HansaMatrix

Buy

Initiation of coverage

Price: EUR 7.75
Price target: EUR 10.26

Latvian high-tech, coming soon in 3D

We initiate coverage of Latvia's HansaMatrix, an electronics manufacturing services (EMS) company, with a price target (PT) of EUR 10.26/share and a BUY recommendation, with 32% upside. The company produces electronics based on its clients' designs but, in contrast to the EMS giants, like Foxconn or Flextronics, HansaMatrix is a "low volume, but also high mix" producer, focusing on small runs of gear, mainly for the industrial and communication sectors (each c.40% of its 2019 revenues). Its positioning in the market and technical fluency in a range of production areas, from printed circuit boards (PCBs) to optics and cutting-edge 3D imaging allows it to generate higher margins than most of its EMS peers. Through its associated company, LightSpace Technologies, where it controls a c.49.86% stake, the company has developed a novel 3D augmented reality (AR) headset, based on multi-plane imaging, with applications in the medical, industrial and aerospace industries. After two years of intense development, the first LightSpace headsets are set to ship next year and should drive an explosive 2019-23E profit CAGR of 85% on our estimates, which is only partly in the share price, in our view.

We expect earnings to enter a new growth phase on the back of the launch of its LightSpace 3D AR headsets, which should, in our model, both drive the top line, as well as reduce: 1) the losses on its minority stake in LightSpace; and 2) its bank debt, which has funded their development. While the EMS market was restricted significantly by COVID-19 in 1H20, normal businesses has resumed, more or less. We conservatively assume a 2019-23E revenue CAGR from the current business of c.9% (nearly double the expected pace for the EMS market as a whole) and the launch of the LightSpace headsets adds another c.285bps of top-line growth (to a CAGR of 12%) in our model. Below the operating line, we expect the losses from the associated companies to turn into gains, as LightSpace heads toward break-even headset volumes around 7k units annually, which management believes should be achievable during 2024E.

LightSpace's multifocal 3D augmented reality (AR) headsets. HansaMatrix's LightSpace has developed a novel 3D imaging technology, using a multi-layered laminated liquid crystal display (LCD) screen, which reduces eyestrain significantly vs. the currently available models. The display resolution is also higher than its competitors, allowing users to zoom in closer, a big advantage, particularly for medical imaging.

On our 2021-22E multiples, the company looks fairly valued vs. its (mainly) developed market peers. We see HansaMatrix trading at 2021-22E EV/EBITDAs of 6.7x and 5.3x, respectively, or at an average c.5% discount vs. its peers (on a 2020E EV/EBITDA of 8.3x, it is trading at an 11% premium). On a fully-diluted 2021E PER of c.24.3x, the stock is trading at a c.90% premium vs. the median peer multiple of 13x; however, by 2022E, on our numbers, its 9.8x PER would be at a 7% discount to its peers (10.6x) .

Expected events

4Q20 results	Late-February 2021
AGM	May 2021
1Q20 results	Late-May 2021
2Q20 results	August 2021
3Q20 results	November 2021

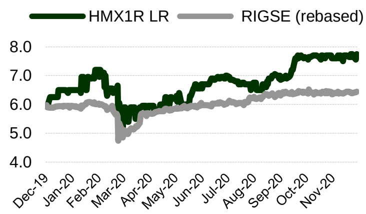
Key data

Market Cap	EUR 14.2m
3M ADTV	EUR 12.4k
Free float	31.3%
Shares outstanding	1,829k
Major Shareholder	Macro Riga (34.1%)
Reuters Code	HMX1R.RI
Bloomberg Code	HMX1R LR
OMX Riga Index	1,125

Price performance

52-w range	EUR 5.00-7.75
52-w performance	30.3%
Relative performance	21.7%

HansaMatrix 12M share price performance



Year	Sales	EBITDA	Net profit	EPS	EPS	DPS	P/E	EV/EBITDA	P/CE	Div yield
	EUR k	EUR k	EUR k	EUR	%yoy	EUR	(x)	(x)	(x)	%
2017	19,649	3,660	1,679	0.92	205%	0.08	8.4	5.3	4.1	1.1%
2018	21,587	3,259	781	0.43	-53%	0.04	18.2	6.9	6.0	0.5%
2019	24,611	3,719	214	0.11	-75%	0.00	73.5	7.4	6.6	0.0%
2020E	23,341	3,198	-401	-0.20	n.m.	0.03	n.m.	8.3	6.1	0.4%
2021E	27,896	3,851	650	0.32	n.m.	0.05	24.3	6.7	5.1	0.6%
2022E	32,559	4,703	1,602	0.79	147%	0.12	9.8	5.3	4.5	1.5%

EQUITY RESEARCH

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Closing Prices as of 16 December 2020

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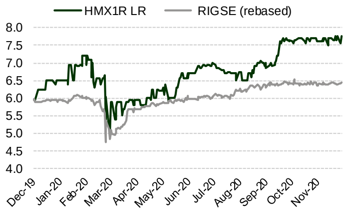
Company snapshot – BUY, EUR 10.26

BUY

Bloomberg ticker	**HMX1R LV**
Closing price (EUR)	**7.75**
Price Target	**10.26**
Upside to PT	**32.4%**
Shares outstanding '000	**1,829**
MCAP (EUR m)	**14.2**
Free float	**31.3%**
3M ADTV (EUR k)	**12.4**
52 W Range (EUR)	**5.00-7.75**



COMPANY DESCRIPTION

HansaMatrix is an electronics manufacturing services (EMS) company based in Latvia. The business was co-founded in July 1999 by Mr. Ilmārs Osmanis, who remains the company's CEO and the largest shareholder, with a stake of c.34%. HansaMatrix provides its business-to-business (B2B) customer base with systems development and contract manufacturing – think of something like Foxconn producing iPhones for Apple, or Flextronics and its partnerships with Sony or Motorola – albeit on a smaller, more local scale. While all contract manufacturers make components or finished production based on their customers' designs, HansaMatrix positions itself as a "low volume, high mix" producer, focusing on designing the production process and small runs of specialised or bespoke gear. In the case of the LightSpace 3D augmented reality (AR) headset, the company is a an original design manufacturer (ODM) as well, HansaMatrix's positioning in the market enables it to generate higher margins than most of its EMS peers, with EBITDA margins in the low to mid-teens vs. a median of c.7% for our (mostly developed market) peer group.

RATIOS

PER SHARE RATIOS	2017	2018	2019	2020E	2021E	2022E
EPS, diluted	0.92	0.43	0.11	-0.20	0.32	0.79
CFPS	1.91	1.28	1.17	1.28	1.53	1.71
BVPS	4.45	4.79	4.94	4.72	5.04	5.87
DPS	0.08	0.04	0.00	0.03	0.05	0.12

FINANCIAL RATIOS	2017	2018	2019	2020E	2021E	2022E
Gross margin	19.0%	16.7%	14.8%	11.1%	13.9%	15.3%
EBITDA margin	18.6%	15.1%	15.1%	13.7%	13.8%	14.4%
EBIT margin	9.6%	6.5%	5.3%	3.3%	5.0%	6.6%
Net margin	8.5%	3.6%	0.9%	-1.7%	2.3%	4.9%
ROE	24.7%	9.2%	2.4%	-4.5%	7.3%	16.1%
ROCE	14.0%	9.2%	6.1%	3.7%	6.8%	10.1%
Net debt/EBITDA	1.4x	2.2x	3.3x	3.3x	2.6x	2.0x

VALUATION RATIOS	2017	2018	2019	2020E	2021E	2022E
P/E	8.4x	18.2x	73.5x	(39.3)x	24.3x	9.8x
EV/EBITDA	5.3x	6.9x	7.4x	8.3x	6.7x	5.3x
P/CF	4.1x	6.0x	6.6x	6.1x	5.1x	4.5x
P/BV	1.7x	1.6x	1.6x	1.6x	1.5x	1.3x
EV/Sales	1.0x	1.0x	1.1x	1.1x	0.9x	0.8x
EV, EUR (m)	19,219	22,543	27,630	26,410	25,664	25,117
FCF, EUR (m)	1,376	-184	-1,359	1,312	802	634
FCF yield	9.9%	-1.4%	-11.8%	9.3%	5.7%	4.5%
Dividend yield	1.1%	0.5%	0.0%	0.4%	0.6%	1.5%

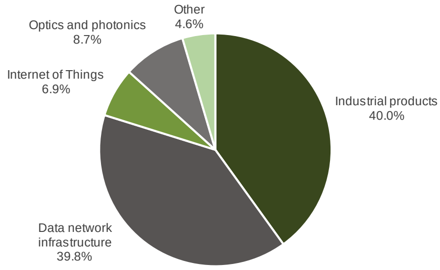
COMPANY FINANCIALS

INCOME STATEMENT, EUR '000	2017	2018	2019	2020E	2021E	2022E
Revenues	19,649	21,587	24,611	23,341	27,896	32,559
COGS	-15,923	-17,986	-20,972	-20,752	-24,010	-27,571
Gross profit	3,726	3,601	3,639	2,589	3,887	4,989
Distribution costs	-783	-918	-825	-511	-837	-977
Administrative expense	-1,473	-1,735	-1,806	-1,829	-1,993	-2,173
Other operating income	456	565	420	598	395	395
Other operating expense	-49	-119	-113	-87	-70	-81
Operating profit	1,877	1,395	1,316	760	1,382	2,153
Loss from investments in associates	-108	-483	-623	-659	-316	-138
Financial income	94	47	33	11	15	15
Financial expense	-416	-177	-499	-513	-417	-406
Profit before tax	1,448	781	226	-401	664	1,624
Income tax	231	0	-18	0	-14	-22
Minority interests	0	0	7	0	0	0
Net profit	1,679	781	214	-401	650	1,602
EBITDA	3,660	3,259	3,719	3,198	3,851	4,703

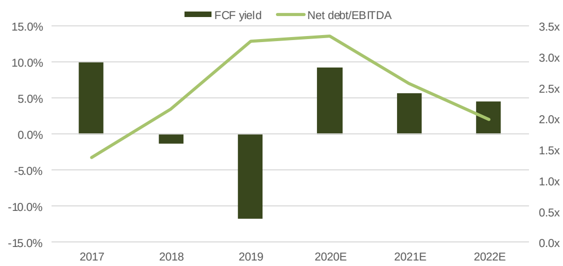
CASH FLOW, EUR '000	2017	2018	2019	2020E	2021E	2022E
Cash generated from operations	3,737	2,497	2,552	2,757	3,125	3,452
Interest paid	-247	-151	-409	-419	-323	-318
Net cash from operating activities	3,490	2,346	2,143	2,338	2,802	3,134
Capex	-2,114	-2,530	-3,502	-1,026	-2,000	-2,500
Sale of PP&E	34	14	63	7	0	0
Changes in IFRS 16 values	0	0	0	2	0	0
Loans to other companies	-1,262	-3,081	-3,526	-494	0	0
Net cash from investing activities	-3,342	-5,597	-6,965	-1,511	-2,000	-2,500
Change in debt	-1,072	5,733	527	-480	-809	-590
Change in leases	857	-217	-476	-167	0	0
Other	0	0	2,722	0	0	0
Dividends	-55	-146	-73	0	-57	-88
Net cash from financing activities	-271	5,369	2,700	-646	-866	-678

BALANCE SHEET, EUR '000	2017	2018	2019	2020E	2021E	2022E
PP&E	9,213	9,850	14,143	14,066	14,085	14,628
Intangible assets	212	196	1,160	1,143	1,389	1,597
Non-current financial assets	4,653	7,964	7,202	7,183	7,183	7,183
Non-current assets	14,077	18,009	22,505	22,392	22,657	23,407
Inventories	2,684	2,496	3,052	3,112	3,439	4,014
Trade receivables	912	857	957	761	1,070	1,249
Other current assets	730	1,611	3,043	925	376	376
Cash and cash equivalents	259	2,377	254	414	350	307
Current assets	4,585	7,341	7,307	5,211	5,235	5,945
Total Assets	18,662	25,350	29,812	27,603	27,892	29,353
Share capital	4,265	4,265	4,265	4,265	4,265	4,265
Retained earnings, reserves	1,584	2,343	2,608	2,417	3,010	4,524
Minority interests	0	0	117	0	0	0
Asset revalaution reserve	2,286	2,162	2,039	1,946	1,946	1,946
Total Equity	8,135	8,770	9,028	8,628	9,221	10,735
Non-current borrowings	3,333	7,166	9,660	8,744	7,935	7,448
Other financial liabilities	0	1,346	1,346	1,591	1,591	1,591
Prepayments received	0	464	150	0	0	0
Deferred income	573	403	1,022	946	946	946
Non-current liabilities	3,906	9,379	12,178	11,281	10,472	9,986
Trade and other payables	2,773	3,091	3,724	2,705	3,210	3,747
Other liabilities	1,882	1,880	2,181	2,679	2,679	2,679
Current borrowings	1,967	2,231	2,701	2,311	2,311	2,207
Total current liabilities	6,621	7,201	8,605	7,694	8,199	8,632
Total liabilities and equity	18,662	25,350	29,812	27,604	27,892	29,353
Net debt	5,041	7,020	12,106	10,641	9,895	9,348
Gearing	1.4x	2.2x	3.3x	3.3x	2.6x	2.0x

REVENUES BY SECTOR (2019)



NET DEBT/EBITDA AND FCF



Investment case

We initiate coverage of Latvia's HansaMatrix, an electronics manufacturing services (EMS) company, with a price target (PT) of EUR 10.26/share and a BUY recommendation, with 32% upside. The company produces electronics based on its clients' designs but, in contrast to the EMS giants, like Foxconn or Flextronics, HansaMatrix is a "low volume, but also high mix" producer, focusing on small runs of gear, mainly for the industrial and communication sectors (each c.40% of its 2019 revenues). Its positioning in the market and technical fluency in a range of production areas, from printed circuit boards (PCBs) to optics and cutting-edge 3D imaging allows it to generate higher margins than most of its EMS peers, with EBITDA margins in the low to mid-teens vs. a median of c.7% for our (mostly developed market) peer group. Through its associated company, LightSpace Technologies, where it controls a c.49.86% stake, the company has developed a novel 3D augmented reality (AR) headset, based on multi-plane imaging, with applications in the medical, industrial and aerospace industries. After two years of intense development, the first LightSpace headsets are set to ship next year and should drive an explosive 2019-23E profit CAGR of 85% on our estimates, which is only partly in the share price, in our view.

After three years of intensive development costs, we believe that the commercialisation of LightSpace's headsets should drive explosive growth in HansaMatrix's earnings, as the losses from the associate company fall, along with the interest costs on debt. We expect HansaMatrix's earnings to enter a new growth phase on the back of the launch of LightSpace's 3D AR headsets, which, in our model, should both contribute to the top line (as a EMS company, HansaMatrix will produce the headsets for LightSpace, but not sell them to end-users), as well as: 1) reduce LightSpace's net losses, which HansaMatrix books using the equity method below the operating line; and 2) deleverage the balance sheet. We conservatively assume a 2019-23E revenues CAGR from the current business of c.9% and the manufacturing of the LightSpace headsets adds another c.285bps (to a CAGR of 12%) in our model.

Over the past five years, the EBITDA margin has been compressed largely by R&D, materials and personnel costs, and we assume that most of these moderate going forward – driven, amongst other things, by lower commodity linked costs and lower wage inflation. Below the operating line, we expect the losses from associated companies – i.e., LightSpace – to turn into gains, as the company heads toward breakeven headset volumes (c.7k units annually), which management believes should be achievable during 2024E. The combination of additional revenues for making the headsets, plus deleveraging from the development stage of the start-up, translates into a CAGR on the net profit line of c.85%, in our model, to EUR 2.575m in 2023E vs. EUR 0.214m in 2019.

Valuation. On our 2021-22E multiples, the company looks fairly valued vs. its (mainly) developed market peers. On a 2020E EV/EBITDA of 8.3x, the stock is trading at an 11% premium vs. its peers; however, on 2021-22E EV/EBITDAs of 6.7x and 5.3x, respectively, the stock is trading at an average c.5% discount. We expect the company to post a FY20E net profit loss, driven by the 1H20 COVID-19 related disruptions and a likely peak in the losses associated with LightSpace, which are booked below the operating line. On a fully-diluted 2021E PER of c.24.3x, the stock is trading at a c.90% premium to the median peer multiple of 13x, but, by 2022E – by which time, the LightSpace headset manufacturing revenues should start to ramp up and the losses from the associate company decline materially – on our numbers, its 9.8x PER would be at a 7% discount to its peers (10.6x).

It is immediately obvious, in our view, that there is an unusually large disconnect between our DCF PT and the fair value of the stock based on peer multiples in HansaMatrix's case. We believe this is driven mainly by the expected ramp-up in LightSpace headset volumes being fully captured by our DCF, but not in 2021E and 2022E (the first and second year on the market, respectively). We note that management expects 500 and 1,000 units sales in the first two years, while the number grows past 7,000 units in 2024E – at which point, LightSpace itself should start to break even – and 25,000 in 2025E. The share price, which has outperformed the Riga OMX index this year, despite the negative impact from the COVID-19 related disruptions in 1H20, already partly reflects the potential of LightSpace for the company, but not yet the full discounted value, in our view.

Asia dominates the EMS industry, but EMS in the CEE countries is larger than in Western Europe. According to New Venture Research, a business research service for the electronics sector, the global EMS market was worth USD 555bn in 2019. The market grew by a 2015-19 CAGR of 6.6% and is forecast to grow by another 5.1% annually through to 2023E. Unsurprisingly, the largest part of the industry is based in China or in other Asian countries, and is dominated by the "three Cs": the communication (e.g., telecoms), computer and consumer electronics sectors (including mobile phones).

The European share of the market makes it a relative minnow by comparison, at c.EUR 31.6bn, according to Reed Electronics Research. Noteworthy, however, is that CEE's share of the European market exceeds that of Western Europe, at an estimated EUR 16.4bn (in 2018) vs. EUR 14.0bn, respectively. The structures of the CEE and Western European EMS markets are still quite different: CEE producers work predominantly for producers in the three Cs sectors; while Western companies for the industrial, medical and aerospace industries (although, according to the Reed report, the differences are expected to shrink over time). HansaMatrix, we note, is one company where this convergence is visible already.

LightSpace multifocal 3D augmented reality (AR) headsets. HansaMatrix's associate company, LightSpace Technologies (HansaMatrix owns a 49.86% stake), has developed a line of augmented reality (AR) headsets using a proprietary, multi-layered laminated liquid crystal display (LCD) screen. The headsets have been tested already by potential customers in Europe and the US, and the commercial production of the first of two versions began this December. What differentiates LightSpace from Google's Glass, Microsoft's HoloLens, or producers of AR and VR headsets for gaming and entertainment is the image created by the multi-layered display, which, compared to 2D or stereoscopic 3D (two 2D images show from a slightly different angle), reduces eyestrain significantly.

Another distinction is the high resolution, initially 3,400x1,920 pixels per eye (IG-1005 AR headset) or, roughly, 4K resolution vs. 2K for Microsoft's HoloLens 2 (it does not specify a pixel count), or 640x360 pixels (one eye) for Google Glass; a higher resolution version (IG-2000 AR smart glasses) with 5,800x3,600 or roughly 6K resolution should follow a year later. The higher resolution is particularly important for medical applications, enabling the user to zoom in on fine details, while retaining a sharp AR image.

Like the Google Glass Enterprise or Microsoft's HoloLens 2, due in part to the headset's initial higher cost, LightSpace is aiming at the medical and manufacturing (specifically automotive) markets, although it is concurrently developing a consumer version for gaming and entertainment. HansaMatrix will likely not manufacture the product itself, but licence the patent to established Tier 1 companies. We assume that this should generate a stream of royalty revenues for the company, which would further fatten its bottom line and, so, by extension, HansaMatrix's. At this stage, it is something we are unable to quantify, so is not reflected in our model, but undoubtedly reflects potential upside for the business, in our view.

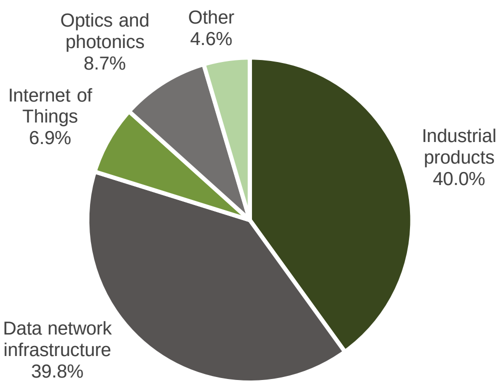
Zinatnes Parks – a landbank near a major (future) transportation hub. In 2016, HansaMatrix joined with three other local investors to establish Zinatnes Parks, a real estate development venture, with the intension of developing a hi-tech business park. The site is adjacent to the Riga International Airport (RIX) and the Rail Baltica rail corridor, a project connecting seaports in all three Baltic countries with Poland and the rest of the EU. However, delays in the Rail Baltica project and strategic core business priorities have translated into delays in the development of the business park; at this stage, the company is weighing up the sale of the building site with the long-term lease agreement. Its total investment in the project stood at EUR 1.797m at end-3Q20 and, assuming that, at some future point, an investor is willing to take over the project, we expect that HansaMatrix would aim to sell at a premium to its investment, which represents material upside for the share price, should a deal materialise.

Company description

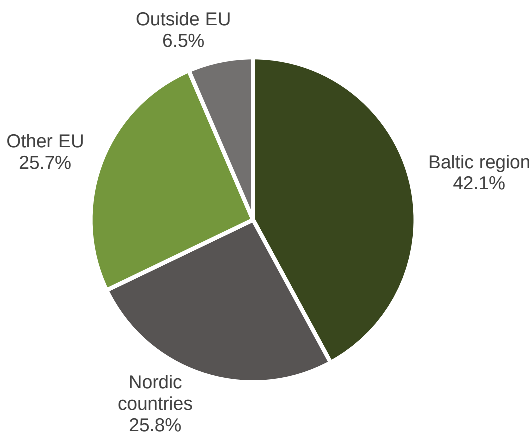
HansaMatrix is an electronics manufacturing services (EMS) company, based in Latvia. The business was co-founded in July 1999 by Mr. Ilmārs Osmanis, who remains the company's CEO and the largest shareholder, with a stake of c.34%. HansaMatrix provides its business-to-business (B2B) customer base with systems development and contract manufacturing – think of something like Foxconn producing iPhones for Apple, or Flextronics and its partnerships with Sony or Motorola – albeit on a smaller, more local scale. Also, while all the contract manufacturers share the fact they make components or finished production based on their customers' designs, HansaMatrix positions itself as a "low volume, high mix" producer, focusing on designing the production process and small runs of specialised or bespoke gear. In the case of its LightSpace 3D augmented reality (AR) headset, the company is an original design manufacturer (ODM) as well. HansaMatrix's positioning in the market enables it to generate higher margins than most of its EMS peers, with its EBITDA margins in the low to mid-teens vs. a median of c.7% for our (mostly developed market) peer group.

The company manufactures, for example, hardware for robotics and automation systems, produces complex electronic printed circuit boards (PCBs), electronic optics – which allow robots to "see" – and LCD displays and components for medical and scientific equipment. It also provides B2B customers with services like rapid prototype manufacturing, product engineering, test systems development, and quality management systems. The majority of HansaMatrix's business comes from c.25 long-term B2B customers in the Baltic and Nordics countries, but it is attracting orders in other EU countries and, increasingly, from the United States.

2019 revenues by sector



2019 revenues by client location



Source: Company data, WOOD Research

The company reports revenues generated by products in four main business sectors: 1) industrial systems; 2) data network infrastructure; 3) the Internet of Things; and 4) optics and photonics (there is also an Others line, usually 5-6% of total revenues).

- ✓ **Industrial systems.** Most of HansaMatrix's work for this sector involves components for robotic and automated systems, or for smart and remote metering. For one Finnish engineering firm, for example, it produces a remote controller for industrial installations, including a GSM/GPRS modem and sensor cables, or electronic kits for hearing protectors and communication headsets.

- ✓ **Data network infrastructure.** Examples of the products that HansaMatrix manufactures for its customers include radio frequency (RF) filters for GSM base stations, which allow multiple operators to have antennas on the same tower or full box build (i.e., fully assembled) internet routers, including the printed circuit board (PCB) assemblies.

- ✓ **The Internet of Things (IoT).** HansaMatrix's involvement in the IoT market is though hardware – embedded sensors and nodes and the RF (radio frequency) communication gear to speak to other machines, The Cloud, or to users.

- ✓ **Optics and photonics:** historically, this has involved industrial 3D cameras for collaborative robots (robots intended for direct human interaction within a shared space), robot cells (a set of machines organised within an automatic work cell, in which one or more programmable robots are installed) or logistics robots (used in warehouses to automate the process of storing and moving goods as they make their way through the supply chain). Lately, it also includes R&D work for the LightSpace augmented reality (AR) headsets (below) and, starting next year, the commercial production of the headsets.

In order to execute a wide range of orders for its customers, HansaMatrix's production sites are equipped to produce not only printed circuit boards (PCB) and PCB assemblies, but also custom LCD displays, machined metal and plastic parts, and optics, most of which is largely automated. From August this year, it has also installed four plastic manufacturing cells built around plastic injection moulders, again largely automated. By insourcing the manufacturing of plastic components, the company is more flexible, ensures better and more effective quality, and saves time and money in the supply chain of plastic assemblies. It is also more space efficient; the injection moulding cells take up less space than was needed to warehouse plastic parts purchased externally.

Company management

HansaMatrix is managed by a three-member Management Board (see below) and is overseen by an elected five-member Supervisory Council, with three independent directors and two representing the largest shareholders (one representing ZGI Capital, and one representing BaltCap and other institutional minority investors).

Ilmārs Osmanis: CEO and Chairman of Executive Board. Mr. Osmanis studied electronic engineering, later complemented by additional executive MBA studies, which were not completed due to the business start-up. His entrepreneurial experience includes the successful development of an electronic components distribution business in the Baltic countries, which was subsequently sold successfully. During the past 15 years, Ilmārs Osmanis, who founded the company, has served as its CEO. He accomplished a managerial buyout of the company in 2014, and listed HansaMatrix on Nasdaq Baltic's main board in 2016.

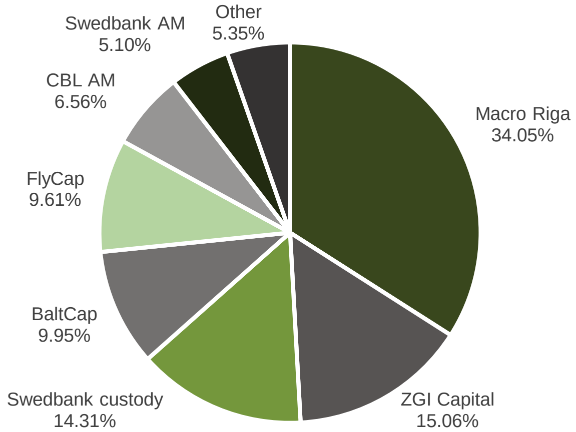
Māris Macijevskis: Finance Director. Mr. Macijevskis holds a Bachelor of Science degree in Economics and Business Administration from the Stockholm School of Economics in Riga, and a Masters of Science degree in International Economics from the University of Latvia. He is also a Chartered Financial Analyst (CFA) charterholder. His previous experience includes the position of a Head of Corporate Client Service Department at Citadele banka AS. Mr. Macijevskis has been with the company since 2017.

Jānis Sams: Chief Operational Officer. Janis Sams has served as the Chief Operating Officer of HansaMatrix since June 2020. Prior to joining HansaMatrix, Jānis Sams' professional experience for 12 years was related to electronics manufacturing, holding the position of function manager in international companies. In addition, Janis serves currently on the Management Board of the Latvian Electrical Engineering and Electronics Industry Association. He holds a Masters degree in comprehensive quality management and an engineering degree in production automation from Riga Technical University.

Shareholders' structure

During its history, HansaMatrix has attracted investments from both development agencies, venture capital funds and the public market. In 2002, the Baltic SME Fund – managed by BaltCap and with funding from, among others, the European Investment Fund (EIF), EBRD and SEB Bank – took a 25% stake in the business (later raised to 37.5%) and two Swedish VC funds. When the Baltic SME Fund closed in 2014, Mr. Osmanis bought out both it and the Swedish fund to become the 100% shareholder. One year later, another VC fund, managed by Latvia's FlyCap, acquired a c.17.2% stake, later increased to 22.1%. In July 2016, the company raised c.EUR 1.624m through a IPO (at EUR 6.53/share). Currently, Mr. Osmanis remains the largest shareholder, with 34.05% (via SIA Macro Riga), followed by three VC funds, managed by ZGI Capital, BaltCap and FlyCap, and two pension funds, managed by CBL AM and Swedbank.

Shareholders' structure (at end-September 2020)



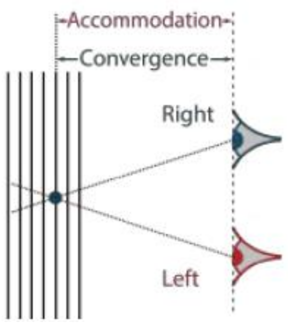
Source: Company data, WOOD Research

LightSpace's multifocal 3D augmented reality (AR) headsets

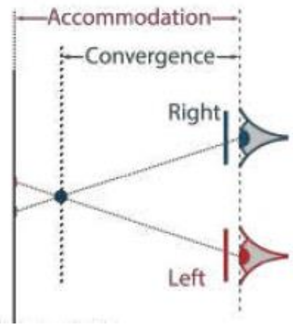
In cooperation with its associate start-up company, LightSpace, where HansaMatrix owns a 49.86% stake and where Mr. Osmanis also serves as CEO, HansaMatrix is developing a line of augmented reality (AR) headsets, using a proprietary, multi-layered laminated liquid crystal display (LCD) screen. The prototype headsets have already been tested by potential customers in Europe and the US, and commercial production of the first of two versions will begin next year.

What differentiates LightSpace from Google's Glass, Microsoft's HoloLens, or producers of AR and VR headsets for gaming and entertainment, is the image created by the multi-layered display, which, compared to 2D or stereoscopic 3D (two 2D images show from a slightly different angle), reduces the eyestrain caused by the vergence-accommodation conflict (VAC) significantly. VAC is what happens when the brain receives mismatching cues between the distance of a virtual 3D object (vergence), and the focusing distance (accommodation) required for the eyes to focus on that object, and is not an uncommon complaint of AR/VR hardware reviewers and users.

LightSpace's multiple focus planes



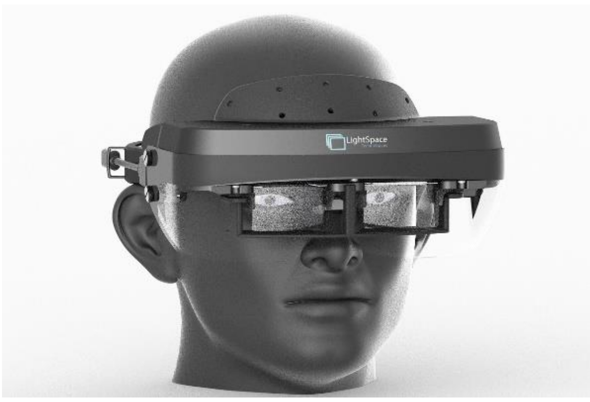
Vergence-accommodation conflict with a single plane



Source: Company data, WOOD Research

Another distinction is the high resolution, initially 3,400x1,920 pixels per eye (IG-1005 AR headset) or, roughly, 4K resolution vs. 2K for Microsoft's HoloLens 2 (it does not specify a pixel count), or 640x360 pixels (one eye) for Google Glass; a higher resolution version (IG-2000 AR smart glasses) with 5,800x3,600, or roughly 6K resolution, should follow a year later. The higher resolution is particularly important for medical applications, enabling the user to zoom in on fine details, while retaining a sharp AR image. We note a recent research paper by doctors at the University of Zurich's Balgrist University Hospital, detailing their experience with an earlier version of Microsoft's HoloLens, that they experienced problems with the resolution of the tracking cameras and with high-fidelity 3D tracking, even if the wearer attempts to minimise head movements.

LightSpace IG-1005 AR headset (left) and IG-2000 AR smart glasses (right)



Source: Company data, WOOD Research

Like the Google Glass Enterprise or Microsoft's HoloLens 2, due in part to the headset's initial higher cost, LightSpace is aiming at the medical and manufacturing (specifically automotive) markets, although it is concurrently developing a consumer version for gaming and entertainment. HansaMatrix will likely not manufacture the product itself, but licence the patent to established Tier 1 companies. We assume that this should generate a stream of royalty revenues for the company, which would further fatten its bottom line and, so, by extension, HansaMatrix's. At this stage, it is something we are unable to quantify, so is not reflected in our model, but undoubtedly reflects potential upside for the business, in our view.

LightSpace technologies shareholder structure is the following: HansaMatrix 49.86%, BaltCap Latvia Venture Capital Fund 27.07%, Ilmārs Osmanis 12.77%, Imprimatur Capital Technology Venture Fund 7.8%, and Imprimatur Capital Seed Fund 2.5%. As at end-9M20, HansaMatrix's total investment in the business amounted to EUR 8,663k, of which EUR 3,710k is equity and a convertible loan of EUR 4,954k.

Zinatnes Parks – a landbank near a major (future) transportation hub

In 2016, HansaMatrix joined with three other local investors to establish Zinatnes Parks, a real estate development venture, and signed an agreement to purchase a building site and a long-term land lease agreement related to it in the Riga International Airport (RIX) commercial zone, with the aim of developing a hi-tech business park. In addition to the airport, the commercial zone will be connected to the Rail Baltica rail corridor, a project connecting seaports in all three Baltic countries with EU standard gauge rail (as opposed to the Soviet era standard) to enable it to further integrate transport to Poland to the south and on to the rest of Europe (eventually, it should add an undersea line to Finland in the north as well).

Initially, HansaMatrix's stake in the project was 24%, which was upped to 74.67% through a later capital increase in 2019. In September this year, it acquired the remaining 25.33% for a consideration of EUR 5,000. Delays in the Rail Baltica project and strategic core business priorities have translated into delays in the development of the business park; at this stage, the company is weighing up the sale of the building site with the long-term lease agreement. Its total investment in the project stood at EUR 1.797m as at end-3Q20, consisting of paid-up capital of EUR 0.806m and a convertible loan of EUR 0.991m. Assuming, at some future point, that an investor is willing to take over the project – the station at Riga Airport only selected a contractor last summer; actual work should only begin in 2021E – we expect HansaMatrix to aim to sell its investment at a premium, which represents material upside to the share price, should a deal materialise.

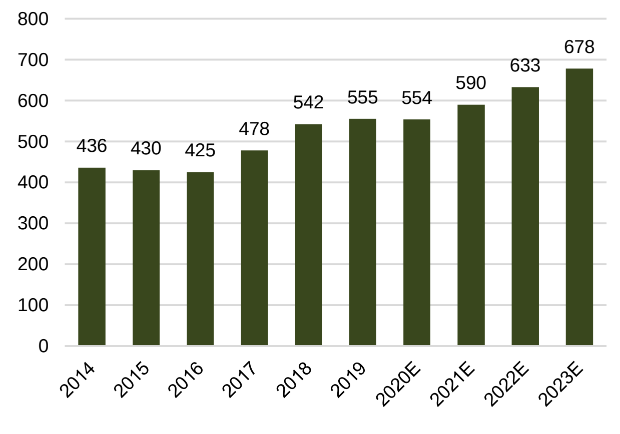
Electronics manufacturing services industry overview

The concept of electronic manufacturing services (EMS) dates back to the 1970s, but really came into its own in the early-1990s, with the wide-spread adoption of fully automated, high-speed surface-mount technology (developed initially by IBM), which allows various electronic components to be assembled on pre-printed circuit boards (PCBs). Compared the older method of through-hole mounting, it significantly reduced the cost of setting up production lines and was highly scalable, both up and down.

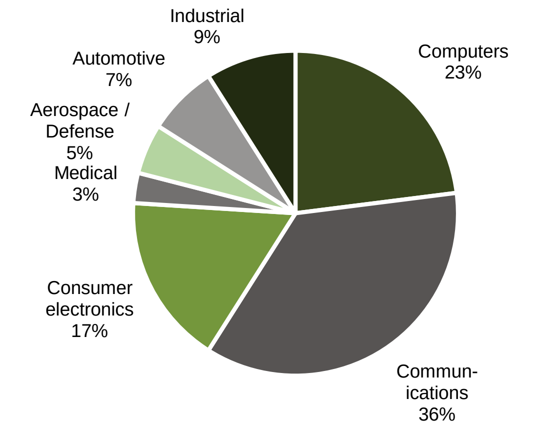
EMS manufacturers are commonly divided into "tiers", based on their turnover. Tier 1 producers have turnover of >USD 5bn, Tier 2 between USD 500m and USD 5bn, Tier 3 between USD 100m and USD 500m and Tier 4 below USD 100m. The industry also makes a distinction between "high volumes, low mix" producers – think Foxconn, churning out millions of iPhones – and "low volume, high mix" producers, like HansaMatrix. Thanks to the scalability and flexibility of manufacturing process, the latter is well-suited to making prototypes or small runs of bespoke equipment, but also electronics for the medical, aerospace and defence industries, where each component needs to be documented and traceable back to its source (HansaMatrix is ISO13485 certified for medical electronics).

According to New Venture Research, a business research service for the electronics sector, the global EMS market was worth USD 555bn in 2019. The market increased by a 2015-19 CAGR of 6.6% and is forecast to grow by another 5.1% annually through to 2023E. Unsurprisingly, the largest part of the industry is based in China or in other Asian countries, and is dominated by the "three Cs": the communication (e.g., telecoms), computer, and consumer electronics sectors (including mobile phones). The European share of the market makes it a relative minnow by comparison, at c.EUR 31.6bn, according to Reed Electronics Research. Noteworthy, however, is that CEE's share of the European market already exceeds that of Western Europe, at an estimated EUR 16.4bn (in 2018) vs. EUR 14.0bn, respectively.

Global EMS market (USD bn)

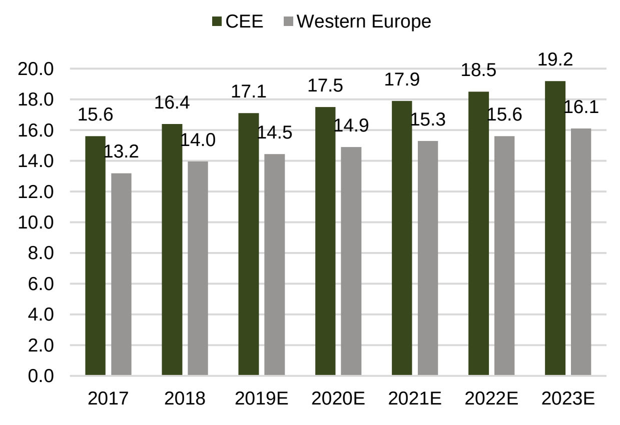


Global EMS market by sector

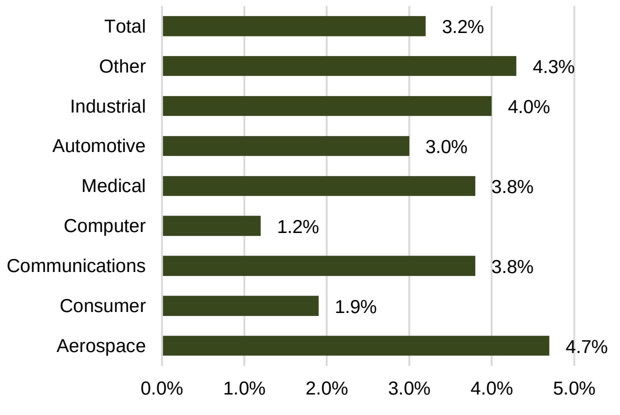


Source: New Venture Research, WOOD Research

European EMS market (EUR bn)



2018-23E CAGR, by sector



Source: Reed Electronics Research, WOOD Research

The structures of the CEE and Western European EMS markets are also still quite different, although, according to the Reed report, the differences are expected to shrink over time. Western European EMS producers receive a disproportionally high share of their orders from the industrial, medical and aerospace industries, while CEE producers work predominantly for producers in the three Cs sectors.

COVID-19 brought an uncertainty to the markets, and the EMS industry was no exception. An immediate impact of the outbreak has been seen as reduced capacity, supply chain disruptions and sick leave all increased. The loss of capacity is estimated to be approximately 8-12% in 2020E, and New Venture Research expects a double-digit decline in EMS revenues. Starting in 2Q20, the orders in automotive industry were reduced substantially; while medical technology experienced an upswing.

The accompanied lockdown brought a new change to the operations of electronic and technological companies. Working from home and general social distancing may influence the demand in the computer and communication sector. Another permanent impact is the use of robotics and remote monitoring, with the process of the automatisation of the manufacturing processes. Thus, companies will have the ability to adjust their production and shipping schedules.

We could observe a positive outlook for this industry. For the computer, consumer and mobile sector, growth will be driven by the faster penetration of 5G smartphones, and increasing demand for computers due to working from home. For aerospace and defence, the requirement to update fleets with the latest generation of fuel efficient aircraft will drive demand.. For the medical sector, automatisation becomes more common, which leads the industry to innovate high complexity products. The automotive sector is likely to grow, through increasing electronic content across all passenger and commercial vehicles.

Earnings forecasts

We expect HansaMatrix's earnings to enter a new growth phase on the back of the launch of LightSpace's 3D AR headsets, which should, according to our model, both drive the top line, as well as: 1) reduce the losses associated with its associate companies (primarily LightSpace itself), booked below the operating line; and 2) deleverage the balance sheet. While we conservatively assume a 2019-23E revenue CAGR from the current business of c.9% – vs. a 2015-19 CAGR of 17%, but still nearly double the expected pace of the EMS market as a whole – and the launch of the LightSpace headsets, which HansaMatrix will manufacture for the start-up, adds another c.285bps of top-line growth (to a CAGR of 12%), in our model, and, as a rather more complex product, should further enhance its EBITDA margins. Over the past five years, the EBITDA margin has been compressed by higher raw materials, production process management and R&D costs; going forward, we assume that most of these moderate – driven, amongst other things, by lower commodity linked costs and lower wage inflation. Below the operating line, we expect the losses from associated companies – i.e., LightSpace – to turn into gains, as the company heads toward breakeven headset volumes (c.7k units annually), which management believes should be achievable during 2024E. In our model, this translates into growth on the net profit line of c.85% (EUR 2.575m in 2023E vs. EUR 0.214m in 2019). We also note that the Latvian tax code changed from 2018 and, since then, only capital distributions, e.g., dividends are taxed; as opposed to an effect rate in the low teens, we expect a figure in low single digits, assuming a payout policy of c.15% of the net profit.

Revenues

In our model, we assume a 2019-23E revenues CAGR of c.12%, which should, in absolute terms, be driven by customers in the data network infrastructure sector, followed by optics and photonics – driven by LightSpace headset sales – and then industrial products. In data network infrastructure, HansaMatrix should benefit from both demand for internet connectivity – a trend that has only accelerated due to the pandemic – and from telecoms operators investing in mobile phone infrastructure (both for service quality enhancement in current networks, as well as the impending large-scale rollout of the 5G network, which requires a higher density of base stations).

HansaMatrix: 2015-23E revenues

EUR '000	2016	2017	2018	2019	2020E	2021E	2022E	2023E	CAGR 2015-19	CAGR 2019-23E
Industrial products	6,141	6,737	7,462	9,856	9,337	10,232	11,862	13,064	21%	7%
Data network infrastructure	7,055	10,191	9,884	9,788	10,027	11,724	13,796	15,203	10%	12%
Internet of Things	1,031	1,075	1,314	1,686	1,131	1,705	1,964	2,122	1%	6%
Optics and photonics	347	707	1,429	2,153	1,257	2,669	3,193	6,167	157%	30%
of which LightSpace headsets	-	-	-	-	-	*1,000*	*1,250*	*3,750*	n.m.	n.m.
Other	2,388	940	1,498	1,128	1,587	1,567	1,745	1,837	24%	13%
Revenues	**16,961**	**19,649**	**21,587**	**24,611**	**23,341**	**27,896**	**32,559**	**38,393**	**17%**	**12%**

Source: Company data, WOOD Research

Regarding the 2020E sales, the COVID-19 pandemic took a material toll on HansaMatrix's business in 1H20, starting with delays in sourcing components from Asia in early spring, then the impact of the European lockdowns on its clients' businesses. The disruption resulted in a c.12% contraction in revenues, with the biggest hit, in absolute terms, from the deliveries of data network infrastructure equipment. Order and deliveries returned, however, in 3Q20 (with revenues +7% yoy) and, based on our discussions with management, revenues should be similarly good in 4Q20E, keeping in mind the typical seasonality – 4Q and 2Q are traditionally slower, driven mainly by the restocking/destocking cycles of the company's customers – an a high base in 4Q19, driven by: 1) the first deliveries to new clients in the Industrial sector; and 2) higher R&D service revenues. For 4Q20E, we expect revenues of EUR 6.3m (c.5% lower both qoq and yoy) and EUR 23.3m for the full year 2020, or 5% lower yoy.

For 2021E, we assume a return to normalised growth for the core EMS business (i.e., excluding the LightSpace headset manufacturing revenues) of 15% yoy vs. 2020E (implying a 2019-21E revenues CAGR of c.5%). Sales to the data network infrastructure sector should, we believe, be the main driver in absolute terms, again driven by increased demand for communication bandwidth, followed by industrial products, led by ongoing investments in automation. In relative terms, we expect the highest growth rates in the optics and photonics sector, at a 2019-23E CAGR of 30%. Underneath this is c.3% growth in the current business, which has been supported by R&D services for its LightSpace associate over the past couple of years and which we expect to slow, and new business from the LightSpace headsets. Management expects headset sales of 500 units, which would mean c.EUR 1m in manufacturing revenues for HansaMatrix (we note that LightSpace will be booking the revenues from end-user sales). As volumes scale up – to 1k units in 2022E, 5k in 2023E and 25k by 2025E, on management's forecasts – we expect unit manufacturing revenues to decline to decline by a CAGR of 35% in the first five years.

Nonetheless, they represent a significant new revenue stream for the business. Finally, we also expect to see an upswing in demand from the Internet of Things (IoT) sector (a 2019-23E CAGR of 6% vs. 1% in 2015-19) as, in the near term, manufacturers switch from 2G and 3G enabled hardware to 4G, to take advantage of the latter's significantly higher data transfer rates.

LightSpace 3D AR headset revenues

EUR '000	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
Revenues	1,000	1,250	3,750	5,600	9,000	10,260	11,372	12,346	13,195
Units	500	1,000	5,000	14,000	25,000	30,000	35,000	40,000	45,000

Source: Company data, WOOD Research

COGS, operating and financial costs

HansaMatrix's pricing model is mainly cost plus, with margins depending on the type of customer and the expected volumes. For established clients, with recurring orders, with a stable volumes forecast, the mark-up would be lower, but higher for start-ups, or where offtake volumes are unpredictable. Requests for quotes (RFQs) are typically open book (the two sides agree at the outset on both which costs are reimbursable and the supplier's margin) or partly open, depending on the type of work; only infrequently does it respond to RFQs with only a final price.

Its single largest COGS cost line is for raw materials, which represents c.50% of cost of goods sold (COGS) currently, or 43-44% of revenues, down from 60% and 52%, respectively, in 2016. It is also not uncommon that clients provide the company with their own materials for assembly, which affects HansaMatrix's gross margin positively, as the company records revenues without materials costs.

Following materials, the production process management costs (last year, c.18% of total COGS) are the second biggest cost line in the COGS, and represent assembly work, which, starting from 2016, HansaMatrix outsources to a neighbouring company, SIA Quality Jobs, located in the same commercial park as its Ventspils plant. The company typically outsources work that is recurring and with predictable volumes, for which it pays Quality Jobs a fixed margin, at market levels. Management's rationale for outsourcing this type of work is the added flexibility, e.g., it can continue to fulfil clients' orders, while maintaining its own capacity to focus more on the "low volume, high mix" work, which typically generates higher margins.

The next three important cost lines are personnel costs, depreciation and R&D costs; together, they account for c.28% of the total COGS. We conservatively assume that personnel costs will grow in line with revenues, while R&D costs – which grew at a 2015-19 CAGR of 66% – should begin to moderate. Historically, c.82% of total depreciation expenses is booked in the COGS, and we assume a similar percentage going forward.

Over the past five years, administrative costs have grown by c.9% p.a in absolute terms, or between 7-8% of revenues. We assume 9% growth for 2021E-onwards in absolute terms, or c.7% of sales, falling to c.6% by 2024E. Distribution costs have been declining as a percentage of sales, from c.4% in 2015-17 to 3.4% in 2019, and an estimated 2.2% of sales in 2020E. Going forward, we assume distribution costs running at a flat 3% of sales.

Summary income statement

EUR '000	2016	2017	2018	2019	2020E	2021E	2022E	2023E	CAGR 2015-19	CAGR 2019-23E
Revenues	16,961	19,649	21,587	24,611	23,341	27,896	32,559	38,393	17%	12%
Gross profit	2,271	3,726	3,601	3,639	2,589	3,887	4,989	6,208	8%	14%
EBITDA	**2,215**	**3,660**	**3,259**	**3,719**	**3,198**	**3,851**	**4,703**	**5,623**	**10%**	**11%**
EBIT	783	1,877	1,395	1,316	760	1,382	2,153	2,987	-3%	23%
Loss from investments in associates	-17	-108	-483	-623	-659	-316	-138	-13	n.m.	-62%
Net financial expense	-193	-322	-130	-466	-507	-409	-401	-383	18%	-5%
Income tax	-22	231	0	-18	0	-14	-22	-54	-42%	31%
Net profit	**551**	**1,679**	**781**	**214**	**-405**	**642**	**1,593**	**2,538**	**-33%**	**85%**
Gross margin	13.4%	19.0%	16.7%	14.8%	11.1%	13.9%	15.3%	16.2%		
EBITDA margin	**13.1%**	**18.6%**	**15.1%**	**15.1%**	**13.7%**	**13.8%**	**14.4%**	**14.6%**		
Net margin	3.2%	8.5%	3.6%	0.9%	-1.7%	2.3%	4.9%	6.6%		
Effective tax rate	-3.8%	16.0%	0.0%	-8.1%	0.0%	-2.2%	-1.3%	-2.1%		

Source: Company data, WOOD Research

Other operating income and expenses. Around 80% of other operating income is generated by short-term and long-term grants awarded to the company by local government or EU organisations for R&D work or specific projects, led by an internal team of six PhDs. Current and past projects have centred around the company's expertise in optics, including 3D robot vision and 3D AR displays, i.e., the same technology used in the LightSpace headsets. The part of EU grant income used to acquire PP&E is accrued over the useful life of the relevant asset, and so is a non-cash item and excluded from the cash generated from operations.

The balance of the other operating income includes, among others, income from training courses for customers, FX gains (the company is short USD, which it needs for raw materials purchased, say, from Asia). Other operating expenses include FX losses, contractual penalties, losses on the disposal of PP&E and charitable donations.

The group's share of loss of associates. HansaMatrix consolidates the earnings and losses of its associate companies – most notably, LightSpace; and, until this September, Zinatnes Parks – below the operating line. Inasmuch as both are start-up ventures, they have generated material losses; between 2016 and 9M20, a cumulative EUR 1,725k, of which over 95% is attributable to LightSpace. Now that LightSpace is now in a position to commercialise its technology, we expect the losses to peak this year at c.EUR 659k and to decline from 2021E-onwards (we pencil in losses of EUR 316k next year and EUR 138m in 2022E), until it reaches breakeven sales volumes – around 7k headsets annually, according to management – and contribute positively to HansaMatrix's bottom line, from 2024E-onwards.

Financial expenses. Its bank debt has increased significantly since 2018, primarily to finance the development of LightSpace (below), which has been reflected in HansaMatrix's financial expenses line (primarily bank loan interest, but also, from 2019, interest expense on lease obligations). The interest expenses component jumped to EUR 410k last year (or c.80% of total financial expenses), from EUR 158k in 2018, which is almost wholly attributable to interest provisions and fees associated with its EUR 5m EIB loan. Interest expenses on lease obligations were at EUR 66k in 2019, and we assume a similar level going forward. Again, as the development phase of LightSpace's 3D AR display technology winds down, the company should be deleveraging, and we expect a 2020-23E CAGR of a c.8% decline in financial expenses, contributing further to the growth in the bottom line over the next several years.

Corporate income tax. In effect from the start of 2018, in Latvia, all undistributed corporate profits are exempt from corporate income tax (CIT), including both active and passive types of income (before 2018, the CIT rate was 15%). Currently, the state taxes only profit distributions, i.e,. dividends or profit share-outs at an effective rate of 25% (officially 20%, but the tax base is increased by a coefficient of 1.25x). We note that change in the tax law triggered a deferred tax gain for the company of EUR 451k in 2017; excluding this, HansaMatrix's 2017 net profit would have been around EUR 1,228k, or c.27% lower.

In our model, we assume the company will have zero CIT for 2020E as the AGM in May decided, in view of COVID-19, to retain all of its 2019 earnings. Management has indicated that it plans to pay a small dividend in 2021 – we assume EUR 57k, or EUR 0.03/share – meaning a CIT for next year of c.EUR 14k. Going forward, we assume a dividend payout ratio of c.15% of the net profit, which implies a low single digit (around 2%) CIT thoughout our forecast horizon.

Debt and gearing. The company's debt to financial institutions increased significantly in 2018 and 2019, both to fund the development of LightSpace headsets and core business development investments. The most notable is a EUR 10m quasi-equity financing facility from the European Investment Bank (EIB) approved in late-2018 – part of the so-called Junker Plan for EU infrastructure investment – to support the company in its ongoing growth strategy and the commercialisation of volumetric 3D image technology owned by LightSpace technologies. In addition, there was a new EUR 2.0m loan from SEB, signed in March last year, to fund the EMS business. This is on top of c.EUR 2.6m for general corporate purposes.

Based on their agreement, the EIB funds should be disbursed in three tranches of EUR 5m, EUR 2.5m and EUR 2.5m, each with a maturity of five years and a bullet repayment. As a condition waiving interest on the first tranche, HansaMatrix agreed to grant the EIB warrants that can be converted into 205,298 new shares or 10% of the company's fully-diluted share capital. The current market valuation of the warrants is EUR 1.56k, which deduct from the enterprise value in our DCF and EV/EBITDA valuations (below). Management has stated that, at the end of a five-year period after the drawdown of the first tranche (31 November 2023), it intends, depending on business conditions, to purchase and cancel the EIB warrants to avoid diluting the current shareholders. The base-case scenario, we understand, is that the company will refinance the EUR 5m loan plus the cost of the warrants with a commercial bank.

At end-9M20, the net debt to EBITDA stood at 4.2x, which is a high watermark, according to management, and it will be deleveraging the business going forward. The company does not disclose the details of its loan covenants, but it did receive a waiver in the summer. In our model, we see gearing falling as the poor 1H20 works out of the trailing 12M EBITDA and as the first revenues start to come in from the LightSpace headsets. By end-2021E, we expect to see gearing at a more reasonable 2.6x and 2.0x by the end of 2022E. As a rule, management would like to maintain its gearing around 2.0x, although around 3x is acceptable for its bank.

Valuation

We value HansaMatrix using both a 10Y DCF model and peer multiples, giving each an equal weight. On this basis, we arrive at a DCF-based 12M PT of EUR 10.26/share, on a fully-diluted basis, or upside of c.32% to the current level.

12M price target

Valuation method	DCF	Multiples
Valuation or fair value	13.53	7.00
Weight	50%	50%
12M PT (EUR)	**10.26**	
Upside to PT	32%	

Source: Bloomberg, WOOD Research

DCF valuation

The key assumptions in our DCF model include:

- ✓ A WACC of 12.0%, starting with a risk free rate of 5.5% for Latvia, and an equity risk premium of 6.0%.
- ✓ We apply a levered beta of 2.20x, starting with an unlevered beta from the Damodaran sector beta database of 1.12x for European Electronics (General) manufacturers.
- ✓ We calculate the terminal value as the average of: 1) the perpetuity with a 1% terminal growth rate; and 2) an exit EV/EBITDA of 6.0x.
- ✓ To reflect the potentially dilutive impact of the 205,298 EIB warrants, we subtract the market value of the warrants, to arrive at a fully-diluted equity value.

DCF valuation

EUR '000s	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E
EBIT	760	1,499	2,103	2,987	3,711	4,733	4,664	5,038	5,239	5,344
NOPLAT	760	1,471	2,069	2,928	3,623	4,617	4,550	4,914	5,110	5,213
Depreciation	2,437	2,469	2,550	2,635	2,705	2,762	2,808	2,843	2,866	2,876
Change in NWC	-715	387	-174	-284	-244	-319	-333	-330	-343	-350
Capex	-1,026	-2,000	-2,500	-2,500	-2,500	-2,563	-2,627	-2,692	-2,760	-2,829
FCF	**1,457**	**2,328**	**1,945**	**2,779**	**3,585**	**4,497**	**4,399**	**4,735**	**4,874**	**4,910**
PV of FCF	**1,416**	**2,019**	**1,506**	**1,920**	**2,211**	**2,476**	**2,161**	**2,076**	**1,907**	**1,715**

	I. Perpetuity (g=1%)	II. Exit EV/EBITDA 6.0x		
Sum of PV	19,407	19,407	Risk-Free Rate	5.5%
PV of Terminal value	15,531	17,227	Levered Beta	2.20
Total EV	**34,937**	**36,634**	Risk premium	6.0%
Net Debt (2019A)	-12,106	-12,106	**Cost of Equity**	**18.7%**
Equity value	**22,832**	**24,528**	Cost of Debt	4.5%
Market value of warrants	-1,591	-1,591	Tax Rate	2.3%
Diluted equity value	**21,240**	**22,937**	**Effective Cost of Debt**	**4.4%**
Equity value per share	11.61	12.54	Weight of Equity	53.4%
Average	**12.07**		Weight of Debt	46.6%
12M PT	**13.53**		**WACC**	**12.0%**

Source: WOOD Research

DCF PT sensitivity to WACC and terminal growth rate

WACC/terminal growth	-1.0%	-0.5%	0.0%	0.5%	1.0%	1.5%	2.0%	2.5%	3.0%
10.0%	16.19	16.73	17.33	17.99	18.72	19.54	20.47	21.51	21.24
10.5%	15.01	15.49	16.01	16.59	17.22	17.93	18.72	19.61	19.37
11.0%	13.93	14.35	14.81	15.32	15.87	16.49	17.17	17.93	17.73
11.5%	12.93	13.31	13.71	14.16	14.65	15.18	15.77	16.43	16.28
12.0%	12.01	12.35	12.71	13.10	13.53	14.00	14.52	15.08	14.98
12.5%	11.16	11.46	11.78	12.13	12.51	12.92	13.37	13.87	13.82
13.0%	10.37	10.64	10.93	11.24	11.57	11.94	12.34	12.77	12.78
13.5%	9.63	9.87	10.13	10.41	10.71	11.03	11.38	11.77	11.83
14.0%	8.95	9.16	9.39	9.64	9.91	10.20	10.51	10.85	10.97

Source: WOOD Research

Peer multiples

Peer multiples

	LCU	Mkt cap	EV/EBITDA			P/E			EBITDA margin			Dividend yield		
		(USD m)	20E	21E	22E	20E	21E	22E	20E	21E	22E	20E	21E	22E
HANSAMATRIX	**EUR**	**16**	**8.3**	**6.7**	**5.3**	**n.m.**	**24.3**	**9.8**	**14%**	**14%**	**14%**	**0%**	**1%**	**1%**
INCAP OYJ	EUR	109	7.7	6.3	n.a.	14.3	11.2	10.5	13%	13%	14%	2%	2%	n.a.
KITRON ASA	NOK	297	9.7	10.1	9.3	14.6	15.1	13.5	10%	10%	10%	5%	4%	5%
INISSION AB	SEK	52	7.1	5.2	4.4	14.8	9.5	8.6	7%	8%	8%	2%	3%	3%
SCANFIL OYJ	EUR	388	7.3	7.0	6.5	11.1	12.7	12.0	9%	9%	9%	3%	3%	3%
HANZA HOLDING AB	SEK	46	8.1	4.5	3.7	29.7	8.3	6.9	5%	8%	8%	1%	3%	4%
AUSTRIA TECHNOLOGIE & SYSTEM	EUR	826	4.6	7.0	6.1	49.3	17.1	10.7	19%	21%	23%	3%	1%	1%
HON HAI PRECISION INDUSTRY	TWD	35,520	6.3	4.9	4.3	11.5	9.6	8.6	4%	4%	4%	5%	5%	6%
FLEX LTD	USD	6,892	5.9	6.7	6.0	65.4	13.2	12.0	5%	6%	6%	0%	0%	0%
JABIL INC	USD	5,004	4.9	3.9	3.5	91.7	9.8	9.3	5%	7%	7%	0%	1%	1%
PLEXUS CORP	USD	1,856	8.9	9.3	8.6	16.9	16.7	15.3	7%	7%	7%	0%	n.a.	n.a.
FABRINET	USD	2,187	12.8	12.2	10.8	20.7	16.5	15.1	9%	11%	11%	0%	n.a.	n.a.
EMS peers median			**7.5**	**6.7**	**6.0**	**16.9**	**13.0**	**10.6**	**8.0%**	**8.7%**	**8.9%**	**1%**	**2%**	**3%**
HansaMatrix vs. peers			11%	0%	-11%	n.m.	90%	-7%	72%	61%	63%	-65%	-67%	-51%

Source: Bloomberg, WOOD Research

For our EMS peer group, we selected both companies that HansaMatrix itself considers to be its nearest peers (Incap, Kitron, Inission, HANZA Holding), but also the two giants of the field, Hon Hai Precision Industry (Foxconn) and Flex (Flextronics), and several, mainly developed market, peers from the EU and the US. Compared to this group, HansaMatrix trades at a 101% premium vs. its peers on our 2020E EV/EBITDA – 8.3x vs. 7.5x for peers – and at a small discount on our 2021-22E multiples (next year, at 6.7x vs. 6.7x for its peers; for 2023E, 5.7x vs. 6.0x). On PERs, HansaMatrix trades at a 90% premium vs. its peers on 2021E earnings, but already in line with a 2022E PER of 9.8x, by which year we should already begin to see the impact of lower losses from LightSpace, along with lower interest costs, as the company deleverages.

It is immediately obvious, in our view, that there is an unusually large disconnect between our DCF PT and the fair value of the stock based on peer multiples in HansaMatrix's case. We believe this is driven mainly by the expected ramp-up in LightSpace headset volumes being fully captured by our DCF, but not in 2021E and 2022E (the first and second year on the market, respectively). We note that management expects 500 and 1,000 units sales in the first two years, while the number grows past 7,000 units in 2024E – at which point, LightSpace itself should start to break even – and 25,000 in 2025E. The share price, which has outperformed the Riga OMX index this year, despite the negative impact from the COVID-19 related disruptions in 1H20, already partly reflects the potential of LightSpace for the company, but not yet the full discounted value, in our view.

Fair value on peer multiples

EUR '000	**P/E**	**EV/EBITDA**
Median 2021-22E peer group multiples	11.8	6.3
Average 2021-22E forecasted earnings	1,149	4,311
EV		**27,045**
Net Debt (2019)		-12,106
Market value of warrants		-1,591
Diluted equity value	**13,553**	**13,348**
Fair value (EUR/share)	6.66	7.30
Weight	50%	50%
Fair value (EUR/share)	**7.00**	

Source: Bloomberg, WOOD Research

Risks

- ✓ Likely, the biggest key risk for our investment thesis is the successful commercialisation of the LightSpace 3D AR headsets. Should LightSpace's unit sales projections prove too optimistic, then it would slow the company's pathway to profitability, which affects the bottom line directly as well.
- ✓ The company's gearing peaked at 4.2x in 9M20, due in part to two-to-three years of investments into LightSpace to fund its development – on top of its investing into the EMS business – and in part due to COVID-related distribution is 1H20, which negatively impacted EBITDA. Management has communicated its target of deleveraging to c.2x Net debt to EBITDA, which we see by end-2022E but this could take longer if business condition were to deteriorate.
- ✓ The business is exposed to FX risk, primarily the EUR/USD rate. The company is short USD (for buying electronics material) and long EUR (its primary billing currency), so a weak EUR (strong USD) generates FX losses, which it can offset only partially with orders from US customers.
- ✓ As part of its financing facility with the European Investment Bank (EIB), the company issued the bank 205,298 warrants, which, if exercised, would result in a c.10% dilution of the current shareholders. We note that we have reflected this risk in our DCF and peer multiples valuations.
- ✓ LightSpace is developing a consumer version of its 3D AR headset for gaming and entertainment. HansaMatrix is not likely to manufacture the product itself, but licence the patent to established Tier 1 companies. We assume that this should generate a stream of royalty revenues for the company, which would further fatten its bottom line and, so, by extension, HansaMatrix's. At this stage, it is something we are unable to quantify but, undoubtedly, reflects potential upside for the business, in our view.
- ✓ The disposal of Zinatnes Parks at or around the value of HansaMatrix's total investment of EUR 1.797m (of which paid-up capital of EUR 0.806m and a convertible loan of EUR 0.991m) would unlock value and represent material upside for the share price, should a deal materialise.

Financials

Income statement

EUR '000	2016	2017	2018	2019	2020E	2021E	2022E	2023E
Industrial products	6,141	6,737	7,462	9,856	9,337	10,232	11,862	13,064
Data network infrastructure	7,055	10,191	9,884	9,788	10,027	11,724	13,796	15,203
Internet of Things	1,031	1,075	1,314	1,686	1,131	1,705	1,964	2,122
Optics and photonics	347	707	1,429	2,153	1,257	2,669	3,193	6,167
Other	2,388	940	1,498	1,128	1,587	1,567	1,745	1,837
Revenues	**16,961**	**19,649**	**21,587**	**24,611**	**23,341**	**27,896**	**32,559**	**38,393**
COGS	-14,690	-15,923	-17,986	-20,972	-20,752	-24,010	-27,571	-32,185
Gross profit	**2,271**	**3,726**	**3,601**	**3,639**	**2,589**	**3,887**	**4,989**	**6,208**
Distribution costs	-632	-783	-918	-825	-511	-837	-977	-1,152
Administrative expense	-1,318	-1,473	-1,735	-1,806	-1,829	-1,993	-2,173	-2,368
Other operating income	548	456	565	420	598	395	395	395
Other operating expense	-86	-49	-119	-113	-87	-70	-81	-96
Operating profit	**783**	**1,877**	**1,395**	**1,316**	**760**	**1,382**	**2,153**	**2,987**
Loss from investments in associates	-17	-108	-483	-623	-659	-316	-138	-13
Financial income	93	94	47	33	11	15	15	15
Financial expense	-286	-416	-177	-499	-513	-417	-406	-403
Profit before tax	**573**	**1,448**	**781**	**226**	**-401**	**664**	**1,624**	**2,586**
Income tax	-22	231	0	-18	0	-14	-22	-54
Minority interests	0	0	0	7	0	0	0	0
Net profit	**551**	**1,679**	**781**	**214**	**-401**	**650**	**1,602**	**2,532**
Depreciation	-1,432	-1,782	-1,864	-2,403	-2,437	-2,469	-2,550	-2,635
EBITDA	**2,215**	**3,660**	**3,259**	**3,719**	**3,198**	**3,851**	**4,703**	**5,623**
Gross margin	13.4%	19.0%	16.7%	14.8%	11.1%	13.9%	15.3%	16.2%
EBITDA margin	13.1%	18.6%	15.1%	15.1%	13.7%	13.8%	14.4%	14.6%
EBIT margin	4.6%	9.6%	6.5%	5.3%	3.3%	5.0%	6.6%	7.8%
Net margin	3.2%	8.5%	3.6%	0.9%	-1.7%	2.3%	4.9%	6.6%
Shares for diluted EPS	1,829	1,829	1,829	2,035	2,035	2,035	2,035	2,035
EPS	0.30	0.92	0.38	0.11	-0.20	0.32	0.79	1.24
DPS	0.03	0.08	0.04	0.00	0.03	0.05	0.12	0.19
Payout	10%	9%	10%	0%	n.m.	15%	15%	15%
Price	7.76	7.59	7.28	6.30	7.75	7.75	7.75	7.75
PER	25.7	8.3	18.2	73.5	n.m.	24.3	9.8	6.2
EV/EBITDA	8.7	5.2	6.9	7.4	8.3	6.7	5.3	4.2

Source: Company data, WOOD Research

Balance sheet

EUR '000	2016	2017	2018	2019	2020E	2021E	2022E	2023E
ODM assets	30	21	16	310	310	310	310	310
Other intangible assets	226	191	180	490	485	731	939	1,112
Goodwill	0	0	0	361	347	347	347	347
Total intangible assets	**255**	**212**	**196**	**1,160**	**1,143**	**1,389**	**1,597**	**1,770**
Total property, plant and equipment	**8,100**	**9,213**	**9,850**	**14,143**	**14,066**	**14,085**	**14,628**	**15,215**
Investments in subsidiaries, associates and other	662	1,670	1,820	2,593	2,103	2,103	2,103	2,103
Other investment loans	871	1,018	3,589	4,461	4,954	4,954	4,954	4,954
Loans to shareholders	1,234	1,912	2,502	0	0	0	0	0
Other financial assets	0	0	124	84	81	81	81	81
Other non-current receivables	16	53	53	64	45	45	45	45
Total non-current financial assets	**2,783**	**4,653**	**7,964**	**7,202**	**7,183**	**7,183**	**7,183**	**7,183**
Inventories	1,596	2,684	2,496	3,052	3,112	3,439	4,014	4,733
Trade receivables (with factoring)	932	912	857	957	761	1,070	1,249	1,473
Loan to shareholder	1,234	550	0	540	549	0	0	0
Other current assets	497	180	1,611	2,503	376	376	376	376
Cash and cash equivalents	382	259	2,377	254	414	350	307	480
Total current financial assets	4,642	4,585	7,341	7,307	5,211	5,235	5,945	7,061
Total assets	**15,780**	**18,662**	**25,350**	**29,812**	**27,603**	**27,892**	**29,353**	**31,229**
Share capital and share premium	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265
Reserves	0	0	1	1	1	1	1	1
Non-current asset revaluation reserve	1,335	2,286	2,162	2,039	1,946	1,946	1,946	1,946
Retained earnings brought forward	-670	-95	1,561	2,392	2,817	2,416	3,009	4,523
Retained earnings for the period	551	1,679	781	214	-401	593	1,515	2,316
Minority share	0	0	0	117	0	0	0	0
Total equity	**5,481**	**8,135**	**8,770**	**9,028**	**8,628**	**9,221**	**10,735**	**13,051**
Loans from credit institutions	3,624	2,715	6,503	7,931	7,269	6,459	5,973	5,704
Lease liabilities	142	618	663	1,729	1,475	1,475	1,475	1,475
Other financial liabilities	0	0	1,346	1,346	1,591	1,591	1,591	1,591
Prepayments received from customers	0	0	464	150	0	0	0	0
Deferred income	742	573	403	1,022	946	946	946	946
Deferred income tax liabilities	687	0	0	0	0	0	0	0
Total non-current liabilities	**5,196**	**3,906**	**9,379**	**12,178**	**11,281**	**10,472**	**9,986**	**9,717**
Loans from credit institutions	1,636	1,529	2,038	1,874	1,519	1,519	1,415	573
Lease liabilities	57	438	193	826	791	791	791	791
Prepayments	441	517	689	1,043	1,005	1,005	1,005	1,005
Trade payables	2,035	2,773	3,091	3,724	2,705	3,210	3,747	4,418
Taxes payable	339	669	564	560	901	901	901	901
Other liabilities	227	207	206	240	265	265	265	265
Deferred income	170	170	170	102	102	102	102	102
Accrued liabilities	199	319	250	237	407	407	407	407
Total current liabilities	**5,103**	**6,621**	**7,201**	**8,605**	**7,694**	**8,199**	**8,632**	**8,460**
Total equity and liabilities	**15,780**	**18,662**	**25,350**	**29,812**	**27,604**	**27,892**	**29,353**	**31,229**
NOPAT	753	1,592	1,395	1,209	760	1,352	2,124	2,925
ROCE	7.1%	14.0%	9.2%	6.1%	3.7%	6.8%	10.1%	12.9%
Net debt	5,078	5,041	7,020	12,106	10,641	9,895	9,348	8,064
Gearing	2.3	1.4	2.2	3.3	3.3	2.6	2.0	1.4

Source: Company data, WOOD Research

Cash flow statement

EUR '000	2016	2017	2018	2019	2020E	2021E	2022E	2023E
Profit before tax	573	1,448	781	226	87	-401	664	1,624
Depreciation and amortization	1,426	1,807	1,903	2,446	2,437	2,469	2,550	2,635
Interest expense	258	247	158	410	419	323	318	315
Interest income	-93	-94	-47	-33	-11	0	0	0
Impairments	-189	-43	-55	122	-18	0	0	0
Income from grant recognition	-170	-170	-170	-102	-101	0	0	0
Gain on sale of PP&E	-14	-3	-7	-56	0	0	0	0
Group’s share of loss of an associate	17	108	483	623	659	316	138	13
(Increase)/ decrease in inventories	723	-1,045	-1,018	601	-60	-327	-575	-719
(Increase)/ decrease in receivables	-287	274	-232	-3,107	197	240	-179	-224
Increase/ (decrease) in payables	-157	1,123	877	1,440	-852	505	537	671
Interest paid	-258	-247	-151	-409	-419	-323	-318	-315
Corporate income tax paid	-171	83	-177	-18	0	0	0	0
Cash from operating activities	**1,658**	**3,490**	**2,346**	**2,143**	**2,338**	**2,802**	**3,134**	**4,000**
Capex	-1,606	-2,114	-2,530	-3,502	-1,026	-2,000	-2,500	-2,500
Sale of PP&E	16	34	14	63	7	0	0	0
Changes in IFRS 16 values	0	0	0	0	2	0	0	0
Investments in and loans to other companies	-1,024	-1,262	-3,081	-3,526	-494	0	0	0
Cash from investing activities	**-2,614**	**-3,342**	**-5,597**	**-6,965**	**-1,511**	**-2,000**	**-2,500**	**-2,500**
Dividends paid	-30	-55	-146	-73	0	-57	-88	-216
EU funding	0	0	0	722	0	0	0	0
Increase in share capital	1,624	0	0	0	0	0	0	0
Change in debt	-645	-1,072	5,733	527	-480	-809	-590	-1,111
Change in leases	133	857	-217	-476	-167	0	0	0
Loans repaid from related companies	0	0	0	2,000	0	0	0	0
Cash from financing activities	**1,083**	**-271**	**5,369**	**2,700**	**-646**	**-866**	**-678**	**-1,327**
Change in cash	126	-123	2,118	-2,122	181	-64	-43	173
Cash at the beginning of the year	255	382	259	2,377	233	414	350	307
Cash at the end of the year	382	259	2,377	254	414	350	307	480
FCF	**52**	**1,376**	**-184**	**-1,359**	**1,312**	**802**	**634**	**1,500**
FCF yield	0.4%	9.9%	-1.4%	-11.8%	9.3%	5.7%	4.5%	10.6%

Source: Company data, WOOD Research

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Date	Rating	Date	PT
18/12/2020	BUY – initiation of coverage	18/12/2020	EUR 10.26

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