



shaping global nanofuture

# FINANCIAL RESULTS FOR 2022 AND Q4 2022

XTPL S.A.

April 27, 2023

# XTPL AT GLANCE



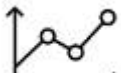
XTPL is a global player, developer and provider of **breakthrough and unprecedented technology** for electronics manufacturers, **enabling effective production** of new generation devices



Founded in **2015**, based in **Poland** and USA



An interdisciplinary team of over 50 experts, incl. **8 PhDs**



Listed on **WSE** (2019) and **FSE** (2020)



Supported by **stable shareholders**



Operates in the rapidly **growing printed electronics market**: CAGR 9%\*



Targeted and **effective strategy** focused on technology (incl. IP) and commercialization



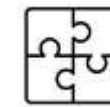
**2022 the best year in the history of XTPL** - constantly growing share of revenues from commercial sales of products and services, effective CF management



**Products commercialization and evaluation of the technology for industrial implementations** with global players from Asia, USA and Europe



UPD\*\* technology **breaks down technological barriers** - created solutions unattainable by other methods - applied conductive lines with a diameter of even 1  $\mu\text{m}$ \*\*\*



**Platform character** of the technology with application in many existing sectors of printed electronics



**IP regularly secured** by expanding the patent cloud: **7** patents granted and **26** pending applications processes

# AGENDA



1.

EXECUTIVE  
SUMMARY

2.

FINANCIAL RESULTS

3.

SUMMARY OF  
ACHIEVEMENTS

4.

SUMMARY  
AND OUTLOOK

# EXECUTIVE SUMMARY 2022 AND Q4 2022



✓ **PLN 10.0 million** in revenues from the commercial sales in 2022 **5-fold increase y/y** and **best year in XTPL's history** (PLN 3.4 m in Q4 2022: 82% increase y/y)

✓ **PLN 0.4 million** in EBITDA adjusted for the inventive scheme in 2022 **PLN +4.9 million y/y** (PLN 0.5 m in Q4 2022: 47% increase y/y)

✓ **PLN 4.7 million** operating cash flows in 2022 **PLN +8.5 million r/r** (PLN 3.7 m w Q4 2022: PLN +4.3 m r/r)

✓ **PLN 1.5 million** total cash flows in 2022 **PLN +7.4 million y/y** (PLN 2.7 m in Q4 2022: PLN +2.9 m y/y)

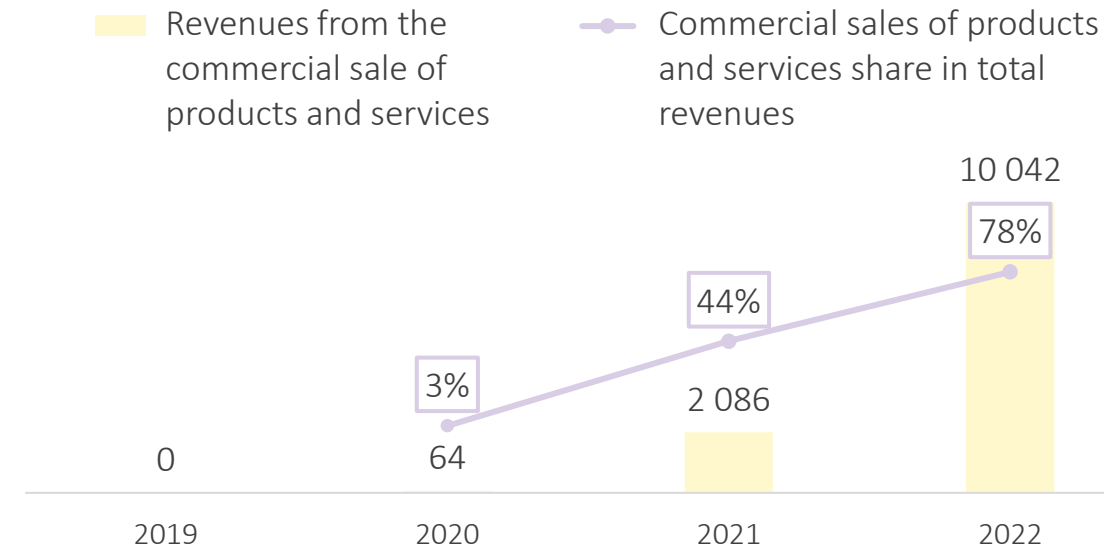
- Implementation of advanced works with international industrial partners in the areas of: **displays, semiconductors, PCBs** and the first tranches of payments
- Continuing **9 technology evaluations in terms of industrial implementations** with global players of the printed electronics sector
- **Sales of Delta Printing System devices**, incl. to the **USA and China** - selling first DPS to an industrial client and making inroads into new markets
- **32 nanoink sales transactions** in 2022; signing the first private label agreement
- **Obtaining further patent protections**, including in Japan, USA, Israel and UK
- Participation in over **20 international industry events** supporting the recognition of XTPL's brand and solutions in the world
- Signing an agreement with Horizon Europe; **a grant of nearly PLN 430 thousand received by XTPL**
- Signing agreements on changes to the bond issue conditions

## FINANCIAL RESULTS FOR 2022 AND Q4 2022

# FINANCIAL PERFORMANCE – 2022 REVENUES

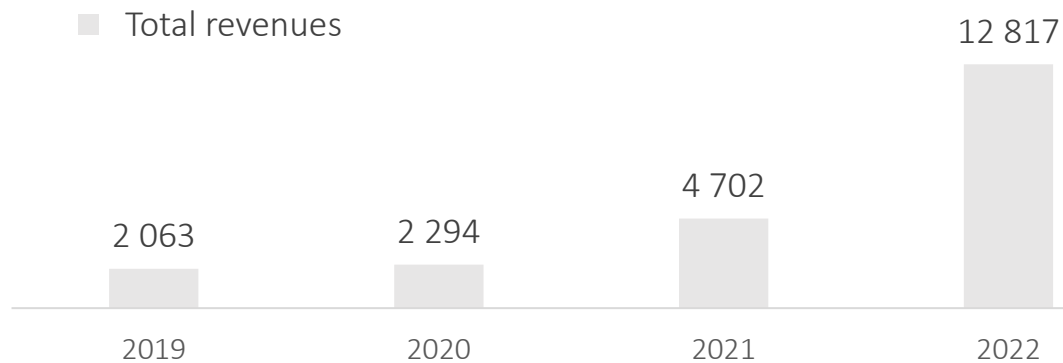


figures in PLN thousand



**PLN 10.0 million**

revenue from the sale of products and services in 2022  
(5-fold increase y/y)



**PLN 12.8 million**

total revenues in 2022  
(3-fold increase y/y)

- Transition from an R&D-focused firm into a business that successfully commercializes its products and technology
- An upward trend in revenue from the sale of products and services triggered by the commercialization of the first two business lines – DPS printing devices and nanoinks
- A pronounced acceleration of revenues in 2022 alongside the commercialization of the third key business line related to industrial implementations
- Strong business development: in 2022 78% of total revenues coming from the sale of products and services
- 5-fold increase in revenues from the sale of products and services in 2022

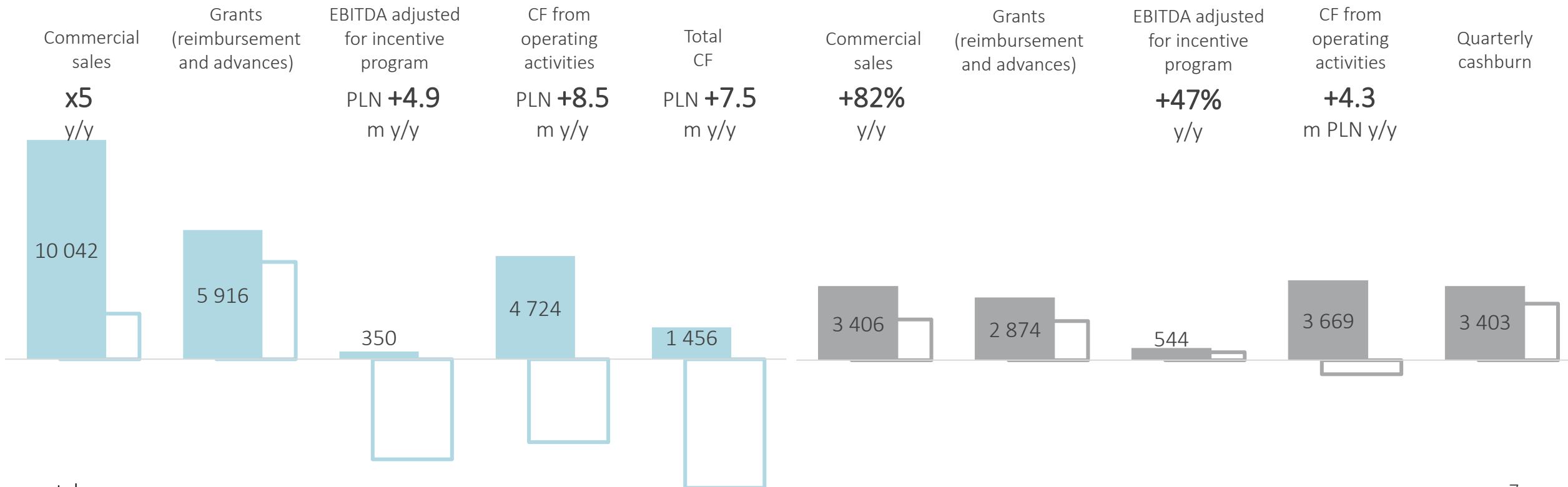
# FINANCIAL PERFORMANCE – 2022 AND Q4 2022 SUMMARY



figures in PLN thousand

■ FY2022 □ FY2021

■ Q4 2022 □ Q4 2021



# FINANCIAL PERFORMANCE – 2022 AND Q4 2022 SUMMARY



figures in PLN thousand

	2022	2021	Q4 2022	Q4 2021
Total revenues	12 817	4 702	4 299	3 450
Revenues from the sale of products and services	10 042	2 086	3 406	1 873
Grants (refunds and advances)	5 916	4 455	2 874	1 803
Operating costs	12 709	9 401	3 707	2 923
EBITDA	-799	-5 735	544	369
EBITDA adjusted for the incentive scheme	350	-4 586	544	369
Cash flows from operating activities	4 725	-3 803	3 669	-650
CAPEX	2 606	2 124	771	-63
Total cash flows	1 456	-5 895	2 702	-235
Quarterly cashburn	3 902	2 939	3 403	2 608
	31.12.2022		31.12.2021	
Cash balance at the end of the period		6 039		4 580

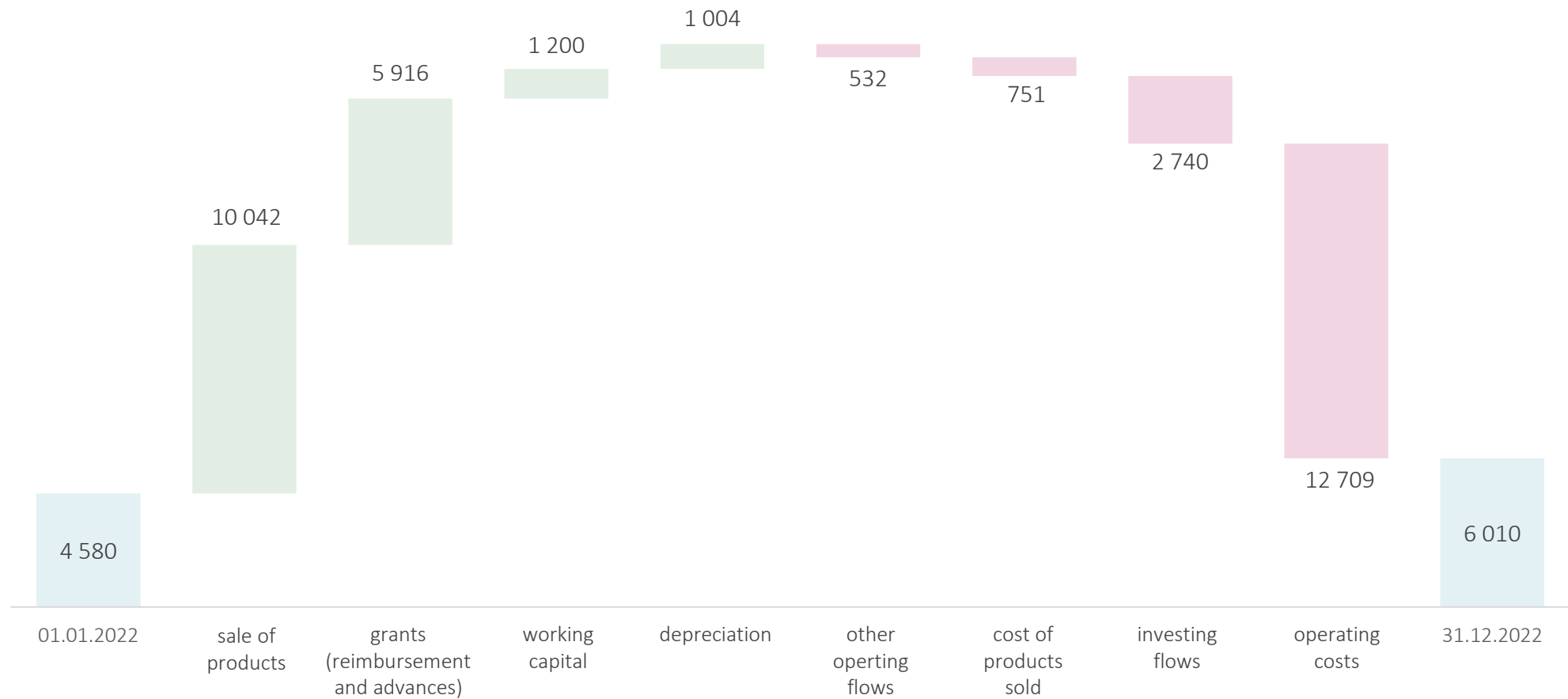
- 5-fold increase in revenues from the sale of products and services in 2022 and 82% increase in Q4 2022 - e.g. inflow of funds from completion of individual stages of industrial projects
- reducing the share of grants in total revenues coupled with their effective acquisition
- higher operating costs commensurate with the growing business volumes
- Recognition of the cost of the incentive scheme with no impact on the company's assets or financial position (PLN 1.1 mln)
- positive EBITDA adjusted for the incentive program in 2022 and an increase of PLN 4.9 m y/y
- positive cash flows from operating activities (+8.5 m y/y)
- positive net cash flows in 2022 in the amount of PLN 1.5 million (PLN +7.5 m y/y)
- safe level of cash for further development




# FINANCIAL PERFORMANCE - CASH FLOW



figures in PLN thousand





## SUMMARY OF 2022 AND Q4 2022 ACHIEVEMENTS

# COMPANY DEVELOPMENT PHASE



NEXT STEP

CURRENT PHASE

## INITIAL TECHNOLOGY DEVELOPMENT PHASE

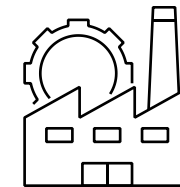
- development of the underlying technology
- technology evaluation by industrial clients and academic R&D centers

- Research & Development
- rapid prototyping
- commercialization of the Delta Printing System and XTPL nanoinks
- introducing and establishing commercial and strategic cooperation in order to **implement technologies to global industrial customers**
- **technology evaluation for industrial implementations** with global players in the printed electronics market

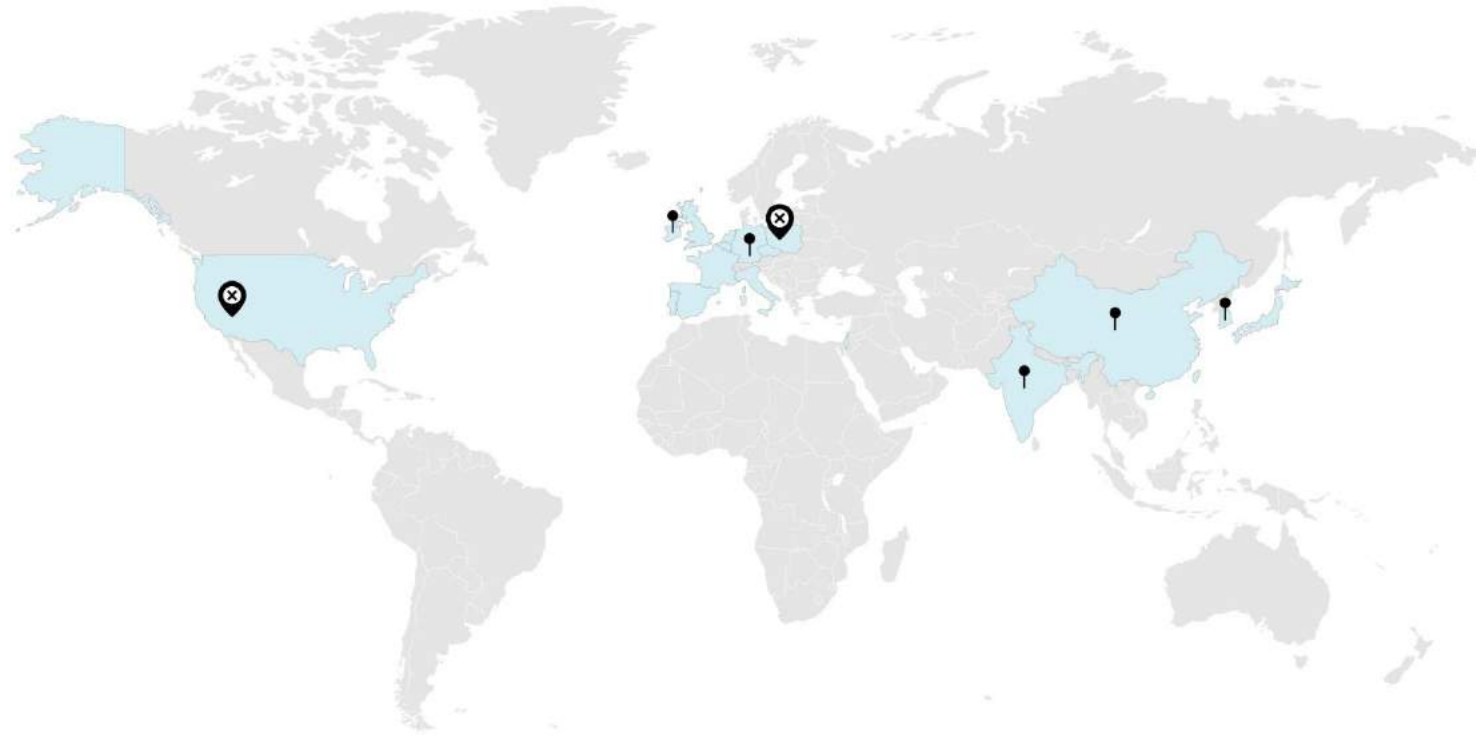


- integration of **XTPL Printing Module** to industrial equipment
- continuous supply of ink and nozzles + cartridges

**XTPL**  
INSIDE



## GLOBAL RANGE OF ACTIVITY



XTPL is based in Poland and in the USA (XTPL Incorporated).

The Company is in talks with global players and is currently commercializing its products on the markets of North America, Europe and Asia.

XTPL acquired business partners, distributors of its solutions in South Korea, China and Hong Kong, British Isles, Germany and India.



XTPL office locations

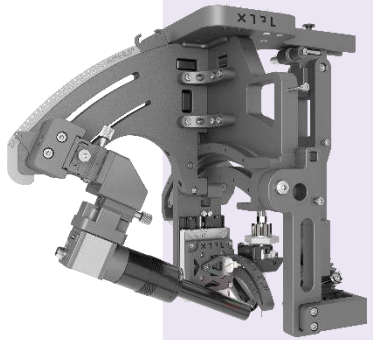


Sales of XTPL products



XTPL distributors

# XTPL PRODUCTS



**HIGH-RESOLUTION  
PRINTING MODULE  
FOR INTEGRATION**

- printing module for integration with industrial equipment
- opportunities in the FPD, semiconductor and PCB areas
- use cases are focused on local high-precision additive jobs



**DELTA  
PRINTING  
SYSTEM**

- stand-alone R&D prototyping system and technology demonstrator
- current geographic locations of Delta Printing System clients: Germany, Poland, Great Britain, Italy, China, USA, South Korea



**HIGHLY-  
CONCENTRATED  
NANOINKS**

- silver 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

# CURRENT INDUSTRIAL PROJECT PIPELINE

(only projects in Stage 2 and above shown)



			STAGE 0	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
			Base-technology development at XTPL	Initial contact and identification of the problem-solution fit	Technology Evaluation / Development at XTPL site	Technology Validation at Partner site	Industrial Prototype Tool	Industrial "Roll-out"
DISPLAYS	OLED 1.0 um ODR Repair	FPD Korea	Leading consumer electronic manufacturer					
	TE-OLED	FPD China	Leading electronic components producer				Initial discussions	
	microLED Interconnect Repair	FPD China	Global provider of ICT infrastructure and smart devices					
	Interconnect Depo	FPD USA	Multinational technology company				Initial discussions	
	microLED CCL	FPD USA	Leading semiconductor chip manufacturer					
SEMICONDUCTORS	WLP Precision Via Fill	Semicon Taiwan	Global semiconductor foundry					
	High-resolution Printed RDL	Semicon China	Leading global provider of ICT infrastructure and smart devices					
	Prototyping of ICs interconnections	Semicon USA	Microcontroller and integrated circuits manufacturer					
PCB	Mettalic ink	PCB EMEA	Nano Dimension Ltd.					


# ADVANCED INDUSTRIAL PROJECTS IN DISPLAYS, SEMICONDUCTORS AND PCBs



## A SIGNIFICANT STEP AHEAD FOR INCLUDING XTPL TECHNOLOGY IN DISPLAYS

From the end of 2022, continuation of work with HB Technology on the use of XTPL technology at the end customer for use in **new generation ultra-high resolution displays**, incl. micro OLED displays

- the end customer is the leading manufacturer of FPD displays in the world (Flat Panel Display) from South Korea
- partner's decision preceded by an approx. 24-month period of validation of the XTPL solution
- The next step is to deliver the XTPL device for technology validation at the R&D level to HB Technology in H1 2023 and adapt the solution to the needs of the end customer



## TRANSITION TO A KEY STEP FOR TAIWAN PARTNER IN SEMICONDUCTORS

From H2 2022, execution of the order in the form of a printing module to build an industrial prototype of a device for applications in the area of advanced packaging in the **semiconductor industry**

- partner is a global manufacturer of specialized equipment for the production of semiconductor components from Taiwan
- partner's decision preceded by an 18-month process as part of the 3 stages of evaluation of XTPL's technological solutions in cooperation with a partner in Taiwan (equipment manufacturer) and an end customer in Taiwan - a leading semiconductor manufacturer in the world



## CONTINUATION OF COOPERATION WITH NANO DIMENSION IN PCBs

From the beginning of 2022, cooperation with Nano Dimension Ltd. to develop a special formula of conductive ink for **additive manufacturing electronics (AME) applications**, for devices manufactured and supplied by an industrial partner

- special formula of conductive nanoink based on metallic nanoparticles
- solutions will provide high conductivity to Nano Dimension products focused on AME markets
- 3 stages of the technological phase completed and 3 tranches of payments launched in 2022; at the end of March 2023, the implementation of the key elements of the 4th stage and the next payment tranche

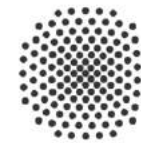


# DELTA PRINTING SYSTEM - COMMERCIALIZATION 2022



- 17 Delta Printing System (DPS) devices sold in total\*
- the first sale of the device to the United States, and the first DPS ordered by an industrial client – a company from the Big Five giants from the ICT sector
- commercialization of DPS successfully started in China – a total of 9 prototyping devices were sold on the local market
- other sales to South Korea, Germany, Great Britain, Italy and Poland
- development of the device and software for DPS control
- ~EUR 170-200 thousand - DPS price
- constantly developed functionality and user comfort

Selected users of the Delta Printing System:



University of Stuttgart



UNIVERSITÀ  
DEGLI STUDI  
DI BRESCIA



University  
of Glasgow

HUMBOLDT-  
UNIVERSITÄT  
ZU BERLIN





## START OF COOPERATION WITH ONE OF THE BIG FIVE TECH GIANTS FROM SILICON VALLEY – ENTERING THE US MARKET

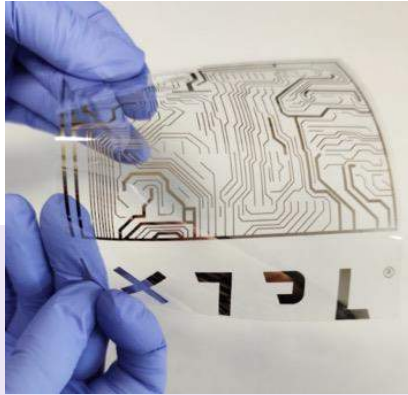


In September 2022, **the first sale of the Delta Printing System (DPS) device to the USA** and, at the same time, **the first order of the DPS device for a corporate client** - DPS will support R&D, among others in the development of technologies and products in the field of **virtual reality (VR)**



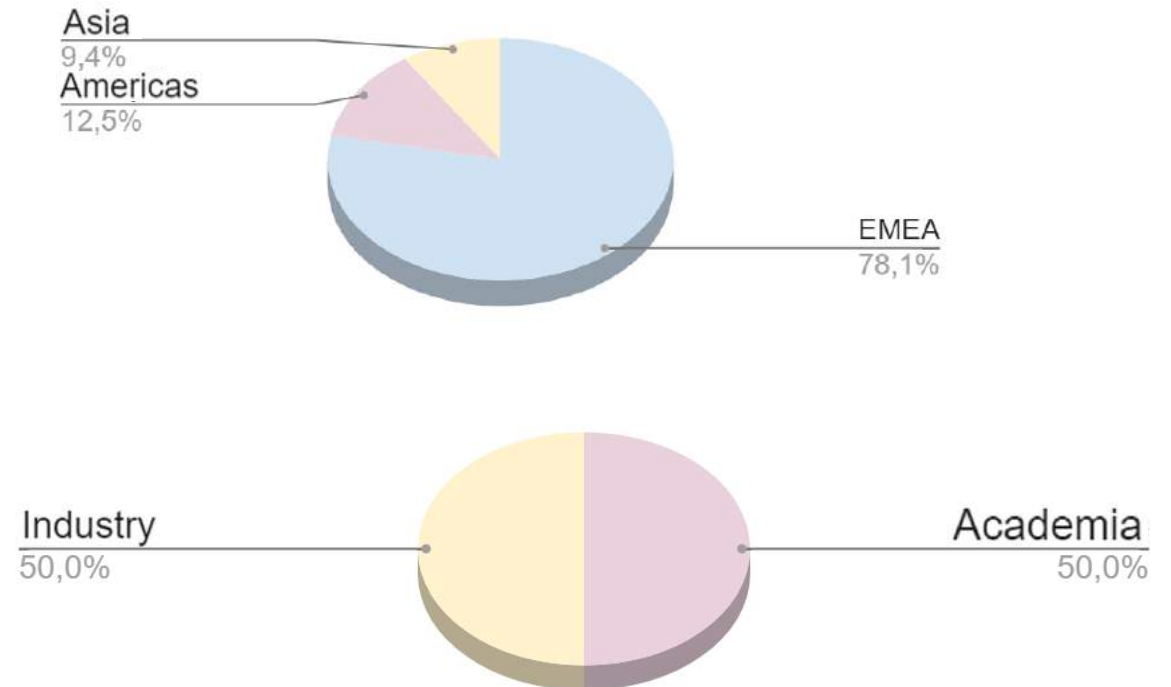
- the recipient is a company with the so-called Big Five global companies from the ICT (Information Communication Technologies) industry
- confirmation of the potential of the developed technologies - the selected XTPL device beat competing solutions in terms of quality\*
- cooperation between XTPL and the client was established at the end of 2021
- building relationships with a reputable player on a global scale strengthens XTPL's position in business talks

# NANOINKS - COMMERCIALIZATION 2022



- **32 independent orders** from the EMEA region, the Americas and Asia
- **58 orders** since the beginning of ink commercialization
- **9 returning clients** since the beginning of ink commercialization
- completed orders to **15 countries**
- New countries on the sales map:  
**Netherlands, Poland, France, Taiwan, Singapore**
- Cooperation with **Nano Dimension** as part of the work on a **new generation conductive nanoink**
- An agreement with **nScript** for the distribution of the **conductive nanopaste CL85** – the product added to the client's product range
- Development of **copper and gold inks**

Nanoink sales 2022



# TECHNOLOGY AND R&D - 2022 SUMMARY



## Key achievements and progress in research & development in 2022

- **Development of software controlling the Delta Printing System (DPS)** – the ability to import designs for printing in CAD format, commonly used in industry and introduction of graphical user interface for increased user comfort
- **Increasing the working area of the DPS printing system** from 50 mm x 50 mm to 200 mm x 200 mm in response to the needs reported by clients
- **Development of the XTPL printing system and introduction of the possibility of automatic deposition of features on surfaces in 3D**, including printing on the edge with substrate rotation.
- Development of the XTPL UPD technology by **elaborating a procedure of sintering the printed structures obtained by dispensing the CL85 and CL85-Flex ink**. The aim is to achieve the highest possible electrical conductivity under the given conditions that guarantee the safety of other elements of microelectronic systems.
- **Completing three stages of the technological phase under the agreement with Nano Dimension**. The agreement relates to developing a new generation conductive nanoink for industrial applications in the client's products designed for the production of PCBs.

In 2022, XTPL actively participated in more than **20 international industry events**, in order to increase recognition on the global electronics market, incl:

- EPoSS Annual Forum 2022 - Italy
- TechBlick The Future of Electronics RESHAPED – Netherlands
- International Display Workshops 2022 - Japan
- International Conference on Display Technology ICDT 2022 – China
- The 22nd International Meeting on Information Display 2022 – Korea
- Swiss-ePrint – The Swiss Conference on Printed Electronics and Functional Materials – Switzerland
- The 17th International Thin-Film Transistor Conference ITC 2022, Micro and Nano Engineering MNE 2022 – Belgium
- Eurodisplay 2022 – Germany
- innoLAE 2022 – UK – online
- TechBlick Lounge-Exhibition – online
- LOPEC 2022 – Germany
- Smart Systems Integration 2022 – France
- SMTconnect – Germany
- Display Week – United States
- ImpactCEE – Poland
- IEEE 72nd Electronic Components and Technology Conference – USA
- 22nd International Conference & Exhibition – Switzerland
- Łukasiewicz Innovatorium – Poland
- Chemnitzer Seminar 2022 – Germany
- Innovations Festival: Printed, Hybrid, 3D, InMold, Textile Electronics – online
- NANOTECHNOLOGY 2022 – Greece
- IEEE FLEPS 2022 – Austria

# INTELLECTUAL PROPERTY PROTECTION 2022



**2022:** obtaining protection from: the Japanese Patent Office (January 2022), the US Patent Office (May, September, November 2022) for two different methods of forming conductive lines, the Israeli Patent Office and the British Intellectual Property Office (September 2022); filing of the 25th patent application; new protections in 2023 in: Malaysia, Germany, China, USA, Japan

Total\*:

**7**

patents  
granted

**26**

pending applications  
processes

## Support from international law firms

- K&L GATES (Palo Alto, CA, USA)
- Gill Jennings & Every LLP (London, UK)

## PATENT GROUPS: APPLICATIONS FILED AND PATENTS GRANTED

**UPD process** – patents describing the ultra-precise deposition process or a device used for this process

**Nanoink** – patents protecting various nanoink formulations

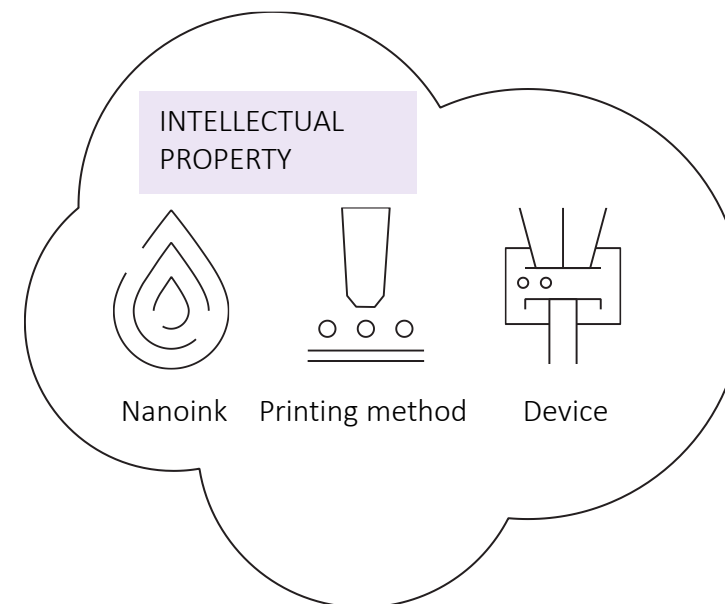
**Software** – patents protecting the solutions implemented in the software that controls the printing devices

**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

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

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



## SUMMARY AND OUTLOOK

# ESTIMATED REVENUE FROM SALES OF PRODUCTS AND SERVICES IN Q1 2023

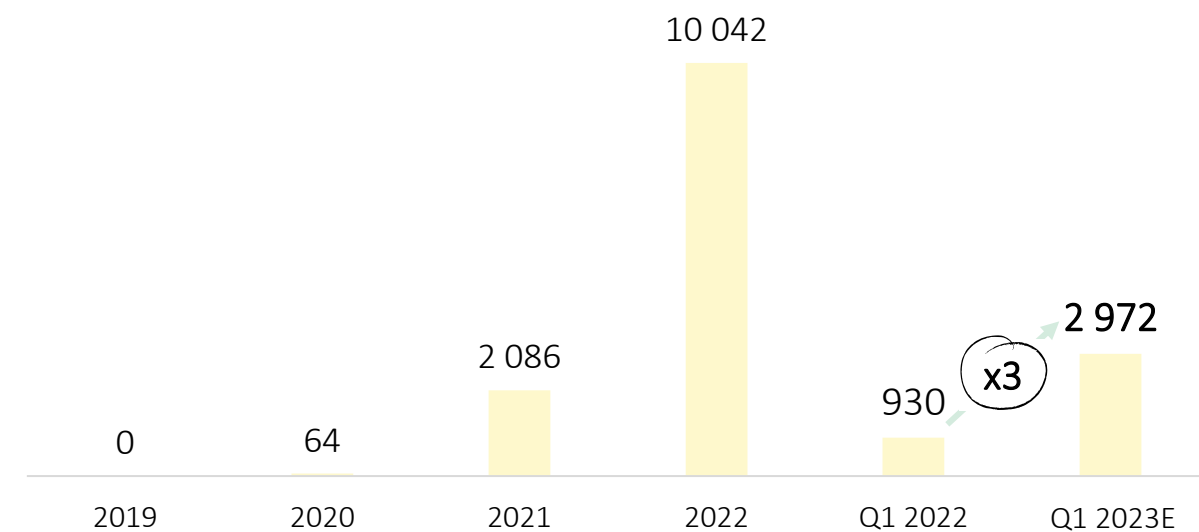


REVENUES' ESTIMATES FOR Q1 2023 - April 18, 2023 XTPL has published preliminary estimates of revenues from the sale of products and services for Q1 2023

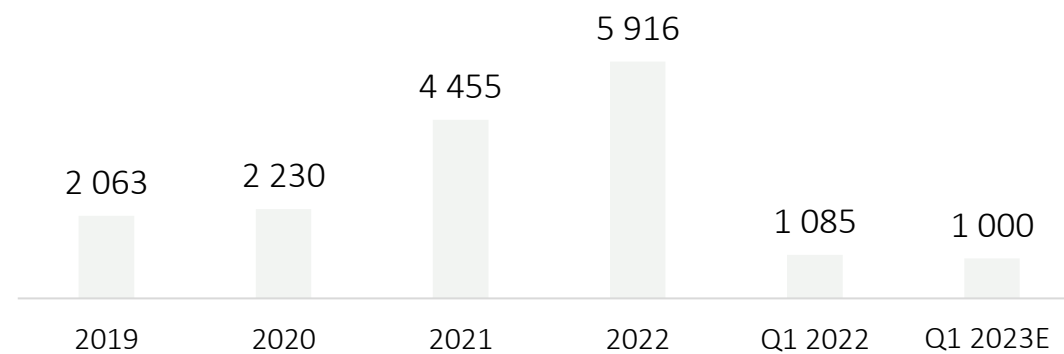
- **PLN 2 972k:** estimated consolidated revenues from the sale of the products and services in **Q1 2023** (PLN 930k in Q1 2022)
- **PLN 1 000k:** the value of proceeds obtained by the Company in respect of public research and development grants in **Q1 2023** (PLN 1 085k in Q1 2022)
- **PLN 3 720k:** the value of proceeds obtained by the Company in respect of public research and development grants in **31.03.2023** (PLN 6 039k as of 31.12.2022)

PLN thousand (k)

Revenues from the sale of the products and services\*



Grant funds (refunds and advances)



# SUMMARY AND OUTLOOK



XTPL is a global player in the rapidly growing printed electronics market, with a targeted development strategy, an interdisciplinary team of experts and support from stable shareholders. It offers global business partners the world's most precise, platform printing technology, providing them with competitive edge and technological advantages by enabling effective production of modern, new generation devices.

## FINANCE

- **2022 the best year in the history of XTPL:** PLN 10.0 m in commercial sales and 5-fold increase y/y, and 3-fold increase in Q1 2023E y/y
- **safe level of cash** (PLN 3.7 m cash as at 31.03.2023E) secured financial liquidity and the ability to obtain subsidies (NCBR support, HORIZON program)

## COMMERCIALIZATION

- a consistent commercialization strategy - **sale of technological solutions products and industrial implementation projects**
- **9** technology evaluations for industrial implementations with global players - advanced stage with HB Technology in displays, move to stage 4 to deliver the XTPL industrial integration module for the Partner in Taiwan and implementation of the 4th stage of the technological phase with Nano Dimension

## MARKET

- reaching many fast-growing organic and flexible printed electronics sectors - the market which is expected to total USD 63.3 billion in 2025 (**CAGR 2020-2025: 9.0%**), and USD 74.1 billion in 2030 - an increasing number of new applications of printed electronics
- xtpl.com

## TECHNOLOGY

- **revolution** - enabling production of complex and complicated devices using efficient, cost-effective and scalable printing methods.
- **uniqueness** – disruptive, proprietary and unique UPD (Ultra Precise Deposition) technology that breaks down further technological barriers and helps obtain conductive lines that previously could not be achieved by any other method (resolution of 1 µm)
- **platform character** – with application in many existing sectors of printed electronics
- IP regularly secured by expanding the patent cloud: **7 patents granted** and **26** pending applications processes

## STRATEGY

- a precisely defined development strategy incl.: technology and R&D, commercialization of the printing device for industrial implementations as well as Delta printer and nanoinks - diversified business model

## ORGANIZATION

- global operations
- the modern business approach thanks to an interdisciplinary team with extensive expertise and experience: **over 50 people in Poland** and **USA**
- support and trust of significant investors, with XTPL executives in the shareholding structure



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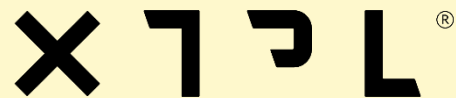
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THANK YOU



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