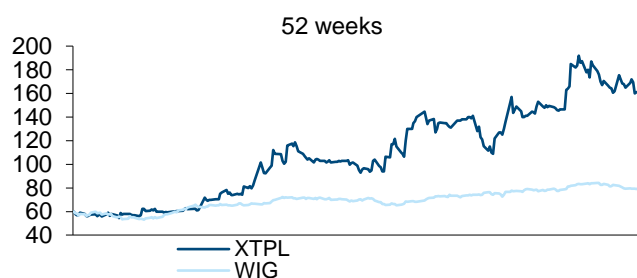


## COMPANY REPORT

# XTPL

## Initiated with Buy

PLN mn	2022	2023e	2024e	2025e
Net sales	12.8	18.9	30.6	53.9
EBITDA	-0.8	1.0	5.7	15.2
EBIT	-1.8	-0.2	3.8	12.6
Net result after min.	-2.1	-0.5	3.1	10.1
EPS (PLN)	-1.05	-0.22	1.33	4.40
CEPS (PLN)	-0.56	0.28	2.13	5.53
BVPS (PLN)	1.96	16.51	17.84	22.24
Div./share (PLN)	0.00	0.00	0.00	0.00
EV/EBITDA (x)	-125.4	352.3	59.9	22.0
P/E (x)	nm	nm	122.2	36.8
P/CE (x)	-90.3	581.9	76.1	29.3
Dividend Yield	0.0%	0.0%	0.0%	0.0%



Performance	12M	6M	3M	1M
in PLN	170.9%	70.5%	27.6%	-12.0%

Share price (PLN) close as of 29/08/2023	162.0
Number of shares (mn)	2.3
Market capitalization (PLN mn / EUR mn)	,373 / ,84
Enterprise value (PLN mn / EUR mn)	,339 / ,76

Reuters	XTP.WA	Free float	51.2%
Bloomberg	XTP.PW	Shareholders	Filip Granek (14.3%)
Div. Ex-date		Deutsche Balaton Group	(10.68%)
<b>Target price</b>	<b>216.0</b>	Homepage:	www.xtpl.com

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### Advancing product commercialization and prospect of dynamic business scaling

#### We initiate coverage of XTPL with a Buy recommendation and a 12M target price of PLN 216.

XTPL has exposure to the rapidly growing OLED display market, the advanced integrated circuit market and the advanced PCB market, among others. The company has completed the technology development phase and is now focusing on commercializing the offered solutions through the sale of DPS (Delta Printing System) devices and silver nanopaste. We expect that a surge in revenues can be guaranteed by industrial implementation of the offered technology. The company is currently conducting nine industrial deployment projects, of which three projects are at an advanced stage. We expect the first industrial deployment to take place in 2024, and two more in 2025-26. In 2Q23, XTPL successfully conducted a share issue while securing funds for investments (estimated at PLN 60mn) needed to scale the business and achieve the targets set for 2026 (PLN 100mn in revenue). Given the number of ongoing industrial deployment projects and the very good quality parameters of XTPL's technology compared to its competitors, we believe the company will be able to meet the revenue target set by management. Our forecasts assume a significant increase in the company's operating costs in 2024-26, which will be related to the intensification of activities aimed at commercializing XTPL technology.

## Risk factors

1. **Failure in industrial deployment projects of Ultra Precise Deposition (UPD) technology**, or a significantly lower number of industrial deployments than expected, may significantly affect the results generated by the company in the future and the achievement of its revenue target. It should be borne in mind that in industrial deployment projects, XTPL's technology is subject to continuous evaluation and there is no guarantee of successful completion of such projects.
2. **The appreciation of the PLN against other currencies** may negatively affect the amount of recognizable revenue. The company incurs a large portion of its costs in PLN, while most of its sales are generated in foreign currencies (mainly EUR and USD).
3. **Risks related to the macroeconomic environment.** XTPL plans to start selling products and providing services primarily in the United States, Asia and Western Europe. Deterioration of the macroeconomic environment may reduce the propensity for consumption and investment. This may affect the company's performance and the implementation of its growth strategy.
4. **Risk associated with the development of new technologies.** There is a risk that, in the event of a change in current market trends, XTPL will be forced to look for new applications of technology outside the area considered core business or to make additional expenditures on existing solutions to increase their competitiveness. XTPL also cannot exclude the possibility that a new technology will be developed in the future, in the face of which the solutions proposed by XTPL will no longer be attractive to potential customers.
5. **Risks related to the competitive environment.** XTPL operates in the rapidly growing high-tech market. A number of entities with much more experience and capital resources than XTPL operate in this market. Due to the high dynamics of the market, there is a risk of the emergence of a new entity whose offer will be more innovative than XTPL's. At present, XTPL is not aware of a solution that would technically offer better parameters for ultra-precision printing of nanomaterials.

## Valuation

Our valuation of XTPL is based entirely on the discounted cash flow method. The comparative valuation is shown for presentation purposes only. In our opinion, it is difficult to find entities with similar business profiles and at a similar stage of development as XTPL. Taking into account our forecasts, we set a 12-month target price of PLN 216 per share, 33% above the current market valuation, which implies a Buy recommendation.

	Weight	Price
Peer valuation	0%	52.4
DCF valuation	100%	216.0
<b>12M target price per share (PLN)</b>		<b>216.0</b>

Source: Company, Erste Group Research

### Peer valuation

In the peer valuation, we selected companies operating in the broad consumer electronics industry and in semiconductors industry. We note that none of the companies is at a similar stage of development as XTPL. All of the selected entities have a much larger scale of business than XTPL.

### Peer valuation

	Mcap (USD mn)	P/E			EV/EBITDA		
		2023E	2024E	2025E	2023E	2024E	2025E
KLA Corporation	66 513	21.6	18.6	16.5	17.0	15.0	13.3
ASML Holding	265 664	31.5	27.9	21.1	25.5	22.2	17.3
Lam Research	88 295	24.2	18.7	15.6	19.5	15.3	12.9
ASM International	22 965	32.9	30.1	24.7	25.6	21.7	17.4
Applied Materials	121 649	18.4	18.5	16.4	14.9	15.1	13.3
Entegris	14 585	37.7	27.1	20.0	19.0	15.9	13.1
Axcelis Technologies	5 658	24.5	21.4	18.7	19.4	15.4	12.7
Amkor Technology	6 649	17.8	12.4	12.3	5.9	4.6	4.2
Tokyo Electron Limited	67 639	31.8	23.6	19.3	20.7	15.9	13.1
Median: Total		24.5	21.4	18.7	19.4	15.4	13.1
Implied valuation per share		-5.5	28.4	82.2	22.9	52.7	103.9
Weight		17%	17%	17%	17%	17%	17%
Premium/Discount		0%					
Weighted valuation per share		47.4					
<b>12M weighted valuation per share</b>		<b>52.4</b>					

Source: Bloomberg, Erste Group Research

### DCF valuation:

- 5-year forecast period
- Risk-free rate of 5.5% (10-year government bond yields)
- In the valuation, we take net debt at the end of 2023. In the valuation, we do not take into account the FCFF generated in 2023.
- FCFF growth after the forecast period 2.5%
- Number of shares takes into account shares issued in 2Q23.

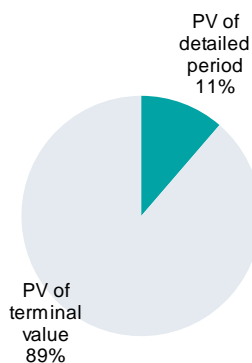
## WACC calculation

	2023E	2024E	2025E	2026E	2027E	Term. value Normalized
Risk free rate	5.5%	5.5%	5.5%	5.5%	5.5%	5.0%
Equity risk premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Beta	1.0	1.0	1.0	1.0	1.0	1.0
<b>Cost of equity</b>	<b>10.5%</b>	<b>10.5%</b>	<b>10.5%</b>	<b>10.5%</b>	<b>10.5%</b>	<b>10.0%</b>
Cost of debt	6.5%	6.5%	6.5%	6.5%	6.5%	6.0%
Nominal tax rate	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%
<b>After-tax cost of debt</b>	<b>5.3%</b>	<b>5.3%</b>	<b>5.3%</b>	<b>5.3%</b>	<b>5.3%</b>	<b>4.9%</b>
Equity weight	91%	100%	100%	100%	100%	100%
<b>WACC</b>	<b>10.1%</b>	<b>10.5%</b>	<b>10.5%</b>	<b>10.5%</b>	<b>10.5%</b>	<b>10.0%</b>

## DCF valuation

(PLN mn)	2023E	2024E	2025E	2026E	2027E	Normalized
<i>Sales growth</i>	47.7%	61.9%	75.9%	93.0%	29.6%	2.5%
EBIT	-0.2	3.8	12.6	37.6	55.2	56.7
<i>EBIT margin</i>	-1.0%	12.4%	23.3%	36.2%	40.9%	41.0%
<i>Effective Tax rate</i>	0.0%	0.0%	10.0%	19.0%	19.0%	19.0%
Taxes on EBIT	0.0	0.0	-1.3	-7.1	-10.5	-10.8
<b>NOPLAT</b>	<b>-0.2</b>	<b>3.8</b>	<b>11.3</b>	<b>30.5</b>	<b>44.7</b>	<b>45.9</b>
+ Depreciation	1.2	1.8	2.6	3.6	4.3	4.8
<i>Capital expenditures / Depreciation</i>	259.6%	259.6%	222.5%	190.7%	95.3%	95.3%
+/- Change in working capital	-0.1	-0.3	-0.5	-1.1	-0.7	-0.5
<i>Chg. working capital / chg. Sales</i>	-2.3%	-2.3%	-2.3%	-2.3%	-2.3%	-14.5%
- CAPEX	-3.0	-4.8	-5.8	-6.9	-4.1	-4.6
<b>FCFF</b>	<b>-2.2</b>	<b>0.6</b>	<b>7.6</b>	<b>26.0</b>	<b>44.2</b>	<b>45.6</b>
<i>Terminal value growth</i>						2.5%
Terminal value						623.7
Discounted free cash flow - Dec 31 2023	-2.0	0.5	5.7	17.5	26.9	380.1
<b>Enterprise value - Dec 31 2023</b>	<b>430.7</b>					
Minorities	0.0					
Non-operating assets	0.0					
Net debt	-34.2					
Other adjustments	0.0					
<b>Equity value - Dec 31 2023</b>	<b>464.9</b>					
Number of shares outstanding (mn)	2.3					
Cost of equity	10.5%					
<b>12M target price per share (PLN)</b>	<b>216.0</b>					
Current share price (PLN)	162.0					
<i>Up/Downside</i>	33.3%					

## Enterprise value breakdown



Source: Erste Group Research

## Sensitivity (per share)

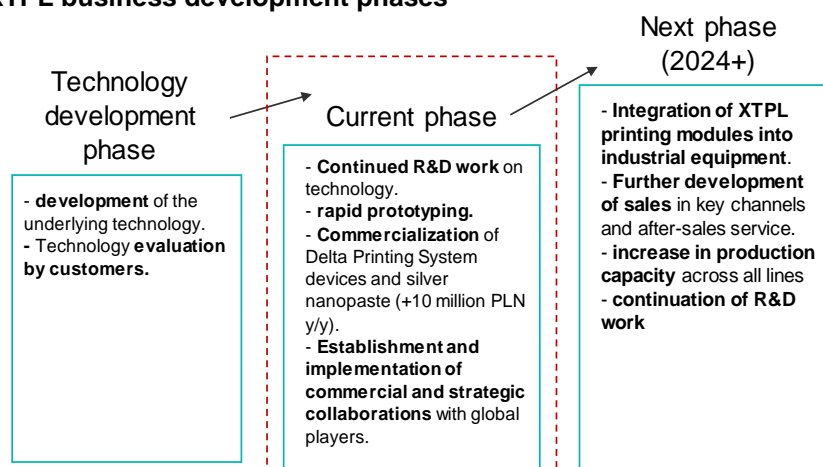
		Terminal value EBIT margin				
		35.0%	38.0%	41.0%	44.0%	47.0%
W A C C	9.5%	196.0	210.0	223.0	237.0	250.0
	10.0%	193.0	206.0	219.0	233.0	246.0
	10.5%	190.0	203.0	<b>216.0</b>	229.0	242.0
	11.0%	187.0	200.0	212.0	225.0	238.0
	11.5%	184.0	196.0	209.0	221.0	234.0
		Terminal value growth				
		1.5%	2.0%	2.5%	3.0%	3.5%
W A C C	9.5%	199.0	210.0	223.0	238.0	254.0
	10.0%	196.0	207.0	219.0	234.0	250.0
	10.5%	193.0	203.0	<b>216.0</b>	230.0	246.0
	11.0%	190.0	200.0	212.0	226.0	242.0
	11.5%	187.0	197.0	209.0	222.0	238.0

## XTPL – Business model

XTPL is an international company that is expanding in the printed electronics market and providing innovative technology to global manufacturers. The company was founded in 2015 and filed its first patent application in 2016. The technology enables efficient production of next-generation devices.

**XTPL seeks to commercialize its UDP (Ultra Precise Deposition)** technology by accelerating sales of printers to customers (mainly research centers and universities) and conducting industrial deployment projects (the most significant part of the business in terms of revenue development in subsequent periods). **The company has completed the start-up phase of the business (technology development phase) and has now started commercializing the solutions offered** while conducting further technology development. In the current phase, in addition to the current sales of equipment, projects are being conducted with external partners to demonstrate the applications of the developed technology and, ultimately, industrial implementation.

### XTPL business development phases



**As of the end of 1Q23, there were nine projects underway** at least at Stage 2, which the company refers to as Technology Evaluation/Development work on the XTPL side. Two of the mentioned projects are in Stage 3 (technology validation by partner), and one is in Stage 4 (design of prototyping tool). **Success in the various stages of industrial deployments does not guarantee industrial implementation, but the significant advancement of individual projects increases the chances of commercialization of some of them in 2024.** In addition, a certain signal confirming the effectiveness of the technology offered by XTPL is that it was selected by a Big Five ICT (Information Communication Technologies) company after doing a quality evaluation of competing solutions (XTPL's solution obtained much better quality parameters).

**Pipeline of ongoing industrial deployment projects**

	PROJECT	INDUSTRY & COUNTRY	PARTNER/END USER	PHASE 0 Development of core technology at XTPL	PHASE 1 Initial contract and needs identification	PHASE 2 Technology evaluation / development work on the XTPL side	PHASE 3 Technology validation by Partner	PHASE 4 Design of prototyping tool	PHASE 5 Industrial implementation
DISPLAYS	OLED 1,0 μm Repair of metallic connections (ODR)	FPD South Korea	Leading consumer electronics manufacturer						
	TE-OLED	FPD China	Manufacturer of electronic components				initial talks		
	Repairing connections in microLED displays	FPD China	Provider of ICT infrastructure and smart devices						
	erconnect Depo	FPD USA	International technology company				initial talks		
	microLED CCL	FPD USA	Leading semiconductor chip maker						
SEMICONDUCTORS	WLP Precision Cia Fill	Semicon Tajwan	Global semiconductor manufacturer						
	High-resolution RDL printing	Semicon China	Provider of ICT infrastructure and smart devices						
	Prototyping of integrated circuit interconnects	Semicon USA	Manufacturer of microcontrollers and integrated circuits						
PCB	Metallic ink	PBC EMEA	Nano Dimension						

Source: Company, Erste Group Research

**A potential successful first industrial deployment will confirm the effectiveness of the company's technology** and should influence interest in the offered technology by other commercial entities. According to published targets, **the company aims to increase revenue to around PLN 100mn by 2026.**

**The company plans to invest PLN 60mn by 2026** (PLN 36mn raised from a share issue in 2Q23, with the remainder from debt financing and its own funds) to increase production, sales and R&D capabilities.

**Key industrial deployment projects**

**In the area of displays**, work has been underway with HB Technology since late 2022 to apply XTPL technology to an end customer for use in next-generation ultra-high-resolution displays, including micro OLED display types. The end customer is a leading Flat Panel Display (FPD) manufacturer from South Korea. The partner's decision is preceded by an approx. 24-month validation period for XTPL's solution. In 1H23, another XTPL device was delivered for R&D-level technology validation to HB Technology for customization for the end customer.

**The most important ongoing industrial deployment projects**

	PROJECT	INDUSTRY & COUNTRY	PARTNER/END USER	PHASE 0 Development of core technology at XTPL	PHASE 1 Initial contract and needs identification	PHASE 2 Technology evaluation / development work on the XTPL side	PHASE 3 Technology validation by Partner	PHASE 4 Design of prototyping tool	PHASE 5 Industrial implementation
	OLED 1,0 μm Repair of metallic connections	FPD South Korea	Leading consumer electronics manufacturer						
	WLP Precision Cia Fill	Semicon Tajwan	Global semiconductor manufacturer						
	Metallic ink	PBC EMEA	Nano Dimension						

Source: Company, Erste Group Research

**In the semiconductor area**, the most important project is being carried out for a Taiwanese partner. Since 2H22, an order has been fulfilled in the form of a printing module for building an industrial prototype of a device for applications in the area of advanced microassembly (advanced packaging). The partner is a global manufacturer of specialized equipment for the production of semiconductor components from Taiwan. The partner's decision was preceded by an 18-month process as part of XTPL's Stage 3 evaluation of technology solutions in cooperation with the Partner in Taiwan (equipment manufacturer) and the end customer in Taiwan - the world's leading semiconductor manufacturer.

**In the PCB area**, the most important project is with Nano Dimension. The collaboration, which has been running since the beginning of 2022, aims to develop a special conductive ink formulation for use in additive manufacturing electronics (AME) for devices manufactured and supplied by the industrial partner. The solutions under development are designed to provide high conductivity for Nano Dimension products focused on AME markets. By March 2023, three phases of the technology phase had been completed and three tranches of payments had been triggered. As of the end of March 2023, key elements of the fourth phase have been realized and another payment tranche has been released.

### **Appliances offered**

**EPSILON** printing module for industrial integration. The EPSILON product line, which is being developed by XTPL, represents modular UPD dispensing devices designed for integration into industrial systems, allowing industrial integrators and end customers to benefit from the ability to print functional structures with high resolution and packing density. These printing modules with compatible silver nanopaste allow ultra-precise creation of conductive lines on the selected process substrate in low- and high-volume applications. In addition to significant market interest in evaluating an EPSILON-type solution, XTPL is in advanced talks to commercialize EPSILON module solutions with three global consumer electronics manufacturers (in Europe, South Korea and the US) and four industrial integrators and industrial machine manufacturers (in Taiwan, South Korea and the US).

### **Epsilon printing module**



**The Delta Printing System** is a stand-alone R&D and prototyping system that allows testing the capabilities of the UPD technology developed by XTPL on a variety of substrates and with silver nanopaste provided by

XTPL. The device is also tasked with promoting XTPL's technology to the world's opinion leaders in the high-tech industry - including top academic, scientific, and R&D institutes of electronics manufacturers. Commercialization of the Delta Printing System began in late 2020 and early 2021.



## Distribution network

The company distributes its equipment through its own points and through intermediaries in specific markets. Currently, there is cooperation with five distributors:

- **Bandi Consortia - South Korea** - partner officially represents XTPL and supports the introduction of XTPL technology in the Flat Panel Display (FPD) and semiconductor industries.
- **YI XIN - China and Hong Kong** - distributor has a rich network of relationships with China's largest research institutions and industrial manufacturers in the display, touch panel and semiconductor industries.
- **Semitronics - UK and Ireland** - Introducing the technology to the UK and Ireland market with the intention of increasing adoption among players. increasing awareness and recognition of innovative solutions.
- **Merconics - Germany, France, Austria, Switzerland** - support for XTPL solutions in several countries, distributor operating in the area of advanced manufacturing equipment for semiconductors from the portfolio of brands, i.e. Bruker, Veeco, NovaCentrix or Oprotec.
- **Vertex - India** - a company specializing in providing technology solutions for the display, semiconductor and organic PV cell industries.



**Geographic coverage of XTPL's operations**



Source: Company, Erste Group Research

**Ultra-precise deposition method vs. other technologies available on the market**

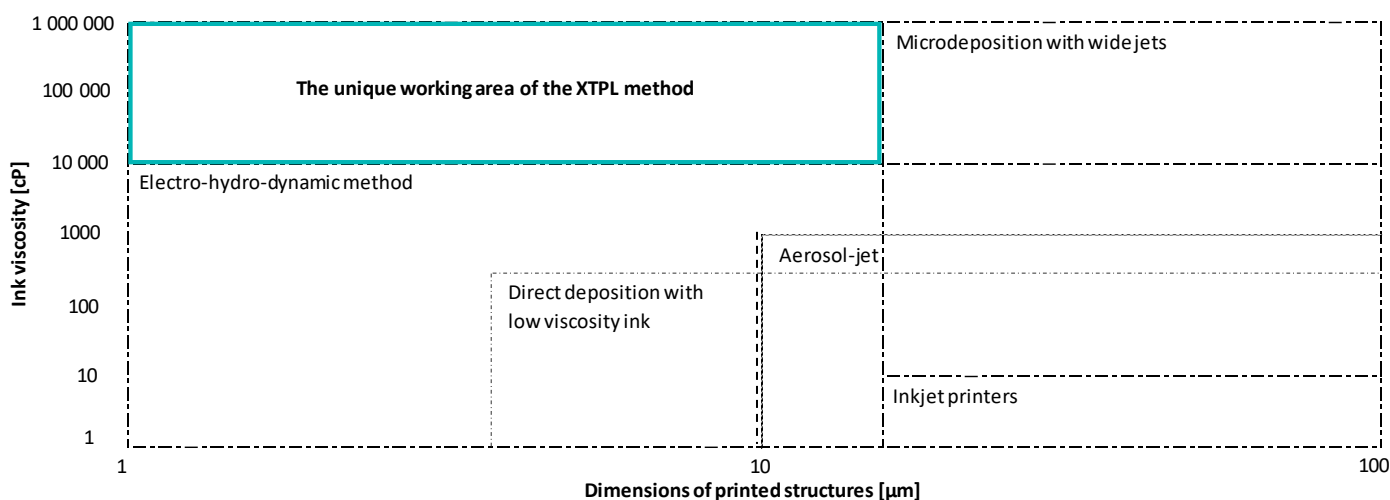
XTPL technology excels over other additive methods in terms of viscosity and size of structures (no competing methods on the market). Additive methods have advantages over subtractive methods in terms of:

- **application** (more precise application, no need to remove unnecessary material)
- **efficiency** (is less time- and material-intensive)
- **environmental impact** (no need for highly corrosive solutions)
- **application capabilities** (ability to apply to most substrates in the additive method, including curved surfaces vs. only flat substrates in the subtractive method)

The ultra-precise deposition (UPD) method developed by XTPL offers, among other things:

- the ability to print from high viscosity materials at small structure sizes
- the ability to print on a wide variety of materials
- covering complex substrate topographies with a single continuous conductive path
- printing at very high resolution on virtually any substrate (flat or curved)

### Comparison of XTPL ultraprecise deposition method with other methods



Source: Company, Erste Group Research

**The solutions offered by the company are subject to patent protection.** At the end of 1Q23, the company had seven granted patents and 26 pending patents had been filed. Patents include, but are not limited to: the UPD process; nanopaste (patents protecting various formulations of nanopaste); software; application fields (patents describing solutions to specific problems using the UPD method); characterization and quality control (patents related to characterization and quality control of selected print head components).

### UPD technology gives exposure to booming industries

The technology offered by XTPL has many applications to manufacturers of advanced electronics. Currently, solutions are being commercialized for the following industries:

- **OLED displays** (market value USD 48.8bn in 2023; expected to grow at 22.6% CAGR 2023-30; source: Contrive Datum Insights) - technology should allow customers to, among other things: repair broken conductive structures, increase production efficiency (reduce rejects); increase resolution; develop displays on flexible substrates; further miniaturization.
- **Advanced integrated circuits (ICs)** (market value USD 14.1bn in 2023; expected to grow at a CAGR of 8.5% 2023-27; source: ReportLinker) - technology should allow customers to, among other things: precisely connect microelectronic circuits to PCBs (Printed Circuit Board); reduce the size of IC leads and electronic connections; improve performance by efficiently dissipating heat from the IC.
- **Advanced PCBs** (market value of USD 8.2bn in 2023, expected to grow at 5.5% CAGR 2023-28; source: IMARC Group) - technology should allow customers to, among other things: maximize densification of conductive structures; further miniaturization; cost-effective and scalable manufacturing process.

XTPL is also exploring the potential to apply its technology to other industries and application fields.

### Market environment

In 2021, the value of the printed electronics industry was USD 47.1bn (+14.5% y/y), and in 2025 it is projected at USD 63.3bn (source: IDTechEx). This implies an average annual market value growth rate of 9.0% from 2020 to 2025. According to market analysis, the CAGR of the electronic prototyping equipment industry, which includes the company's DPS prototyping equipment, is expected to be around 31% during 2021-31 (per Transparency Market Research). Global annual sales of R&D and rapid prototyping and small batch production systems for the printed electronics industry are about 250-500 units per year, at a price of about EUR 50-500 thousand per unit.

## Capital raised and planned investments

**The company plans to invest PLN 60mn by 2026**, of which about PLN 34.6mn has been raised from a share issue (PLN 36.6mn proceeds from the issue of 275,000 bearer shares less about PLN 2mn in issue costs), and the remainder from debt financing, grants and own funds. In the following years, **the funds are to be invested in key business areas such as sales** (43% share of the planned investment), **production** (35% share) **and R&D** (22% share). The company's estimated investments include both OPEX (additional employment with the increase in scale) and CAPEX (such as investments in capacity expansion).

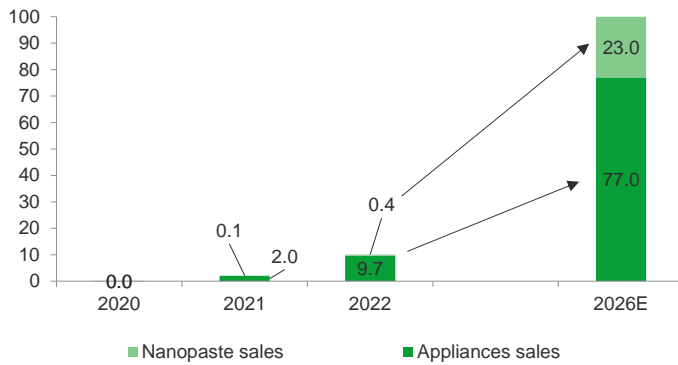
### Planned redistribution of investments by 2026

	Description	Share / nominal value
Sales	<ul style="list-style-type: none"> <li>- Sales and marketing department support</li> <li>- 3 sales centers abroad in key locations with retrofitting of XTPL products</li> </ul>	43% / PLN c.26mn
Production	<ul style="list-style-type: none"> <li>- 3-4 fold increase in production capacity in DPS and nanotube business lines</li> <li>- Increasing the production capacity of industrial modules to about 100 units/year</li> </ul>	35% / PLN c.21mn
R&D	<ul style="list-style-type: none"> <li>- continuing work on the development of existing products</li> <li>- work on new products</li> </ul>	22% / PLN c.13mn

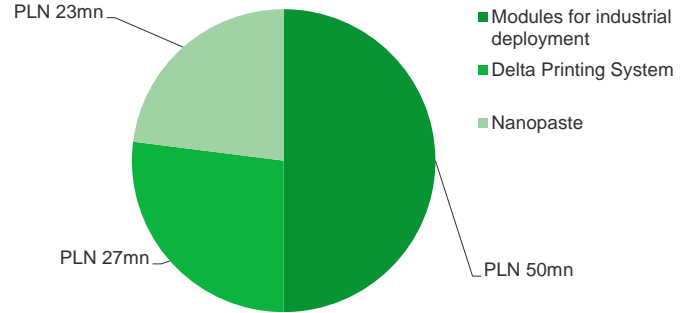
**The company's business target is to generate PLN 100mn in revenue from sales of products and services in 2026.** The bulk of the company's assumed revenues (about 50%) should come from sales of modules for industrial sales (assumed sales of about 100 modules from the transition to industrial deployments with 3-4 business partners; at the end of 1Q23, three projects with partners were at an advanced stage). The remaining 50% of the assumed revenue in 2026 should come from sales of Delta Printing System (27% of the loaded revenue in 2026, three-fold increase in sales, due to numerous sales opportunities in the sales funnel) and sales of silver nanopaste (23% of the assumed revenue in 2026; assumed four-fold increase in production capacity).

*Revenues from sales of printers and nanopaste*

*Estimated revenue decomposition in 2026*



Source: Company, Erste Group Research

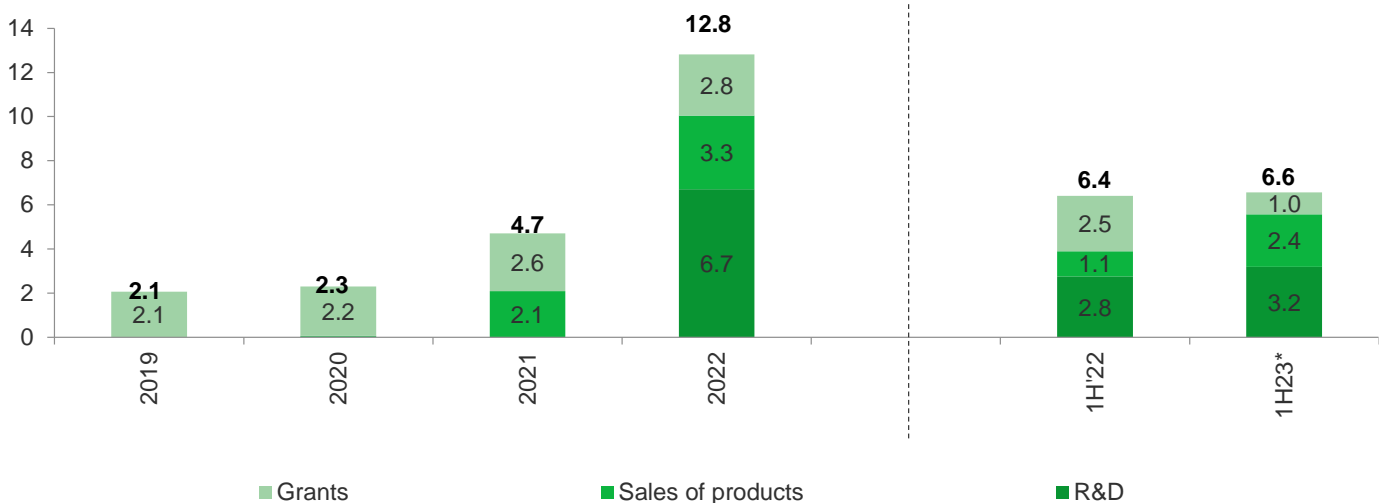


Source: Company, Erste Group Research

### Revenue from sales of products and services

The company's main revenue streams in 2023 are research and development and product sales, which, due to the commercialization of equipment, have an increasing share of revenue. A stable source of revenue is grants, which, according to our assumptions, the company will also receive in future periods. Revenues from research and development services gained materiality in 2022, which continues in 2023, and is due to the greater advancement of work on projects with external partners (nine projects with commercial partners are currently underway). The company's revenue in 1H23 (we include preliminary revenue data for 2Q23) recorded a slight y/y increase (lower subsidies offset by an increase in R&D revenue). The company contracted sales of a significantly higher number of DPS devices in 1H23 y/y, which, together with further contracts, should positively impact y/y revenue growth in 2023.

#### Revenue decomposition in 2019-23

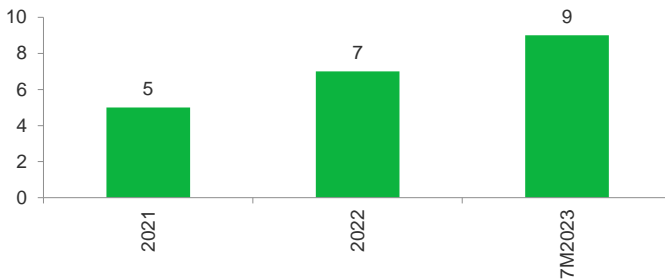


Source: Company, Erste Group Research; \* according to published preliminary sales

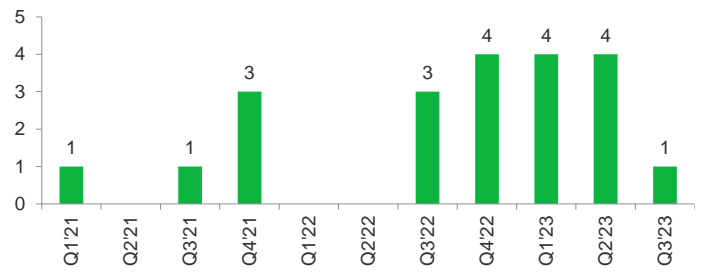
**Commercialization of DPS devices is progressing gradually.** The purchase of the device is preceded by numerous tests - HB Technology (a South Korean company) took more than 30 months to make a purchase decision. Taking into account the increasing time from the start of product commercialization and the attractive sales funnel, we expect that sales of printers should accelerate in 2023 (seven months of data confirm this).

Number of contracted DPS devices per year

Number of contracted DPS devices quarterly



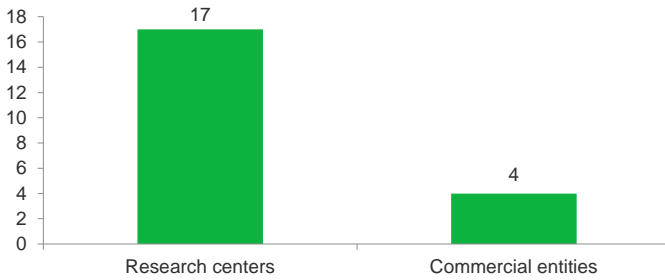
Source: Company, Erste Group Research



Source: Company, Erste Group Research

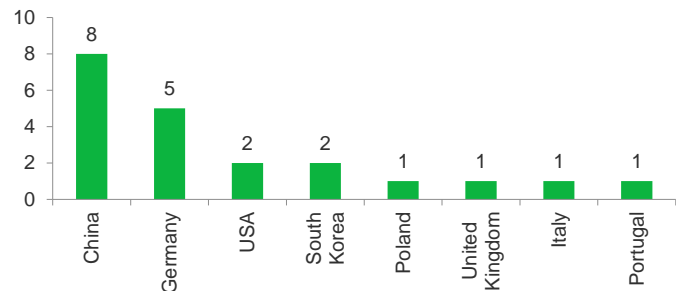
**We note that, in the initial phase of commercialization (2021-2Q22), the printers were exclusively sold to universities and research centers.** The first sale to a business entity occurred in 3Q22 (HB Technology of South Korea), and by July 2023, four of 21 devices had been sold to business entities (including two to HB Technology). Considering printer sales in 2021-23, the most devices went to China (eight devices), followed by Germany (five devices).

**Recipients of contracted equipment**



Source: Company, Erste Group Research

**Equipment sales by country**

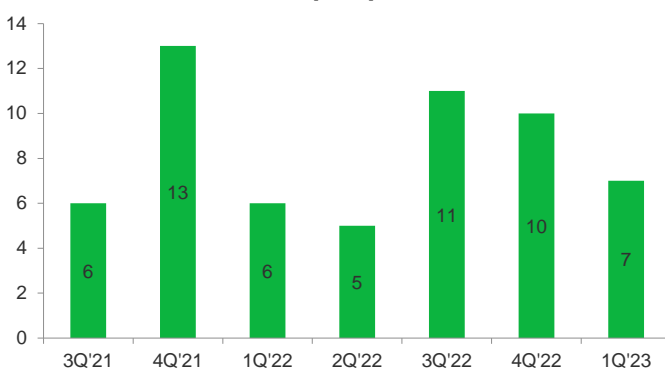


Source: Company, Erste Group Research

**An important factor shaping sales in future periods will be the progress of industrial deployment projects,** three of which are at an advanced stage. Potential industrial deployment should translate into a jump in sales of Epsilon devices, which would drive sales volumes. We estimate that, due to the lower complexity of the Epsilon than the Delta Printing System, the price of the device should be in the range of EUR 90-100k vs. the EUR 170-200k assumed for the DPS device.

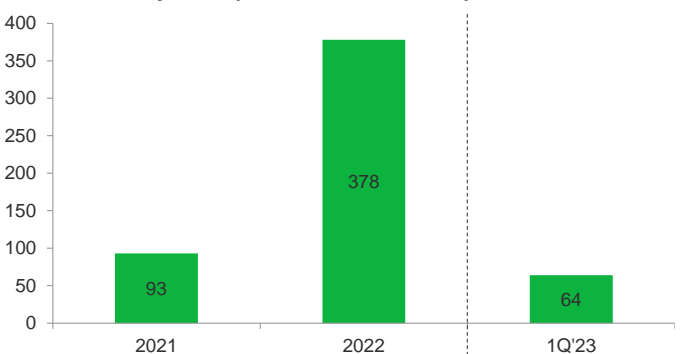
**Nanopaste** currently accounts for a low share of XTPL's total sales. The number of orders for nanotubes is highly correlated with the number of DPS devices sold. Continued sales of DPS devices and the start of industrial deployments should have a positive impact on revenues generated in this sales channel.

**Number of nanotech orders per quarter**



Source: Company, Erste Group Research

**Sales of nanopaste (thousands of PLN)**



Source: Company, Erste Group Research

**Grants** account for an increasingly smaller share of sales, as XTPL's sales of products and services expand. The company is currently pursuing three publicly subsidized projects, and one project was completed at the end of 2Q23 (a project with NCBiR "Innovative technology for precise deposition of conductive meshes for use in next-generation OLED displays" for PLN 11.7mn). Current ongoing projects include:

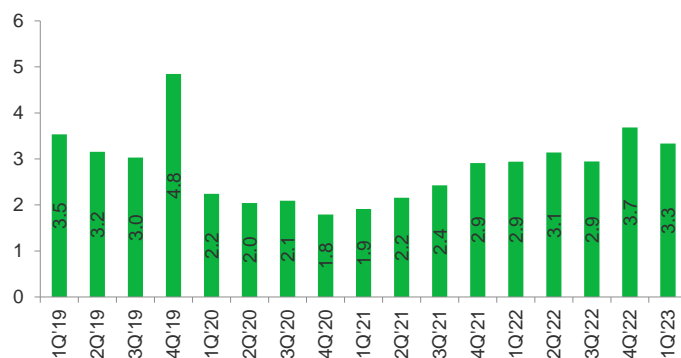
1. A grant from NCBiR for PLN 7.7mn (total project value PLN 11.6mn); duration October 1, 2020, to September 30, 2023.
2. A grant from the Polish Agency for Enterprise Development for PLN 0.4mn (total project value PLN 0.9mn); duration January 18, 2018, to December 31, 2023.
3. A grant from the European Commission for EUR 0.4mn (XTPL's budget is EUR 0.4mn, the total value of the project is EUR 4.3mn); duration from September 1, 2022, to August 31, 2024.

We expect that, due to the innovative nature of the company's business, XTPL should obtain more grants for its ongoing projects. However, we do not assume an increase in the value of grants relative to historical values.

## Cost analysis

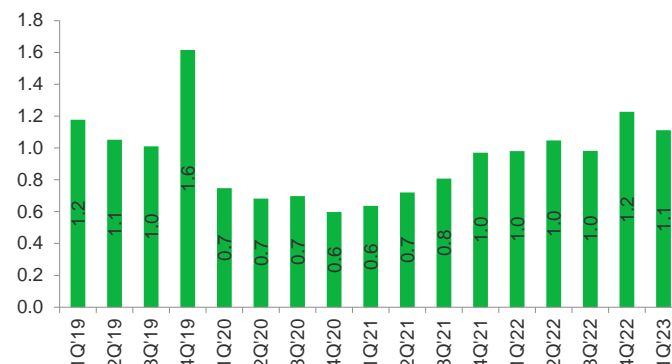
**Management (G&A) and research and development (R&D) costs, adjusted for the impact of the incentive program, have been rising in recent quarters as business scale increases, product commercialization begins, and marketing and sales activity increases after the pandemic period.** In the coming quarters, monthly costs expressed as R&D and G&A costs adjusted by the cost of the incentive program should continue to increase - especially with the assumption of more intensive product commercialization and the entry of individual projects with customers into the production deployment phase.

**Total costs (R&D costs, management costs) adjusted for incentive program**



Source: Company, Erste Group Research

**Total monthly costs (R&D costs, management costs) adjusted for incentive program**



Source: Company, Erste Group Research

Since the company operated in start-up mode in the current years and began commercializing products from 2021, the cost structure has remained relatively unchanged in recent years. Investments in fixed assets and intangible assets resulted in an increase in depreciation in 2022. The increase in the scale of operations and investments in the company's further development are driving up the cost of raw materials and materials consumption, increasing the cost of third-party services (sales commissions, hiring additional specialists), and increasing the cost of employee benefits (increasing employment and including the cost of the incentive program).

### Costs by nature

	2019	2020	2021	2022
D&A:	0.6	0.7	0.6	1.0
- depreciation of fixed assets	0.4	0.3	0.4	0.6
- amortization of intangible assets	0.2	0.1	0.2	0.4
Materials	1.0	0.7	1.9	2.9
External services	5.3	3.7	3.8	4.6
Employee benefit costs	18.5	5.7	4.9	6.4
Taxes and fees	0.1	0.1	0.1	0.2
Other	0.7	0.2	0.2	0.6

Source: Company, Erste Group Research

### Secured financing for future operations

Since its inception, XTPL has financed itself mainly through share issues (total proceeds of PLN 40mn in 2016-20). In 2020, the company decided to issue series A registered bonds convertible into series U shares of the company (total value of the bonds is PLN 3.6mn). As a result of discussions with bondholders in July 2022, bonds worth PLN 0.2mn (2.993 series A bonds) were redeemed, and for the remaining bonds worth PLN 3.4mn, the maturity date was extended from July 30, 2022, to January 30, 2024, and the interest rate was increased from 2% to 5% per annum.

### Cash proceeds from capital increase and bond issue in 2016-23



Source: Company, Erste Group Research; \* Issue proceeds less issue costs of PLN 2mn

At the end of 1Q23, the company held PLN 3.7mn in cash and bank deposits. In 2Q23, 275,000 shares were issued at a price of PLN 133 per share (total value PLN 36.6mn, issue cost PLN 2mn). Taking into account the share issue and the estimated net loss, the company should have about PLN 40mn in cash at the end of 2Q23. Such a level of funds should ensure a solid base to carry out investments in business growth planned for 2023-26 (the financing of investments also includes funds generated from operations and proceeds from grants).

### Incentive scheme

In April 2019, an incentive program was passed. On the basis of the program resolution, a conditional increase in share capital was made by issuing no more than 182,622 Series R ordinary shares with a nominal value of PLN 0.10 each. Series R shares will be available for acquisition by holders of registered series A subscription warrants issued in a number not exceeding 182,622 at a price of PLN 165.84. The incentive program covers

the years 2019-21. Participants in the program will have the right to exercise the warrants no later than April 23, 2029.

On March 31, 2022, XTPL employees and associates were granted the right to purchase 22,105 shares and 50,000 warrants. The valuation of the granted financial instruments in 2022 amounts to PLN 1,149 thousand and was included in the financial data for 2022. From 2019 to the end of 2022, the costs of the incentive program totaled PLN 16.2mn.

## 2Q23 results preview

**The company will publish its 2Q23 results on September 20, 2023, probably after the close of the trading session.** According to preliminary data released by the company, we assume PLN 3mn in revenue in 2Q23, down q/q and y/y. We assume R&D costs at a similar level q/q and slightly lower y/y. Increased activity on the sales side should boost G&A expenses. We assume a slightly positive balance on financing activities q/q.

**In summary, we assume worse net income q/q and y/y, due to lower sales (lower subsidy income y/y) and rising costs, due to investments in sales growth.** We note that the high volume of orders for DPS equipment in 1H23 should have a positive impact on revenue recognized in 2H23.

### 2Q23 results preview

P & L (PLN mn)	2Q22	3Q22	4Q22	1Q23	2Q23E	Y/Y	Q/Q
<b>Revenue</b>	<b>3.2</b>	<b>3.7</b>	<b>4.3</b>	<b>3.6</b>	<b>3.0</b>	-6%	-16%
Sales of products and services	2.0	3.7	3.4	3.0	2.6	27%	-13%
Grants	1.1	0.1	0.9	0.6	0.4	-65%	-34%
Costs of sales	1.5	1.5	1.9	1.8	1.9	26%	5%
R&D costs	1.4	1.4	1.6	1.3	1.3	-6%	0%
Costs of products sold	0.1	0.2	0.3	0.4	0.5	859%	19%
<b>Gross profit</b>	<b>1.7</b>	<b>2.2</b>	<b>2.4</b>	<b>1.8</b>	<b>1.1</b>	-33%	-37%
G&A	1.7	1.6	2.1	2.0	2.4	39%	20%
Other operating activities	0.0	0.0	0.0	0.0	0.0		
<b>EBITDA</b>	<b>0.2</b>	<b>0.9</b>	<b>0.6</b>	<b>0.1</b>	<b>-1.0</b>		
EBIT	0.0	0.6	0.3	-0.2	-1.3		
Balance on financial activities	0.0	-0.1	-0.2	-0.1	0.1		
<b>Profit before tax</b>	<b>0.0</b>	<b>0.5</b>	<b>0.1</b>	<b>-0.3</b>	<b>-1.2</b>		
Income tax	0.0	0.0	0.0	0.0	0.0		
<b>Net profit</b>	<b>0.0</b>	<b>0.5</b>	<b>0.1</b>	<b>-0.3</b>	<b>-1.2</b>		

Source: Company, Erste Group Research

## Financial forecasts

Our financial forecasts assume sales near the management target of PLN 100mn in 2026. We assume further successful commercialization of Delta Printing System equipment sales in the following years and the start of industrial deployment in one of the projects in 2024 and further deployments in 2025, which should translate into a jump in Epsilon appliances sales.

We estimate sales of DPS devices based on an assumption of invoiced devices during the period and the average price of the device. We assume that the average value of a DPS device will increase slightly in subsequent years due to the addition of new functionalities, among other things. For Epsilon devices, we assume that the price per device will be around EUR 0.93mn in 2024 and will remain at a relatively similar level in subsequent years. We base our sales of nanopaste on the number of orders (calculated based on the cumulative number of devices sold) and on the average order price.



During the forecast period, the gross margin on sales is reduced due to the assumed increasing sales of Epsilon appliances, on the sale of which we assume lower gross profitability of about 50% (we take into account the commission for the intermediary on industrial deployments).

As we expect the company to expand the scale of the business and invest in sales growth, among other things, we assume that total monthly costs (including R&D and G&A costs) will increase from PLN 1.3mn in 2023 to PLN 2.1mn in 2025.

## Financial forecasts

	2021	2022	2023E	2024E	2025E
<b>Revenue</b>	<b>4.7</b>	<b>12.8</b>	<b>18.9</b>	<b>30.6</b>	<b>53.9</b>
<i>change y/y (%)</i>	105%	173%	48%	62%	76%
Research and Development	0.0	6.7	6.8	6.9	7.0
Delta Printing System	2.0	3.0	9.8	16.5	22.7
Epsilon	0.0	0.0	0.0	4.1	16.1
Nanopaste	0.1	0.4	0.5	1.2	6.1
Grants	2.6	2.8	1.8	1.9	2.0
<b>COGS</b>	<b>4.8</b>	<b>6.8</b>	<b>8.6</b>	<b>12.7</b>	<b>21.5</b>
Research and Development	4.3	6.1	6.2	6.3	6.3
Cost of products sold	0.5	0.8	2.4	6.4	15.2
<b>Gross Profit</b>	<b>-0.1</b>	<b>6.0</b>	<b>10.3</b>	<b>18.0</b>	<b>32.4</b>
<i>margin (%)</i>	-1.7%	46.7%	54.4%	58.7%	60.1%
<b>G&amp;A costs</b>	<b>6.3</b>	<b>7.8</b>	<b>10.5</b>	<b>14.2</b>	<b>19.8</b>
<b>EBIT</b>	<b>-6.4</b>	<b>-1.8</b>	<b>-0.2</b>	<b>3.8</b>	<b>12.6</b>
<i>margin (%)</i>	-135%	-14%	-1%	12%	23%
<b>EBITDA</b>	<b>-5.7</b>	<b>-0.8</b>	<b>1.0</b>	<b>5.7</b>	<b>15.2</b>
<i>margin (%)</i>					
<i>Balance on financial activities</i>	-0.3	-0.3	-0.3	0.0	0.0
<b>Pre-tax profit</b>	<b>-6.6</b>	<b>-2.1</b>	<b>-0.5</b>	<b>3.8</b>	<b>12.5</b>
<i>Income tax</i>	0.0	0.0	0.0	0.7	2.4
<b>Net income (loss)</b>	<b>-6.6</b>	<b>-2.1</b>	<b>-0.5</b>	<b>3.1</b>	<b>10.1</b>
<i>margin (%)</i>	-139.8%	-16.7%	-2.7%	10.0%	18.8%
Assumed invoiced sales of DPS equipment (units)	2	3	11	14	20
<i>change y/y (%)</i>		50%	267%	27%	43%
Assumed price of the DPS device (EUR mn)	0.218	0.211	0.200	0.206	0.212
<i>change y/y (%)</i>		-3%	-5%	3%	3%
Assumed sales of Epsilon devices (units)				10	40
<i>change y/y (%)</i>					300%
Assumed price of Epsilon device (EUR mn)				0.09	0.09
<i>change y/y (%)</i>					-3%
Number of Nanopaste orders	20	38	47	105	522
<i>change y/y (%)</i>		90%	24%	124%	395%
Assumed average order value	4.65	9.95	10.35	11.07	11.77
<i>change y/y (%)</i>		114%	4%	7%	6%

Source: Company, Erste Group Research

<b>Income Statement</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023e</b>	<b>2024e</b>	<b>2025e</b>
(IAS, PLN mn, 31/03)	31/03/2020	31/03/2021	31/03/2022	31/03/2023	31/03/2024	31/03/2025
<b>Net sales</b>	<b>2.29</b>	<b>4.70</b>	<b>12.82</b>	<b>18.93</b>	<b>30.65</b>	<b>53.90</b>
Cost of goods sold	-2.83	-4.78	-6.83	-8.62	-12.66	-21.49
<b>Gross profit</b>	<b>-0.53</b>	<b>-0.08</b>	<b>5.99</b>	<b>10.31</b>	<b>17.99</b>	<b>32.41</b>
SG&A	-7.69	-6.27	-7.78	-10.50	-14.17	-19.84
Other operating revenues	0.20	0.07	0.00	0.00	0.00	0.00
Other operating expenses	-0.51	-0.03	-0.01	0.00	0.00	0.00
<b>EBITDA</b>	<b>-8.13</b>	<b>-5.74</b>	<b>-0.80</b>	<b>0.96</b>	<b>5.66</b>	<b>15.16</b>
Depreciation/amortization	-0.40	-0.59	-1.00	-1.15	-1.85	-2.59
<b>EBIT</b>	<b>-8.53</b>	<b>-6.32</b>	<b>-1.80</b>	<b>-0.19</b>	<b>3.81</b>	<b>12.57</b>
Financial result	-0.05	-0.25	-0.32	-0.32	-0.04	-0.04
Extraordinary result	0.00	0.00	0.00	0.00	0.00	0.00
<b>EBT</b>	<b>-8.58</b>	<b>-6.57</b>	<b>-2.12</b>	<b>-0.51</b>	<b>3.77</b>	<b>12.53</b>
Income taxes	0.00	0.00	-0.02	0.00	-0.72	-2.38
Result from discontinued operations						
Minorities and cost of hybrid capital	0.00	0.00	0.00	0.00	0.00	0.00
<b>Net result after minorities</b>	<b>-8.58</b>	<b>-6.57</b>	<b>-2.14</b>	<b>-0.51</b>	<b>3.05</b>	<b>10.15</b>
<b>Balance Sheet</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023e</b>	<b>2024e</b>	<b>2025e</b>
(IAS, PLN mn, 31/03)						
Intangible assets	2.87	2.78	3.44	3.44	3.44	3.44
Tangible assets	0.99	2.62	4.30	6.14	9.09	12.26
Financial assets	0.03	0.03	0.04	0.04	0.04	0.04
<b>Total fixed assets</b>	<b>3.89</b>	<b>5.43</b>	<b>7.78</b>	<b>9.62</b>	<b>12.57</b>	<b>15.74</b>
Inventories	0.09	0.56	0.95	1.40	2.27	3.99
Receivables and other current assets	0.57	1.98	2.77	3.14	3.86	5.29
Other assets	0.00	0.00	0.00	0.00	0.00	0.00
Cash and cash equivalents	10.48	4.58	6.01	38.10	34.54	40.98
<b>Total current assets</b>	<b>11.14</b>	<b>7.12</b>	<b>9.73</b>	<b>42.64</b>	<b>40.67</b>	<b>50.26</b>
<b>TOTAL ASSETS</b>	<b>15.03</b>	<b>12.55</b>	<b>17.51</b>	<b>52.26</b>	<b>53.24</b>	<b>66.00</b>
<b>Shareholders'equity</b>	<b>10.39</b>	<b>4.98</b>	<b>3.98</b>	<b>38.04</b>	<b>41.10</b>	<b>51.24</b>
<b>Minorities</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Hybrid capital and other reserves</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>Pension and other LT personnel accruals</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>LT provisions</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Interest-bearing LT debts	3.20	0.24	3.57	3.57	0.17	0.17
Other LT liabilities	0.00	1.37	2.87	2.87	2.87	2.87
<b>Total long-term liabilities</b>	<b>3.20</b>	<b>1.62</b>	<b>6.45</b>	<b>6.45</b>	<b>3.05</b>	<b>3.05</b>
Interest-bearing ST debts	0.32	3.38	0.34	0.34	0.34	0.34
Other ST liabilities	1.13	2.56	6.75	7.44	8.76	11.37
<b>Total short-term liabilities</b>	<b>1.44</b>	<b>5.95</b>	<b>7.09</b>	<b>7.77</b>	<b>9.09</b>	<b>11.71</b>
<b>TOTAL LIAB. , EQUITY</b>	<b>15.03</b>	<b>12.55</b>	<b>17.51</b>	<b>52.27</b>	<b>53.24</b>	<b>66.00</b>
<b>Cash Flow Statement</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023e</b>	<b>2024e</b>	<b>2025e</b>
(IAS, PLN mn, 31/03)						
Cash flow from operating activities	-5.77	-3.80	4.72	0.50	4.63	12.20
Cash flow from investing activities	-0.82	-1.62	-2.44	-3.00	-4.80	-5.75
Cash flow from financing activities	12.85	-0.47	-0.83	34.58	-3.40	0.00
<b>CHANGE IN CASH , CASH EQU.</b>	<b>6.27</b>	<b>-5.90</b>	<b>1.46</b>	<b>32.09</b>	<b>-3.56</b>	<b>6.45</b>
<b>Margins &amp; Ratios</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023e</b>	<b>2024e</b>	<b>2025e</b>
Sales growth	11.2%	105.0%	172.6%	47.7%	61.9%	75.9%
EBITDA margin	-354.3%	-122.0%	-6.2%	5.1%	18.5%	28.1%
EBIT margin	-371.8%	-134.4%	-14.1%	-1.0%	12.4%	23.3%
Net profit margin	-374.0%	-139.8%	-16.7%	-2.7%	10.0%	18.8%
ROE	-99.2%	-85.5%	-47.7%	-2.4%	7.7%	22.0%
ROCE	-278.1%	-143.3%	-35.8%	-3.3%	37.0%	86.3%
Equity ratio	69.1%	39.7%	22.7%	72.8%	77.2%	77.6%
Net debt	-7.0	-1.0	-2.1	-34.2	-34.0	-40.5
Working capital	9.7	1.2	2.6	34.9	31.6	38.6
Capital employed	3.4	5.4	4.7	6.7	9.9	13.6
Inventory turnover	62.8	14.7	9.1	7.3	6.9	6.9

Source: Company data, Erste Group estimates

## Group Research

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### **Company description**

XTPL is a technology company founded in 2015 that offers unique technology to the printed electronics market. The company has completed the development stage of the technology and is now focusing on commercializing the solutions it offers.

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