## **Strategy 2023-2026**

## Presentation for investors

22 November 2023

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# **ן כן** ני Strategy 2023-2026

## **XTPL transformation geared towards** a further growth in value

#### **XTPL in 2022**

Business development and sales area

Revenues from the sale of products and services	PLN 10 million				
Industrial implementations	Advanced stages in several projects				
Major markets	Semiconductors, displays, PCBs				
Sales activities	Distributors in several markets and an interdisciplinary sales department				

#### **XTPL in 2026**

Revenues from the sale of products and services	PLN 100 million				
Industrial implementations	First full industrial implementations				
Major markets	Semiconductors, displays, PCBs + telecommunications, biosensors				
Sales activities	An extensive international network of distributors; physical sales centers in three technologically key markets, and a dedicated sales team				

Operational and organizational development area

Production capacity	Driving the first significant sales and progress in implementation projects
Organization	A mature R&D company with a flat organizational structure where tasks are shared

Production capacity	Potential to generate up to PLN 160 million per year on average and support several full implementations on an industrial scale
Organization	A leading Polish deep tech rapidly scaling its business with a matrix of processes executed by best experts

# **1**7L Where we are, where we are headed

# Business underpinned by proven needs of global players in advanced electronics

## 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

2015-2021

Patent applications

 Recognizable brand and international sales of proprietary products

**XTPL today** 

- 5-fold YoY increase in commercial sales in 2022 (PLN 10 million YoY) – growing sales of the Delta Printing System and High Performance Materials (HPM, 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

2022

 Continuation of R&D and IP protection (24 patents) **Business scaling** 

- First industrial implementation to take place in H2 2024 with 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

2023-2026

## Solid foundations for further business growth

The development to date laid stable foundations for the company's continued rapid growth

## $\nearrow$

Stable financial position supported by proceeds from the share issue completed in July this year.

## $\bigcup_{i=1}^{n}$

A unique and globally groundbreaking technology secured by international patents

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Promising, platform technology and strong R&D that help sustain competitive advantage



Effective development strategy for the commercialization of products and technologies

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3 independent and complementary business lines

Confirmed need for the company's solutions from customers in promising industries and markets

## $\checkmark$

Implementation of industrial projects at advanced stages with global players of next generation electronics

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Growing brand recognition on a global scale and a growing network of distributors offering XTPL solutions



An interdisciplinary team of over 70 experts

## Growth geared towards shaping the nanofuture

#### Mission

XTPL is a leading provider of nanoprinting solutions. We shape the global nanofuture.

#### Vision

Ensure that global manufacturers can pursue cost-effective and scalable production of advanced, next-generation electronics by providing them with ultra-precise nanoprinting technology

#### Strategic goal

Commercialization of our platform technology of ultra-precise printing of nanomaterials in the area of advanced electronics.

#### **Key development direction**



## **איר א** 0 **Our technology**

# Technology that changes the way electronics is produced

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 (one millionth of a meter)

Ink Viscosity [cP]



#### Precise application and low complexity of the process

- dispensing 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 curved ones, with a single continuous conductive path



#### Production that is efficient and flexible timeand cost-wise

#### Safe for the environment

does not require corrosive solutions or electromagnetic field

000 000		XTPL UPD			Wide-nozzle		
100 000	-	Unique area of work	Inique area of work of XTPL method				
10 000							
		Electrohydrodynamic					
1000	-			Aerosol-iet			
				Aerosoi-jet			
100	_		Low-viscosity direct-write				
10	_						
					Inkjets		
1	2 <u>-</u> 2						
	1μ	im	10	μm	100	ι I μm	
			Feature S	Size [µm]			
		Legend:					
		A unique area of XTPL where no competing methods exist		XTPL's ge	neral work area		

## **Applications of XTPL's ultra-precise deposition**

Conductive nanostructures deposited with high-density ink enable the production and repair of advanced electronics

UPD technology is characterized by: micro size, high viscosity, flexible shapes and diverse substrates





To find out more, go to: <u>https://www.youtube.com/watch?v=TwQPRz51HP</u> <u>Y</u>





## Strategic approach to securing intellectual property

Intellectual property is one of the key competitive advantages of XTPL. XTPL's global solutions are being systematically secured by expanding the patent cloud, protecting them from the moment the application is submitted to the patent office.



\*The increase in the number of patents, from the previously reported 8 patents, is the result of a change in methodology - now protection for a given invention is counted separately for each location (country).

Patent groups of submitted applications					
UPD process	patents describing the UPD process or a device used for the process				
НРМ	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				

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## X ק ר ג 03 Target market

## A revolution in the manufacture of advanced electronics

Nanoprinting is a technology that addresses new challenges facing the manufacturers of advanced electronics.

It ensures cost-effective, scalable and incremental reduction of the size of electronics while maintaining high resolution.

#### **Global megatrends related to the production of advanced electronics**

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

Changing the 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







**Development of the semiconductor industry** in Europe and the United States:

- securing chip production and value chain stability, targeted 20–30% of the EU in the global semiconductor market by 2030 (vs 9% at present)
- cash flows in the form of grants and tax credits

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## Target market segments for XTPL

Modules for industrial implementation		Delta Printing System (DPS)			High Performance Materials (HPM, nanotusze)			
SEMICONDUCTORS	Repair of masks for photolithography Advanced packaging (microbumps) Advanced packaging (3D bonding) Side wrapping RDL (advanced packaging 2,5D) Precise tags for		SEMICONDUCTORS	3D bonding RDL prototyping Microdots printing TSV filling	University / Research	SEMICONDUCTORS	Die attach / Silver sinterpaste Advanced packaging / solder alloy	Industrial Solution Providers / R&D
	alignment packaging Repair of conductive masks, repair of color filters	Industrial Solution Providers (medium size) / Engineering Departments Electronics Manufacturers / R&D and Production Departments	DISPLAYS	3D bonding Microdots printing Color converter (QD) deposition	Departments R&D / RTO Companies Industry / R&D Departments	DISPLAYS	Displays/Side wrapping/silver FPD/Microelectronics/ indium FPD/quantumdot paste	Departments Electronics Manufacturers / R&D Departments Material Solution Providers / R&D
DISPLAYS	Repair of devices, components for the manufacturing of displays	Repair of devices, omponents for the manufacturing of displays	TELECOM	On-chip antenna bonding 6G antennas printing		РСВ	PCB additive manufacturing / silver, copper	Departments
TELECOM	5G, 6G antennas manufacturing		MEMS	3D bonding Printing electrodes through microchannels SU-8 photoresist printing		BIOELECTRONICS	Biosensors/gold, platinum	

### **Growing market for XTPL solutions**

## **X 7 7 L**°

#### USD 51 bn

value of the global market of printed, flexible and organic electronics in 2022 , up  $8\%\, {\rm YoY}$ 

#### USD 66 bn

estimated value of this market in 2026, with an estimated growth to USD 74bn in 2030

#### 7%

CAGR in 2022-2026

## Advanced electronics sectors in which XTPL commercializes its solutions

and conducts advanced work on industrial implementations



**OLED DISPLAYS** 

USD 48.8 billion (2022) 2023-2030: 22.6% CAGR



ADVANCED INTEGRATED CIRCUITS USD 14.1 billion (2022)

2023-2027:8.5% CAGR



ADVANCED PCBs

USD 8.2 billion (2022) 2023-2028:5.5% CAGR

#### Other promising and target industries for XTPL

SECURITY PRINTING	USD 117.2 billion (2021) 2021-2026: 12.5% CAGR
BIOSENSORS	USD 27.8 billion (2021) 2023-2028: 9.1% CAGR

#### 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 a reas of the printed electronics industry or – thanks to the unprecedented precision of printing – will lead to the emergence of new areas (platform character).

#### **X ק ר**. 04 100 **Our offer**

## Adjusted portoflio responding to customers' needs

## **X ] 7 L**°

XTPL is engaged in continuous R&D that increases the functionality and potential of individual business lines Greater commercialization of any business line drives growth in other lines



#### Modules for industrial implementation

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



#### Delta Printing System (DPS)

- XTPL technology demonstrator (technology marketing)
- Standalone system for use by electronics manufacturers in R&D and prototyping
- End buyers include scientific institutions and commercial companies
- Average DPS price: approx. EUR 170.000



#### High Performance Materials (HPM, nanoinks)

- Silver HPM 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 for DPSs and modules

## **Global range of commercialization of the XTPL portfolio**

**X 7 7 L**°

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



**8 distributors** in South Korea, China, Germany, India, the British Isles, Taiwan and the United States An effective commercialization model

Own sales and distribution of proprietary products globally



### **Customer value proposition**



**High Performance Materials (HPM)** Modules for industrial implementation Delta Printing System (DPS) Customers Industrial solution providers Industrial solution Electronics Industry Materials providers Electronics manufacturers University R&D Companies Engineering departments providers manufacturers R&D and production departments departments **R&D** departments R&D departments R&D departments R&D departments XTPL offer Cutting edge 3D microscale printed electronics High performance solutions proven in industrial Unique solutions tailored to customer needs **Reliable partner** technology practice Unique fit and efficient implementation of technology Open platform for prototyping Inks tailored to industrial microscale printing applications Advantages of XTPL (effective exploration, development and launch) Efficient solutions on an industrial scale Precise and reliable results For the most demanding microscale printing applications High performance materials (resolution, processease, repeatability & durability) Reliable partner and cooperation Easy to operate and maintain

## **Support from a Supervisory Board** with diverse experience





Wiesław Rozłucki, PhD Chairman

A graduate of the Foreign Trade Department of the Central School of Planning and Statistics (now the Warsaw School of Economics): holder of a British Council scholarship at the London School of Economics; obtained a PhD degree in economic geography from the Polish Academy of Sciences (PAN).



Bartosz Wojciechowski, PhD

**Deputy Chairman** 

Obtained a degree in law and psychology from the University of Silesia in Katowice. He also completed post-graduate studies in intellectual property law at the Jagiellonian University in Kraków. In 2018, he started a patent attorney apprenticeship.



Piotr Lembas

Supervisory Board Member

Obtained a degree in law and psychology from the University of Silesia in Katowice. He also completed post-graduate studies in intellectual property law at the Jagiellonian University in Kraków. In 2018, he started a patent attorney apprenticeship.



Beata **Turlejska** 

Supervisory Board Member

A Managing Partner of the Leonarto Fund, responsible for managing the fund's investment portfolio. Holds a master's degree in economics in finance and is an expert in human resources management and marketing. Graduated from the Warsaw School of Economics and Lazarski University.



#### **Prof. Herbert Wirth**

Supervisory Board Member

A graduate of the AGH University of Science and Technology in Kraków, Faculty of Geology and Exploration. He completed postgraduate studies in mining and engineering geology at the Wrocław University of Technology, and in project management at The George Washington University School Business and Public Management. He has a long-standing experience in global company management.

## **Interdisciplinary team of experts**

## X J J L°



Filip Granek (PhD) CEO



Jacek Olszański CFO



Aneta Wiatrowska (PhD) BL Director Industrial Projects



Mirosław Woszczyna (PhD) BL Director Industrial Projects 2



Ludovic Schneider (PhD) **BL Director HPM** 



Patrycja Iwańska Marketing Director



Dariusz Świderek **PMO** Director



Karolina Fiączyk (PhD) R&D Director





Szymon Zięba Production Director



Łukasz Kosior Business Development and Sales Manager-DPS



Daria Więcławska Business Development and Sales Manager-HPM



Marcin Cinkowski Business Development and Sales Manager-UPD System



Piotr Kowalczewski (PhD) IP Manager



experts

#### Technology

Long-standing team with advanced knowledge and experience in:

- chemistry
- physics
- electronics
- mechanics
- materialscience
- numerical simulations

#### **Business**

Leaders and highly skilled professionals who possess know-how and experience in:

- product development
- marketing & communication
- implementing innovation
- finance
- B2B sales
- capital market



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## **XTPL's responsible business**

Doing business responsibly has always been important to XTPL, and our proprietary UPD technology ensures: saving materials and energy in the advanced electronic production process, and reducing the amount of waste



#### **Environment**

- Developing ultra-precise printing technology with respect for the environment
- Commitment to reducing the carbon footprint and curbing the consumption of raw materials and waste production
- Company's headquarter location selected to ensure convenient access by public transport



## Equal opportunities in the workplace

- 40.7% female participation in the technology team
- Ppro-employee approach and a rich benefits package, including: private medical care, access to the XTPL corporate library and funding for English language courses

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#### **Responsible governance**

- Transparent management: transparency in decision-making processes and communication with shareholders
- Fair and ethical approach to customers, suppliers and business partners

# ירן Strategic goals and initiatives

# Expected 10x increase in product sales and rapid EBITDA growth

A 10-fold increase in revenues from the sale of products and services and high-margin business helped by the scaling of three complementary, independent business lines and operational excellence



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## A precise plan for sales strategy execution

PLN 100 million in revenues from the sale of products and services on the back of a plan underpinned by precise sales activities in three business lines



# Adaptation of processes in individual areas to support strong growth

#### PROCESSES

MODULES FOR INDUSTRIAL IMPLEMENTATION DELTA PRINTING SYSTEM (			HIGH PERFORMANC	HIGH PERFORMANCE MATERIALS (HPM, nanoinks) GRANTS TO SUPPORT R8					
Developing comprehensive R&D solutions, including new product generations									
Effective development and implementation (installation, launch maintenance) of nanoprinting solutions, adapted to the needs the industry	implementation (installation, launch and nting solutions, adapted to the needs of the industry DPS sold and delivered directly and through existing and new distributors in key 3D electronics markets materials for industrial applications								
Sa	les centers a broad in key locations; cross - and up	o-selling based on succe	ssful projects						
PROCUF	PROCUREMENT, PRODUCTION, DELIVERIES AND LOGISTICS CUSTOMER SERVICE								
Scaling and adapting performance and p industrial modules: up to approx.	Scaling and adapting performance and processes to the needs of industrial customers alongside an increase in production capacity: industrial modules: up to approx. 100/ year, and DPSs and High Performance Materials (HPM, nanoinks) up 3–4 times								
		MARKETING							
Expert knowledge and presence in the media, reports and Online marketing communication with industrial customers Communication a bout technology and its applications Activity in Activity					3D printed electronics communities				
EMPLOYEES KNOWLEDGE					AS	ASSETS			
Attracting talent and developing teams to grow	Collecting and sha do	ng market data and project Adaptation of space and equipment to the needs of business lir umentation			ment to the needs of business lines				

# ויר X 06 Financing the 10x growth

# Investments planned to execute strategy and respond to customer needs

An 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

Intensification of inv	estments in key areas for further growth
Sales	<ul> <li>support for the sales and marketing department</li> <li>3 sales centers abroad in key locations, equipped with XTPL products</li> </ul>
Production	<ul> <li>3-4-fold increase in production capacity in the DPS and HPM (nanoinks) business lines</li> <li>increasing the production capacity of industrial modules to approx. 100 units/year (printing heads, nozzles, cartridges)</li> </ul>
R&D	<ul><li>continuation of work on the development of existing products</li><li>work on new products</li></ul>
The implementation of the inver- produce	estment plan will also support a further increase in ction of 50-60% post 2026

Expected division of the investments planned (PLN 60 million) by individual areas:



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# Effective cash management and strategy execution coupled with financial security

A significant part of financing secured by the last share issue

PLN 36.5 million gross raised as part of the offer of series V shares\*

- Shares offered: 275,000 series V ordinary bearer shares issued by the Company in a private placement, representing 11.9% of the Company's stock.
- Issue price: PLN 133
- Discount: 1.5% compared to VWAP from 30 days before the issue resolution

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

Funds employed in operating activities / net working capital in proportion to the scale of business

+ grants / debt financing (as needed)

\*completion of the issue of series V shares in July 2023

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# 2023–2026 development strategy ensuring growth of XTPL value

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The solid foundations built to date provide the opportunity for further rapid growth

a constant increase in the company's value,

taking into account market megatrends

Development strategy ensuring

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Strategic goal: commercialization of platform technology, taking into account targeted markets, customized offer, operational excellence, and the strong, credible XTPL

A customized offer to fit precisely identified advanced electronics markets and their needs



The expected 10x increase in annual revenues to PLN 100 million by the end of 2026: sales of about 100 modules per year – this ambition can be achieved on the back of merely a third of the ongoing projects

Investment program totalling approx. PLN 60 million, generating a production potential for about PLN 160 million in annual sales, with a significant part of funding already secured





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