as per Section 179 AktG by the Annual General Meeting by a majority of at least three quarters of the share capital represented at the time of voting on the resolution.

We represent that, to the best of our knowledge and in accordance with applicable accounting principles, the consolidated financial statements present a true and fair view of the Group's net assets, financial situation and results of operation, and that the Group management report describes fairly, in all material respects, the Group's business trend and performance, the Group's position and the significant risks and opportunities of the Group's expected future development.

## DECLARATION ON CORPORATE GOVERNANCE AS PER SECTION 315D OF THE GERMAN COMMERCIAL CODE (HGB)

The company has published the corporate governance declaration, which is part of the Group management report, on its website, www.ivu.com. The corporate governance declaration comprises the declaration pursuant to Section 161 AktG regarding compliance with the German Corporate Governance Code.

Berlin, den 7 march 2019

**The Executive Board**

Martin Müller-Elschner | Matthias Rust | Leon Struijk

# FINANCIAL STATEMENTS

# Consolidated statement of financial position in line with IFRS as at 31 December 2018

| ASSETS | NOTES | 31 DEC 2018<br>€ THOUSAND | 31 DEC 2017<br>€ THOUSAND |
|---|---|---|---|
| **A. Current assets** | | | |
| 1. Cash and cash equivalents | (121) | 21,298 | 11,521 |
| 2. Current trade receivables | (112) – (115) | 24,590 | 26,603 |
| 3. Contract assets | (116) – (119) | 13,135 | 9,059 |
| 4. Inventories | (111) | 2,146 | 1,684 |
| 5. Other current assets | (120) | 3,873 | 5,616 |
| **Total current assets** | | **65,042** | **54,483** |
| **B. Non-current assets** | | | |
| 1. Property, plant and equipments | (108) – (110) | 1,043 | 1,257 |
| 2. Intangible assets | (108) – (110) | 11,596 | 12,028 |
| 3. Non-current trade receivables | (112) – (115) | 37 | 253 |
| 4. Deferred taxes | (144) – (148) | 1,661 | 802 |
| **Total non-current assets** | | **14,337** | **14,340** |
| **TOTAL ASSETS** | | **79,379** | **68,823** |

| LIABILITIES | NOTES | 31 DEC 2018<br>€ THOUSAND | 31 DEC 2017<br>€ THOUSAND |
|---|---|---|---|
| **A. Current liabilities** | | | |
| 1. Current trade payables | | 3,273 | 2,038 |
| 2. Contract liabilities | (116) – (119) | 7,317 | 5,436 |
| 3. Provisions | (140) – (141) | 1,235 | 1,281 |
| 4. Provisions for taxes | (144) – (147) | 1,714 | 723 |
| 5. Other current liabilities | (142) – (143) | 12,110 | 10,570 |
| **Total current liabilities** | | **26,197** | **20,048** |
| **B. Non-current liabilities** | | | |
| 1. Provisions for pensions | (125) – (136) | 4,804 | 4,775 |
| **Total non-current liabilities** | | **4,804** | **4,775** |
| **C. Equity** | | | |
| 1. Share capital | (122) – (124) | 17,719 | 17,719 |
| 2. Capital reserves | (122) – (124) | 0 | 0 |
| 3. Retained earnings | (122) – (124) | 2,500 | 0 |
| 4. Other comprehensive income | (122) – (124) | -985 | -894 |
| 5. Unappropriated surplus | (122) – (124) | 29,143 | 27,175 |
| **Total equity** | | **48,378** | **44,000** |
| **TOTAL LIABILITIES** | | **79,379** | **68,823** |

# Consolidated income statement for the 2018 financial year

| | NOTES | 2018<br>€ THOU. | 2017<br>€ THOU. |
|---|---|---|---|
| **Sales revenues** | (150) | **77,798** | **71,065** |
| Other operating income | (151) | 1,400 | 898 |
| Cost of materials | (152) | -27,127 | -24,245 |
| **Gross profit** | | **52,071** | **47,718** |
| Personnel expenses | (153) | -33,880 | -31,224 |
| Depreciation and amortisation on non-current assets | (154) | -1,414 | -1,242 |
| Other operating expenses | (155) | -10,074 | -9,120 |
| **Operating results (EBIT)** | | **6,703** | **6,132** |
| Financial income | | 15 | 1 |
| Financial expenses | | -190 | -178 |
| **Pre-tax profit (EBT)** | | **6,528** | **5,955** |
| Income taxes | (144) – (148) | -1,228 | -848 |
| Deferred taxes | | 859 | -131 |
| **Consolidated net profit** | | **6,159** | **4,976** |
| Profit carried forward | | 27,175 | 22,199 |
| Dividend payout | | -1,772 | 0 |
| Transfer to retained earnings | | -2,500 | 0 |
| Reclassification from other comprehensive income | | 82 | 0 |
| **Unappropriated surplus** | | **29,144** | **27,175** |

| | | | |
|---|---|---|---|
| Earnings per share (basis and diluted) | (136) – (137) | 0.35 | 0.28 |
| Average shares outstanding (in thousand shares) | (136) – (137) | 17,719 | 17,719 |

# Consolidated statement of comprehensive income for the 2018 financial year

| | **2018**<br>**€ THOU.** | 2017<br>€ THOU. |
|---|---|---|
| **Consolidated net profit** | **6,158** | **4,976** |
| Currency translation | -9 | -2 |
| **Items that may be reclassified subsequently to profit or loss** | **-9** | **-2** |
| Actuarial gains / losses from the remeasurement of pension commitments | 0 | 283 |
| Income tax effect | 0 | -87 |
| | | |
| Items that will not be reclassified subsequently to profit or loss | 0 | 196 |
| **Other comprehensive income after taxes** | **-9** | **194** |
| **Consolidated total comprehensive income after taxes** | **6,150** | **5,170** |

# Consolidated statement of changes in equity in line with IFRS for the financial years 2018 and 2017

| | SHARE CAPITAL € THOU. | CAPITAL RESERVE € THOU. | RETAINED EARNINGS € THOU. | OTHER COMPREHENSIVE INCOME € THOU. | FOREIGN EXCHANGE RECONCILING ITEM € THOU. | UNAPPROPRIATED SURPLUS € THOU. | **TOTAL** € THOU. |
|---|---|---|---|---|---|---|---|
| **As at 1 January 2017** | **17,719** | **0** | | **-1,128** | **40** | **22,199** | **38,830** |
| Consolidated net income 2017 | 0 | 0 | | 0 | 0 | 4,976 | 4,976 |
| Other comprehensive income, net of tax | 0 | 0 | | 196 | -2 | 0 | 194 |
| **Consolidated recognised results after tax** | **0** | **0** | | **196** | **-2** | **4,976** | **5,170** |
| **AS AT 31 DECEMBER 2017** | 17,719 | 0 | | -932 | 38 | 27,175 | 44,000 |
| **As at 1 January 2018** | **17,719** | **0** | **0** | **-932** | **38** | **27,175** | **44,000** |
| Consolidated net income 2018 | 0 | | 0 | 0 | 0 | 6,159 | 6,159 |
| Transfer to retained earnings | | | 2,500 | | | -2,500 | 0 |
| Other comprehensive income, net of tax | 0 | 0 | 0 | -82 | -9 | 82 | -9 |
| Dividend distribution | 0 | | 0 | 0 | 0 | -1,772 | -1,772 |
| **Consolidated recognised results after tax** | **0** | **0** | **2,500** | **-82** | **-9** | **1,969** | **4,378** |
| **AS AT 31 DECEMBER 2018** | 17,719 | 0 | 2,500 | -1,014 | 29 | 29,144 | 48,378 |

For further details please see note (122)-(124)

# Consolidated statement of cash flows in line with IFRS for the 2018 financial year

| 1. Operating activities | NOTES | 2018 € THOU. | 2017 € THOU. |
|---|---|---|---|
| Group earnings before tax of the period | | 6,528 | 5,955 |
| Depreciation and amortisation on non-current assets | (154) | 1,414 | 1,242 |
| Change in provisions | | -17 | 936 |
| Net interest income | | 175 | 177 |
| Other non-cash expenses/income | | -9 | 662 |
| Income from asset disposals | | -2 | 1 |
| **Change of items of working capital and borrowings und des Fremdkapitals** | | | |
| Inventories | | -462 | -370 |
| Receivables and other assets | | -99 | -7,923 |
| Liabilities (without provisions) | | 5,207 | 3,388 |
| | | 12,735 | 4,068 |
| Interest paid / Guarantee commissions | | -190 | -178 |
| Income taxes paid | | -237 | -94 |
| **Cash flow from operating activities** | | **12,308** | **3,796** |
| **2. Investing activities** | | | |
| Outflows for investments in non-current assets | | -774 | -993 |
| Cash receipts from disposal of fixed assets | | 0 | 2 |
| Payments for the acquisition of shares in consolidated subsidiaries less cash and cash equivalents acquired | | 0 | 101 |
| Interest received | | 15 | 1 |
| **Cash flow from investing activities** | | **-759** | **-889** |
| **3. Financing activities** | | | |
| Payment of dividends | | -1,772 | 0 |
| **Cash flow from financing activities** | | **-1,772** | **0** |
| **4. Cash and cash equivalents** | | | |
| Change in cash and cash equivalents | | 9,777 | 2,907 |
| Cash and cash equivalents at beginning of period | | 11,521 | 8,614 |
| **Cash and cash equivalents at end of period** | (121) | **21,298** | **11,521** |

+ = cash inflow / - = cash outflow

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS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# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS as at 31 December 2018

## A. GENERAL INFORMATION ON THE COMPANY

1 The parent company of the IVU Group is IVU Traffic Technologies AG (IVU AG), based at Bundesallee 88, 12161 Berlin, Germany. It was founded on 4 August 1998 and is entered in the commercial register of the Berlin-Charlottenburg Local Court under HRB 69310.

2 The Executive Board adopted the consolidated financial statements as at 31 December 2018 and the Group management report for the 2018 financial year on 28 March 2019 and then submitted them to the Supervisory Board for approval. The Supervisory Board is expected to approve them at its meeting on 28 March 2019.

3 The business activities of the Group comprise the development, manufacture and marketing of software for planning, organisation and information processing for public administrations, transport companies and other public and private sector operators. This includes research, the formulation of expert reports, consulting and training in these areas. The average number of employees in the Group was 558 in 2018 and 504 in 2017.

4 The Group is divided into two main segments: Public Transport and Logistics.

5 The main customers of the Group are operators of public transport in Germany, Europe and selected countries in the world. The IVU Group is represented at locations in Berlin (headquarters), Aachen (Germany), Olten (Switzerland), Vienna (Austria), Veenendaal (Netherlands), Paris (France) Rome (Italy), Birmingham (UK), Budapest (Hungary), Montréal (Canada), San Francisco (United Sates), Santiago (Chile) and Hanoi (Vietnam).

6 The company is listed in the Prime Standard (Deutsche Börse AG) on the Frankfurt stock exchange.

## B. ACCOUNTING POLICIES

### Basis of preparation

7 The consolidated financial statements of IVU AG were prepared in accordance with the International Financial Reporting Standards (IFRS) as applicable in the EU and the applicable regulations of section 315e (1) of the Handelsgesetzbuch (HGB – German Commercial Code). The consolidated financial statements were prepared in euro. Unless stated otherwise, all amounts are in thousands of euro.

8 The consolidated financial statements of IVU AG were prepared on the basis of the historical cost principle. This does not apply to financial assets available for sale and carried at fair value.

### Changes in accounting policies

9 The Group applied IFRS 15 and IFRS 9 for the first time. The nature and effects of the changes resulting from the initial application of these new accounting standards are described below. There are some other amendments and interpretations that are applicable for the first time in 2018 but they have no effects on the consolidated financial statements. The Group has not applied any standards, interpretations or amendments that have been published but have not yet come into effect prematurely.

## IFRS 15 Revenue from Contracts with Customers

10 IFRS 15 replaced with effect from 1 January 2018 IAS 11 Construction Contracts, IAS 18 Revenue and the interpretations associated therewith and applies, apart from a few exceptions, to all revenue from contracts with customers. The standard introduces a five-step model framework for accounting for revenue from contracts with customers. Under IFRS 15, revenue is recognised at the amount of consideration which an entity will probably receive in exchange for transferring promised goods or services to a customer. IFRS 15 demands that enterprises make judgements when applying each step of the model to contracts with their customers and take all relevant facts and circumstances into consideration. The standard also governs the accounting for additional costs for initiating a contract and the costs directly associated with fulfilment of a contract. Finally, the standard contains extensive disclosure requirements. The Group applied the new standard as of 1 January 2018, using the modified retrospective method. Initial application of IFRS 15 has no material effects on the presentation of the net assets, financial situation and results of operations. More detailed explanations can be found in the notes "Significant judgements, estimates and assumptions" as well as "Recognition of revenue and income".

## IFRS 9 Financial Instruments

11 IFRS 9 Financial Instruments replaced with effect from 1 January 2018 IAS 39 Financial Instruments and combines all three aspects of accounting for financial instruments: classification and measurement, impairment and hedge accounting. The classification and measurement principles of IFRS 9 did not have any material effects on the Group either. Trade receivables are held to collect contractual cash flows. These items will be classified and measured as assets measured at amortised cost in future. There were no changes to the classification and measurement of the Group's financial liabilities either. The Group applied the new standard as of 1 January 2018, the date of first-time adoption in accordance with the transitional rules, using the modified retrospective method.

## Effects of new accounting standards

12 In January 2016, the IASB published the new standard on accounting for leases. For most leases, this requires the lessee to report its right to use the leased asset and a corresponding lease liability. For lessors, however, there are only minor changes compared to the classification and recognition of leases in accordance with IAS 17. IFRS 16 requires additional disclosures in the notes for both lessees and lessors. IFRS 16 is effective for the first time for financial years beginning on or after 1 January 2019. Early adoption is permitted with the proviso that IFRS 15 (Revenue from Contracts with Customers) has already been adopted or is adopted as at the same date as IFRS 16. The Group intends to adopt the new standard as at its prescribed effective date. It is currently expected that in addition to leased vehicles, the changeover effect will mostly affect the properties rented by the Group. It is estimated that the new standards will lengthen the statement of financial position. However, the precise extent of their effects has yet to be determined.

The Group intends to adopt the new standard as at its prescribed effective date. The resulting transitional effect mainly affects properties rented by the Group and, to a far lesser extent, leased company cars and hardware such as multifunctional devices.

The new standard contains two exceptions to the obligation to recognise leases in the statement of financial position for lessees (IFRS 16.5): leases for low-value assets (e.g. PCs) and short-term leases (i.e. leases with a term of not more than twelve months). The Group will make use of this option and not apply IFRS 16 in these cases. The Group has decided to apply IFRS 16 according to IFRS 16.C5 b) retroactively in that it accounts for the cumulative effects as at 1 January 2019. The right of use is recognised in the amount of the lease liability as at 1 January 2019 in accordance with IFRS 16.C8 b) ii).

There were the following effects on the consolidated statement of financial position as at 1 January 2019:

| BALANCE SHEET ITEM | EFFECT IN € MILLION |
|---|---|
| **Assets** | |
| Rights of use to leased assets | +7.5 |
| **Liabilities** | |
| Lease liabilities | +7.5 |
| **Net effect on equity** | **0** |

There will probably be the following effects – in relation to existing leases as at 1 January 2019 – in the consolidated income statement in 2019:

| INCOME STATEMENT ITEM | EFFECT IN € MILLION (EFFECT ON EARNINGS) |
|---|---|
| Depreciation and amortisation on assets | -1.2 |
| Other operating expenses | +1.2 |
| Earnings (EBIT) | 0.0 |
| Financial expenses | -0.1 |
| Earnings before taxes (EBT) | -0.1 |
| Income taxes | 0.0 |
| Consolidated profit/loss for the year | -0.1 |

13 IFRIC 23 Uncertainty over Income Tax Treatments

IFRIC 23 clarifies the recognition and measurement of items where income tax treatment is unclear. As part of its assessment of uncertainty, a company has to assess whether it is probable that the tax authority will accept the income tax treatment of circumstances undertaken by the company in its tax return or which it intends to undertake. If the company comes to the conclusion that the income tax treatment will be accepted by the tax authority, it must determine the taxable income, the tax assessment basis, unused tax losses and tax credits as well as applicable tax rates in accordance with this conclusion. If the company comes to the conclusion that the tax authorities will not accept the relevant income tax treatment, it must take this uncertainty factor into account in determining the associated values with the most probable value (the single mostly likely individual value within a range of possible outcomes) or the expected value (the sum of the probability-weighted amounts of possible outcomes). The method that gives a better indication in terms of resolving uncertainty must be applied here. IFRIC 23 is applicable for the first time for financial years beginning on or after 1 January 2019. The Group does not expect application of IFRIC 23 to have any material effects on the consolidated financial statements.

14 The IASB and the IFRS IC published further proclamations in the reporting period that had or will have no material impact on the consolidated financial statements.

## Significant judgements, estimates and assumptions

15 In preparing the consolidated financial statements, the management makes judgements, estimates and assumptions that affect the amount of the income, expenses, assets and liabilities reported, the related disclosures and the disclosure of contingent liabilities.

16 The key forward-looking assumptions and other main sources of uncertainty in the estimates at the end of the reporting period, on account of which there is a significant risk that a material adjustment to the carrying amounts of assets and liabilities could be necessary within the next financial year, are discussed below. The assumptions and estimates of the Group are based on parameters as at the time the consolidated financial statements were prepared. However, these conditions and the assumptions about future developments can change due to market developments and market conditions beyond the control of the Group. Such changes are not taken into account in the assumptions until they occur.

17 **Impairment on goodwill:** The IVU Group tests goodwill for impairment based on the regulations of IAS 36. Impairment testing is based on the future cash flows to be generated for individual assets or groups of assets combined as cash-generating units. Further details on impairment testing can be found in paragraphs (109) and (110). The carrying amount of the tested goodwill was €11,349 thousand as at 31 December 2018 (previous year: €11,349 thousand).

18 **Revenue from contracts with customers:** The Group made the following judgements, which have a material influence on determining the amount and timing of revenue from contracts with customers:

## Identification of contractual obligations in implementation projects

19 The Group provides installation services and furthermore provides licenses, hosting and maintenance services. The Group generates much of its revenue from software implementation projects. The Group has established that the licences, hardware and the services offered are in principle individually definable. However, these contractual commitments are not definable as a rule in the context of the Group's usual implementation projects. Rather, these are contractually defined service packages, where not only the software but also integration thereof plays a key role. Accordingly, implementation projects are usually accounted for as a contractual obligation.

## Measurement

20 In the case of implementation projects, the services over a period give rise to assets that do not present any alternative potential uses for IVU. In terms of the contracts, the Group has a legal claim to appropriate remuneration for the services performed at any point during the contract execution.

The Group therefore recognises revenue on the basis of the estimated performance in projects. Performance estimates are made based on an estimated quantity of hours and other project-related costs and are continuously updated. Further details on revenue from projects recognised but not yet invoiced can be found in section (118).

21 **Allowance for expected credit losses on trade receivables and contract assets:** The Group does not carry out any general impairment on the basis of an impairment matrix, since there are no signs, based on past experience, of general default risks and the customer structure and financial risk management are such that no structural default risk is expected in future either (see paragraph (54) et seq.). Expected losses are recognised via specific valuation allowances in individual cases in question. Information about expected credit losses on the Group's trade receivables and contract assets is included in paragraphs (112) et seq.

22 **Deferred tax assets:** Deferred tax assets are recognised for all unutilised tax loss carryforwards and temporary accounting differences to the extent that it is likely, or that there is substantial objective evidence, that there will be future taxable profit available against which the losses can actually be used. The calculation of the amount of deferred tax assets requires an estimate by the management based on the expected timing and amount of future taxable income together with future tax planning strategy (timing of tax events, consideration of tax risks, etc.). Deferred tax assets on loss carryforwards amounted to €4,433 thousand (2017: €3,988 thousand) as at 31 December 2018. Unutilised corporation tax losses for which no deferred tax assets have been recognised amount to €20.0 million (2017: €25.6 million), and unutilised trade tax losses to €15.0 million (2017: €20.8 million). Deferred tax assets of €5.4 million exceed deferred tax liabilities of €3.9 million. The balance sheet shows netted figures, hence the reporting of a deferred tax asset of €1.671 thousand. Further details can be found in paragraphs (144) through (148).

23 **Pensions and other post-employment benefits:** The book value of the provisions as well as the cost of post-employment defined benefit plans is determined on the basis of actuarial calculations. The actuarial valuation is based on assumptions regarding discount rates, the expected pension age, future wage and salary increases, mortality and future pension increases. Owing to the long-term nature of these plans, such estimates are subject to significant uncertainty. The new Heubeck mortality tables (2018 G) had to be taken into account in the financial year. The provision for pensions and similar obligations was €4,804 thousand (2017: €4,775 thousand) as at 31 December 2018. Further details can be found in paragraph (125) and the following.

## Consolidation principles

a) **Subsidiaries**

24 The consolidated financial statements comprise the financial statements of IVU AG and the subsidiaries it controls as at 31 December 2018. The Group controls an investee when it is exposed to, or has rights to, variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. In particular, the Group controls an investee if, and only if, all the following criteria are met:

- control of the investee (i.e. based on its currently existing rights, the Group has the ability to control the activities of the investee that have a significant influence on its returns),
- risks from or rights to variable returns from its exposure in the investee and
- the ability to utilise its control so as to influence the returns from the investee.

If the Group does not hold a majority of the voting or similar rights in an investee, it takes into account all relevant facts and circumstances in assessing whether it controls an investee. These include:

- a contractual arrangement with other parties entitled to vote,
- rights resulting from other contractual arrangements,
- voting rights and potential voting rights of the Group.

If facts and circumstances suggest evidence indicating that one or more of the three control criteria have changed, the Group must check again whether it controls an investee. Subsidiaries are included in consolidation from the date when the Group gains control of them. It ends when the Group loses control of them. The assets, liabilities, income and expenses of a subsidiary that was acquired or disposed of during the reporting period are recognised in the statement of financial position or the statement of comprehensive income respectively from the date on which the Group gains control of the subsidiary until the date on which control ceases.

The gain or loss and each component of other comprehensive income are attributed to the holders of ordinary shares of the parent company and the non-controlling interests, even if this results in a negative balance for non-controlling interests. A change in the ownership interest of a subsidiary without a loss of control is accounted for as an equity transaction. The following steps are taken if the parent company loses control of a subsidiary:

- derecognition of the assets (including goodwill) and liabilities of the subsidiary,
- derecognition of the carrying amount of non-controlling interests in the former subsidiary,
- derecognition of the cumulative translation differences recognised in equity,
- recognition of the fair value of the consideration received,
- recognition of the fair value of the investment retained,
- recognition of surplus or deficit in profit or loss,
- reclassification of the components of other comprehensive income attributable to the parent company to the income statement or retained earnings other reserves, as would be required if the Group had sold the related assets or liabilities directly.

25 The purchase method in accordance with IFRS 3 is applied in accounting for acquisitions. Companies acquired or disposed of during the year are included in the consolidated financial statements from the date of acquisition or up to the time of sale.

26 The excess of the cost of an acquisition over the share in the fair values of the identifiable assets and liabilities as at the date of the acquisition is referred to as goodwill and recognised as an asset. The identifiable assets and liabilities are measured at their fair values as at the acquisition date.

27 The following companies are included in the consolidated financial statements as subsidiaries. IVU AG's interests in them are identical to the existing voting rights.

| SHARE | IN % |
|---|---|
| IVU Traffic Technologies Italia s.r.l., Rome, Italy ('IVU Italia') | 100.0 |
| IVU Traffic Technologies UK Ltd., Birmingham, Great Britain ('IVU UK') | 100.0 |
| IVU Benelux B.V., Veenendaal, Netherlands ('IVU Benelux') | 100.0 |
| IVU Chile LTDA., Santiago de Chile, Chile ('IVU Chile') | 100.0 |
| IVU Traffic Technologies Inc., Wilmington, Delaware, USA ('IVU USA') | 100.0 |
| IVU Traffic Technologies Schweiz AG, Zurich, Switzerland ('IVU Schweiz') | 100.0 |
| IVU Austria GmbH., Vienna, Austria ('IVU Austria') | 100.0 |

In the financial year, the subsidiary IVU Traffic Technologies Israel Ltd., Tel Aviv, Israel, which had been fully consolidated in the previous year, was officially liquidated and deconsolidated accordingly. This does not have any material impact on the consolidated financial statements.

### b) **Consolidation adjustments and uniform measurement in the Group**

28 The annual financial statements of the subsidiaries included in the consolidated financial statements are based on uniform accounting standards and reporting periods.

29 Intercompany balances and transactions, and the resulting intragroup gains and unrealised gains and losses between consolidated companies, have been eliminated in full. Unrealised losses were eliminated only if the transactions gave no substantial indication of an impairment of the asset transferred.

## Measurement at fair value

30 Fair value is defined the price that would have to be received from the sale of an asset or that would have to be paid for the transfer of a liability between market participants as part of an orderly transaction on the measurement date. In measuring fair value it is assumed that the transaction in which the asset is sold or the liability is transferred takes place on

- the principal market for the asset or liability, or
- the most advantageous market if there is no principal market.

The Group must have access to the principal market or the most advantageous market. The fair value of an asset or liability is measured based on the assumptions that market participants would use when pricing the asset or liability. It is assumed that the market participants act in their economic best interest. A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its best use. The Group applies measurement methods that are appropriate in the circumstances and for which there are sufficient data to measure fair value. In doing so, the use of relevant, observable input factors is maximised and that of non-observable input factors is minimised.

All assets and liabilities that are measured at fair value or reported in the notes are assigned to the following levels of the fair value hierarchy based on the lowest input factor that is material overall for measurement:

- Level 1 – (non-adjusted) prices quoted on active markets for identical assets or liabilities.
- Level 2 – measurement method in which the lowest input factor that is material overall for measurement can be observed directly or indirectly on the market.
- Level 3 – measurement method in which the lowest input factor that is material overall for measurement cannot be observed on the market.

For assets and liabilities that are recognised in the financial statements on a recurring basis, the Group determines whether reclassifications between the levels of the hierarchy have occurred by checking the classification at the end of each reporting period.

## Currency translation

31 The consolidated financial statements of IVU AG are prepared in euro, the reporting currency of the Group. Each company within the Group determines its own functional currency. The items included in the financial statements of the respective companies are measured using this functional currency. Foreign currency transac-

tions are initially converted using the spot rate between the functional and the foreign currencies on the day of the transaction. Monetary assets and liabilities in foreign currencies are converted into the functional currency at the closing rate. All exchange differences are recognised in profit or loss for the period.

The functional currency of the foreign operation IVU UK is its national currency (pound sterling). As at the end of the reporting period the assets and liabilities of this subsidiary are translated into the reporting currency of IVU AG (euro) at the closing rate (GBP/EUR = 1.1179; 2017: 1.1271). Income and expenses are translated at the weighted average exchange rate for the financial year (GBP/EUR = 1.1303; 2017: 1.1407).

The functional currency of the foreign operation IVU Chile is its national currency (Chilean peso). As at the end of the reporting period the assets and liabilities of this subsidiary are translated into the reporting currency of IVU AG (euro) at the closing rate (CLP/EUR = 0.0013; 2017: 0.0014). Income and expenses are translated at the weighted average exchange rate for the financial year (CLP/EUR = 0.0013; 2017: 0.0014).

The functional currency of the foreign operation IVU Schweiz is its national currency (Swiss franc). As at the end of the reporting period the assets and liabilities of this subsidiary are translated into the reporting currency of IVU AG (euro) at the closing rate (CHF/EUR = 0.8874; first consolidation: 0.8546). Income and expenses are translated at the weighted average exchange rate for the financial year (CHF/EUR = 0.8658; 2017: 0.8995).

The functional currency of the foreign operation IVU USA is its national currency (US dollars). As at the end of the reporting period the assets and liabilities of this subsidiary are translated into the reporting currency of IVU AG (euro) at the closing rate (USD/EUR = 0.8734; 2017: 0.8338). Income and expenses are translated at the weighted average exchange rate for the financial year (USD/EUR = 0.8467; 2017: 0.8852).

The exchange differences arising from translation of the functional currencies of the foreign operations to the reporting currency of IVU AG are each recognised as a separate component of equity.

## Non-current assets

### a) **Intangible assets**

32 Intangible assets are measured at cost on initial recognition. Intangible assets are recognised if it is likely that the company will derive future economic benefit from them and the cost of the asset can be measured reliably. Following initial recognition, intangible assets are carried at cost less any cumulative amortisation and cumulative impairment losses (reported under depreciation and amortisation). Intangible assets – excluding goodwill – are amortised on a straight-line basis over their estimated useful lives. The amortisation period and the amortisation method are reviewed at the end of each financial year. With the exception of goodwill, the Group has no intangible assets with indefinite useful lives.

#### – Goodwill

33 Goodwill is initially measured at cost, which is the excess of the total consideration transferred and the amount of the non-controlling interest in the net identifiable assets acquired and the liabilities assumed. If the fair value of the net assets acquired exceeds the total consideration transferred, the difference is recognised in profit or loss. After initial recognition goodwill is measured at cost less cumulative impairment. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units. Where goodwill has been allocated to a cash-generating unit and part of the operation within that unit is disposed of, the goodwill associated with the disposed operation is included in the carrying amount of the operation when determining the gain or loss on disposal. Goodwill disposed in these circumstances is measured based on the relative values of the disposed operation and the portion of the cash-generating unit retained.

#### – Industrial rights and licenses, software

34 Amounts paid for the purchase of industrial rights and licenses are capitalised and then

amortised on a straight-line basis over their expected useful life.

35 The cost of new software is capitalised and treated as an intangible asset if these costs are not an integral part of the related hardware. Software is amortised on a straight-line basis over a period of three or five years, unless it has a shorter useful life.

36 Costs incurred to restore or preserve the future economic benefits that the company had originally anticipated are expensed as incurred.

**– Capitalised development costs for internally developed software**

37 Research costs are expensed in the period in which they are incurred. An intangible asset arising from the development of an individual project is recognised only when the IVU Group can demonstrate the technical feasibility of completing the intangible asset so that it is available for internal use or for sale, and the intention to complete the intangible asset and use or sell it. Furthermore, the Group must demonstrate the generation of future economic benefits by the asset, the availability of resources to complete the asset and the ability to reliably determine the expenditure attributable to the intangible asset during its development. Following initial recognition of the development expenditure as an asset, the asset is carried at cost less any cumulative amortisation and cumulative impairment losses. Amounts capitalised in previous years are amortised over the period of expected future revenue from the project (straight-line depreciation over a period of three to five years). The capitalised amount of development costs is reviewed annually for impairment, if the asset is not yet in use, or during the year if there is evidence of impairment.

38 No development costs were capitalised in the 2018 and 2017 financial years.

### b) **Property, plant and equipment**

39 Property, plant and equipment is carried at cost less cumulative depreciation and cumulative impairment losses. If property, plant and equipment are sold or scrapped, the corresponding cost and cumulative depreciation are derecognised; any gain or loss from the disposal is reported in the income statement.

40 The cost of an item of property, plant and equipment comprises its purchase price, including import duties and other incidental purchase taxes in connection the acquisition non-refundable and any directly attributable costs incurred to bring the asset to its location and in a working condition for its intended use. Subsequent costs such as maintenance and repair costs incurred after the assets have been put into operation are expensed in the period in which they are incurred. If it is likely that expenditure will result in the company deriving a future economic benefit above the originally assessed standard of performance from the existing asset, the expenditure is capitalised as an additional cost of items of property, plant and equipment.

41 Depreciation is calculated on a straight-line basis over the estimated useful life assuming a residual carrying amount of €0. If assets contain several components that have different useful lives, these components are depreciated individually over their respective useful lives. The following estimated useful lives are used for the individual groups:

- Hardware: 3 years
- Other office equipment: 3 to 15 years

42 Useful lives and depreciation methods for property, plant and equipment are reviewed periodically to ensure that depreciation methods and periods reflect the expected economic benefit of the assets.

### c) **Impairment of non-current assets**

43 Non-current assets are tested for impairment when facts or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The first step in impairment testing is calculating the recoverable amount of the asset or cash-generating unit (CGU). This is defined as the higher of the fair value less costs to sell and the value in use. The fair value less costs to sell is defined as the price that can be achieved in the sale of an asset or CGU between two knowledgeable, willing and independent parties less costs to sell. The value in use of an asset or a CGU is determined by the present value under the current use on the

basis of expected cash flows. No impairment of non-current assets was recognised in the 2018 and 2017 financial years.

d) **Financial assets (from 1 January 2018)**

44 **Initial recognition and measurement:** On initial recognition, financial assets are classified for subsequent measurement either as at amortised cost, as at fair value in other comprehensive income without affecting profit or loss or as at fair value through profit or loss. The classification of financial assets on initial recognition depends on the characteristics of the contractual cash flows of the financial assets and on the Group's business model for managing its financial assets. Trade receivables that do not contain any significant financing components are measured at the transaction price determined in accordance with IFRS 15. Please see the accounting policies in the section "Revenue from contracts with customers".

45 **Subsequent measurement:** Financial assets are classified in four categories for subsequent measurement:

- Financial assets measured at amortised cost (debt instruments).
- Financial assets measured at fair value in other comprehensive income with reclassification of cumulative gains and losses (debt instruments).
- Financial assets measured at fair value in other comprehensive income without reclassification of cumulative gains and losses on derecognition (equity instruments).
- Financial assets measured at fair value.

46 **Financial assets measured at amortised cost (debt instruments):** This category has the most significance for the consolidated financial statements while the other categories listed above do not play any material role. The Group measures financial assets at amortised cost if the following two conditions are met:

- The financial asset is held within the framework of a business model, the objective of which is to hold financial assets to collect the contractual cash flows, and
- the contractual terms of the financial assets lead to cash flows at specific times, which solely constitute principal and interest payments on the outstanding capital amount.

The effective interest rate is used to measure financial assets in subsequent periods and they must be tested for impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired. The Group's financial assets measured at amortised cost contain trade receivables, cash and cash equivalents and other current assets.

47 **Derecognition:** A financial asset (or part of a financial asset or a part of a group of similar financial assets) is mainly derecognised (i.e. removed from the consolidated statement of financial position) when it is classified as irretrievable.

48 **Impairment of financial assets:** Additional details of the impairment of financial assets are contained in notes "Significant judgements, estimates and assumptions" (paragraphs (15) to (18)) and in the notes on the consolidated statement of financial position (paragraphs (108) et seq.).

Expected credit losses are recognised in two steps. For financial instruments where the risk of default has not increased significantly since initial recognition, a risk provision in the amount of the expected credit losses is recognised, which is based on a default event within the next twelve months (12-month ECL). For financial instruments where the risk of default has increased significantly since initial recognition, an enterprise must recognise a risk provision in the amount of the expected credit losses over the remaining term, regardless of when the default event occurs (total term ECL).

No allowance on the basis of a write-down matrix for trade receivables and contract assets, since there are no signs of general default risks in the Group. For financial assets at amortised cost, if there is objective evidence that the company cannot recover all amounts contractually due for loans, receivable or held-to-maturity investments, an impairment loss, or a write-down on receivables is recognised in profit or loss. The impairment loss is defined as the difference between the carrying amount of the asset and the present value of expected future cash flows using the effective interest method.

The carrying amount of the asset is reduced using an allowance account. The impairment loss is recognised in profit or loss. An impairment loss previously recognised in profit or loss is reversed, also in profit or loss, if the subsequent partial recovery can objectively be linked to an event occurring after the original impairment. However, an increase in value is recognised only to the extent that the amortised cost that would have been without impairment is not exceeded.

#### e) **Financial assets (up to 31 December 2017)**

49 Financial assets were classified into the following categories:

- loans and receivables,
- held-to-maturity investments,
- held-for-trading financial assets and
- available-for-sale financial assets.

As at 31 December 2017, the IVU Group had only receivables.

50 Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted on an active market. These assets were measured at amortised cost using the effective interest method. Gains and losses were recognised in profit or loss when the loans and receivables were derecognised, became impaired, or for amortisation.

51 The IVU Group used the following hierarchy for determining and reporting the fair value of financial instruments by measurement method:

- **Level 1** – quoted (unadjusted) prices on active markets for identical assets or liabilities.
- **Level 2** – methods in which all input parameters with a significant effect on the recognised fair value are either directly or indirectly observable.
- **Level 3** – methods that use input parameters with a significant effect on the recognised fair value that are not based on observable market data.

52 Financial assets were tested for impairment at the end of each reporting period. For financial assets at amortised cost, if it were probable that the company could not recover all amounts contractually due for loans, receivables or held-to-maturity investments, an impairment, or a write-down on receivables was recognised in profit or loss. The impairment was defined as the difference between the carrying amount of the asset and the present value of expected future cash flows using the effective interest method. The carrying amount of the asset was reduced using an allowance account. The impairment was recognised in profit or loss. An impairment previously recognised in profit or loss was reversed, also in profit or loss, if the subsequent partial recovery could objectively be linked to an event occurring after the original impairment. However, an increase in value was recognised only to the extent that the amortised cost that would have been without impairment was not exceeded. The financial asset was derecognised when it was classified as uncollectible.

53 The carrying amounts of financial assets and liabilities were approximately their fair values.

## Objective and methods of financial risk management

54 In addition to trade receivables, the main financial instruments of the company are cash and cash equivalents and liabilities to banks. The aim of these financial instruments is to finance operations. The material risks are from credit and liquidity risks. Exchange rate risks are only insignificant due to the immateriality of foreign currency receivables and liabilities. Fair value risks relate solely to available-for-sale financial assets and are also insignificant.

55 Credit risks, or the risk that a counterparty does not fulfil its payment obligations, are managed through the use of credit lines and control procedures. The company obtains collateral where appropriate. The Group does not have a significant concentration of credit risk with either a single counterparty or a group of counterparties with similar characteristics. The maximum credit risk is equal to the amount of the reported carrying amounts of financial assets.

56 Liquidity risk arises from the fact that customers may not be able to fulfil their obligations to the company under the agreed conditions.

57 Moreover, the IVU Group endeavours to have sufficient cash and cash equivalents or corresponding lines of credit to meet its future obligations.

58 The maturities of financial liabilities as at 31 December 2018 are as follows:

| | DUE | WITHIN 1 YEAR | MORE THAN 1 YEAR | TOTAL |
|---|---|---|---|---|
| | € thou. | € thou. | € thou. | € thou. |
| Trade payables | 102 | 3,171 | 0 | 3,273 |
| Other liabilities | 1 | 12,109 | 0 | 12.110 |
| Total | 103 | 15,280 | 0 | 15,383 |

Given the short-term nature of financial liabilities, as at 31 December 2018 there are no material differences between the carrying amounts shown in the statement of financial position and the undiscounted cash flows.

59 The maturities of financial liabilities as at 31 December 2017 are as follows::

| | DUE | WITHIN 1 YEAR | MORE THAN 1 YEAR | TOTAL |
|---|---|---|---|---|
| | € thou. | € thou. | € thou. | € thou. |
| Trade payables | 30 | 2,008 | 0 | 2,038 |
| Other liabilities | 0 | 10,570 | 0 | 10,570 |
| Total | 30 | 12,578 | 0 | 12,608 |

Given the short-term nature of financial liabilities, as at 31 December 2017 there are no material differences between the carrying amounts shown in the statement of financial position and the undiscounted cash flows.

## Current assets

### a) **Inventories**

60 Inventories are measured at the lower of cost or the expected sales proceeds less costs yet to be incurred.

### b) **Cash and cash equivalents**

61 Cash and cash equivalents comprise cash, time deposits and demand deposits. Cash and cash equivalents are defined in line with this in the consolidated statement of cash flows.

## Equity

62 Equity comprises the share capital, the capital reserves, revenue reserves, other reserves and cumulative earnings.

63 In the fiscal year, €2,500 thousand was transferred from net income to revenue reserves.

64 Actuarial gains and losses from the measurement of pension commitments and unrealised gains and losses from currency translation in currency translation adjustments are reported in the other reserve (previous year: reported as retained earnings).

## Provisions for pensions

65 The IVU Group has three defined benefit pension plans. Each year, the net pension obligations (pension obligations less plan assets) are measured by recognised, independent actuaries. The cost of the benefits granted is calculated separately for each plan using the projected unit credit method. Remeasurements, comprising of actuarial gains and losses, the effect of the asset ceiling, excluding amounts included in net interest on the net defined benefit liability and the return on plan assets (excluding amounts included in net interest on the net defined benefit liability), are recognised immediately in the statement of financial position with a corresponding debit or credit to other reserves through OCI in the period in which they occur. Remeasurements are not reclassified to profit or loss in subsequent periods. The amount recognised as an asset or liability from a defined benefit plan includes the present value of the defined benefit obligation less the unrecognised past service cost and the fair value of plan assets for the immediate settlement of obligations. The plan assets consist of cash and cash equivalents. Plan assets are protected from the creditors of the Group.

## Current liabilities

### a) **Other provisions**

66 Provisions are recognised only when the company has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. Provisions are reviewed as at the end of each reporting period and adjusted to the current best estimate. If the effect of the time value of money is material, the amount of the provision is the present value of the expenditure expected to be required to settle the obligation. When discounting is used, the increase in the provision due to the passage of time is recognised as a finance cost.

### b) **Financial liabilities**

67 Financial liabilities (from 1 January 2018)

**Initial recognition and measurement:** financial liabilities are classified on initial recognition as financial liabilities, which are measured at fair value, as loans, as liabilities or as derivatives, which were designed as hedging instruments and are effective as such.

All financial liabilities are measured at fair value on initial recognition, less directly attributable transaction costs in the case of loans and liabilities. The Group's financial liabilities comprise trade payables and other liabilities.

**Subsequent measurement:** Trade payables and other liabilities are subsequently measured at amortised cost using the effective interest method.

A financial liability is derecognised if the underlying obligation is fulfilled, cancelled or has expired.

68 Financial liabilities (up to 31 December 2017)

Financial liabilities were classified into the following categories:

- held-for-trading financial liabilities and
- other financial liabilities.

The financial liabilities reported in the IVU AG consolidated financial statements were classified as financial liabilities.

An other financial liability was carried at cost on initial recognition, which is the fair value of the consideration given; transaction costs were included. Financial liabilities from regular way acquisitions and sales are recognised as at the trade date.

Financial liabilities were no longer reported when they were repaid, i.e. when the contractual obligation was discharged, cancelled, or expired.

## Contingent liabilities and contingent assets

69 Contingent liabilities are not reported in the financial statements. They are disclosed in the notes, unless it is highly unlikely that they will result in an outflow of economic benefits.

70 Contingent assets are not reported in the financial statements. However, they are disclosed in the notes if the inflow of economic benefits is likely.

## Government grants

71 A government grant is recognised if there is reasonable assurance that the company will comply with the conditions attached to it. Government grants are recognised as income systematically in line with the expenses that they are intended to compensate. Grants received for the acquisition of property, plant and equipment are recognised in other liabilities as deferred income. The income recognised in connection with grants is reported as other operating income in the income statement..

72 The investment grants to the company from various bodies are linked to compliance with future conditions. The investment grants received from the tax authorities are subject to compliance with retention guarantees for the subsidised assets. No investment grants or subsidies were recognised as at 31 December 2018.

73 In 2018, IVU AG recognised funding under various government projects for the development of software applications in the amount of €469

thousand (previous year: €499 thousand). The income is included in other operating income.

## Research and development costs

74 Research and development costs amounted to €3,464 thousand in the 2018 financial year (2017: €2,092 thousand).

## Leases

75 The determination as to whether an agreement is or contains a lease is made on the basis of the economic content of the agreement and requires an assessment of whether the fulfilment of the contractual agreement is dependent on the use of a particular asset or assets, and of whether the agreement grants the right to use the asset.

76 A lease is classified as an operating lease if all the risks and rewards of ownership substantially remain with the lessor. Lease payments for operating lease are recognised as expenses on a straight-line basis over the term of the lease.

77 The IVU Group has primarily entered into leasing agreements for motor vehicles. The terms of these operating leases are usually three to four years.

78 Finance leases in which essentially all risks and opportunities associated with ownership of the leased asset are transferred to the Group result in the capitalisation of the leased asset at the inception of the lease. The leased asset is capitalised at the lower of its fair value or the present value of the minimum lease payments. A leased asset is depreciated over the useful life of the asset. However, if there is no reasonable certainty that the Group will obtain ownership by the end of the lease term, the asset is depreciated over the shorter of the estimated useful life of the asset and the lease term.

## Revenue from Contracts with Customers (from 1 January 2018)

79 The IVU Group mainly generates its revenue from project business. In this, it enters into agreements with customers for the development/production of software and its adaptation. These projects also include the sale of hardware and services, e.g. installation, consulting, training, maintenance and the sale of licenses.

80 Revenue from contracts with customers is recognised if control of goods and services is transferred to the customer. It is recognised at the amount of consideration which the Group is expected to receive in exchange for these goods or services to a customer. The Group has come to the conclusion that it acts as principle with its sales transactions, as it usually has control of goods or services before these are passed to the customer.

81 The significant judgements, estimates and assumptions in connection with revenue from contracts with customers are explained in sections (18) et seq.

82 For all types of contract, the Group checks whether several commitments are contained in the contract, which constitute separate contractual obligations, to which a part of the transaction price must be allocated. In determining the transaction price, the Group takes account of the effects of variable consideration, the existence of significant financing components, non-cash consideration and, if applicable, consideration to be paid to a customer.

83 The Group offers the warranties usually prescribed by law for the rectification of defects, which were present at the time of sale. These assurance-type warranties, as they are known, are recognised in accordance with IAS 37 Provisions, Contingent Liabilities and Contingent Assets. Details on the accounting policy for warranty provisions are included in section (66).

84 As a rule, the Group has no material costs for contract initiation to be capitalised, as sales take place on the Group's behalf and no direct commission is paid for these. Other contract initiation costs, e.g. stamp duties and other fees are insignificant in amount.

85 Revenue is recognised over a period of time or at a specific point in time depending on the contract and the service to be supplied.

### a) **Project business**

86 For long-term project agreements that satisfy the conditions for measurement over a period of time (the service creates an asset that does not represent an alternative use for IVU), revenue from the development and sale of software products and implementations is deferred and recognised based on the percentage of completion of the project using an input-oriented method. The percentage of completion is usually determined by the ratio of costs incurred to the total planned costs. Advance payments received from customers are offset against contract assets on a project related basis and progress billings to customers are - unless they are already settled - reported under trade receivables. Changes in the project conditions can lead to adjustments to the originally recognised costs and revenue for individual projects. The changes are recognised in the period in which these changes are established, which is usually the case when supplementary agreements are concluded between the company and its customers.

### b) **Sale of licenses**

87 The IVU Group recognises its revenue on the basis of a corresponding contract at a certain point in time, once the license has been delivered, the sale price is fixed or determinable, there are no significant liabilities to customers and collection of the receivables is deemed probable.

### c) **Maintenance, consulting and training**

88 Revenue from maintenance contracts is recognised over a period of time on a straight-line basis over the term of the contract. Income from consulting and training is recognised when the service is rendered.

### d) **Supply of hardware**

89 Proceeds from the sale of goods (hardware deliveries) are recognised at a certain point in time when delivery has taken place and the risks and rewards have been transferred to the buyer. The corresponding revenue is included in paragraph (150) under revenue for goods/services/works contracts.

### e) **Contract balances**

90 **Contract assets:** A contract asset is the claim to receive consideration in exchange for goods or services, which were transferred to a customer. If the Group complies with its contractual obligations by transferring goods or services to a customer before the customer pays the consideration or before the payment is due, a contract asset is recognised for the contingent claim for consideration.

91 **Trade receivables:** A receivable is an unconditional claim by the Group to consideration (i.e. it becomes due automatically through the passage of time). The accounting policies for financial assets are explained in sections (44) et seq.

92 **Contract liabilities:** A contract liability is the Group's obligation to transfer goods or services to a customer for which it has received consideration (or is still to receive consideration) from the latter. If the customer pays a consideration before the Group transfers goods or services, a contract liability is recognised, if the payment is made or due (depending on which of the two occurs first). Contract liabilities are recognised as revenue as soon as the Group fulfils its contractual obligations.

## Recognition of revenue and income (up to 31 December 2017)

### a) **Project business**

93 For long-term project agreements that satisfied the conditions for applying the percentage of completion method, revenue from the development and sale of software products was deferred and recognised in accordance with the percentage of completion method based on the percentage of completion of the project. The percentage of completion was determined by the ratio of costs incurred to the total planned costs. Changes in the project conditions can lead to adjustments to the originally recognised costs and revenue for individual projects. The

changes were recognised in the period in which these changes were established, which was usually the case when supplementary agreements were concluded between the company and its customers. Furthermore, provisions for expected losses from executory contracts were recognised in the period in which these losses were established and offset against the project's receivables.

b) **Sale of licenses**

94 The IVU Group recognised its revenue on the basis of a corresponding contract, once the license had been delivered, the sale price was fixed or determinable, there were no significant liabilities to customers and collection of the receivables was deemed probable.

c) **Maintenance, consulting and training**

95 Revenue from maintenance contracts was recognised on a straight-line basis over the term of the contract. Income from consulting and training was recognised when the service was rendered.

d) **Supply of hardware**

96 Proceeds from the sale of goods (hardware deliveries) were recognised when delivery had taken place and the risks and rewards had been transferred to the buyer.

e) **Recognition of interest income**

97 Interest was recognised on a time proportion basis taking into account the effective yield on the asset.

## Income taxes

98 Current tax assets and tax liabilities for both the current period and prior periods are measured at the amount expected in the form of a refund from the tax authorities or to be paid to the tax authorities respectively. The calculation of this amount is based on the tax rates and tax laws in effect at the end of the reporting period or that will shortly be in effect thereafter.

99 Deferred taxes are recognised using the asset and liability method on all temporary differences between the carrying amounts for assets and liabilities in the statement of financial position and their amounts in the tax base as at the end of the reporting period. Deferred tax liabilities are recognised for all taxable temporary differences with the following exceptions:

- The deferred tax liability from the initial recognition of goodwill or an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss is not recognised.
- The deferred tax liability is not recognised for taxable temporary differences in connection with investments in subsidiaries, associates or interests in joint ventures if the timing of the reversal of the temporary difference can be controlled and it is probably that the temporary differences will not reverse in the foreseeable future.

100 Deferred tax assets are recognised for all deductible temporary differences, unutilised tax loss and interest carryforwards and unused tax credits to the extent that it is likely that future taxable income will be generated against which these deductible temporary differences and the unutilised tax loss and interest carryforwards and unused tax credits can be offset.

101 The following exceptions apply:

- The deferred tax assets from deductible temporary differences from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss are not recognised.
- Deferred tax assets from taxable temporary differences in connection with investments in subsidiaries, associates or interests in joint ventures are only recognised to the extent that the temporary differences will reverse in the foreseeable future and there will be sufficient taxable profit against which the temporary differences can be used.

The carrying amount of deferred tax assets is assessed at the end of each reporting period and written down to the extent that it is no longer probable that sufficient taxable profit will be available against which the deferred tax asset can be at least partially offset. Unrecognised deferred tax assets are assessed at the end of each reporting period and recognised to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be recovered.

102 Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realised or the liability is settled. The tax rates (and tax laws) which are in effect or that have been announced as at the end of the reporting period apply. Deferred and current taxes relating to items recognised directly in equity are recognised in equity and not in profit or loss.

103 Deferred tax assets and deferred tax liabilities are offset against each other if the Group has a legally enforceable right to offset current tax assets against current tax liabilities and these income taxes relate to the same taxable entity, which is assessed by the same tax authority.

## Sales tax

104 Revenue, expenses and assets are recognised net of the amount of sales tax, except:

- When the sales tax incurred on a purchase of assets or services is not recoverable from the taxation authority, in which case, the sales tax is recognised as part of the cost of acquisition of the asset or as part of the expense item, as applicable.
- When receivables and payables are stated with the amount of sales tax included.

The net amount of sales tax recoverable from, or payable to, the taxation authority is included as part of receivables or payables in the consolidated statement of financial position.

## Segment reporting

### a) **Segments**

105 For the purposes of management the IVU Group is divided into two main segments:

- Public Transport
- Logistics

106 The divisions are the basis on which the IVU Group presents its segment information. The financial information on the business segments and geographical segments are presented in note F. and in a separate annex to these notes.

### b) **Transactions between segments**

107 Segment income, segment expenses and segment results contain only negligible transfers between segments. Such transfers are accounted for at general market prices that are charged to unaffiliated customers for similar services. These transfers were eliminated in consolidation.

# C. NOTES TO THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION

## Non-current assets

### Intangible assets and property, plant and equipment

108 Please see the attached development in intangible assets and property, plant and equipment for details of changes in non-current assets in the financial year ended 31 December 2018.

109 On 31 December 2018 and 31 December 2017, the IVU Group carried out impairment tests in line with the concept of value in use with respect to goodwill . The impairment test is based on the following cash-generating units with their carrying amounts for goodwill:

| CASH-GENERATING UNIT | 31 Dec 2018 € thou. | 31 Dec 2017 € thou. |
|---|---|---|
| Public Transport | 8,980 | 8,980 |
| Logistics | 2,369 | 2,369 |
| Total | 11,349 | 11,349 |

110 The impairment test is based on the cash flow forecast for the individual cash-generating units over a period of five years. Beyond the planning horizon, further cash flows were included assuming growth of 1.0% (2017: 1.0%). Furthermore, for the detailed planning period the management is planning growth in gross profit of approximately 7%. The cash flows shown were derived from past information and contractually agreed orders for the 2019 financial year. The assumptions by management regarding business development trends in the software industry are consistent with the expectations of industry experts and market observers. The software sector is expected to experience somewhat moderate growth rates. Discount rates of 8.53% after taxes and for Public Transport 11.46% as well as for Logistics: 11.85% before taxes (2017: 7.68% after taxes and for Public Transport 10.33%; Logistics 10.44% before taxes) were applied. The adjustment of interest rates reflects current economic conditions (real economy developments and financing conditions). As there is significant uncertainty regarding projected cash flows and financing terms in the light of the existing economic conditions, the Executive Board of the IVU Group conducted the impairment test on the basis of a worst-case scenario of 10% lower cash flows combined with a discount rate of 8.5% after taxes. This also did not give rise to impairment requirements.

## Current assets

### Inventories

111 Inventories are composed of merchandise and advance payments as follows:

| | 31 Dec 2018 € thou. | 31 Dec 2017 € thou. |
|---|---|---|
| Merchandise | 1,204 | 331 |
| Advance payments | 942 | 1,353 |
| Total | 2,146 | 1,684 |

There was no impairment on merchandise in the year under review (2017: €600 thousand).

### Trade receivables

112 Trade receivables include value adjustments as follows:

| | 31 Dec 2018 € thou. | 31 Dec 2017 € thou. |
|---|---|---|
| Trade receivables | 24.916 | 27.342 |
| Specific valuation allowances | -289 | -486 |
| Total | 24.627 | 26.856 |

113 Trade receivables do not bear interest and mature in between 0 and 90 days. The specific valuation allowances recognised developed as follows:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| As at 1 January | 486 | 170 |
| Charge for the year | 42 | 347 |
| Utilised | -37 | -31 |
| Unused amounts reversed | -202 | 0 |
| As at 31 December | 289 | 486 |

114 The reversal through profit or loss results from incoming payments for receivables that had been written down individually.

115 The maturity structure of trade receivables was as follows as at 31 December:

| | 31 Dec 2018 € thou. | 31 Dec 2017 € thou. |
|---|---|---|
| Neither past due nor impaired | 18,690 | 20,903 |
| Past due, not impaired | | |
| < 30 days | 4,249 | 3,529 |
| 31 to 60 days | 261 | 281 |
| 61 to 90 days | 302 | 856 |
| > 90 days* | 1,124 | 1,287 |
| As at 31 December | 24,627 | 26,856 |
| Of which current receivables | 24,590 | 26,603 |
| Of which non-current receivables | 37 | 253 |

* Of which paid by 28 February 2019: €123 thousand (previous year: €206 thousand)

### Contract assets/contract liabilities

116 Reported contract assets (in 2017 current receivables from construction contracts) relate to our contingent claims for consideration for complete performance of our contractual services. If the claim to receive consideration becomes unconditional because the project has been concluded or accepted by the customer, the amounts recognised as contract assets are reclassified into trade receivables. Contract assets are usually calculated by the ratio of costs incurred to the total planned costs (cost-to-cost method). This item includes directly allocable costs (staff costs and third-party services) and an appropriate portion of overheads.

117 As at 31 December 2018, there were contract assets of €13,135 thousand (previous year: €9,059 thousand), following write-downs of € 455 thousand.

Contract liabilities of €7,317 thousand (previous year: €5,436 thousand) include advance payments received and deliveries and services invoiced as agreed, which exceed the corresponding contract assets. In the previous year, accruals for maintenance and hosting revenues of €368 thousand were reported under other current liabilities in accordance with the accounting principles applied prior to 1 January 2018.

Revenue include €2.1 million, which was reported in contract liabilities at the beginning of the financial year. IVU usually receives payments from customers on the basis of a settlement schedule, which is a component of customer contracts.

For further details of revenue from contracts with customers see paragraph (150).

118 The following table shows the contract assets as they were shown in the previous year.

| | 31 Dec 2018 € thou. | 31 Dec 2017 € thou. |
|---|---|---|
| Costs incurred plus earnings from non-invoiced projects | 23,533 | 17,057 |
| Less offsettable advances received | -10,398 | -7,998 |
| Current contract assets | 13,135 | 9,059 |
| Contract liabilities | 7,865 | 5,436 |
| Future receivables from construction contracts | 5,818 | 3,623 |

119 There are normal warranty obligations for goods accepted under construction contracts.

### Other current assets

120 Other current assets essentially consist of demand deposits, which are to secure guarantees and are not freely available.

| | 31 Dec 2018 € thou. | 31 Dec 2017 € thou. |
|---|---|---|
| Demand deposits to secure guarantees | 2,926 | 4,438 |
| Receivables from tax credit | 628 | 692 |
| Prepaid expenses | 211 | 209 |
| Receivables from government grants | 0 | 98 |
| Other | 108 | 179 |
| Total | 3,873 | 5,616 |

### Cash and cash equivalents

121 Cash and cash equivalents nearly exclusively consist of bank balances.

| | 31 Dec 2018 € thou. | 31 Dec 2017 € thou. |
|---|---|---|
| Bank balances | 21,295 | 11,518 |
| Cash balances | 3 | 3 |
| Total | 21.298 | 11.521 |

### Equity

122 Please see the statement of changes in consolidated equity for details.

123 The fully paid-in share capital entered in the commercial register as at the end of the reporting period amounts to €17,719,160.00 (2017: €17,719,160.00) and consists of 17,719,160 (2017: 17,719,160) no-par value shares.

124 By way of resolution of the Annual General Meeting on 25 May 2016, the Executive Board was authorised, with the approval of the Supervisory Board, to increase the company's share capital on one or several occasions by up to 30% of the current share capital of €17,719,160, i.e. by €5,315,748, by issuing new no-par value bearer shares against cash or non-cash contributions by 24 May 2021. The Executive Board can make use of this authorisation for any legally permissible purpose. In 2017 and 2018, the Executive Board did not make use of this authorisation.

Furthermore, by way of resolution of the Annual General Meeting on 25 May 2016, the Executive Board was authorised to acquire shares in the company for any purpose permitted under Section 71 (1) No. 8 of the German Stock Corporation Act (AktG) in the context of the statutory restrictions and in line with the following provisions. The authorisation is restricted to the acquisition of shares with a proportional amount of the share capital of €1,771,916, i.e. 10% of the share capital of €17,719,160.

## Non-current liabilities

### Pension provisions

125 Pension provisions are recognised for benefit obligations (pension, invalidity, widows' and orphans' pensions) and for current payments to eligible active and former employees of IVU AG and their surviving dependents.

126 The amount of the pension obligation (defined benefit obligation) was calculated using actuarial methods on the basis of the following assumptions:

| | 2018 % | 2017 % |
|---|---|---|
| Discount rate | 2.02 | 1.93 |
| Salary trend | 2.50 | 2.50 |
| Pension trend | 2.00 | 2.00 |
| Turnover | 3.00 | 3.00 |

127 The salary trend includes expected future salary increases, which are estimated annually depending on inflation and the period of service with the company.

The net pension expenses are as follows:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| Service cost | 11 | 11 |
| Interest expense | 90 | 89 |
| Expense for the period | 101 | 100 |

128 The following table shows the composition of pension obligations:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| Present value of pension obligations, 31 Dec | 5,170 | 5,280 |
| Less fair value of plan assets | 366 | 505 |
| Provisions for pensions | 4,804 | 4,775 |

129 The following table shows the development of pension obligations:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| Present value of pension obligations, 1 Jan | 5,280 | 5,529 |
| Service cost | 11 | 11 |
| Interest expense | 100 | 99 |
| Pension payments | -232 | -219 |
| Actuarial losses from changes in demographic assumptions recognised in equity (other comprehensive income) | 92 | 0 |
| Actuarial gains from changes in financial assumptions recognised in equity (other income) | -56 | -79 |
| Actuarial gains from experience adjustments recognised in equity (other income) | -25 | -61 |
| **Present value of pension obligations, 31 Dec** | **5,170** | **5,280** |

130 The following table shows the development of plan assets:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| Fair value of plan assets, 1 Jan | 505 | 656 |
| Net return on plan assets | 10 | 10 |
| Additions to plan assets | 0 | -151 |
| Payments from plan assets | -160 | -152 |
| Actuarial gains recognised in equity (other income) | 11 | 142 |
| **Plan assets, 31 Dec** | **366** | **505** |

131 A quantitative sensitivity analysis of the main assumptions as at 31 December 2018 is presented below.

| ASSUMPTION | INTEREST SENSITIVITY | | PENSION TREND SENSITIVITY |
|---|---|---|---|
| Scenario | Increase by 0.50% | Decrease by 0.50% | Increase by 1.00% |
| Effect on defined benefit obligation (in € thousand) | -405 | 216 | 523 |

The above sensitivity analysis was performed using a method that extrapolates the effect of realistic changes in the key assumptions as at the end of the reporting period on the defined benefit obligation.

132 The average term of defined benefit obligations as at the end of the reporting period is 12.04 years (2017: 12.47 years)

133 The expected return on plan assets is based on a discount factor of 2.02% (2017: 1.93%). No contributions will be paid into the plan in the next twelve months.

134 The plan assets are composed exclusively of cash.

135 The anticipated payment structure for the years 2019 to 2027 is shown below:

| PENSION PAYMENTS MADE | € thou. |
|---|---|
| 2017 | 219 |
| 2018 | 232 |

| EXPECTED PENSION PAYMENTS | |
|---|---|
| 2019 | 258 |
| 2020 | 260 |
| 2021 | 264 |
| 2022 | 269 |
| 2023-2027 | 1,348 |

136 Defined contribution plans exist only in the form of the mandatory contributions by IVU AG to the state pension. Employer contributions of €2,131 thousand (2017: €1,960 thousand) were paid in the reporting year.

# Current liabilities

## Financial liabilities

137 IVU has the following credit facilities:

| | **Utilisation 31 Dec 2018 € thou.** | Utilisation 31 Dec 2017 € thou. | Credit facility € thou. |
|---|---|---|---|
| Berliner Sparkasse | 0 | 0 | 1,500 |
| Deutsche Bank AG | 0 | 0 | 1,500 |
| Monte del Paschi di Siena | 0 | 0 | 150 |

138 As in the previous year, the revocable credit facilities with Deutsche Bank AG and Berliner Sparkasse of €1,500 thousand each are secured by the general assignment of trade receivables and the allocation of licences. Credit facilities were not used in the financial year.

139 Expenses for interest and commission amounted to €190 thousand (2017: €178 thousand) in the 2018 financial year.

## Provisions

140 Provisions developed as follows:

| | As at **1 Jan 2018** € thou. | Utilised € thou. | Unused amounts reversed € thou. | Arising during the year € thou. | As at **31 Dec 2018** € thou. |
|---|---|---|---|---|---|
| Warranty | 1,281 | 291 | 227 | 472 | 1,235 |
| | 1,281 | 291 | 227 | 472 | 1,235 |
| of which current | 1,281 | | | | 1,235 |

141 Warranty provisions relate to warranty risks from completed projects. The provisions do not include interest.

## Other current liabilities

142 Other current liabilities are composed as follows:

| | **2018** € thou. | 2017 € thou. |
|---|---|---|
| Staff-related liabilities | 5,952 | 4,995 |
| Liabilities from contract risks | 1,599 | 63 |
| Tax liabilities (sales tax, wage tax) | 1,731 | 2,952 |
| Liabilities from outstanding invoices | 2,788 | 1,659 |
| Other | 40 | 901 |
| **Total** | **12,110** | **10,570** |

143 The staff-related liabilities essentially include holiday entitlements, overtime obligations and special payments.

## Deferred taxes/income taxes

144 German trade income tax is levied on the trade income derived from income subject to corporation tax. The effective trade tax rate depends on the municipality in which the IVU Group operates. The average trade tax rate for 2018 was 15.1% (2017: 15.1%). The corporation tax rate for the 2017 and 2018 financial years is 15%. In addition to corporation tax, there is a solidarity surcharge of 5.5% on the assessed corporation tax. Thus, the effective tax rate for the calculation of current income taxes for the 2018 financial year is 30.91% (2017: 30.90%).

145 Income tax expense for the current financial year breaks down as follows:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| **Current tax expenses** | | |
| Current year | -1,228 | -848 |
| **Deferred tax income/expense** | | |
| Change in tax loss carryforwards | 460 | -477 |
| Software | -43 | -42 |
| Goodwill amortisation affecting tax | -1 | -5 |
| Change in long-term construction contracts | 222 | 1.051 |
| Liabilities from construction contracts IVU Italy | 0 | -586 |
| Change in pension provisions | 128 | -133 |
| Change in other assets | 43 | 43 |
| Change in other provisions | 50 | 18 |
| | 859 | -131 |
| **Income tax expense** | -369 | -979 |

146 The following table shows the reconciliation of income tax expense:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| Earnings before taxes | 6,528 | 5,955 |
| Tax rate | 30,91% | 30,90% |
| Notional income tax expense | -2,018 | -1,840 |
| Off-balance sheet tax additions/ reductions | -49 | -36 |
| Foreign withholding taxes | -228 | 0 |
| Utilisation of tax loss carryforwards | 1,238 | 1,349 |
| Remeasurement of German tax loss carryforwards | 678 | -487 |
| Tax expense from prior periods * | -2 | 13 |
| Effects of tax rate differences | 8 | 19 |
| Other | 4 | 3 |
| **Current tax expenses** | -369 | -979 |

* of which: current taxes € -149 thousand, deferred taxes € 147 thousand

147 The deferred taxes reported in IVU's consolidated statement of financial position break down as follows:

| | 31 Dec 2018 € thou. | Delta 2018 | 31 Dec 2017 € thou. |
|---|---|---|---|
| **Deferred tax assets** | | | |
| Receivables Italy | 43 | 0 | 43 |
| Software | 0 | -43 | 43 |
| Other assets | 43 | 43 | 0 |
| Pension provisions | 714 | 128 | 586 |
| Other provisions | 134 | 50 | 84 |
| Tax losses carried forward | 4,448 | 460 | 3,988 |
| | **5,382** | **638** | **4,744** |
| **Deferred tax liabilities** | | | |
| Tax-effective goodwill amortisation | -1,738 | -1 | -1,737 |
| Current contract assets | -1,983 | 222 | -2,205 |
| | **-3,721** | **221** | **-3,942** |
| **Deferred tax assets/ liabilities, net** | 1,661 | 859 | 802 |
| - of which affecting the income situation | | 859 | |
| - of which equity changes | | 0 | |
| **Carrying amount** | | | |
| Deferred tax assets | 1,661 | 859 | 802 |
| **Deferred tax liabilities** | 0 | 0 | 0 |

148 The IVU Group has the following tax loss carryforwards:

| | 31 Dec 2018 € thou. | 31 Dec 2017 € thou. |
|---|---|---|
| Loss carryforward for German trade tax | 29,570 | 33,801 |
| Loss carryforward for German corporation tax | 34,237 | 38,403 |

There are no foreign loss carryforwards. The German loss carryforwards do not expire.

# D. NOTES TO THE CONSOLIDATED INCOME STATEMENT

149 The income statement has been prepared in accordance with the total cost format.

## Revenue from Contracts with Customers

150 Revenue is distributed to the various revenue types as follows:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| Goods/services/works contracts | 39,107 | 36,137 |
| Licences | 14,632 | 14,171 |
| Maintenance/Hosting | 24,059 | 20,757 |
| **Total** | **77,798** | **71,065** |

The position „goods/services/work contracts" include returns from licenses as part of consistent work contracts.

Of the contracts for implementation projects (for details of contract assets and contract liabilities on the reporting date, see paragraphs (116) et seq.) in place as at 31 December 2018, revenue of €45 million is likely to be realised in subsequent years, of which €12 million after more than twelve months.

Of the maintenance and hosting contracts in place as at 31 December 2018, revenue of €26 million is likely to be realised in the 2019 financial year.

The company makes use of the provision in IFRS 15.121(b).

## Other operating income

151 Other operating income is composed as follows:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| Income from the reversal of impairment losses | 202 | 0 |
| Government grants | 469 | 499 |
| Exchange rate gains | 104 | 314 |
| Other* | 624 | 85 |
| **Total** | **1.400** | **898** |

## Cost of materials

152 Cost of materials is distributed to purchased goods and purchased services as follows:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| Cost of purchased goods | 17,740 | 16,132 |
| Cost of purchased services | 9,387 | 8,113 |
| **Total** | **27,127** | **24,245** |

## Staff costs

153 Staff costs distribute as follows:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| Wages and salaries | 28,611 | 26,381 |
| Social security, post-employment and other employee benefit costs | 5,269 | 4,843 |
| **Total** | **33,880** | **31,224** |

## Depreciation and amortisationon assets

154 Depreciation and amortisation on non-current assets break down into the following parts:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| On intangible assets | 534 | 348 |
| On property, plant and equipment | 880 | 894 |
| **Total** | **1.414** | **1.242** |

## Other operating expenses

155 Other operating expenses can be distributed as follows:

| | 2018 € thou. | 2017 € thou. |
|---|---|---|
| Selling expenses | 2,661 | 2,775 |
| Operating expenses | 2,859 | 2,715 |
| Administrative expenses | 1,874 | 1,978 |
| Other | 2,679 | 1,653 |
| Total | 10,073 | 9,120 |

The position "Other" contains risk provisions for specific contract risks amounting to €1,564 thousand (2017: €34 thousand) and impairments on contract assets of €455 thousand (2017: €0 thousand).

## Earnings per share

156 Under IAS 33, the calculation of basic earnings per share is determined by dividing the consolidated net income by the weighted number of shares.

| | 2018 | 2017 |
|---|---|---|
| Net profit / loss for the period | 6,159 € thou. | 4,976 € thou. |
| Number of ordinary shares as at 1 Jan | 17,719,160 | 17,719,160 |
| Number of ordinary shares as at 31 Dec | 17,719,160 | 17,719,160 |
| Number of weighted shares | 17,719,160 | 17,719,160 |
| Basic earnings per share | 0.35 € | 0.28 € |

157 Diluted earnings per share are calculated by adjusting the profit attributable to ordinary shareholders and the weighted average number of shares outstanding for the effects of all the dilutive potential ordinary shares arising on the exercise of share subscription rights. For this purpose, the number of ordinary shares to be included is equal to the weighted average number of ordinary shares plus the weighted average number of ordinary shares that would be issued as a result of the conversion of all the dilutive potential ordinary shares into ordinary shares. The conversion of stock options into ordinary shares is considered effective on the date on which the options were granted. There was no dilutive effect from stock options issued as at 31 December 2018 and 2017..

# E. NOTES TO THE STATEMENT OF CASH FLOWS

158 The reported cash and cash equivalents are not subject to any restriction by a third party. Interest and income tax payments are reported. In accordance with the resolution of the Annual General Meeting of 30 May 2018, a dividend of €0.10 per dividend-bearing share, €1,771,916.00 in total, was distributed. The composition of cash and cash equivalents is shown in paragraph (121).

# F. NOTES TO SEGMENT REPORTING

159 The IVU Group applies IFRS 8 Operating Segments. This standard requires the disclosure of information on the Group's operating segments. The IVU Group is divided into two segments, Public Transport and Logistics.

160 Reporting by business segment is attached as a separate annex.

## Public Transport

161 This segment develops software solutions for the customer groups of transport operations (buses, trains, ferries) and purchasers (associations, states, municipalities) with the aim of supporting and optimising the planning and operation of transport services with intelligent IT systems. In the financial year the company generated revenue of €10.5 million (14.2% of segment revenue) with one customer in the Public Transport segment.

## Logistics

162 Our modern software suite IVU.elect offers the adequate solution to prepare, organise, conduct and evaluate elections. With IVU.locate we offer our customer groups Deutsche Post, retail chains and other public administrations a map based software solution for the analysis and presentation of geodata. In the finan-

cial year, the company made revenues of €557 thousand and €391 thousand respectively with two customers of the Logistics segment (14.8% and 10.4% respectively of segment revenues).

## Reconciliation of segment assets

163 Segment assets are reconciled to gross assets as follows:

| | 2018<br>€ thou. | 2017<br>€ thou. |
|---|---|---|
| Gross assets as per statement of financial position | 79,379 | 68,823 |
| - Deferred tax assets | -1,661 | -802 |
| Segment assets | 77,718 | 68,021 |

# G. OTHER DISCLOSURES

## Commitments and contingencies

### Rental and lease agreements

164 Vehicles, office equipment and other equipment are rented under operating leases. In 2018 €128 thousand (2017: €265 thousand) was incurred in lease and maintenance fees.

165 The following rental and lease payments result from rental and lease agreements:

| REMAINING TERM UP TO ONE YEAR | 2018<br>€ thou. | 2017<br>€ thou. |
|---|---|---|
| Rent payments | 1,343 | 1,262 |
| Lease payments | 129 | 137 |
| Subtotal | 1,472 | 1,399 |
| REMAINING TERM OF BETWEEN ONE AND FIVE YEARS | | |
| Rent payments | 4,545 | 4,013 |
| Lease payments | 166 | 188 |
| Subtotal | 4,711 | 4,201 |
| Total | 6,183 | 5,600 |

### Letters of credit

166 As at the end of the reporting period, letters of credit of €14,266 thousand, €888 thousand of which in foreign currency (2017: €17,056 thousand, €911 thousand of which in foreign currency) were assumed by various banks for IVU AG.

## Employees

167 The average number of employees of the IVU Group was 558 in the financial year (2017: 504). The breakdown of employees by function is as follows:

| | 2018 | 2017 |
|---|---|---|
| Project work/sales | 261 | 244 |
| Production/software development | 234 | 202 |
| Administration | 63 | 58 |
| Total | 558 | 504 |

## Auditing and consultancy fees

168 The auditor's fees recognised as expenses in the financial year amount to €111 thousand. In addition, expenses for other services were recorded by the auditor as follows:

- Tax advisory services (€19 thousand)
- Tax compliance foreign countries (€9 thousand)
- Advice relating to secondments (€8 thousand)
- Other services (€34 thousand)

169 The non-audit services performed by the auditor solely relate to compliance activities, i.e. preparation of tax declarations and documentation.

## Related party disclosures

170 Related parties are those with the ability to control the IVU Group or significantly influence its financial and operating policies. In addition to control, the existence of trust relationships was also taken into account in determining the significant influence of related parties on the financial and operating policies of the IVU Group.

## Related companies

171 The affiliated companies included in the consolidated financial statements are considered related parties. There are no other related parties.

172 Transactions between IVU AG and its subsidiaries consisted of the reallocation of license revenue, development services and allocations for services rendered that were eliminated in consolidation.

## Related persons

173 The following persons are considered related parties:

**Executive Board members of IVU AG**

- Martin Müller-Elschner (CEO and CFO)
- Matthias Rust (member of the Executive Board)
- Leon Struijk (member of the Executive Board since 1 February 2018)

**The members of the Supervisory Board were:**

- Prof Herbert Sonntag, Berlin (Chairman)
  Professor for Transport Logistics and the Transport Logistics Research Group at the Technical University of Applied Sciences, Wildau,
  Honorary Member LNBB Logistiknetz Berlin-Brandenburg e.V.,
  Visiting Professor at German-Kazakh University, Almaty Kazakhstan,
  Visiting Professor at Georgian Technical University, Tbilisi Georgia.
- Ute Witt, Potsdam
  Managing Partner of FinTax policy advice GmbH,
  Vice-President and Treasurer of IHK Berlin,
  Member of the Economic Advisory Council of Domstift Brandenburg,
  Member of the DIHK Finance and Tax Committee and of the Advisory Board,
  Member of the Tax Policy Committee of IHK Berlin,
  Honorary Member of network financial planner e.V.,
  Member of the Berlin Chamber of Tax Consultants,
  Member of the Chamber of Auditors.
- André Neiss, Hanover (until 30 May 2018)
- Ulrike Mayer-Johanssen, Berlin
  Founder of MetaDesign AG, Berlin,
  Director of Uli Mayer-Johanssen GmbH, Berlin,
  Initiator and founding team Designing Future, Alliance for Positive Growth Strategies,
  External economics expert on the Supervisory Board of University Hospital Düsseldorf, Düsseldorf,
  Honorary Senator and Member of the University Board at the Schwäbisch Gmünd University of Design, Schwäbisch Gmünd,
  Member of the Board of Trustees Common Purpose,
  Member of the German Designer Club, Frankfurt/Main,
  Member of the Board of Trustees of the Stiftung Berlinische Galerie, Berlin,
  Member of the German Designer Club, Frankfurt/Main,
  Member of the Board of Trustees of Deutsche Stiftung Denkmalschutz, Bonn,
  Member of the Advisory Council of Werteakademie Gut Gödelitz, Mochau,
  Member of the Advisory Council of Wertekommission, Bonn,
  Member of the German Club of Rome.
- Dr. Lars Slomka, Oberursel (from 30 May 2018 to 30 June 2018)
  Executive Board of Hansen & Heinrich AG, Berlin,
  Chairman of the Supervisory Board of Online Software AG, Weinheim.

## Related party transactions

174 There were no other business transactions between related parties and companies of the IVU Group in the reporting year or the previous year.

175 In the financial year 2018, Leon Struijk, member of the Executive Board, acquired 10,000 IVU shares on the market.

176 In the financial year 2017, Martin Müller-Elschner, CEO, acquired 25,000 IVU shares on the market.

## Remuneration of the Executive Board and the Supervisory Board

177 The Executive Board of IVU AG received remuneration of €1,388 thousand (2017: €850 thousand) in the 2018 financial year. The remuneration of the Executive Board comprises a fixed (€768 thousand) and a variable portion (€620 thousand). The variable portion amounted to 45% (2017: 43%) of total remuneration in the year under review. On 25 May 2016 the Annual General Meeting resolved to exempt the company from the duty to disclose the remuneration of individual members of the Executive Board for the financial years 2016 until 2020, inclusive.

178 Pension provisions of €2,555 thousand (2017: €2,634 thousand) were reported for former members of the Executive Board. Furthermore, pension payments of €151 thousand (2017: €151 thousand) were made for former members of the Executive Board.

179 The Supervisory Board received remuneration of €60 thousand (2017: €45 thousand) in 2018.

180 The shareholdings of the members of the Executive Board and the Supervisory Board are as follows:

| **EXECUTIVE BOARD** | **SHARES 31 Dec 2018** | SHARES 31 Dec 2017 |
|---|---|---|
| Martin Müller-Elschner (Chairman) | 225,000 | 225,000 |
| Matthias Rust | 6,800 | 6,800 |
| Leon Struijk | 10,000 | n/a |
| **SUPERVISORY BOARD** | | |
| Prof. Herbert Sonntag | 866,000 | 866,000 |
| Ute Witt | 1,000 | n/a |

## Supplementary Report

181 Since 31 December 2018, there have been no events of particular significance that have affected the situation of the Group regarding earnings, finances and assets.

## Disclosures on the German Corporate Governance Code

182 The 2019 declaration of compliance was issued by the Executive Board and the Supervisory Board on 15 February 2019 and can be accessed by shareholders at all times on the IVU AG homepage (www.ivu.com) under Investor Relations.

Berlin, 28 March 2019

**The Executive Board**

Martin Müller-Elschner

Matthias Rust

Leon Struijk

# CONSOLIDATED SEGMENT REPORTING

## for the 2018 financial year (IFRS)

| BUSINESS SEGMENTS | PUBLIC TRANSPORT | | LOGISTICS | | CENTRAL SERVICES | | CONSOLIDATED | |
|---|---|---|---|---|---|---|---|---|
| | **2018 € thou.** | 2017 € thou. | **2018 € thou.** | 2017 € thou. | **2018 € thou.** | 2017 € thou. | **2018 € thou.** | 2017 € thou. |
| Total revenue | 75,076 | 66,506 | 3,993 | 5,564 | 10 | 116 | 79,079 | 7,.186 |
| Revenue from transactions with other segments | -1,057 | -1,052 | -224 | -69 | 0 | 0 | -1,281 | -1,121 |
| **Revenue from external customers** | **74,019** | **65,454** | **3,769** | **5,495** | **10** | **116** | **77,798** | **71,065** |
| **Segment result (gross profit)** | **47,970** | **42,357** | **3,549** | **5,141** | **552** | **220** | **52,071** | **47,718** |
| | | | | | | | | |
| Expenses | -35,427 | -31,227 | -2,171 | -3,573 | -7,770 | -6,786 | -45,368 | -41,586 |
| **EBIT** | **12,543** | **11,130** | **1,378** | **1,568** | **-7,218** | **-6,566** | **6,703** | **6,132** |
| Financial expenses, net | | | | | -175 | -177 | -175 | -177 |
| **EBT** | | | | | | | **6,528** | **5,955** |
| Income taxes | | | | | -369 | -979 | -369 | -979 |
| **Consolidated net loss / profit** | | | | | | | 6,159 | 4,976 |
| Segment assets | 71,294 | 58,581 | 3,630 | 4,918 | 2,794 | 4,522 | 77,718 | 68,021 |
| Investment expenditure | 630 | 810 | 41 | 91 | 103 | 117 | 774 | 1,018 |
| Impairments | 1,151 | 988 | 75 | 111 | 188 | 143 | 1,414 | 1,242 |

| GEOGRAPHIC SEGMENTS | GERMANY | | EUROPE | | OTHERS | | CONSOLIDATED | |
|---|---|---|---|---|---|---|---|---|
| Revenue from external customers | 37,460 | 33,750 | 37,818 | 31,435 | 2,520 | 5,880 | 77,798 | 71,065 |
| Segment assets | 70,428 | 63,084 | 6,147 | 4,862 | 1,143 | 75 | 77,718 | 68,021 |
| Investment expenditure | 713 | 939 | 24 | 79 | 37 | 0 | 774 | 1,018 |
| Impairments | 1,267 | 1,104 | 126 | 138 | 21 | 0 | 1,414 | 1,242 |

# NON-CURRENT ASSETS

## Development in intangible assets and property, plant and equipment 2018 (IFRS)

| | COST | | | | |
|---|---|---|---|---|---|
| **I. Intangible assets** | **As at 1 Jan 2018 € thou.** | **Addition € thou.** | **Reclassi-fication € thou.** | **Disposal € thou.** | **As at 31 Dec 2018 € thou.** |
| Industrial rights and licenses, software | 7,653 | 104 | 0 | 0 | 7,757 |
| Goodwill | 14,626 | 0 | 0 | 0 | 14,626 |
| Primary intangible assets | 15,505 | 0 | 0 | 0 | 15,505 |
| | 37,784 | 104 | 0 | 0 | 37,888 |
| **II. Property, plant and equipment** | | | | | |
| Technical equipment and machinery | 511 | 0 | 0 | 66 | 445 |
| Other equipment, operating and office equipment | 8,515 | 666 | 3 | 252 | 8,932 |
| Advance payments and assets under construction | 3 | 0 | -3 | 0 | 0 |
| | 9.029 | 666 | 0 | 318 | 9.377 |
| | 46,813 | 770 | 0 | 318 | 47.265 |

## Development in intangible assets and property, plant and equipment 2017 (IFRS)

| | COST | | | | |
|---|---|---|---|---|---|
| **I. Intangible assets** | **As at 1 Jan 2017 € thou.** | **Addition € thou.** | **Reclassi-fication € thou.** | **Disposal € thou.** | **As at 31 Dec 2017 € thou.** |
| Industrial rights and licenses, software | 7,047 | 292 * | 314 | 0 | 7,653 |
| Goodwill | 14,626 | 0 | 0 | 0 | 14,626 |
| Primary intangible assets | 15,505 | 0 | 0 | 0 | 15,505 |
| | 37,178 | 292 | 314 | 0 | 37,784 |
| **II. Property, plant and equipment** | | | | | |
| Technical equipment and machinery | 993 | 0 | 0 | 482 | 511 |
| Other equipment, operating and office equipment | 9,040 | 700 ** | 0 | 1,225 | 8,515 |
| Advance payments and assets under construction | 317 | 0 | -314 | 0 | 3 |
| | 10,350 | 700 | -314 | 1,707 | 9,029 |
| | 47,528 | 992 | 0 | 1,707 | 46,813 |

* The additions include €18 thousand from the acquisition of IVU Traffic Technologies Schweiz AG
** The additions include €7 thousand from the acquisition of IVU Traffic Technologies Schweiz AG

| DEPRECIATION AND AMORTISATION | | | | RESIDUAL CARRYING AMOUNTS | |
|---|---|---|---|---|---|
| **As at 1 Jan 2018 € thou.** | **Addition € thou.** | **Disposal € thou.** | **As at 31 Dec 2018 € thou.** | **As at 31 Dec 2018 € thou.** | As at 31 Dec 2017 € thou. |
| 6,974 | 536 | 0 | 7,510 | 247 | 679 |
| 3,277 | 0 | 0 | 3,277 | 11,349 | 11,349 |
| 15,505 | 0 | 0 | 15,505 | 0 | 0 |
| 25,756 | 536 | 0 | 26,292 | 11,596 | 12,028 |
| | | | | | |
| 391 | 63 | 65 | 389 | 56 | 120 |
| 7,381 | 815 | 251 | 7,945 | 987 | 1,134 |
| 0 | 0 | 0 | 0 | 0 | 3 |
| 7,772 | 878 | 316 | 8,334 | 1,043 | 1,257 |
| 33,528 | 1,414 | 316 | 34,626 | 12,639 | 13,285 |

| DEPRECIATION AND AMORTISATION | | | | RESIDUAL CARRYING AMOUNTS | |
|---|---|---|---|---|---|
| **As at 1 Jan 2017 € thou.** | **Addition € thou.** | **Disposal € thou.** | **As at 31 Dec 2017 € thou.** | **As at 31 Dec 2017 € thou.** | As at 31 Dec 2016 € thou. |
| 6,626 | 348 | 0 | 6,974 | 679 | 421 |
| 3,277 | 0 | 0 | 3,277 | 11,349 | 11,349 |
| 15,505 | 0 | 0 | 15,505 | 0 | 0 |
| 25,408 | 348 | 0 | 25,756 | 12,028 | 11,770 |
| | | | | | |
| 813 | 55 | 477 | 391 | 120 | 180 |
| 7,767 | 839 | 1,225 | 7,381 | 1,134 | 1,273 |
| 0 | 0 | 0 | 0 | 3 | 317 |
| 8,580 | 894 | 1,702 | 7,772 | 1,257 | 1,770 |
| 33,988 | 1,242 | 1,702 | 33,528 | 13,285 | 13,540 |

# AUDITOR'S REPORT

## INDEPENDENT AUDITOR'S REPORT

To IVU Traffic Technologies AG

## Report on the audit of the consolidated financial statements and the Group management report

### Audit opinions

We have audited the consolidated financial statements of IVU Traffic Technologies AG, Berlin, and its subsidiaries (the Group) – consisting of the consolidated statement of financial position as at 31 December 2018, the consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the period from 1 January to 31 December 2018, in addition to the notes to the consolidated financial statements, including a summary of the key accounting policies. We also audited the Group management report of IVU Traffic Technologies AG for the financial year from 1 January to 31 December 2018. In accordance with German statutory provisions, we did not audit the content of the responsibility statement in accordance with section 297(2) sentence 4 HGB and section 315(1) sentence 5 HGB under "Additional information in accordance with section 315(1) sentence 5 HGB, section 315a(1) and (2) HGB and section 315(4) HGB" in the Group management report or the Group's corporate governance declaration in accordance with section 315d HGB under "Corporate governance declaration in accordance with section 315d HGB" in the Group management report.

In our opinion, based on the findings of our audit:

- the attached consolidated financial statements, in all material respects, comply with the IFRSs as adopted by the EU and the additional requirements of German commercial law in accordance with section 315e(1) HGB, and give a true and fair view of the net assets and financial position of the Group in accordance with these requirements as at 31 December 2018 and its results of operations for the financial year from 1 January to 31 December 2018; and
- as a whole, the attached Group management report provides a suitable view of the Group's position. In all material respects, this Group management report is consistent with the consolidated financial statements and with German legal requirements, and accurately presents the risks and opportunities of future development. Our audit opinion on the Group management report does not extend to the responsibility statement in accordance with section 297(2) sentence 4 HGB and section 315(1) sentence 5 HGB under "Additional information in accordance with section 315(1) sentence 5 HGB, section 315a(1) and (2) HGB and section 315(4) HGB" in the Group management report or the Group's corporate governance declaration in accordance with section 315d HGB under "Corporate governance declaration in accordance with section 315d HGB" in the Group management report.

In accordance with section 322(3) sentence 1 HGB, we declare that our audit has not led to any objections to the regularity of the consolidated financial statements or the Group management report.

### Basis for audit opinions

We conducted our audit in accordance with section 317 of the Handelsgesetzbuch (HGB – German Commercial Code), the EU Audit Regulation (No. 537/2014) and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (IDW – German Institute of Public Auditors). Our responsibility under these provisions and policies is described further in the section of our audit report entitled "Auditor's responsibility for the audit of the consolidated financial statements and the Group management report". We are independent from the Group companies in accordance with the commercial and professional regulations of European and German law and have fulfilled our other German professional obligations in accordance with these requirements. Furthermore, in accordance with Article 10(2)(f) of the EU Audit Regulation, we declare that we have not performed any prohibited non-audit services as defined by Article 5(1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to serve as a basis for our audit opinions on the consolidated financial statements and the Group management report.

## Key issues in the audit of the consolidated financial statements

Key issues pertaining to the audit are those that, based on our professional judgement, were most significant in our audit of the consolidated financial statements for the financial year 1 January to 31 December 2018. These issues were taken into account in the context of our audit of the consolidated financial statements as a whole and in the formation of our audit opinion; we have not issued a separate opinion on these issues.

The audit issues that we consider to be key are described below:

**1. Measurement of contract assets from long-term project orders and related revenue recognition**
**Reasons for identification as a key audit issue**

As at 31 December 2018, receivables from contract assets from longterm project orders not yet invoiced and advance payments received on the same (figures before netting) are reported in the consolidated financial statements (see note (121) of the notes to the consolidated financial statements).

Sales for long-term project contracts are generally recognized based on the stage of completion, using IFRS 15 "Revenue from Contracts with Customers" as the basis. As revenue from contracts with customers can sometimes cover several financial years, there is an inherent estimation uncertainty in their accounting, particularly with regard to the expected total costs and other project risks, which can be influenced by discretionary decisions. Revenues, estimated total costs and profit recognition may differ materially from the original estimates due to new information about the development of costs and changes in project scope during the term of a project agreement. The assessment of the stage of completion for the measurement of contract assets from long-term project orders can be influenced by the adjustment of expected values or the consideration (or not) of expenses and thus sales revenues. In addition, the firsttime application of IFRS 15 in fiscal year 2018 was highly relevant due to the necessary Group-wide assessment of contractual bases with regard to the new accounting criteria.

Given the inherent estimation uncertainty, particularly with regard to the expected total costs and other project risks, which are influenced by discretionary decisions, we deem the measurement of contract assets from long-term project orders a key audit issue.

**Audit procedure**

Within a structural and functional audit of the accounting-related internal control system we have assessed the processes relevant to the measurement of contract assets from long-term project orders. We tested the effectiveness of the controls implemented for the processes recognising revenue from progress billings and the recognition and allocation of staff costs to contracts at IVU Traffic Technologies AG, Berlin.

On the basis of a risk-oriented sample, we have assessed the estimates and discretionary decisions made by the legal representatives. Our audit procedures included, among other things, reviewing the contractual basis and terms and conditions, including contractually agreed provisions for partial deliveries and services, termination rights, penalties for delay and contractual penalties, and damages. In addition to obtaining audit evidence (e.g. project and partial acceptance and contract conditions), surveys and discussions were conducted with the responsible project management (both commercial and technical project managers and controllers) in order to assess the valuation of customer orders with long-term contract production on the basis of the continuously updated project plans. In addition, evidence was obtained for recorded expenses with regard to the objective allocation of expenses and their economic origin before 31 December 2018, so that they could be taken into account when measuring the progress of work. In addition, analytical audit procedures were performed with regard to the development of contract values as well as planned and actual costs and the resulting estimated total costs and margin development.

With regard to the first-time application of IFRS 15, we dealt with the implementation process set up by the

Company. As part of the assessment of the contract analyses carried out by the legal representatives, we assessed in particular – on a sample basis – whether the requirements for period-related revenue recognition for project contracts were met. In addition, we assessed which different types of services the contracts contain and whether these can be independently defined and thus accounted for. To this end, we have assessed the information on the effects of the first-time application of IFRS 15 in the notes to the consolidated financial statements.

Our audit did not give rise to any objections regarding the measurement of contract assets from long-term project orders and related revenue recognition.

**Reference to related information**

Related information can be found under note (18) and from note (150) in the notes to the consolidated financial statements.

### 2. Measurement of deferred tax assets from tax loss carryforwards

**Reasons for identification as a key audit issue**

Deferred tax assets were recognised in the consolidated financial statements as at 31 December 2018, consisting of deferred tax assets and deferred tax liabilities. The deferred tax assets include significant amounts from tax loss carryforwards in Germany.

In particular, the assessment of the assumptions made by the legal representatives regarding the timing and amount of future taxable income used to measure deferred taxes from tax loss carryforwards in Germany was material to our audit, as the assumptions made are discretionary and are based on a complex process including estimates on the basis of company planning.

Given the significance of the deferred taxes for the presentation of the net assets and results of operations of the Group, and the degree of discretion in estimates on the basis of company planning, we deem the measurement of deferred taxes from tax loss carryforwards a key audit issue.

**Audit procedure**

In particular, our audit procedures focused on the appropriateness of the expectations of the company's officers on the basis of company planning regarding the timing and amount of future taxable income as regards the probability that sufficient future taxable income will be available against which the loss carryforwards in Germany can be utilised. We looked at the tax planning for the next three financial years using the company planning prepared by the Executive Board for IVU Traffic Technologies AG, Berlin, in particular. We involved our tax specialists in order to understand the key assumptions used by the company's officers in company planning and to assess whether the deferred taxes recognised were properly calculated on this basis.

In order to assess the quality of tax planning, we compared prior planning for the Group's parent company, IVU Traffic Technologies AG, Berlin, with the actual development of IVU Traffic Technologies AG, Berlin. We also discussed the essential premises of tax planning with the legal representatives and coordinated them with corporate planning.

Furthermore, the calculation of the underlying income tax rate for IVU Traffic Technologies AG, Berlin, was reconstructed. The analysis of the amount of the tax loss carryforwards included the assessment of tax notices and other correspondence of the Group's parent company with the tax authorities.

Our audit procedures did not give rise to any objections regarding the measurement of deferred taxes from tax loss carryforwards.

**Reference to related information**

Related information can be found under note (22) and from note (144) ff. in the notes to the consolidated financial statements.

### 3. Impairment testing of goodwill

**Reasons for identification as a key audit issue**

Goodwill is recognized in the consolidated financial statements as at 31 December 2018, which relates to the cash generating units (CGU) Public Transport Logistics. The recoverable amounts determined to assess impairment are based on the value of each CGU in use as determined on the basis of the expected future cash flows, which are derived from the expected future operating results in the budget for the 2019 financial year, the detailed planning period until the 2023 financial year and the forecast perpetual annuity.

The impairment test to be performed at least once a year is a complex process based on discretionary assumptions, particularly with regard to the future development of the Group's financial position and results of operation. The outcome of these valuations is therefore highly dependent on how the legal representatives estimate future cash inflows and on the discount rates used in each case.

Given the complexity of the underlying company planning, which entails an elevated risk of accounting misstatement, and the degree of discretion displayed in measurement, we deemed the impairment testing of goodwill a key audit issue.

**Audit procedure**

We involved our measurement specialists in our audit procedures to assist in the assessment of the measurement method applied. We have followed the methodological procedure for carrying out the impairment test with regard to compliance with the requirements for an impairment test in accordance with IAS 36 Impairment of Assets. We assessed the assumptions regarding the future development of the CGUs and the definition of the individual CGUs on the basis of company planning by comparing this with the current development in the company's figures. In particular, regarding the impairment of the goodwill attributable to the Logistics CGU, we analysed the expectations of the company's officers regarding the future development and profitability of business and the underlying assumptions. With the knowledge that even relatively small changes in the discount rates used can have a significant impact on the amount of the calculated enterprise value or recoverable amount, we have compared and analysed the parameters used to determine the discount rates with externally available market data and reconstructed the calculation with regard to the resulting requirements of IAS 36.

We have also performed sensitivity analyses in order to assess a possible impairment risk in the event of a possible change in one of the key valuation assumptions.

Our audit procedures did not give rise to any objections regarding the impairment testing of goodwill.

**Reference to related information**

Related information provided by the company can be found under notes (33), (109) and (110) in the notes to the consolidated financial statements.

## Other information

The Supervisory Board is responsible for the report of the Supervisory Board, the company's officers are responsible for the miscellaneous other information. Other information includes the following:

- the responsibility statement in accordance with section 297(2) sentence 4 HGB and section 315(1) sentence 5 HGB under "Additional information in accordance with section 315(1) sentence 5 HGB, section 315a(1) and (2) HGB and section 315(4) HGB" in the Group management report;
- the Group's corporate governance declaration in accordance with section 315d HGB under "Corporate governance declaration in accordance with section 315d HGB" in the Group management report.

and other elements intended for the annual report, of which we obtained a version dated 21 March 2019 prior to issuing this audit opinion, in particular the report of the Supervisory Board and the Declaration of Compliance with the Corporate Governance Code pursuant to Section 161 of the German Stock Corporation Act (AktG), with the exception of the consolidated financial statements and the Group management report

Our audit opinions on the consolidated financial statements and the Group management report do not extend to the other information, and accordingly we do not offer any audit opinion or any other form of audit conclusion on it.

In connection with our audit, we have the responsibility to read the other information and to assess whether the other information:

- contains material inconsistencies with the consolidated financial statements or our findings from the audit; or
- is otherwise materially misrepresented.

## Responsibility of the company's officers and the Supervisory Board for the consolidated financial statements and the Group management report

The company's officers are responsible for the preparation of the consolidated financial statements that, in all material respects, comply with the IFRSs as adopted by the EU and the additional requirements of German commercial law in accordance with section

315e(1) HGB, and that the consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of the Group. Furthermore, the company's officers are responsible for the internal controls that they have deemed necessary to enable the preparation of consolidated financial statements that are free from – intentional or unintentional – material misstatement.

In preparing the consolidated financial statements, the company's officers are responsible for assessing the Group's ability to continue as a going concern. They are also responsible for disclosing matters in connection the continuation of business activities, if relevant. Furthermore, they are responsible for the accounting on the basis of the going concern principle, unless there is the intention to liquidate or discontinue the Group, or there is no realistic alternative.

Moreover, the company's officers are responsible for the preparation of the Group management report that, on the whole, provides a suitable view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and with German legal requirements, and accurately presents the risks and opportunities of future development. Also, the company's officers are responsible for the precautions and measures (systems) that they deem necessary to enable the preparation of a Group management report in accordance with the applicable German legal requirements to provide sufficient suitable evidence for the statements in the Group management report.

The Supervisory Board is responsible for monitoring the Group's accounting process for the preparation of the consolidated financial statements and the Group management report.

## Auditor's responsibility for the audit of the consolidated financial statements and the Group management report

Our objective is to obtain reasonable assurance as to whether the consolidated financial statements as a whole are free from material – intentional or unintentional – misstatement and whether the Group management report as a whole provides a suitable view of the Group's position and, in all material respects, is consistent with the consolidated financial statements, audit findings and German legal requirements, and accurately presents the risks and opportunities of future development, and to issue an audit report containing our audit opinions on the consolidated financial statements and the Group management report.

Reasonable assurance is a high degree of assurance, but not a guarantee that an audit performed in accordance with section 317 HGB, the EU Audit Regulation and the German generally accepted standards for the audit of financial statements promulgated by the IDW will always reveal a material misstatement. Misstatements can result from violations or inaccuracies, and are considered material if they could reasonably be expected, individually or collectively, to influence the economic decisions that users make on the basis of these consolidated financial statements and the Group management report.

We exercise due discretion and maintain a critical approach. Furthermore:

- We identify and assess the risks of – intentional or unintentional – material misstatements in the consolidated financial statements and the Group management report, we plan and perform audit procedures in response to these risks, and obtain audit evidence that is sufficient and appropriate to form the basis of our audit opinions. The risk that material misstatements are not detected is greater for violations than for inaccuracies, as violations can include fraud, falsification, intentional omissions, misrepresentation or the invalidation of internal controls;
- We gain an understanding of the internal control system relevant to the audit of the consolidated financial statements and of the systems relevant to the audit of the Group management report in order to plan audit procedures that are appropriate under the given circumstances, but not with the objective of expressing an opinion on the effectiveness of these systems;
- We assess the appropriateness of the accounting policies applied by the company's officers and the reasonableness of the estimates and related disclosures by the company's officers;
- We draw conclusions about the appropriateness of the going concern principle applied by the company's officers and, on the basis of the audit evidence obtained, whether there is material uncertainty about events or circumstances that can give rise to significant doubts about the Group's ability to continue as a going concern. If we come to the conclusion that material uncertainty exists, we are

required to refer to the relevant disclosures in the consolidated financial statements and the Group management report in the auditor's report or, if these disclosures are inappropriate, to modify our respective audit opinion. We draw our conclusions on the basis of the audit evidence obtained up to the date of our opinion. However, future events or circumstances can lead to the Group being unable to continue its business activities;

- We assess the overall presentation, structure and content of the consolidated financial statements, including the notes, and whether the consolidated financial statements present the underlying transactions and events in such a way that the consolidated financial statements, in accordance with the IFRSs as adopted by the EU and the additional requirements of German commercial law in accordance with section 315e(1) HGB, give a true and fair view of the net assets, financial position and results of operations of the Group;
- We obtain sufficient, suitable audit evidence for the accounting information of the companies or business activities within the Group in order to issue audit opinions on the consolidated financial statements and the Group management report. We are responsible for designing, monitoring and performing the audit of the consolidated financial statements. We bear sole responsibility for our audit opinions;
- We assess that the Group management report is consistent with the consolidated financial statements and the law, and the view of the position of the Group that it provides;
- We perform audit procedures on the forward-looking statements made in the Group management report by the company's officers. In particular, on the basis of sufficient and suitable audit evidence, we analyse the significant assumptions on which the forward-looking statements are based, and assess whether the forward-looking statements have been properly derived from these assumptions. We do not issue a separate audit opinion on the forward-looking statements or the underlying assumptions. There is a considerable yet unavoidable risk that future events will deviate materially from the forward-looking statements.

Among other things, we discuss with those responsible for overseeing the audit the planned scope and scheduling of the audit and significant audit findings, including any deficiencies in the internal control system that we identify during our audit.

We declare to those responsible for overseeing the audit that we complied with the relevant independence requirements and discuss with them all relationships and other issues that can reasonably be assumed to affect our independence, and the precautions taken against this.

Of the issues we discussed with those responsible for overseeing the audit, we determine which issues were most significant in the audit of the consolidated financial statements for the current reporting period and that are therefore the key audit issues. We describe these issues in our audit opinion, unless the public disclosure of such issues is prevented by law or other legal provisions.

## Other legal and requirements

### Other disclosures in accordance with Article 10 of the EU Audit Regulation

We were elected as the auditor of the consolidated financial statements by the Annual General Meeting on 31 May 2019. We were engaged by the Supervisory Board on 21 November 2018. We have served as the auditor of the consolidated financial statements of IVU Traffic Technologies AG, Berlin, without interruption since the 2002 financial year.

We declare that the audit opinions contained in this audit report are consistent with the additional report to the Supervisory Board in accordance with Article 11 of the EU Audit Regulation (audit report).

### Responsible auditor

The auditor responsible for the audit is Mr Philipp Canzler.

# RESPONSIBILITY STATEMENT

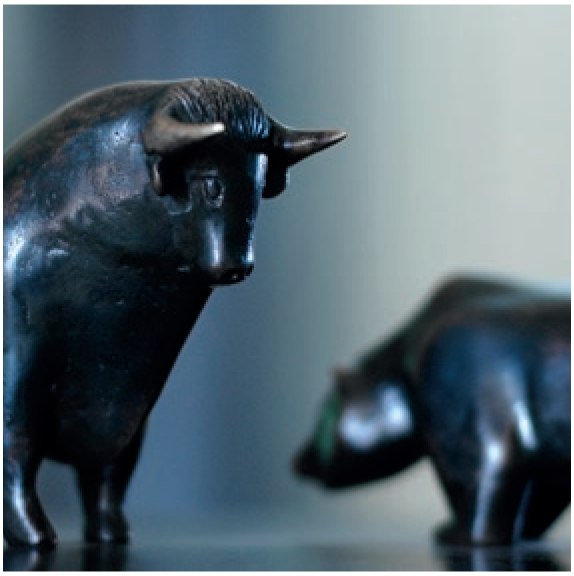
## RESPONSIBILITY STATEMENT

We represent that, to the best of our knowledge and in accordance with applicable accounting principles, the consolidated financial statements present a true and fair view of the Group's net assets, financial situation and results of operation, and that the Group management report describes fairly, in all material respects, the Group's business trend and performance, the Group's position and the significant risks and opportunities of the Group's expected future development.

**The Executive Board**

Berlin, March 2019

Martin Müller-Elschner | Matthias Rust | Leon Struijk



## FINANCIAL CALENDAR 2019

**THURSDAY, 28 MARCH 2019**
Publication of the 2018 Annual Report

**TUESDAY, 28 MAY 2019**
Quarterly report as at 31 March

**WEDNESDAY, 29 MAY 2019**
Annual General Meeting

**WEDNESDAY, 28 AUGUST 2019**
Half-year report 2019 as at 30 June

**WEDNESDAY, 20 NOVEMBER 2019**
Quarterly report as at 30 September.

## BOARDS

### Supervisory Board

- Prof. Dr. Herbert Sonntag (Vorsitzender)
- Uli Mayer-Johanssen
- Ute Witt

### Executive Board

- Martin Müller-Elschner (Vorsitzender)
- Matthias Rust
- Leon Struijk

### Advisory Board

- Dr. Heiner Bente, Hamburg
- Prof. Dr. Manfred Boltze, Darmstadt
- Alain Flausch, Brüssel (BE)
- Bert Meerstadt, Bussum (NL)
- Prof. Dr. Adolf Müller-Hellmann, Köln
- Prof. Dr. Ronald Pörner, Berlin
- Volker Sparmann, Hofheim am Taunus

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