DRIVE INNOVATION • DELIVER EXCELLENCE

ASM INTERNATIONAL

INTERIM REPORT 2021

FOR THE SIX MONTH PERIOD ENDED JUNE 30, 2021

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GENERAL

ASM International N.V. was incorporated on March 4, 1968, as a Dutch public limited liability company ("Naamloze Vennootschap") and was previously known as Advanced Semiconductor Materials International N.V.

Our principal executive office is located at Versterkerstraat 8, 1322 AP, Almere, the Netherlands. Our telephone number at that location is +31 88 100 8810, website http://www.asm.com.

The Company's first half of the financial year runs from January 1 to June 30.

SUPERVISORY BOARD

M.C.J. van Pernis, Chairman
M.J.C. de Jong
S. Kahle-Galonske
D.R. Lamouche
M. de Virgiliis

MANAGEMENT BOARD

G.L. Loh, Chairman of the Management Board, President and Chief Executive Officer
P.A.H. Verhagen, Member of the Management Board and Chief Financial Officer

ASMI AT A GLANCE

ASM International N.V. (ASMI) is a leading supplier of semiconductor wafer processing equipment and process solutions. Our customers include all of the top semiconductor device manufacturers in the world. Semiconductor chips sit at the heart of almost every electronic device we use today, and ASMI equipment is a key technology used to manufacture many of these chips.

WHAT WE DO

ASMI supplies wafer processing equipment to the leading semiconductor manufacturers. The total market outlook for 2021 wafer fab equipment (WFE) is US$83 billion (Gartner, July 2021). Within wafer processing equipment, the major segments include lithography, etch & clean, deposition, and process diagnostics. Our focus is on deposition equipment, which comprises about a quarter of WFE. We are a key player in the deposition equipment segments for atomic layer deposition (ALD) and epitaxy, and a focused niche player for PECVD and vertical furnaces.

At ASMI we design, manufacture, sell and service our deposition tools to supply our customers with advanced technologies for the production of semiconductor devices, or integrated circuits (ICs). Semiconductor ICs, or chips, are a key technology enabling the advanced electronic products used by consumers and businesses everywhere. Our tools are used by semiconductor manufacturers in their wafer fabrication plants, or fabs. Furthermore, we provide maintenance service, spare parts, and process support to our customers globally at their fabs, which typically operate on a 24-hour basis.

LOGIC, FOUNDRY AND MEMORY MARKETS

The semiconductor market can be split into three primary segments: logic, foundry and memory. ASMI supplies equipment to the leading semiconductor manufacturers in all of these segments:

- The logic market is made up of manufacturers that create chips, such as microprocessors, that are used to process data and are used in smartphones, laptops and computers;
- The foundry market consists of businesses that operate semiconductor fabrication plants to manufacture the designs of other so-called fabless semiconductor companies; and
- The memory market covers manufacturers that make chips that store information either temporarily, such as Dynamic Random Access Memory (DRAM), or permanently, such as NAND non-volatile memory.

There are other smaller, yet still important market segments for which ASMI supplies equipment, such as analog and power. Analog and power semiconductors are devices used in a wide range of electronic systems for mobile products, automobiles, telecommunications, and other applications. Wafer manufacturing is another relatively small segment that we participate in, for the processing of bare silicon wafers before they are delivered to semiconductor fabs.

Our customers' goal is to build faster, cheaper, and increasingly more powerful and lower energy consuming semiconductors for each new technology node. We work closely with our customers to make this a reality, forging mutually beneficial partnerships to help develop their technology roadmap. Through our intensive R&D programs and customer co-development, we continuously improve and extend the capability of our products and processes to meet these advanced technology roadmaps, increase productivity and lower operating costs per wafer. The result is value creation for our customers. While doing so, we work on the edge of what is technologically possible. This creates a very attractive professional and learning environment for our employees and generates long-term value for all of our stakeholders. We serve society by helping our customers to produce the chips needed for advanced electronics that deliver a world of improvements and opportunities. The world around us shows an increasing need for the use of more applications and lower energy usage. For example, increasingly complex processor chips are used for artificial intelligence applications and advanced chips used in 5G mobile phones require lower power usage, for which our high-k ALD process is beneficial.

BASICS OF SEMICONDUCTOR MANUFACTURING

The process of making semiconductor chips at our customers' fabs is both highly complex and very costly. Semiconductor fabs house a large set of wafer-processing equipment which perform a series of process steps on round silicon wafers, which are typically 300mm in diameter. The equipment is operated in cleanrooms, which filter the air to avoid contamination from small particles that could negatively affect the circuitry on the chips.

Many individual steps are performed using various types of wafer processing equipment to create a semiconductor chip, including photolithographic patterning, depositing thin-film layers, etching to remove material and thermal treatments. Our systems are designed for deposition processes when thin films, or layers, of various materials are grown or deposited onto the wafer. Many different thin-film layers are deposited to complete the full sequence of process steps necessary to manufacture a chip. After testing the individual circuits to ensure correct performance, the chips on the wafer are separated and then packaged in a protective housing before ultimately becoming part of a set of semiconductor chips on circuit boards within an electronic product. ASMI is a key player in the ALD and epitaxy segments, and a niche player in vertical furnace and PECVD.

VALUE CREATION

We create value through our technologies by enabling leading semiconductor and technology industry partners to deliver the world of tomorrow through our innovative processing solutions and equipment. We partner with our customers and stakeholders to develop new materials, processes, and technologies that support their technology roadmaps. The process solutions delivered on our equipment enable more powerful microprocessors and higher density memory devices, all operating at lower power. Advancements that benefit society are increasingly dependent on capabilities derived from new semiconductor technologies.

GREATER PERFORMANCE, REDUCED ENERGY CONSUMPTION

Our advanced deposition technologies support cost-effective products enabling the electronic devices of the future. This leads to electronic devices that deliver ever-greater performance while reducing their energy consumption. Higher performance translates into more processing power, while a lower energy requirement means smaller, longer-lasting, more efficient products. This enables electronics' manufacturers to further integrate smart technology into a wider range of their products. For example, ASMI's ALD and epitaxy tools are critical technologies for creating high performance transistors that can operate using lower power levels, a key enabler for products such as smart watches and fitness monitors, which have substantial functionality in a small form factor with good battery life.

This value creation benefits all of our stakeholders. Our employees enjoy the challenge of developing cutting-edge technology solutions, and the opportunity for career advancement. Our suppliers, in addition to a higher activity level, also benefit from improved quality and efficiencies resulting from our supplier process control program. Consumers benefit from the value added and energy reduction possibilities provided by new electronic products that are enabled by advanced semiconductors. The widespread use of smartphones is a great example of this. Continuous advancements in microprocessors and memory chips empowers global consumers with extensive computing power that increasingly drive their daily activities, all from the palm of their hand.

OUR BUSINESS MODEL

We strive to create value for the company and all of our stakeholders. Our technology enables precision deposition of thin films in various steps in the fabrication of semiconductor chips, helping our customers build the most advanced chips used in the electronics systems throughout society. To achieve this, we are working with our customers to develop innovative solutions, while constantly looking at what is best for our investors, our employees, society, and other stakeholders.

Our products and process solutions benefit society by helping to enable a wide range of advanced integrated circuit logic and memory chips used in most of the world's electronic systems. Fundamental to our model is R&D investment, including basic chemical, materials, and feasibility research, followed by process and product developments. We aim to continuously recruit world-class technologists in the semiconductor process and equipment technology fields. We cooperate with research institutes and our customers to understand the technology roadmap challenges and to develop the appropriate process and equipment solutions required. Our manufacturing facilities allow us to deliver high-quality systems so that our customers can ramp their fabrication plants. We support our customers globally with process and equipment services and spare parts.

CUSTOMERS AND PRODUCTS

ASMI's ALD, epitaxy, PECVD and vertical furnace systems are all used in the manufacturing process for the world's most advanced semiconductor chips. These chips are used in a broad range of applications, including the latest smartphones, for servers in cloud computing, and to enable artificial intelligence algorithms. The semiconductor industry finds it increasingly difficult to achieve each subsequent technology node, resulting in the need for more advanced process steps and new materials. Our equipment is a key component in enabling the industry to advance its technology roadmap.

SMALLER DEVICES

The industry's relentless push to follow Moore's Law leads to the continuous demand for smaller, faster, and cheaper semiconductor components. The technologies required to achieve these advancements are heavily dependent on equipment such as ASMI's process tools.

Today, our most advanced foundry customers manufacture semiconductor devices equivalent to the 5 nanometer node (one nanometer, or nm, is one billionth of a meter), typically in FinFET architecture connected with down to 15nm metal lines. Our customers are already qualifying and testing new critical processes to generate devices for the next nodes: 3nm and 2nm. While a new node is generally introduced every 2 years, it can be introduced even faster.

At the same time, even more advanced devices are being developed in our customers' laboratories and several collaborative research environments. These next-generation technology nodes are increasing the demand for new materials and more complex process integration methods, driving more ALD and epitaxy process steps at each new node.

Our memory customers manufacture devices such as DRAM and 3D-NAND. Today DRAM chips with a memory capacity of 1Gb/chip are being manufactured, with line widths as small as 15nm. Several of these chips are combined in one package to produce 4Gb or 8Gb DRAM modules. These DRAM chips contain very advanced vertical access transistors, and very tall capacitors with new materials. Additionally, 3D-NAND non-volatile flash memory chips are today being manufactured with 128 transistors stacked in one vertical string. Such chips can store up to 512Gb/chip, and similar to DRAM, chips are combined in one package to memory modules that can store up to 2TB. Our customers are already working on taller 3D-NAND structures.

In developing faster and smaller devices, our customers' major technology requirements are:

- Introduction of new thin-film materials and device designs needed for continued scaling;
- Reliable manufacturing of taller and narrower 3D structures in devices;
- Lithography of ever-smaller feature sizes, now much smaller than the wavelength of visible light; and
- New manufacturing processes that reduce device variability and increase yield.

DEVELOPING NEW MATERIALS

In order to meet our customers' technology needs, we are developing many new materials, along with the deposition equipment capable of achieving performance specifications in volume manufacturing. For example, ALD technology is used to create ultra-thin films of exceptional material quality, uniformity and conformality. ALD of high-k dielectrics can improve the performance and reduce the power consumption of a device, thereby enhancing battery life. This same class of materials can also lead to larger charge storage in a smaller capacitor, critical for memories.

In addition to the development of the high-k dielectric, there is a strong focus on new technologies and materials for the metal gate and capacitor electrodes, the gate sidewall passivation, and many other applications.

Plasma enhanced ALD (PEALD) is an important technology that enables precise deposition at very low temperatures. One application of PEALD is spacer defined multi-patterning, whereby the deposition of a highly conformal oxide spacer enables the extension of existing optical lithography technology beyond its basic resolution limits. These spacers will continue to be used in combination with EUV lithography, also to extend beyond its resolution limits.

OUR PRODUCTS

Our products include wafer processing deposition systems for CVD, ALD, epitaxy, and diffusion/furnace. We make two types of process tools: single-wafer and batch. The majority of our business comes from single-wafer tools, which are designed to process an individual wafer in each processing chamber on the tool.

In contrast, a batch tool is designed such that a large number of wafers are processed simultaneously in a larger processing chamber. Batch tools typically achieve a higher throughput compared to single-wafer tools.

Single-wafer tools typically achieve a higher level of process performance and control, especially for complex, critical applications. We work closely with our customers to meet their demands, and in recent years we have developed single-wafer tools with multiple chambers configured together in a compact way on a single platform. This approach offers the best of both worlds, combining high productivity and a high level of performance.

To address the technology needs of our customers, the relentless drive of the industry to reduce cost corresponds to significant spending on development programs that further increase throughput, equipment reliability, and yield in our customers' manufacturing line, and further lower the cost per wafer of the wafer processing systems. Without continuous productivity improvements, the price of chips would keep rising because the capital intensity of each new technology node keeps rising.

BREAKTHROUGH TECHNOLOGIES

We're an innovation company. Innovation is our growth engine and our road to the future. We invest and deliver technology solutions that will drive a smart, connected future. Because of this innovative culture, we are a leading supplier of ALD equipment and process solutions for the semiconductor industry. Today, our ALD process technology delivers the highest performance available to support the next generation of semiconductor devices. Our epitaxy products have also demonstrated solutions for our customers to achieve transistor channel performance at the most advanced technology nodes. We are investing across our full product line spectrum to develop the breakthrough technologies that drive growth for the company.

EMPLOYEES

ASMI is focused on attracting, engaging, retaining, and developing talented people with targeted capabilities to achieve our longer-term strategic direction. Our people are part of an inclusive and diverse workforce, supported by a culture that is caring, innovative and driven to deliver. We had 2,780 employees as of June 30, 2021.

We want to be recognized as an employer of choice in the semiconductor equipment industry. To achieve this, we are continually focused on strengthening a number of areas. First, we are redefining our culture and reinforcing our leadership. Second, we are optimizing our organizational design and workforce planning. And finally, we ensure our people are kept informed through consistent and robust employee communications.

Our main focus areas are: culture and leadership, organizational development and workforce planning, talent recruitment, retention and total rewards, and employee communications.

We are an equal opportunity employer, and we welcome and value diversity. We recognize and respect the differences between individuals, including gender, ethnicity, religious beliefs, sexual orientation, knowledge and experience, work background, age, skills, etc. Recruiting and developing a diverse workforce gives us a wide range of perspectives, allows us to explore and adopt new technological ideas and innovations, and enables us to continuously strive to deliver excellent products and service to our clients.

We are also dedicated to creating a safe and inclusive workspace for every individual. Our Global Employment Standards (GES) summarize our approach to respecting human rights throughout our global operations. They are written with everyone in our value chain in mind. The GES reflect the principles laid out by the United Nations in the Guiding Principles on Business and Human Rights, and support the RBA Code of Conduct framework. In addition, last year, the Code of Business Ethics was refreshed into the Code of Business Conduct (COBC). ASMI's COBC management system includes

18 underlying policies including fair competition, gifts entertainment and hospitality, corruption and improper advantages and anti-fraud.

As we are entering a new era of innovation, to embark on the next phase of growth, we need to continue to focus on developing our people and leaders, which requires new dimensions in leadership development. We strive to give our people the opportunity to develop their talents and gain the experiences necessary to support our growth ambition and strengthen their employability. We want to be recognized as an employer of choice in our industry. To realize this, we identify and support people with talent and leadership potential, ensuring we have the right people in the right job at the right time, to nurture future growth.

SHAREHOLDERS

Our strategy aims to create sustainable value for all our stakeholders. As part of this strategy, we are committed to creating long-term shareholder value. On the back of successful expansion in the ALD market, combined with healthy growth in the other product lines, ASMI outperformed the broader wafer fab equipment and realized significant sales growth in the last several years. The healthy financial performance contributed to a strong share price performance over time. In addition, we have returned significant amounts of cash to our shareholders over time, reflecting our policy to use excess cash for the benefit of our shareholders.

We maintain an open dialog with our shareholders and investors. We provide the financial markets with accurate and timely information through, among other things, press releases, our annual reports, quarterly earnings calls and webcasts and investor meetings. Investors can find up-to-date and comprehensive information about the company and our shares on our website.

SOCIETY

Understanding our impact, increasing our value. We are aware of the impact we have as a company, and how this effects our value and society. We focus on key areas, including reducing greenhouse gases and water consumption, improving our recycling and reuse of raw materials, and focusing on responsibly designed and operated facilities.

Climate change is a significant issue facing the world today, and impacts economies and operations. At ASMI, we are continually assessing the risks climate change poses and ways to mitigate the risks. We set targets and objectives to reduce our impact on the environment. We evaluate the associated risks and are developing mitigation steps and ways to positively contribute to global strategies to combat climate change. For example, we are evaluating our renewable energy portfolio, and developing steps that we can take to reduce our associated emissions. ASMI equipment, which is installed and used in our R&D labs globally, generates effluents that must be treated or removed from releasing to the air. This includes non-GHG emissions such as particulates or volatiles. In addition, ASMI has conducted regular water security risk assessments and reports publicly through the CDP water security disclosure report.

We are looking to the future for our next set of environmental targets and objectives, and working to strengthen their alignment with global initiatives such as the UN Sustainable Development Goals (SDGs). Our Environmental policy is a key element of our Corporate Responsibility policy. It establishes our commitment to reduce our environmental impact by continuously improving our management systems and setting the right objectives. We continuously assess the range of aspects we need to identify, and set improvement targets on the most important impacts.

SUPPLIERS

The complexity and technology needs of ASMI's products continues to increase. Yet the time to market to introduce these products to our customers is continually shrinking. Engaging, developing and growing a robust supply chain is critical to compete in this challenging market. ASMI continues to drive a global, high-quality, technology-leading supply chain that can support business needs from New Product Introduction (NPI) through High Volume Manufacturing (HVM) and the Aftermarket. The focus on continuous improvement programs, new tools to improve processes, and adherence to changing policies and regulations are all part of how ASMI engages suppliers to enable it's success.

Our mission at ASMI is to build a world-class supply chain that provides our customers with the most technologically advanced products, services, and global support network, at a competitive cost of ownership. We partner with hundreds of suppliers who provide goods and services used to manufacture our products and serve our customers. With design centers and manufacturing sites spread over six countries and on three continents, it is important to have suppliers who can support engineering locally as well as provide HVM parts and services for manufacturing and spares. We focus on continuing to partner with the right suppliers who have the scope to meet our full range of support, capacity and technical needs. This includes using our global footprint to source based on best cost, quality and capacity to meet our growing demand.

We hold our suppliers to the same high standard as ourselves, by requiring that they follow and comply with the Responsible Business Alliance's (RBA) Code of Conduct. Critical and strategic suppliers are asked to conduct a self-assurance process and set objectives for RBA Code acknowledgment, self-assessment, auditing, and corrective action processes that are consistent with RBA requirements.

We communicate our expectations and measure conformance to our expectations with our critical and strategic suppliers. This approach manages our supply chain risks by focusing on the areas where a majority of our materials come from and where spending occurs.

We are continuing to strengthen our long-term relationships we have and are engaging industry leaders to further enable our growth trajectory. It is clear we can go faster together by partnering with the best suppliers in a given commodity or technology and have been able to accelerate our development through these supplier engagements.

STRATEGY

We are an experienced innovation leader. This is the result of our focus on key issues and challenges within the semiconductor industry, enabling us to make a difference to our customers, employees, and other company stakeholders. While challenges and opportunities may change over time, we will continue to bring our breakthrough technologies into volume manufacturing, benefiting our customers, other stakeholders, and society overall. This enables us to act as a responsible citizen.

MISSION

Our mission is to provide our customers with the most advanced, cost-effective, and reliable products, service, and global support network in the semiconductor industry and beyond. We advance the adoption of our deposition technology platforms by developing new materials and process applications that support our customers' long-term technology roadmaps.

VISION

We aim to delight our customers, employees, shareholders, and society by driving innovation with new technologies, and delivering excellence with dependable products. By doing this, we will create new possibilities for everyone to learn, create, and share more of what they are passionate about.

STRATEGY

Our strategic objective is to realize profitable, sustainable growth by capitalizing on our innovative strength in deposition technologies and our strong relationships with key customers. We act thereby as a responsible citizen.

The five key elements of our strategy are:

› INNOVATIVE STRENGTH

The core element in our overall growth strategy is the continuous innovation which provides ASMI with a leading technological competitive advantage. With R&D centers in six countries, we have helped shape the industry by driving innovation through our collaborative R&D models, successfully delivering advanced new materials, new products, and new processes to our customers. Our R&D spending is targeted at the development of new materials and process solutions that enable additional applications, as well as continuous product improvements in performance, reliability and cost of ownership. We are also making capital investments in lab space and equipment to further expand our development capabilities in next-generation technologies. In addition to our internal R&D efforts, we are continuously expanding and deepening our strategic cooperation with key customers, suppliers, chemical manufacturers, and research institutes. This approach enables us to remain innovative and swiftly meet the changing demands of our customers.

› OPERATIONAL EXCELLENCE

While technology leadership remains crucial, operational excellence is essential to further strengthen our future position. We aim to provide our customers with dependable, leading edge products and services at a consistent performance level, while providing the best total cost of ownership. We continuously focus on further improving the effectiveness and efficiency of our organization. Following our strong growth in recent years, we need to strengthen our organization and business processes in specific areas. For example, we will continue to step up our capabilities in engineering, product lifecycle management (PLM) and order fulfillment. We aim to strengthen our new product introductions' processes to provide our customers with additional on-site support as the pace of technological change continues to accelerate.

The next step in our Company's growth plans has been our investment in a new manufacturing facility in Singapore, which was completed at the end of 2020. This new facility significantly expands our production capacity, enables a more flexible manufacturing flow, and provides additional capacity for growth opportunities.

› EMPLOYEES

Our employees are our key asset. We strive to create a safe, inspiring and motivating workplace where all our employees have the opportunity to use their talents, excel and develop their potential as we work together to deliver the cutting edge technologies of tomorrow. Following the rapid expansion in our workforce, we have taken steps to further strengthen and unify our culture in which care, innovation and delivery are our core values. We are improving our organization and processes to ensure we attract, retain and develop the talent to further support ASMI's growth.

› MAINTAIN STRONG BALANCE SHEET

We strive to maintain a strong balance sheet that allows us to continue investing in R&D. To this end, our target is to keep a minimum of €300 million in cash on our balance sheet. At the end of June 2021, we had €465 million. We intend to continue using excess cash flow for the benefit of our shareholders. By consistently following this policy, we have returned more than €1 billion to our shareholders over the last three years.

› RESPONSIBLE GROWTH

Environmental, Social and Governance (ESG) is an integral part of our growth strategy. Key focus areas are workforce diversity and inclusion, further lowering the environmental footprint of our own operations, and promoting high ESG standards among our suppliers. We are stepping up our efforts to increase the efficiency of our products in terms of consumption of energy and chemicals, thereby supporting our customers in their focus to minimize their environment footprint.

OUR STRENGTHS

- We are a focused deposition equipment player in the semiconductor wafer fab equipment market. Our principal technologies are in ALD and Epitaxy, in which we hold leading positions, and these play a critical role for our customers in enabling the transition to new device generations. Since 2010, we have increased our revenue by an annual average growth of 16%, ahead of the 7% compound annual growth rate shown by the broader wafer fab equipment (WFE) market in the same period. Our target is to continue outgrowing the WFE market over time, by leveraging our strong position in advanced nodes. By growing our revenue, we can further increase investments in R&D and create value for our stakeholders.
- We have helped shape the industry by driving innovation through our collaborative R&D models, successfully delivering advanced new materials, new products and new processes to our customers. With R&D centers in six countries throughout the world, we are close to our customers and we have access to world-class professionals working in the semiconductor sector today. This R&D capability has resulted in a strong patent position, with 2,127 patents in force.
- We have strong customer relationships with the leading semiconductor manufacturers. As we have expanded and deepened our R&D engagements with the chipmakers, we further improved our understanding of the key requirements of the next generation of device roadmaps, enabling us to develop value-added solutions to the industry's critical technology issues.

CHALLENGES

Rising costs

One challenge is the rising cost of advanced chip technologies. The continuation of Moore's Law, whereby the number of transistors on a chip doubles every two years, is becoming increasingly difficult. Today, investments in new factories for the most advanced nodes amount to more than US$10 billion. And the equipment costs for these advanced nodes are also increasing, which will place greater pressure on equipment manufacturers to create innovative solutions. Remaining at the forefront of technology developments is essential if we want to stay successful.

Geopolitical risks

Another challenge are geopolitical risks. In the past, the success of the semiconductor industry was strongly tied to the success of all parties along the value chain. Innovations by equipment suppliers supported original solutions developed by chip manufacturers, which led to new opportunities for customers to take full advantage of these advanced chips.

Geopolitical developments put this model at risk. We carefully review any potential impact such developments will have for us, while we seek to make use of any new opportunities such situations might offer.

Memory market

We need to strengthen our position in the memory market. While we have a strong position in the logic/foundry market, our position in the memory market is weaker. We are working on solutions to enable us to serve a larger part of this market.

Environmental footprint

As we focus on growth, and expand our position in the industry and our operations, our environmental footprint will grow. As a result, we are stepping up our efforts to increase the efficiency of our products in terms of energy and chemical consumption, thereby supporting our customers' aim to minimize their environmental footprint.

Changing demands

While the average incomes of many developing countries are increasing and leading to higher demands for end products that require semiconductors, we are aware that this will increase the demand for more scarce resources and our obligation to responsibly source such resources.

Employees

Being able to attract and retain talented employees remains a key challenge as we focus on growing and strengthening our organization.

KEY FIGURES

(EUR million, except employees and per share data)	Six months ended June 30, 2020	2021
New orders	631.6	**926.3**
Backlog	317.4	**445.6**
Book-to-bill	0.9	**1.1**
Revenue	667.0	**805.7**
Gross profit	309.9	**392.9**
Gross profit margin %	46.5%	**48.8%**
Result from operations	165.7	**242.9**
Operating margin %	24.8%	**30.1%**
Share in income of investments in associates	4.6	**27.3**
Net earnings from operations, attributable to common shareholders	148.2	**230.9**
Non-current assets	1,287.4	**1,343.4**
Current assets	936.0	**1,041.4**
Total assets	2,223.4	**2,384.8**
Non-current liabilities	36.2	**46.2**
Current liabilities	332.5	**347.9**
Total equity	1,854.6	**1,990.6**
Net working capital [1)]	229.9	**252.1**
Net debt [2)]	(431.5)	**(465.1)**
Cash flows from operating activities	117.0	**196.0**
Cash flows from investing activities	(67.8)	**(38.5)**
Cash flows from financing activities	(113.1)	**(138.3)**
Number of employees	2,459	**2,780**
Per share data		
Basic net earnings per share	3.03	**4.75**
Diluted net earnings per share	3.00	**4.71**
Weighted average number of shares (thousand)		
Basic	48,940	**48,650**
Diluted	49,459	**49,018**

[1] See Notes to the Condensed Consolidated Interim Financial Statements, Note 6.
[2] Net debt is defined as debt minus cash and cash equivalents.

INTERIM MANAGEMENT BOARD REPORT [1]

ASMI CONSOLIDATED RESULTS FOR THE SIX MONTHS ENDED JUNE 30, 2021

The following table shows the operating performance for the six months ended June 30, 2021, compared to the same period of previous year:

	Six months ended June 30,		
(EUR million)	2020	2021	Change
New orders	631.6	**926.3**	47%
Backlog	317.4	**445.6**	40%
Book-to-bill	0.9	**1.1**	
Revenue	667.0	**805.7**	21%
Gross profit	309.9	**392.9**	27%
Gross profit margin %	46.5%	**48.8%**	
Selling, general and administrative expenses	(76.8)	**(85.8)**	12%
Research and development expenses	(67.4)	**(64.3)**	(5)%
Result from operations	165.7	**242.9**	47%
Operating margin %	24.8%	**30.1%**	
Financing income/(expenses)	5.6	**12.8**	7.2
Income tax	(27.7)	**(52.1)**	(24.4)
Share in income of investments in associates			
ASMI share in net earnings ASMPT	11.4	**33.3**	21.9
Amortization of fair value adjustments from PPA	(6.8)	**(6.0)**	0.8
Net earnings from operations, attributable to common shareholders	148.2	**230.9**	82.7

Backlog includes orders for which purchase orders or letters of intent have been accepted, typically for up to one year. Historically, orders have been subject to cancellation or rescheduling by customers. In addition, orders have been subject to price negotiations and changes in specifications as a result of changes in customers' requirements. Due to possible customer changes in delivery schedules and requirements and to cancellation of orders, our backlog at any particular date is not necessarily indicative of actual revenue for any succeeding period.

The following table shows the level of new orders for the six months ended June 30, 2021, and the backlog as per June 30, 2021, compared to the comparable period of 2020:

	Six months ended June 30,		
(EUR million)	2020	2021	% Change
Backlog at the beginning of the year	**351.2**	**323.6**	**(8)%**
New orders	631.6	**926.3**	47%
Revenue	(667.0)	**(805.7)**	21%
FX-effect	1.5	**1.4**	
Backlog as per reporting date	**317.4**	**445.6**	**40%**
Book-to-bill ratio (new orders divided by revenue)	**0.9**	**1.1**	

The backlog increased from €317.4 million at the end of June 30, 2020 to €445.6 million as per June 30, 2021. The book-to-bill ratio for the first half year was 1.1. In terms of customer segments, new orders in the first half year 2021 were led by foundry, followed by memory and then logic.

[1] Amounts are rounded to the nearest tenth of million euro; therefore amounts may not equal (sub) totals due to rounding.

REVENUE

(EUR million)	Six months ended June 30, 2020	Six months ended June 30, 2021	% Change
Equipment revenue	533.7	**654.0**	23%
Spares & service revenue	133.2	**151.7**	14%
Total	**667.0**	**805.7**	**21%**

Revenue for the six months ended June 30, 2021 increased to €805.7 million, up 29% at constant currencies (21% as reported). Revenue in the first half year 2021 were led by foundry, followed by memory and then logic.

Equipment revenue in the first half year 2021 increased by 32% at constant currencies (23% as reported). Spares & service revenue in the first half year 2021 increased by 19% at constant currencies (14% as reported).

GROSS PROFIT

(EUR million)	Six months ended June 30, 2020	Six months ended June 30, 2021
Gross profit	309.9	**392.9**
Gross profit margin	46.5%	**48.8%**

The gross profit margin for the six months ended June 30, 2021, increased to 48.8% compared to 46.5% in the same period last year. The gross profit margin in 2021 was positively impacted by sales mix. The impact of currency changes on gross profit was a decrease of 6% year-on-year.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Selling, general and administrative expenses (SG&A) increased by 12% compared to the level in the first half year-on-year. As a percentage of revenue, the SG&A expenses decreased from 12% in the first half last year to 11% in the same period this year. The impact of currency changes for the first half year was a decrease of 3% year-on-year.

RESEARCH AND DEVELOPMENT EXPENSES

(EUR million)	Six months ended June 30, 2020	Six months ended June 30, 2021	% Change
Research and development expenditure	(83.1)	**(90.0)**	8%
Capitalized development expenditure	31.4	**37.7**	20%
Amortization capitalized development expenditure	(10.9)	**(11.0)**	1%
Impairment capitalized development expenditure	(4.9)	**(1.1)**	(78)%
Total	**(67.4)**	**(64.3)**	**(5)%**

R&D expenses decreased by 5% compared to the first half year-on-year. The decrease was fully explained by lower impairment charges, which dropped from €5 million to €1 million, and higher capitalization, which increased from €31 million to €38 million. Excluding impairments and IFRS effects, the underlying research and development expenses increased by 8% year-on-year. The impact of currency changes for the first half year was a decrease of 6% year-on-year.

RESULT FROM OPERATIONS

	Six months ended June 30,	
(EUR million)	2020	2021
Operating result	165.7	**242.9**
Operating result margin	24.8%	**30.1%**

The operating margin in the first half year 2021 was 30.1%, an increase of 5.3% points compared to the same period last year due to higher gross margins. The impact of currency changes for the first half year was a decrease of 7% year-on-year.

FINANCING COSTS

	Six months ended June 30,		
(EUR million)	2020	2021	Change
Interest income	0.1	**–**	(0.1)
Interest expenses	(0.9)	**(1.1)**	(0.2)
Foreign currency exchange results	6.4	**13.9**	7.5
Total	**5.6**	**12.8**	**7.2**

Financing costs are mainly related to translation results. The first half year 2021 results included a translation gain of €14 million compared to a gain of €6 million included in the first half year 2020 results. The translation results are mainly related to movements in the US dollar in the respective periods. A substantial part of ASMI's cash position is denominated in US dollar.

SHARE IN INCOME OF INVESTMENTS IN ASSOCIATES

Result from investments, which reflects our approximate 25% shareholding in ASMPT, increased by €22 million compared to the same period previous year. ASMPT's net earnings, on a 100% basis, increased by €88 million to €134 million compared to the same period previous year. For further information on the half year results of ASMPT, please visit ASMPT's website http://www.asmpacific.com.

Amortization intangible assets, resulting from the sale of the 12% stake of ASMPT in 2013, amounted to €6 million in the first half year. For 2021, on a currency comparable basis, this amortization is expected to amount to €13 million.

Reporting ASMI share in net earnings of ASMPT in the consolidated statement of profit or loss:

	Six months ended June 30,	
(EUR million)	2020	2021
ASMI share in net earnings ASMPT	11.4	**33.3**
Amortization of fair value adjustments from PPA	(6.8)	**(6.0)**
Total	**4.6**	**27.3**

INCOME TAX

Income tax in the first half year increased to €52 million compared to €28 million in the first half of 2020.

CASH FLOW, BALANCE SHEET, LIQUIDITY AND CAPITAL RESOURCES

CASH FLOW

The following table shows the cash flow statements for the six months ended June 30, 2021, compared to the same period of previous year:

	Six months ended June 30,	
(EUR million)	2020	2021
Net earnings from operations, attributable to common shareholders	**148.2**	**230.9**
Adjustments required to reconcile net earnings to net cash from operating activities:		
Depreciation, amortization and impairments	43.3	**44.9**
Share-based compensation	6.5	**7.9**
Income tax	27.8	**52.1**
Non-cash financing costs	4.0	**(6.0)**
Share in income of investments in associates	(4.6)	**(27.3)**
Changes in assets and liabilities:		
Accounts receivable	(44.3)	**(40.4)**
Inventories	(6.1)	**(8.3)**
Evaluation tools	(26.3)	**(16.3)**
Other assets	(11.0)	**(3.1)**
Accounts payable and accrued expenses	(17.3)	**45.3**
Income tax paid	(3.2)	**(83.6)**
Net cash from operating activities	**117.0**	**196.0**
Capital expenditures	(42.8)	**(22.5)**
Capitalized development expenditure	(31.4)	**(37.7)**
Purchase of intangible assets	(1.9)	**(0.1)**
Dividend received from associates	8.4	**21.8**
Net cash used in investing activities	**(67.8)**	**(38.5)**
Payment of lease liabilities	(3.9)	**(4.1)**
Purchase of treasury shares ASMI	(10.8)	**(37.3)**
Proceeds from issuance of treasury shares	0.4	**–**
Dividend paid to common shareholders ASMI	(98.7)	**(96.9)**
Net cash used in financing activities	**(113.1)**	**(138.3)**

The cash flow from operating activities was positively impacted by higher activities, partly offset by increased working capital needs and tax payments. Cash used in investing activities during the first half year 2021 decreased compared to the first half of 2020 mainly due to lower capital expenditures and higher dividend received from ASMPT. Cash used by financing activities in the first half year of 2021 was higher due to the share buyback.

BALANCE SHEET

Net working capital, consisting of inventories, accounts receivable, other current assets, accounts payable, provision for warranty and accrued expenses and other payables, increased to €252 million compared to €242 per June 30, 2020. The number of outstanding days of working capital, measured against quarterly revenue, decreased to 55 days on June 30, 2021 (June 30, 2020: 61 days).

SOURCES OF LIQUIDITY

As per June 30, 2021, the Company's principal sources of liquidity consisted of €465 million in cash and cash equivalents and €150 million in undrawn bank lines.

SHARE BUYBACK PROGRAM

On April 20, 2021, ASMI announced the authorization of a new share buyback program of up to €100 million within the 2021/2022 time frame. The program commenced on, July 28, 2021, and will end as soon as the aggregate purchase price of the common shares acquired by ASMI has reached €100 million, but ultimately on November 16, 2022. This repurchase program is part of ASMI's commitment to use excess cash for the benefit of its shareholders.

WITHDRAWAL OF TREASURY SHARES

The withdrawal of 500,000 treasury shares, as earlier approved by the AGM 2021, became effective as of July 21, 2021. As of that date, the number of issued shares is 49,297,394.

COVID-19

The top priority of ASMI is the health and safety of our employees and their families, and our customers and partners. Since the global outbreak of the COVID-19 pandemic we took all appropriate actions to protect our staff and to maintain business operations for customers in a safe manner. As the pandemic evolves with variants, cluster outbreaks, and surges, we continue to maintain a high level of diligence and protection for our employees. Remote work and work from home for a significant portion of our workforce continues to be utilized. Travel restrictions, including quarantines and testing requirements are reviewed and updated. We continue to maintain a high level of hygiene and protocols at our sites including masks requirements and social distancing.

We continue to experience supply constraints as a result of COVID-19 restrictions in certain countries where our suppliers are located and collaboratively work with impacted suppliers to mitigate any adverse impact in delivery and availability. To date, ASM successfully mitigated any COVID-related impact to production or service. The border closures that were more common in 2020 have given way to travel guidelines and control measures such as testing and quarantining. While not convenient, we have been able to navigate these measures safely to maintain business.

ASM has adapted to the COVID-19 pandemic, modifying our processes and systems to be efficient in meeting customer demands.

SUBSEQUENT EVENTS

Subsequent events have been evaluated by the Company until August 31, 2021, the issuance date of this interim report 2021. There are no subsequent events to report.

REPORTING RESPONSIBILITIES AND RISKS

RELATED PARTY TRANSACTIONS

There have been no significant related party transactions or changes in related party transactions described in ASMI's 2020 Annual Report that could have a material effect on the financial position or performance of the Company in the first six months of the 2021 financial year.

AUDITORS' INVOLVEMENT

The contents of this Interim Financial Report have not been audited or reviewed by an external auditor.

RISKS AND UNCERTAINTIES

In conducting our business, we face a number of principal risks and uncertainties that each could materially affect our business, revenues, income, assets and liquidity and capital resources. For a detailed description of our assessment of the major risk factors, see Risk management in our 2020 Annual Report. Those risk factors are deemed incorporated and repeated in this report by reference. ASMI believes that these risks similarly apply for the second half of 2021.

We monitor our primary risks on a continuous basis and implement appropriate measures as promptly as practicable to address known and new risks as they emerge and change. Additional risks not known to us or now believed to be not material could later turn out to have material impact on us.

RESPONSIBILITY STATEMENT

The Management Board of the Company hereby declares that, to the best of its knowledge:

- the condensed consolidated interim financial statements of the first six months ended June 30, 2021, prepared in accordance with IAS 34, Interim Financial Reporting give a true and fair view of the assets, liabilities, financial position and results of the Company and the undertakings included in the consolidation taken as a whole; and
- the Interim report of the Management Board gives a fair review of the information required pursuant to section 5:25d(8)/(9) of the Dutch Financial Markets Supervision Act ("Wet op het Financieel Toezicht").

Almere, August 31, 2021

Management Board ASM International N.V.

G.L. Loh, Chairman of the Management Board, President and Chief Executive Officer
P.A.H. Verhagen, Member of the Management Board and Chief Financial Officer

CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS

FOR THE SIX MONTHS ENDED JUNE 30, 2021

CONSOLIDATED STATEMENTS OF PROFIT OR LOSS

(EUR thousand, except share data)	Notes	Six months ended June 30, 2020 (unaudited)	Six months ended June 30, 2021 (unaudited)
Revenue	7, 8	666,950	805,707
Cost of sales		(357,030)	(412,763)
Gross profit	7	309,920	392,944
Operating expenses:			
Selling, general and administrative		(76,773)	(85,755)
Research and development		(67,429)	(64,301)
Total operating expenses		(144,202)	(150,056)
Result from operations	7	165,717	242,888
Finance income		125	10
Finance expenses		(865)	(1,076)
Foreign currency exchange gain (loss), net		6,441	13,945
Share in income of investments in associates	4	4,582	27,284
Result before income taxes		176,001	283,051
Income taxes		(27,767)	(52,137)
Net earnings from operations, attributable to common shareholders		148,233	230,914
Per share data	10		
Basic net earnings per share		3.03	4.75
Diluted net earnings per share		3.00	4.71
Weighted average number of shares (thousand)			
Basic		48,940	48,650
Diluted		49,459	49,018

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Six months ended June 30,	
(EUR thousand)	2020 *(unaudited)*	2021 *(unaudited)*
Net earnings from operations, attributable to common shareholders	**148,233**	**230,914**
Other comprehensive income, net of income tax		
Items that will not be reclassified subsequently to profit or loss:		
Share of other comprehensive income (loss) investments in associates	(144)	474
Items that may be subsequently reclassified to profit or loss:		
Foreign currency translation effect	(9,705)	29,902
Other comprehensive income, net of income tax	**(9,849)**	**30,376**
Total comprehensive income, attributable to common shareholders	**138,384**	**261,290**

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION

(EUR thousand)	Notes	June 30, 2020 *(unaudited)*	December 31, 2020	June 30, 2021 *(unaudited)*
Assets				
Right-of-use assets	2	27,631	23,387	**22,823**
Property, plant and equipment		188,155	213,967	**216,307**
Goodwill		11,270	11,270	**11,270**
Other intangible assets	3	203,836	209,924	**237,408**
Investments in associates	4	776,128	742,714	**769,036**
Deferred tax assets		3,059	196	**–**
Other non-current assets		8,436	6,590	**6,671**
Evaluation tools at customers	5	68,054	69,474	**78,317**
Employee benefits (pension assets)		783	1,431	**1,591**
Total non-current assets		**1,287,352**	**1,278,953**	**1,343,423**
Inventories	6	175,854	162,199	**172,804**
Accounts receivable	6	243,874	280,061	**324,001**
Income taxes receivable		1,293	553	**1,521**
Other current assets	6	83,486	72,945	**77,943**
Cash and cash equivalents		431,534	435,228	**465,139**
Total current assets		**936,040**	**950,986**	**1,041,408**
Total assets		**2,223,392**	**2,229,939**	**2,384,831**
Equity		**1,854,602**	**1,854,724**	**1,990,649**
Accrued expenses and other payables		16,296	13,045	**12,511**
Deferred tax liabilities		19,949	21,892	**33,722**
Total non-current liabilities		**36,245**	**34,937**	**46,233**
Accounts payable	6	130,003	124,507	**148,527**
Provision for warranty	6	19,419	18,987	**22,145**
Income taxes payable		59,250	67,857	**25,304**
Accrued expenses and other payables	6	123,872	128,927	**151,973**
Total current liabilities		**332,544**	**340,278**	**347,949**
Total liabilities		**368,789**	**375,215**	**394,182**
Total equity and liabilities		**2,223,392**	**2,229,939**	**2,384,831**

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(EUR thousand, except share data)	Number of common shares outstanding	Common shares	Capital in excess of par value	Treasury shares at cost	Retained earnings	Other reserves [1]	Total equity
Balance January 1, 2020	**48,866,220**	**2,052**	**43,676**	**(169,707)**	**1,815,690**	**126,940**	**1,818,651**
Net earnings	–	–	–	–	148,233	–	**148,233**
Other comprehensive income	–	–	–	–	–	(9,849)	**(9,849)**
Total comprehensive income	**-**	**-**	**-**	**-**	**148,233**	**(9,849)**	**138,384**
Dividend paid to common shareholders	–	–	–	–	(98,688)	–	**(98,688)**
Compensation expense share based payments	–	–	6,501	–	–	–	**6,501**
Exercise stock options out of treasury shares	16,724	–	(778)	1,142	–	–	**364**
Vesting restricted shares out of treasury shares	216,221	–	(15,093)	15,093	–	–	**–**
Purchase of common shares	(91,077)	–	–	(10,610)	–	–	**(10,610)**
Other movements in investments and associates:							
Dilution	–	–	–	–	–	–	**–**
Balance June 30, 2020 *(unaudited)*	**49,008,088**	**2,052**	**34,306**	**(164,082)**	**1,865,235**	**117,091**	**1,854,602**
Net earnings	–	–	–	–	137,163	–	**137,163**
Other comprehensive income	–	–	–	–	–	(90,906)	**(90,906)**
Total comprehensive income	**-**	**-**	**-**	**-**	**137,163**	**(90,906)**	**46,257**
Dividend paid to common shareholders	–	–	–	–	–	–	**–**
Compensation expense share based payments	–	–	6,291	–	–	–	**6,291**
Exercise stock options out of treasury shares	110,600	–	(5,145)	7,555	–	–	**2,410**
Vesting restricted shares out of treasury shares	13,602	–	(950)	950	–	–	**–**
Purchase of common shares	(417,608)	–	–	(56,895)	–	–	**(56,895)**
Cancellation of common shares out of treasury shares	–	(60)	–	107,510	(107,450)	–	**–**
Other movements in investments and associates:							
Dilution	–	–	–	–	2,059	–	**2,059**
Balance December 31, 2020	**48,714,682**	**1,992**	**34,502**	**(104,962)**	**1,897,007**	**26,185**	**1,854,724**
Net earnings	–	–	–	–	230,914	–	**230,914**
Other comprehensive income	–	–	–	–	–	30,376	**30,376**
Total comprehensive income	**-**	**-**	**-**	**-**	**230,914**	**30,376**	**261,290**
Dividend paid to common shareholders	–	–	–	–	(96,893)	–	**(96,893)**
Compensation expense share based payments	–	–	7,858	–	–	–	**7,858**
Exercise stock options out of treasury shares	–	–	–	–	–	–	**–**
Vesting restricted shares out of treasury shares	173,543	–	(16,824)	16,824	–	–	**–**
Purchase of common shares	(170,872)	–	–	(36,330)	–	–	**(36,330)**
Other movements in investments and associates:							
Dilution	–	–	–	–	–	–	**–**
Balance June 30, 2021 *(unaudited)*	**48,717,353**	**1,992**	**25,536**	**(124,468)**	**2,031,028**	**56,561**	**1,990,649**

[1] Other reserves consist of the currency translation reserve, remeasurement on net defined benefit and the reserve for proportionate share in other comprehensive income investments in associates.

CONSOLIDATED STATEMENT OF CASH FLOWS

(EUR thousand)	Six months ended June 30, 2020 (unaudited)	Six months ended June 30, 2021 (unaudited)
Cash flows from operating activities		
Net earnings from operations	**148,233**	**230,914**
Adjustments to reconcile net earnings to net cash from operating activities		
Depreciation, amortization and impairments	43,261	44,883
Share-based compensation	6,501	7,858
Non-cash costs	3,680	(6,226)
Non-cash interest	274	267
Share in income of investments in associates	(4,582)	(27,284)
Income tax	27,767	52,137
Changes in assets and liabilities		
Accounts receivable	(44,271)	(40,439)
Inventories	(6,111)	(8,336)
Evaluation tools	(26,260)	(16,298)
Other assets	(11,025)	(3,146)
Accounts payable and accrued expenses	(17,297)	45,297
Income tax paid	(3,194)	(83,627)
Net cash from operating activities	**116,977**	**196,000**
Cash flows from investing activities		
Capital expenditures	(42,839)	(22,470)
Capitalized development expenditure	(31,406)	(37,706)
Purchase of intangible assets	(1,914)	(122)
Dividend received from associates	8,350	21,756
Net cash used in investing activities	**(67,809)**	**(38,542)**
Cash flows from financing activities		
Payment of lease liabilities	(3,936)	(4,058)
Purchase of treasury shares ASMI	(10,812)	(37,321)
Proceeds from issuance of treasury shares	364	–
Dividends to common shareholders of ASMI	(98,688)	(96,893)
Net cash used in financing activities	**(113,072)**	**(138,272)**
Foreign currency translation effect on cash and cash equivalents	(2,436)	10,725
Net increase / (decrease) in cash and cash equivalents	**(66,340)**	**29,911**
Cash and cash equivalents at beginning of year	497,874	435,228
Cash and cash equivalents at balance sheet date	**431,534**	**465,139**

NOTES TO CONDENSED CONSOLIDATED INTERIM FINANCIAL STATEMENTS

NOTE 1. GENERAL INFORMATION / SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

GENERAL INFORMATION

ASM International N.V. (ASMI or the Company) is a Dutch public liability company domiciled in the Netherlands with its principal operations in Europe, the United States and Asia. The Company dedicates its resources to the research, development, manufacturing, marketing and servicing of equipment and materials used to produce mainly semiconductor devices. The Company is registered at Versterkerstraat 8, 1322 AP Almere, the Netherlands.

The Company's shares are listed for trading on the Euronext Amsterdam Stock Exchange (symbol ASM).
The accompanying condensed consolidated interim financial statements include the financial statements of ASM International N.V., headquartered in Almere, the Netherlands, and its consolidated subsidiaries (together referred to as ASMI or the Company).

The condensed consolidated interim financial statements for the six months ended June 30, 2021 were authorized for issue by the Management Board on August 31, 2021.

The condensed consolidated interim financial statements have not been audited or reviewed by an external auditor. In the condensed consolidated interim financial statements amounts are rounded to the nearest thousand euro; therefore amounts may not equal (sub) totals due to rounding.

ACCOUNTING POLICIES

These condensed consolidated interim financial statements have been prepared in accordance with IAS 34, Interim Financial Reporting. The condensed consolidated interim financial statements do not include all of the information required for full annual financial statements and should be read in conjunction with ASMI's 2020 Annual Report. In addition, the notes to these condensed consolidated interim financial statements are presented in a condensed format. The applied accounting principles are in line with those as described in ASMI's 2020 Annual Report and are based on IFRS as endorsed by the European Union.

Changes in accounting policies

The accounting policies applied in these interim financial statements are the same as those applied in the last annual financial statements, except for the IFRS standards and interpretations effective on January 1, 2021. These include among others amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 "Interest Rate Benchmark Reform – Phase 2". These changes have been assessed for their potential impact and do not have a material effect on ASMI's consolidated financial statements.

USE OF ESTIMATES AND JUDGMENTS

The preparation of the Company's condensed consolidated interim financial statements requires management to make judgments, estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ materially from those estimates. We evaluate our estimates and underlying assumptions on an ongoing basis. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

COVID-19

We continue to experience supply constraints as a result of COVID-19 restrictions in certain countries where our suppliers are located and collaboratively work with impacted suppliers to mitigate any adverse impact in delivery and availability. To date, ASM successfully mitigated any COVID-related impact to production or service. The border closures that were more common in 2020 have given way to travel guidelines and control measures such as testing and quarantining. While not convenient, we have been able to navigate these measures safely to maintain business.

During the first six months of 2021, the performance of the company was not materially impacted by COVID-19 and we were able to meet most of our customer demands. Revenue for the six months ended June 30, 2021 increased to €805.7 million, up 29% at constant currencies (21% as reported). Based upon the current market developments, the wafer fab equipment (WFE) market is expected to grow by a high twenties to low thirties percentage in 2021. For the second half of the year we do not expect a significant change in our operations. Based on the outlook statement provided with the Q2 results, the sales guidance for Q3 did not change significantly from Q2's revenue results and Q4 revenue was expected to increase compared to the level in Q3. Hence, total reported revenue for 2021 are expected to remain healthy. We therefore view the COVID-19 outbreak not as a triggering event for our accounting.

Based on our impairments tests performed at year-end 2020, we concluded that even with a significant negative scenario, the recoverable amounts for our non-current assets exceeded the carrying amounts. Management has concluded that there are no material uncertainties related to events and conditions that may cast significant doubt on ASMI's ability to continue as a going concern.

NOTE 2. RIGHT-OF-USE ASSETS

The Company leases many assets, including land, buildings, houses, motor vehicles, machinery and equipment. Leases typically run up to a period of 5 years, some with an option to renew the lease after the end of the non-cancelable period. Lease payments are renegotiated on a periodic basis; timing is depending on the region and type of lease. The Company has not entered into any sub-lease arrangements.

(EUR thousand)	Land and buildings	Motor vehicles	Other machinery and equipment	Total
Balance January 1, 2020	**25,049**	**2,142**	**356**	**27,547**
Additions	368	858	–	**1,226**
Modifications and reassessments	2,918	(29)	(12)	**2,877**
Retirements	–	–	–	**–**
Depreciation for the period	(3,195)	(569)	(96)	**(3,860)**
Foreign currency translation effect	(136)	(18)	(5)	**(159)**
Balance June 30, 2020	**25,004**	**2,384**	**243**	**27,631**
Additions	2,732	501	–	**3,233**
Modifications and reassessments	(2,367)	(129)	(3)	**(2,499)**
Retirements	–	–	–	**–**
Depreciation for the period	(3,090)	(590)	(71)	**(3,751)**
Foreign currency translation effect	(1,201)	(18)	(8)	**(1,227)**
Balance December 31, 2020	**21,078**	**2,148**	**161**	**23,387**
Additions	1,643	310	5	**1,958**
Modifications and reassessments	555	(61)	667	**1,161**
Retirements	–	–	–	**–**
Depreciation for the period	(3,268)	(579)	(210)	**(4,057)**
Foreign currency translation effect	364	7	3	**374**
Balance June 30, 2021	**20,372**	**1,825**	**626**	**22,823**

NOTE 3. OTHER INTANGIBLE ASSETS

Other intangible assets include capitalized development expenditure, software developed or purchased (including licenses) for internal use and purchased technology from third parties. The changes in the amount of other intangible assets are as follows:

(EUR thousand)	Development costs	Software	Purchased technology and other intangible assets	Total
Balance January 1, 2020	**182,496**	**6,423**	**305**	**189,224**
Additions	31,406	1,914	–	**33,320**
Amortization for the period	(10,870)	(1,828)	(280)	**(12,978)**
Impairments	(4,860)	–	–	**(4,860)**
Foreign currency, translation effect	(737)	(133)	–	**(870)**
Balance June 30, 2020	**197,435**	**6,376**	**25**	**203,836**
Additions	32,720	1,316	–	**34,036**
Transfer from property, plant and equipment	–	92	–	**92**
Amortization for the period	(10,317)	(2,035)	(5)	**(12,357)**
Impairments	(5,266)	–	–	**(5,266)**
Foreign currency, translation effect	(10,253)	(164)	–	**(10,417)**
Balance December 31, 2020	**204,319**	**5,585**	**20**	**209,924**
Additions	37,706	123	–	**37,829**
Amortization for the period	(10,966)	(704)	(5)	**(11,675)**
Impairments	(1,078)	–	–	**(1,078)**
Foreign currency, translation effect	2,337	71	–	**2,408**
Balance June 30, 2021	**232,318**	**5,075**	**15**	**237,408**

Impairment charges on capitalized development costs are included in operating expenses under research and development. Impairment of capitalized development expenses primarily related to development of new hardware for which the customers demand has shifted out in time, and technology which became obsolete. The impairment charges for 2020 and 2021 are related to customer specific projects.

Capitalized development costs are amortized over their estimated useful lives of five years, other intangible assets are amortized over their estimated useful lives of three to seven years.

NOTE 4. INVESTMENTS IN ASSOCIATES

The changes in the investments in associates are as follows:

	ASMPT			
(EUR thousand)	Net equity share	Other (in)tangible assets	Goodwill	Total ASMPT
Balance January 1, 2020	**334,870**	**45,752**	**397,646**	**778,268**
Share in net earnings of investments in associates	11,366	–	–	**11,366**
Other comprehensive income of investments in associates	(144)	–	–	**(144)**
Amortization recognized (in)tangible assets	–	(6,784)	–	**(6,784)**
Dividends	(8,350)	–	–	**(8,350)**
Foreign currency translation effect	(1,786)	428	3,130	**1,772**
Balance June 30, 2020	**335,956**	**39,396**	**400,776**	**776,128**
Share in net earnings of investments in associates	33,447	–	–	**33,447**
Other comprehensive income of investments in associates	(2,152)	–	–	**(2,152)**
Amortization recognized (in)tangible assets	–	(6,079)	–	**(6,079)**
Dividends	(7,792)	–	–	**(7,792)**
Dilution ASMPT share to 25.07%	2,059	–	–	**2,059**
Foreign currency translation effect	(14,430)	(3,301)	(35,166)	**(52,897)**
Balance December 31, 2020	**347,088**	**30,016**	**365,610**	**742,714**
Share in net earnings of investments in associates	33,257	–	–	**33,257**
Other comprehensive income of investments of associates	474	–	–	**474**
Amortization recognized (in)tangible assets	–	(5,973)	–	**(5,973)**
Dividends	(21,756)	–	–	**(21,756)**
Foreign currency translation effect	8,258	792	11,270	**20,320**
Balance June 30, 2021	**367,321**	**24,835**	**376,880**	**769,036**

On March 15, 2013, the Company divested a controlling stake in its subsidiary ASM Pacific Technology Ltd (ASMPT). After the initial accounting of the sale transaction and related gains future income from ASMPT was adjusted for the fair value adjustments arising from the basis differences as if a business combination had occurred under IFRS 3R, Business Combinations, i.e. a purchase price allocation (PPA).

The purchase of the associate has been recognized at fair value, being the value of the ASMPT shares on the day of closing of the purchase transaction. The composition of this fair value was determined through a PPA. The PPA resulted in the recognition of intangible assets for customer relationship, technology, trade name, product names and goodwill. For inventories and property, plant & equipment a fair value adjustment was recognized.

The ASMPT investment is accounted for under the equity method on a go forward basis. Equity method investments are tested for prolonged impairment. An investment is considered impaired if the fair value of the investment is less than its carrying value.

If the fair value of an investment is less than its carrying value at the balance sheet date, the Company determines whether the impairment is temporary or prolonged. The amount per share recognized as per June 30, 2021 under equity accounting amounts to HK$68.91 (December 31, 2020: HK$68.60) whereas the level 1 fair value per share (being the market price of a share on the Hong Kong Stock Exchange) was HK$105.20 as per June 30, 2021 (December 31, 2020: HK$102.30). Management concluded that based on quantitative analysis no impairment of its share in ASMPT existed as per June 30, 2021.

In December 2020 1,900,600 common shares of ASMPT were issued, for cash at par value of HK$0.10 per share, pursuant to the Employee Share Incentive Scheme of ASMPT. The shares under the plan in 2020 have diluted ASMI's ownership in ASMPT to 25.07% as of December 31, 2020.

At June 30, 2021, the book value of our equity method investment in ASMPT was €769 million. The historical cost basis of our 25.07% share of net assets on the books of ASMPT was €367 million as of June 30, 2021 resulting in a basis difference of €402 million. €25 million of this basis difference has been allocated to property, plant and equipment and intangibles assets. The remaining amount was allocated to goodwill. Each individual, identifiable asset will periodically be reviewed for any indicators of potential impairment which, if required, would result in acceleration of basis difference amortization. We amortize the basis differences allocated to the assets on a straight-line basis, and include the impact within the results of our equity method investments. Amortization and depreciation are adjusted for related deferred tax impacts. Included in net income attributable to ASMI for the six months period ending June 30, 2021 was after-tax expense of €6 million, representing the depreciation and amortization of the basis differences.

Summarized 100% earnings information for ASMPT equity method investment excluding basis adjustments (foreign currency exchange rate average for 2021: 1 HK$: €0.10686 and for 2020: 1 HK$: €0.11664):

	Six months ended June 30,	
(HK$ million)	2020	2021
Revenue	7,701.5	**9,514.2**
Earnings before income tax	512.2	**1,616.7**
Net earnings	390.8	**1,260.7**

Summarized 100% statement of financial position information for ASMPT equity method investment excluding basis adjustments (foreign currency exchange rate as per June 30, 2021: 1 HK$: €0.10835, December 31, 2020: 1 HK$: €0.10511 and as per June 30, 2020: 1 HK$: €0.11522):

(HK$ million)	June 30, 2020	December 31, 2020	June 30, 2021
Current assets	14,635	14,799	**17,173**
Non-current assets	7,216	8,365	**8,264**
Current liabilities	5,789	5,336	**7,547**
Non-current liabilities	4,483	4,634	**4,339**
Equity	11,579	13,194	**13,551**

NOTE 5. EVALUATION TOOLS AT CUSTOMERS

The changes in the amount of evaluation tools are as follows:

(EUR thousand)	June 30, 2020	June 30, 2021
At cost		
Balance at beginning of year	**73,637**	**100,774**
Evaluation tools shipped	34,251	**22,479**
Evaluation tools sold and returns	(10,176)	**(8,490)**
Foreign currency translation effect	(114)	**280**
Balance at end of period	**97,598**	**115,043**
Accumulated depreciation		
Balance at beginning of year	**26,390**	**31,300**
Depreciation for the year	5,201	**7,985**
Evaluation tools sold and returns	(2,185)	**(2,309)**
Foreign currency translation effect	138	**(250)**
Balance at end of period	**29,544**	**36,726**
Carrying amount at beginning of year	**47,247**	**69,474**
Carrying amount at end of period	**68,054**	**78,317**

Useful lives in years:	5

NOTE 6. WORKING CAPITAL

Net working capital is composed as follows:

(EUR thousand)	June 30, 2020	December 31, 2020	June 30, 2021
Inventories	175,854	162,199	**172,804**
Accounts receivable	243,874	280,061	**324,001**
Other current assets	83,486	72,945	**77,943**
Accounts payable	(130,003)	(124,507)	**(148,527)**
Provision for warranty	(19,419)	(18,987)	**(22,145)**
Accrued expenses and other payables	(123,872)	(128,927)	**(151,973)**
Net working capital	**229,920**	**242,784**	**252,103**

NOTE 7. SEGMENT DISCLOSURE

The Company organizes its activities in two operating segments, Front-end and Back-end. Operating segments are reported in a manner consistent with the internal reporting provided to the Chief Executive Officer (CEO), which is the Chief Operating Decision Maker (CODM).

The Front-end segment manufactures and sells equipment used in wafer processing, encompassing the fabrication steps in which silicon wafers are layered with semiconductor devices. The segment is a product driven organizational unit comprised of manufacturing, service, and sales operations in Europe, the United States of America, Japan, South Korea and Southeast Asia.

The Back-end segment manufactures and sells equipment and materials used in assembly and packaging, encompassing the processes in which silicon wafers are separated into individual circuits and subsequently assembled, packaged and tested. The segment is organized in ASM Pacific Technology Ltd, in which the Company holds a substantial share of 25.07% interest, whilst the remaining shares are listed on the Stock Exchange of Hong Kong. The segment's main operations are located in Hong Kong, the People's Republic of China, Singapore, Malaysia and Germany.

The Back-end segment remains reported as a separate segment since the cease of control per March 15, 2013. Since that date the segment is reported as an equity method investment as the CEO reviews this information as part of his CODM package.

Accordingly, the asset and result information regarding the operations that comprise the segment are disclosed. The full financial results are reviewed by the CODM, the external reporting of the segment are on an equity method investment basis. The total of all segments' financial amounts are reconciled to the corresponding amounts reported in the consolidated financial statements, eliminations are reflected in the reconciling column for amounts reported in excess of those amounts reflected in the consolidated financial statements.

	Six months ended June 30, 2020			
(EUR thousand)	Front-end	Back-end 100%	Deconsolidated	Total
Revenue	666,950	896,767	(896,767)	**666,950**
Gross profit	309,920	309,044	(309,044)	**309,920**
Result from operations	165,717	70,484	(70,484)	**165,717**
Interest income (expenses)	(740)	(8,030)	8,030	**(740)**
Foreign currency exchange results	6,441	(2,808)	2,808	**6,441**
Result from investments in associates	–	–	4,582	**4,582**
Income taxes	(27,767)	(14,143)	14,143	**(27,767)**
Net earnings	143,651	45,503	(40,921)	**148,233**
Cash flows from operating activities	116,977	155,649	(155,649)	**116,977**
Cash flows from investing activities	(76,159)	(19,553)	27,903	**(67,809)**
Cash flows from financing activities	(113,072)	22,158	(22,158)	**(113,072)**
Cash and cash equivalents	431,534	412,493	(412,493)	**431,534**
Goodwill	11,270	120,101	(120,101)	**11,270**
Other intangible assets	203,836	130,855	(130,855)	**203,836**
Investments in associates	–	–	776,128	**776,128**
Other identifiable assets	800,624	1,854,253	(1,854,253)	**800,624**
Total assets	1,447,264	2,517,702	(1,741,574)	**2,223,392**
Total debt	–	425,558	(425,558)	**–**
Headcount [1]	2,459	13,900	(13,900)	**2,459**

[1] Headcount includes employees with a fixed contract, and excludes temporary workers.

	Six months ended June 30, 2021			
(EUR thousand)	Front-end	Back-end 100%	Deconsolidated	Total
Revenue	805,707	1,016,682	(1,016,682)	**805,707**
Gross profit	392,944	407,833	(407,833)	**392,944**
Result from operations	242,888	176,797	(176,797)	**242,888**
Interest income (expenses)	(1,066)	(5,984)	5,984	**(1,066)**
Foreign currency exchange results	13,945	1,947	(1,947)	**13,945**
Result from investments in associates	–	–	27,284	**27,284**
Income taxes	(52,137)	(38,046)	38,046	**(52,137)**
Net earnings	203,630	134,714	(107,430)	**230,914**
Cash flows from operating activities	196,000	75,304	(75,304)	**196,000**
Cash flows from investing activities	(60,298)	12,073	9,683	**(38,542)**
Cash flows from financing activities	(138,272)	(10,002)	10,002	**(138,272)**
Cash and cash equivalents	465,139	443,531	(443,531)	**465,139**
Goodwill	11,270	125,152	(125,152)	**11,270**
Other intangible assets	237,408	117,676	(117,676)	**237,408**
Investments in associates	–	–	769,036	**769,036**
Other identifiable assets	901,978	2,069,698	(2,069,698)	**901,978**
Total assets	1,615,795	2,756,057	(1,987,021)	**2,384,831**
Total debt	–	–	–	**–**
Headcount [1]	2,780	11,900	(11,900)	**2,780**

[1] Headcount includes employees with a fixed contract, and excludes temporary workers.

There are no inter-segment transactions, other than charges for management services, which are based on actual cost. The accounting policies used to measure the net earnings and total assets in each segment are consistent to those used in the consolidated financial statements. The measurement methods used to determine reported segment earnings are consistently applied for all periods presented. There were no asymmetrical allocations to segments.

Geographical information is summarized as follows:

	Six months ended June 30,			
	2020		2021	
(EUR thousand)	Revenue	Property, plant and equipment	Revenue	Property, plant and equipment
United States	210,392	58,554	**194,830**	**64,376**
Europe	59,345	8,971	**71,384**	**14,577**
Asia	397,213	120,630	**539,493**	**137,354**
Total	**666,950**	**188,155**	**805,707**	**216,307**

For geographical reporting, revenue are attributed to the geographic location in which the customer's facilities are located.

NOTE 8. REVENUE

Contract balances

(EUR thousand)	June 30, 2020	June 30, 2021
Accrued revenue	30,301	**37,675**
Deferred revenue	35,634	**76,206**

The increase in the contract balances is the result of the higher activity level of the company.

The accrued revenue included in the 'Amounts to be invoiced' primarily relate to the company’s right to consideration for work completed and revenue recognized but not billed at the reporting date. The accrued revenue is transferred to accounts receivables when the rights become unconditional. This usually occurs when the company issues an invoice to the customer.

Deferred revenue relates to the advance consideration received from customers for which revenue is not yet recognized because the performance obligation has not been satisfied yet. Deferred revenue consists of the revenue relating to undelivered elements of the arrangement with customers. This part of the revenue is deferred at the transaction price allocated to the performance obligations until shipment.

Revenue Streams

The Company generates revenue primarily from the sales of equipment and sales of spares & service.

	Six months ended June 30,	
(EUR thousand)	2020	2021
Equipment revenue	533,745	**654,046**
Spares & service revenue	133,205	**151,661**
Total	**666,950**	**805,707**

Total revenue increased by 21% as reported is driven by solid increases in our ALD business and our spares & services revenue.

NOTE 9. LITIGATION MATTERS

ASMI is and may become a party to various legal proceedings incidental to its business. As is the case with other companies in similar industries, the Company faces exposure from actual or potential claims and legal proceedings. Although the ultimate result of legal proceedings cannot be predicted with certainty and in many events cannot be reasonably estimated, it is the opinion of the Company's management that the outcome of any claim which is currently pending, either individually or on a combined basis, will not have a material effect on the financial position of the Company, its cash flows and result of operations.

NOTE 10. EARNINGS PER SHARE

Basic net earnings per common share is calculated by dividing net earnings attributable to common shareholders by the weighted average number of common shares outstanding for that period. The dilutive effect is calculated using the treasury stock method. The calculation of diluted net earnings per share assumes the exercise of options issued under our stock option plans (and the issuance of shares under our share plans) for periods in which exercised (or issuances) would have a dilutive effect. The calculation of diluted net earnings per share does not assume exercise of options (or issuance of shares) when such exercises (or issuances) would be anti-dilutive.

The calculation of basic and diluted net earnings per share attributable to common shareholders is based on the following data:

	Six months ended June 30,	
(EUR thousand, except share data)	2020	2021
Net earnings used for purposes of calculating net income per common share		
Net earnings from operations	**148,233**	**230,914**
Basic weighted average number of shares outstanding during the year (thousands)	48,940	**48,650**
Effect of dilutive potential common shares from stock options and restricted shares	519	**368**
Dilutive weighted average number of shares outstanding	**49,459**	**49,018**
Basic net earnings per share:		
from operations	3.03	**4.75**
Diluted net earnings per share:		
from operations	3.00	**4.71**

NOTE 11. RELATED PARTY TRANSACTIONS

The Company has a related party relationship with its subsidiaries, equity accounted investees and members of the Supervisory Board and the Management Board. Related party transactions are conducted on an at arm's length basis with terms comparable to transactions with third parties.

The Company has no other significant transactions or outstanding balances with its equity-accounted investees other than its equity-interest holdings.

There have been no significant related party transactions or changes in related party transactions described in ASMI's Annual Report 2020 that could have a material effect on the financial position or performance of the Company in the first six months of the 2021 financial year.

SAFE HARBOR STATEMENT

In addition to historical information, some of the information posted or referenced herein or on this website contains statements relating to our future business and/or results, including, among others, statements regarding future revenue, sales, income, expenditures, sufficiency of cash generated from operations, maintenance of interest in ASM Pacific Technology Ltd, business strategy, product development, product acceptance, market penetration, market demand, return on investment in new products, facility completion dates and product shipment dates, corporate transactions, restructurings, liquidity and financing matters, outlooks, and any other non-historical information. These statements include certain projections and business trends, which are 'forward-looking'. We caution readers that no forward-looking statement is a guarantee of future performance and that actual results could differ materially from those contained in the forward-looking statements.

You can identify forward looking statements by the use of words like 'may', 'could', 'should', 'project', 'believe', 'anticipate', 'expect', 'plan', 'estimate', 'forecast', 'potential', 'intend', 'continue', and variations of these words or comparable words.

Forward-looking statements do not guarantee future performance and involve risks and uncertainties. You should be aware that our actual results may differ materially from those contained in the forward-looking statements as a result of certain risks and uncertainties. These risks and uncertainties include, but are not limited to, economic conditions and trends in the semiconductor industry and the duration of industry downturns, currency fluctuations, the timing of significant orders, market acceptance of new products, competitive factors, litigation involving intellectual property, shareholder or other issues, commercial and economic disruption due to natural disasters, terrorist activity, armed conflict, geopolitical tensions or political instability, changes in import/export regulations, epidemics and other risks indicated in our most recently filed Annual Report and other filings from time to time. The risks described are not the only ones. Some risks are not yet known and some that we do not currently believe to be material could later become material. Each of these risks could materially affect our business, revenues, income, assets, liquidity, and capital resources. All statements are made as of the date of posting unless otherwise noted, and we assume no obligation to update or revise any forward-looking statements to reflect future developments or circumstances.

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