



shaping global nanofuture

FINANCIAL RESULTS FOR H1 & Q2 2023

XTPL S.A.

September 21, 2023

GLOBAL LEADER IN ULTRA-PRECISE NANOPRINTING TECHNOLOGY

The groundbreaking technology of **ultra-precise deposition of nanomaterials** enables global manufacturers to **cost-effectively and scalably** produce advanced electronics with unprecedented **micro sizes** (up to 1 micrometer, 5-10x smaller compared to competitive solutions)



A unique technology that is **easy**, **fast**, **cost-effective and scaleable** in ensuring unprecedented precision of nanoprinting, and time and materials savings for **manufacturers of advanced electronics**



Proven applications – displays, semiconductors, PCBs – attracting interest from many other segments, **USD 51 billion* in total value of the advanced electronics market** (7% CAGR in 2022-2026)



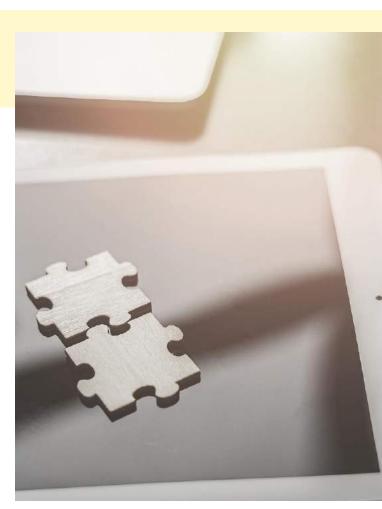
9 commercial projects with global leaders in the electronics industry with a potential value of about PLN
400 million on average per year over 8 years



The expected **10x increase in annual revenues to PLN 100 million** in 2026, which entails e.g. sales of about 100 modules per year – this ambition can be achieved on the back of merely a third of the ongoing projects; **first full industrial implementation to take place in H2 2024**



Investment program totalling approx. PLN 60 million, generating a production potential for about PLN 160 million in annual sales



AGENDA

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FINANCIAL RESULTS FOR H1 & Q2 2023

EXECUTIVE SUMMARY H1 & Q2 2023

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PLN 5.5 million sales of products and services in H1 2023, almost 2-fold increase y/y (+PLN 2.6 million y/y) and PLN 2.6 million in Q2 2023

-PLN 0.8 million EBITDA result in H1 2023
+PLN 1.4 million y/y and
-PLN 0.9 million EBITDA in Q2 2023

PLN 2.3 million CAPEX in H1 2023 +PLN 1.4 million

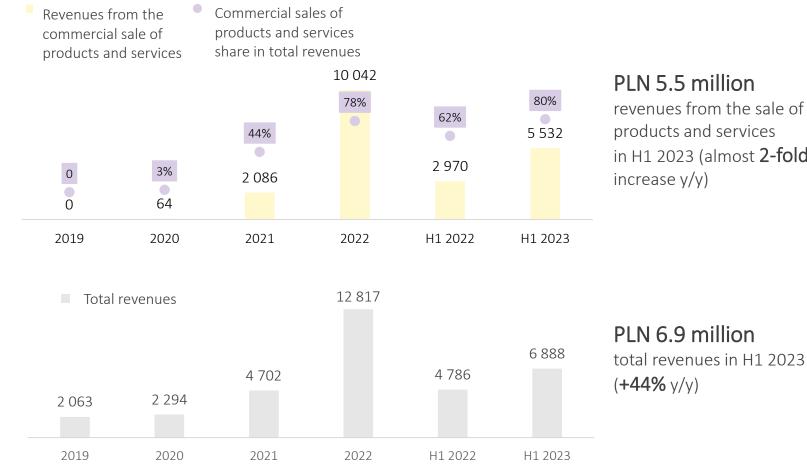
over **PLN 36.5 million** obtained as part of the issue of series V shares - a low discount of 1.5% compared to VWAP from 30 days before the issue resolution

- adoption of an investment plan for 2023-2026 to achieve a 10-fold increase in revenues from sale of products and services to PLN 100 million by the end of 2026
- moving 2 further industrial projects (with a leading manufacturer of industrial machines from Nasdaq 100 and one of the world's largest producers of FPD displays) to the 4th stage of the advanced phase of construction of a prototype device with the XTPL module
- continuation of a total of 9 technology evaluations for industrial implementations by global printed electronics players in the areas of: semiconductors, displays and PCBs
- implementation of key elements of stage 4 of development work as part of the technological phase with Nano Dimension on a new generation of conductive nanoink
- 7 Delta Printing System orders and 5 devices delivered
- 15 sales of nanoinks from EMEA, USA and Asia
- obtaining further patent protection in Malaysia, Germany, China, the USA and Japan
- participation in **7 international industry events** supporting the recognition of the XTPL brand and solutions worldwide

DYNAMIC GROWTH OF REVENUE FROM PRODUCT SALES -H1 2023 SUMMARY

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* figures in PLN thousand



PLN 5.5 million

revenues from the sale of products and services in H1 2023 (almost 2-fold increase y/y

- successful transformation from an R&D profile into a company successfully commercializing its products and technology
- an upward trend in revenues from the sale of products and services initiated by the commercialization of the first two business lines -DPS printing systems and nanoinks
- significant acceleration of generated revenues from 2022 and commercialization of the third, key business line of industrial implementations
- 80% share of revenues from the sale of products and services in H1 2023 in total revenues - effective business development
- a good base for further growth and achieving the business goal of PLN 100 million in revenues by 2026

FINANCIAL PERFORMANCE – H1 & Q2 2022 SUMMARY

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*dane w tys. PLN

	H1 2023	H1 2022	Q2 2023	Q2 2022
Total revenues	6 888	4 786	3 308	3 167
Revenues from the sale of products and services	5 532	2 970	2 557	2 040
Grants (reimbursements and advances)*	1 400	2 377	400	1 292
Operating costs	7 174	6 082	3 852	3 153
EBITDA	-833	-2 244	-925	152
EBITDA adjusted for the incentive program	-833	-1 095	-925	152
Cash flows from operating activities	-381	117	278	306
CAPEX	-2 348	-957	-3 573	-291
Net cash flows	-3 069	-1 126	278	306
	30.06.2023 3		31.03	3.2023
Cash balance at the end of the period	2 971 3 8			3 831

• 86% increase in revenues from sales of products and services in H1 2023 and 25% in Q2 2022 - mainly as a result of sales and implementation of subsequent stages of industrial projects

• reducing the share of subsidies to 19% in total revenues while obtaining them effectively

• higher operating costs adapted to the growing scale of operations

• recognition of the costs of the incentive program without affecting the financial and property situation

• increase in EBITDA result in H1 2023 y/y

• higher investment expenditure related to the implementation of the investment plan for 2023-2026

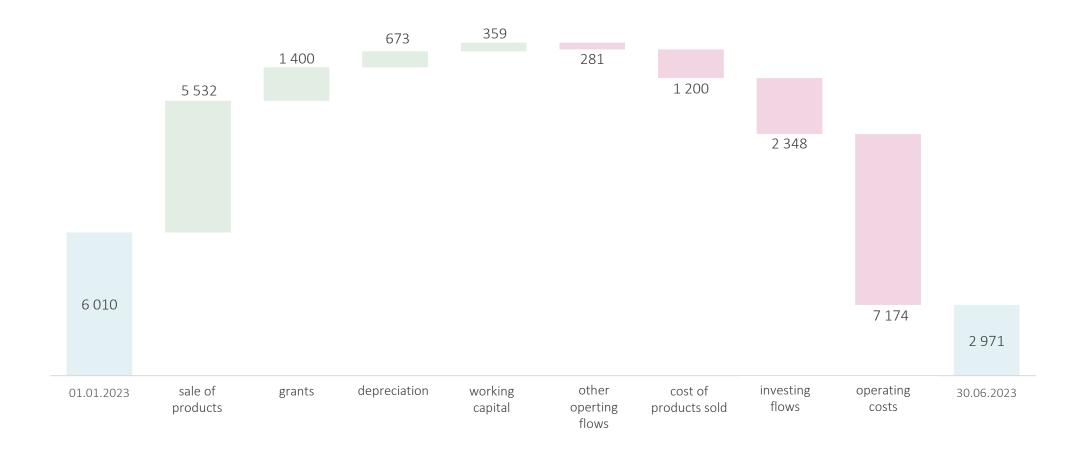
• negative net cash flows

• safe level of cash, in August, cash inflow in connection with the completed issue of shares in July 2023 in the amount of over PLN 36.5 million

CASH FLOWS - SUMMARY H1 2023



* figures in PLN thousand



OVER PLN 36.5 MILLION RAISED TO ACCELERATE DEVELOPMENT AND IMPLEMENTATION OF INVESTMENTS

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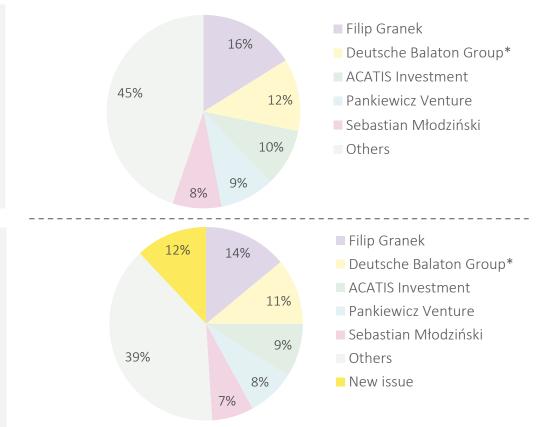
Offer, type and number of shares in the offer

Shares offered	275,000 series V ordinary bearer shares, excluding pre-emptive rights, constituting 13.55% of votes and existing shares
Value of the offer	PLN 36 575 000
Issue price	PLN 133
Discount	1.5% compared to VWAP from 30 days before the issue resolution
Quotations market	Main market of the Warsaw Stock Exchange
Lock-up	Dr. Filip Granek, Main Shareholder and President of the Management Board, agreed not to sell shares for a period of 365 days
Purpose of funds from the share issue	Fully exploiting the commercialization potential of XTPL technology in all three business lines and development of key areas: sales, production, R&D

Shareholder structure

Before the offer

After the offer





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TECHNOLOGY AND BUSINESS

BUSINESS BUILT ON THE PROVEN NEEDS OF GLOBAL ADVANCED ELECTRONICS PLAYERS

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DEVELOPMENT OF TECHNOLOGY AND BUSINESS

- Creating and developing the technology
- Learning the market and researching the needs of advanced electronics, including numerous meetings, conferences, fairs, technology shows
- First projects and evaluation of technology by industrial clients and academic R&D centers



- Recognizable, professionally managed organization
- 5-fold YoY increase in commercial sales in 2022 (PLN 10 million YoY) – commercialization of Delta Printing System devices and nanoinks
- 9 industrial projects with the potential of approx. PLN 400 million in average annual sales – partnerships with global players in printed electronics to integrate the XTPL technology with industry
- Continuation of R&D and IP protection (7 patents)



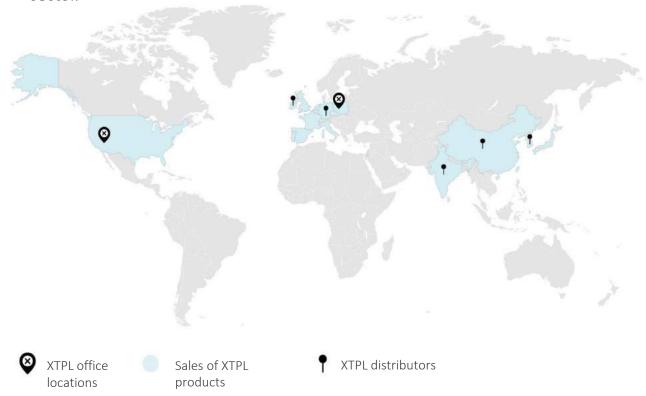
BUSINESS SCALING

- First industrial implementation planned in H2 2024 and subsequent integrations of XTPL modules with the industry
- 10-fold increase in revenues in 2026 (PLN 100 million) and continued sales growth in key technology destinations with new offices in Taiwan, South Korea and the United States
- Increase in production capacity in all business lines
- Continuation of R&D maintaining competitive advantages

INSIDE

INTERNATIONAL ORGANIZATION FOCUSED ON THE COMMERCIALIZATION OF ITS SOLUTIONS

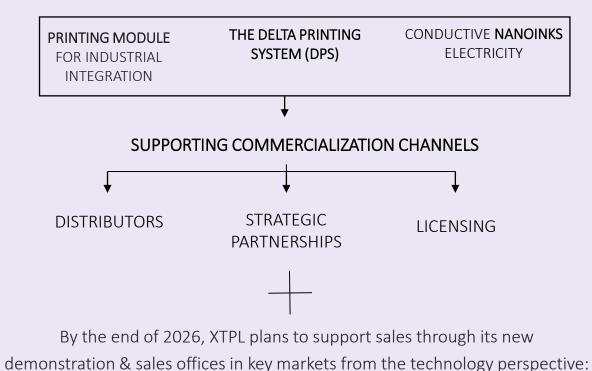
XTPL successfully commercializes its products in **18 countries** now and conducts technology evaluations at global players in the printed electronics sector.



6 distributors in South Korea, China, Germany, India, the British Isles and Taiwan

An effective commercialization model

OWN SALES AND DISTRIBUTION OF PROPRIETARY PRODUCTS GLOBALLY



USA, Taiwan and South Korea

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ADJUSTED PORTOFLIO RESPONDING TO CUSTOMERS' NEEDS

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PRINTING MODULE FOR INTEGRATION

- Nanomaterial deposition module for integration with industrial equipment
- Can be used in many areas of production; current advanced evaluations in FPD (flat panel display), semiconductor and PCB areas
- Average module price: approx. EUR 100.000



- XTPL technology demonstrator (technology marketing)
- Standalone system for use by electronics manufacturers in R&D and prototyping
- Current geographic locations of DPS buyers: Germany, Poland, Great Britain, Italy, China, USA, South Korea
- Average DPS price: approx. EUR 170.000

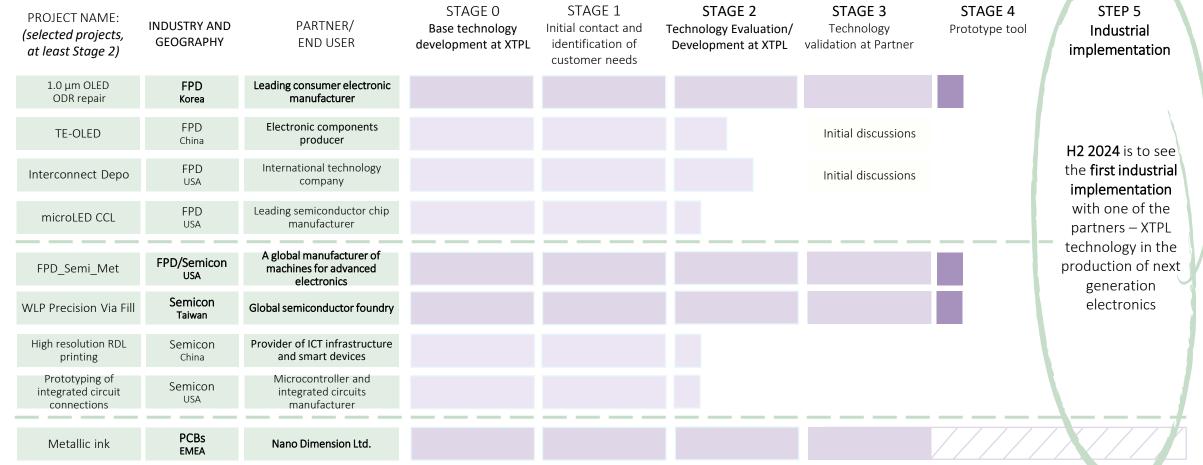
next product generations



HIGHLY CONDUCTIVE NANOINKS ELECTRICITY

- Ailver nanoinks with a high silver content and excellent stability for use in various printing techniques
- Silver products sold globally to academic and industrial partners from EMEA, USA and Asia
- Consumables in DPS and modules

EXCEEDING THE TARGET OF THE PLN 100M PIPELINE IN **INDUSTRIAL PROJECTS** DIVERSIFIED BY INDUSTRIES AND GEOGRAPHIES



DISPLAYS

SEMICONDUCTORS

PCBs

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SIGNIFICANT ACHIEVEMENTS IN INDUSTRIAL PROJECTS

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Sale of the printing module and transition to stage 4 as part of an industrial project with HB Technology on the use of XTPL technology at the end customer for use in **new** generation ultra-high resolution displays, including a micro OLED display.

Fulfillment of an order in the form of a printing module (stage 4) in cooperation with a global manufacturer of specialized equipment for the production of semiconductor elements from Taiwan to build a prototype of an industrial device for applications in the area of advanced microassembly (advanced packaging) in the **semiconductor industry**. Providing a printing module to one of the largest manufacturers of industrial machines for new generation electronics manufacturers in the USA and around the world to build an industrial prototype of the device for further detailed tests, including: in the semiconductor industry and FPD displays (Flat Panel Display).

SEMICONDUCTORS

PCB BOARDS

Completion of key elements of stage 4 of the technological phase and the next tranche of payments as part of cooperation with Nano Dimension on the development of a special formula of conductive ink for applications in **additive manufacturing electronics** (AME), for devices manufactured and supplied by the Industrial Partner.

The end customer is the **world's** leading manufacturer of FPD displays (Flat Panel Display) from South Korea.

Cooperation with a Partner in Taiwan (equipment manufacturer) and an end customer in Taiwan - a **leading** manufacturer of semiconductors in the world. The client is a global company from the USA listed on Nasdaq100 with annual revenues ranging from several to several billion USD.

The solutions will provide high conductivity for Nano Dimension products focused on AME markets.

ACCELERATION IN DELTA PRINTING SYSTEM SALES -COMMERCIALIZATION H1 AND Q2 2023

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- 21 total Delta Printing System (DPS) devices ordered*
- 7 devices ordered in H1 2023, 3 in Q2 2023, total of 9 device orders in 2023 (including Q3)
- **5** DPS delivered to customers in H1 2023 (3 in Q2 2023)
- new orders to a client from the USA (university) and Germany (deep-tech company)
- international clients, including academia and industry
- constantly developed functionality of the device and its software
- approx. EUR 170-200 thousand price of the DPS device
- estimated market size: global annual sales of equipment for R&D, prototyping and small-lot production: approx. 250-500 units/year

Selected users of the Delta Printing System:











University of Stuttgart



HUMBOLDT

ZU BERLIN

UNIVERSITÄT

UNIVERSITÀ DEGLI STUDI DI BRESCIA





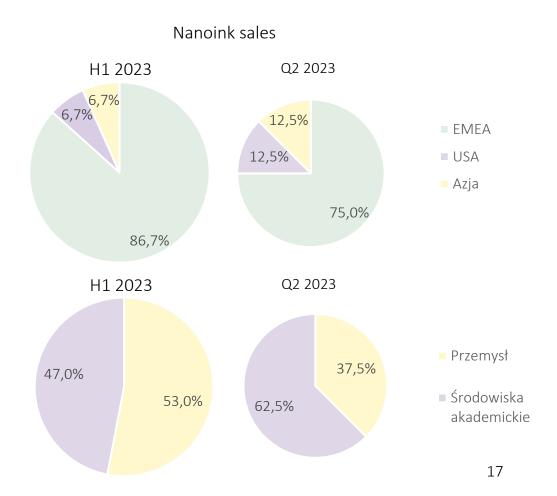


SIGNIFICANT MILESTONES IN NANOINKS -COMMERCIALIZATION H1 AND Q2 2023

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- **73 orders** since the beginning of commercialization of inks
- 13 returning customers since the beginning of commercialization of inks
- Completed orders to 18 countries
- **15 completed sales** from EMEA, USA and Asia in H1 2023 (8 in Q2 2023) to industry and academia
- implementation of key elements of stage 4 of development work as part of the technological phase with Nano Dimension on a new generation of conductive nanoink and continuation of cooperation
- continuation of cooperation with nScrypt for the distribution of CL85
 conductive paste ink in the customer's product offer
- development of inks containing copper and gold

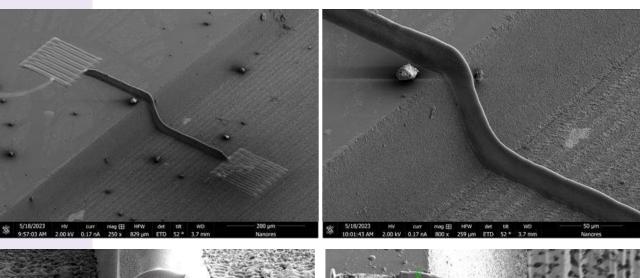


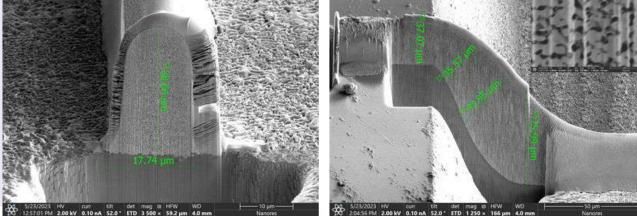
TECHNOLOGY AND R&D - H1 SUMMARY

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Key achievements and progress in research & development in H1 2023:

- The development of gold-based inks with a record concentration of material, compared to other products available on the market.
- Development of a paste based on copper nanoparticles and the XTPL printing technology of copper paths on 3D substrates, with steps of approx. 10 µm, along with the development of a copper sintering technology to obtain a conductivity of more than 25% of undoped copper;
- Development of a technique for **printing silver conductive structures with** widths below 20 µm on the edges of flexible and rigid substrates
- Implementation of new functionalities in DPS, including the installation of a specialized holder enabling precise sample manipulation during edge printing.
- Implementation of artificial intelligence technology to automate the printing process automatic positioning of the print head in DPS.





INDUSTRY EVENTS - SUMMARY H1 2023

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In H1 2023, XTPL actively participated in **5 international industry events** in order to increase its visibility on the global electronics market, including:

- MEMS 2023 Germany
- LOPEC 2023, February 28 Germany
- THE ISRAELI CONFERENCE ON ADDITIVE MANUFACTURING: Research To Applications ICAM 2023 - Israel
- TechBlick Additive Electronics in Semiconductor Packaging and PCBs online
- Smart Systems Integration (SSI) Belgium
- Rapid.Tech 3D exhibition Germany
- TechBlick Innovation Festival

In 2022, XTPL participated in over 20 international industry events



INCREASING RECOGNITION IN TAIWAN - ONE OF XTPL'S KEY MARKETS

Participation in the SEMICON Taiwan fair



The new, 6th distributor of XTPL solutions, Detekt Technology Inc.



On September 8, 2023, conclusion of a non-exclusive distribution agreement for XTPL solutions with Detekt Technology Inc. with 20 years of experience in the industry in Taiwan to support the commercialization of DPS devices, industrial modules, to increase the recognition of XTPL among global players in the semiconductor and display industry

H1 2023: obtaining patent protection from: Malaysian Patent Office,

SECURING INTELLECTUAL PROPERTY -

German Patent and Trademark Office, China Patent Office, United States Patent and Trademark Office, Japanese Patent Office, Intellectual Property Office of Vietnam; new, further protections in Q3 2023 in the USA and Japan

Together*:

8 26 granted patents

ongoing application processes

H1 2023 SUMMARY

Support from international law firms K&L GATES (Palo Alto, CA, USA) Gill Jennings & Every LLP (London, UK)

PATENT GROUPS OF SUBMITTED APPLICATIONS

UPD process - patents describing the UPD process or a device used for the process

Nanoink - patents protecting various nanoink formulations

Software - patents protecting the solutions implemented in the software that controls the printing device

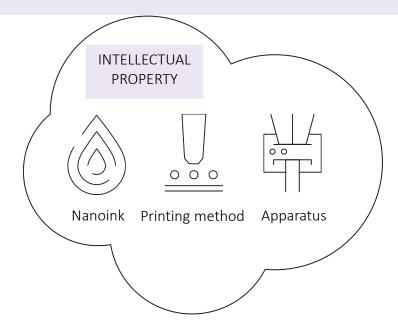
Application fields - patents describing solutions to specific technological problems using the UPD method

Characterization and quality control - patents related to the characterization and quality control of selected components of the printing head

*As of the date of publication of the periodic report for H1 2023 xtpl.com

XTPL's global solutions are being systematically secured by expansion of the patent cloud. Intellectual property is a product and a competitive advantage, while the size and development of the patent cloud have a major impact on the Company's value - the size and proper protection of the cloud are key to the market position

XTPL solutions are protected as of patent submission with the relevant patent authority





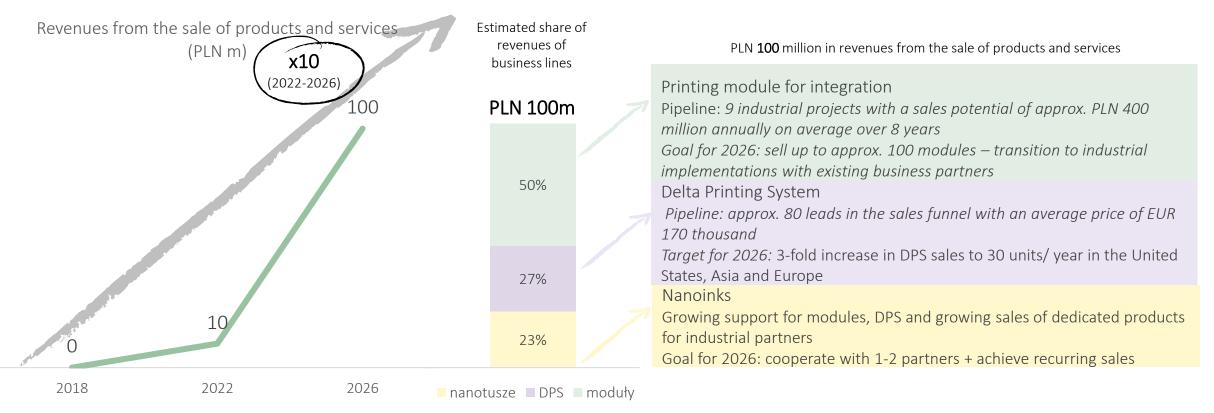
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EXPECTED 10X INCREASE IN PRODUCT SALES

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10-fold increase in revenues from product and services sales by 2026 by scaling of three complementary yet independent business lines



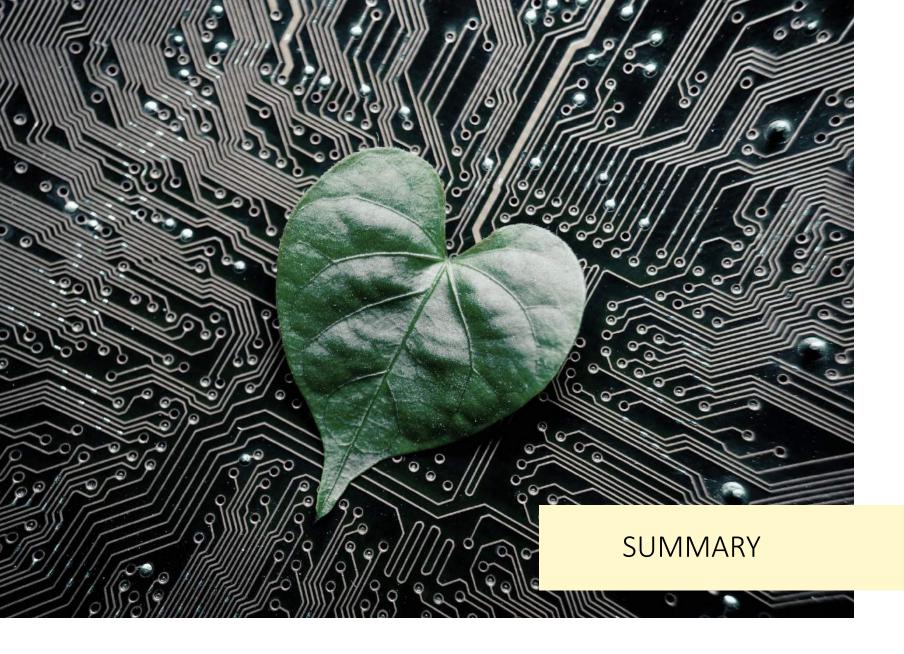
INVESTMENTS PLANNED TO RESPOND TO CUSTOMER NEEDS

Secured a significant portion of funding from the new issue of shares for the investment program of approx. PLN 60 million in 2023-2026 to be used to drive strong growth and support the vision of the 10-fold increase in revenues from the sale of products and services



The remaining part of the financing is to come mainly from equity (operating cash flows), grants and debt financing

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SUMMARY

XTPL is a global player in the rapidly growing printed electronics market, with a disruptive technology, an interdisciplinary team of experts, the ambition to increase commercial sales 10 times in 2026 and the outlook for continued growth.

The groundbreaking technology of **ultra-precise deposition of nanomaterials enables** global manufacturers to **cost-effectively and scalably produce** advanced electronics with unprecedented **micro sizes** (up to 1 micrometer, 5-10x smaller compared to competitive solutions)



Proven applications – displays, semiconductors, PCBs – attracting interest from many other segments, USD 51 billion* in total value of the advanced electronics market (7% CAGR in 2022-2026)



9 commercial projects with global leaders in the electronics industry with a potential value of about PLN 400 million on average per year over 8 years



The expected **10x increase in annual revenues to PLN 100 million** in 2026, which entails e.g. sales of about modules per year – this ambition can be achieved on the back of merely a third of the ongoing projects; **first full industrial implementation to take place in H2 2024**

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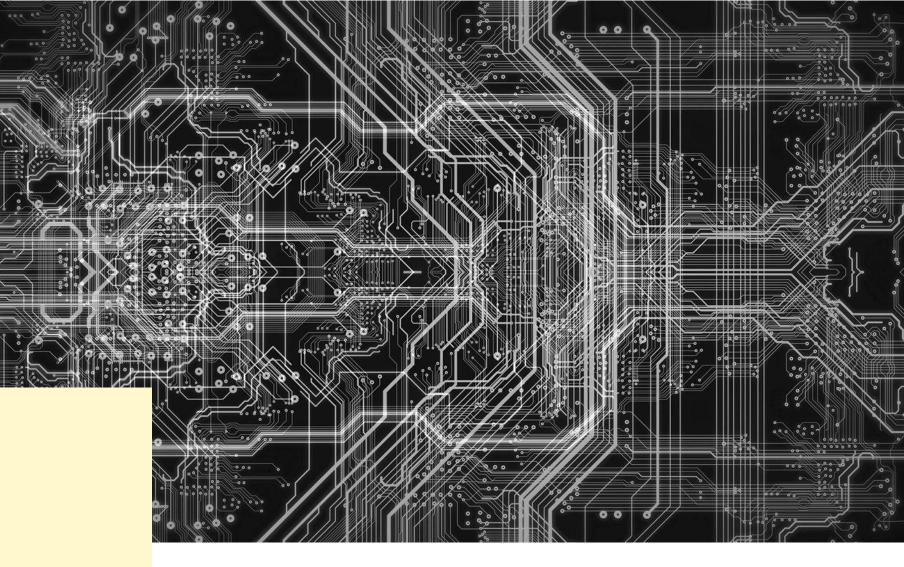
Investment program totalling approx. PLN 60 million, generating a production potential for **about PLN** 160 million in annual sales



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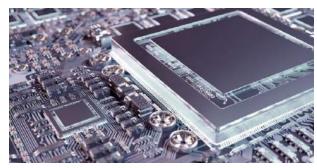
THANK YOU

NANOPRINTING ALLOWS ADVANCED ELECTRONICS TO BE REDUCED BY AN ORDER OF MAGNITUTE

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Nanoprinting is an unparalleled technology for cost-effective and scalable incremental reduction of the dimensions of electronics with extreme resolution on increasingly diverse substrates

Miniaturization of the size and weight of electronic devices while increasing efficiency and speed of operation



Changing forms and properties of consumer electronics:

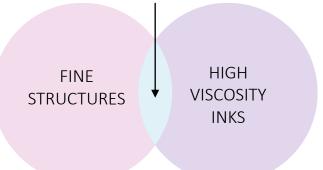
- flexibility
- new shapes, including three-dimensional forms



Ecology: saving materials and energy in the production process and reducing the amount of waste



CONDUCTIVE NANOSTRUCTURES DEPOSITED USING HIGH DENSITY INK



There's a need to make effective, high resolution hybrid microelectronic systems

- high resolution nanostructures cannot be obtained with any technology available today
- need for precise deposition of conductive nanomaterials with high viscosity

UNIQUE XTPL TECHNOLOGY ENABLES PRECISE AND EFFICIENT HIGH-RESOLUTION CONDUCTIVE NANOPRINTING

The XTPL technology provides solutions unattainable by any other methods available in the market and is **unrivaled** in terms of **resolution, viscosity and size of conductive structures** up to 1 um* (5-10x smaller than competitive solutions)

Precise application and low complexity of the process

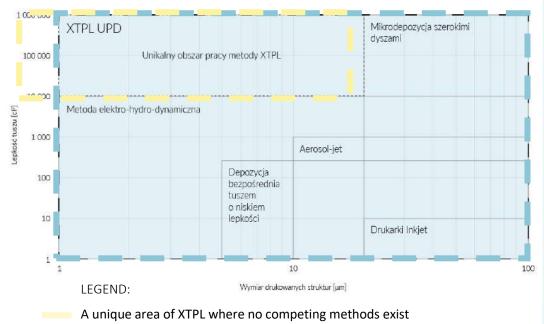
- deposition of high viscosity materials with nano-size features
- high aspect ratios just after a single pass
- ultra high resolution printing on practically any kind of substrate

Covering complex and varied substrates, including even curved ones, with a single continuous conductive path

Production efficient and flexible time- and cost-wise

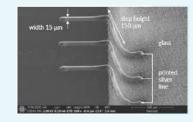
Safe for the environment, does not require corrosive solutions or electromagnetic field

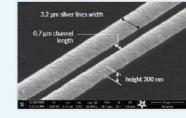


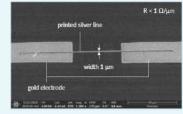


XTPL's general work area

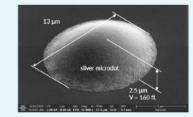
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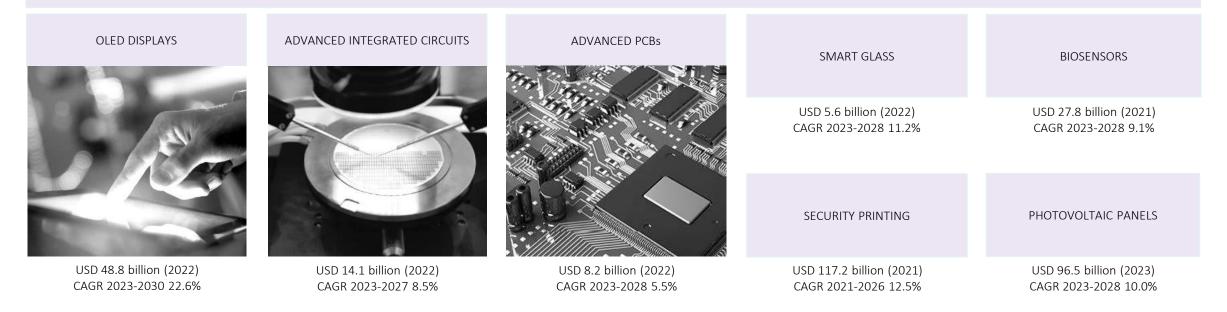




THE GROWING DEMAND OF MANY INDUSTRIES FOR HIGH-TECH SOLUTIONS, PLATFORM CHARACTER OF XTPL'S TECHNOLOGY

ADVANCED ELECTRONICS

- USD 51 bn value of the global market of printed, flexible and organic electronics in 2022, up 8% YoY
- USD 66 bn estimated value of this market in 2026, with USD 74 bn estimated in 2030
- **7%** CAGR 2022-2026



PLATFORM CHARACTER OF XTPL TECHNOLOGY

Strong development of this market is due to the growing number of new applications of printed, flexible and organic electronics in various fields. XTPL technology is used in many existing areas of the printed electronics industry or - thanks to the unprecedented precision of printing - will lead to the emergence of new areas (platform character)

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DISCLAIMER

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