shaping global nanofuture

XTPL FINANCIAL RESULTS FOR 2020

XTPL S.A.

April 27, 2021

AGENDA

1. EXECUTIVE SUMMARY
2. COMMERCIALIZATION
3. FINANCIAL RESULTS
4. TECHNOLOGY
5. EVENTS
6. SUMMARY
7. VISION

EXECUTIVE SUMMARY

XTPL®

2020 – summary

- **commencing commercialization of solutions** - sale of the first printing device and nanoinks
- completing **9 technology evaluations** in terms of industrial implementations with global players of the printed electronics sector
- **10 new patent applications filed** - extending the protection of technological solutions
- **breaking down further technological barriers** - increasing the competitiveness and uniqueness of the printing technology in terms of resolution, width, time and application fields
- presence at international industry events and **showcasing solutions to industry leaders**
- adapting activities to the new situation related to COVID-19
- establishing a management and support team
- **securing financial liquidity** - issued shares and bonds, funding from NCBR
- acquiring new significant shareholders, and debuting on the **Open Market** of Deutsche Börse

Outlook

- targeted and **effective development strategy** focused on technology and commercialization
- reaching many **fast-growing organic and flexible printed electronics sectors –** market which is expected to total **USD 63.3 billion** in 2025 (CAGR 2020–2025: **9.0%)**
- the disruptive UPD technology breaks down further technological barriers and helps obtain conductive lines that previously could not be achieved by any other method, with **resolution of down to 1 µm**.
- application in many existing printed electronics sectors
- intellectual property regularly secured by expanding the patent cloud - **21 patent applications**
- **commenced commercialization and evaluation of the technology** for industrial implementations with global players
- secured financial liquidity, including the ability to obtain grants

COMPANY DEVELOPMENT PHASE

INITIAL TECHNOLOGY DEVELOPMENT PHASE

Development of the underlying technology

Technology evaluation by industrial clients and academic R&D centers

CURRENT PHASE

Research & Development
Rapid Prototyping

NEXT STEP

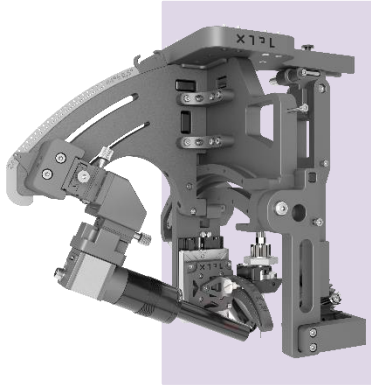
Integration of
XTPL Printing Module
to industrial equipment

Continuous supply of ink and nozzles + cartridges

XTPL INSIDE

XTPL PRODUCTS

Microelectronics rapid prototyping possibilities to the feature sizes and applications previously unavailable to other printing techniques



HIGH-RESOLUTION „EPSILON" PRINTING MODULE FOR INTEGRATION

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

DELTA PRINTING SYSTEM

- stand-alone R&D and prototyping system
- first tool delivered to University of Stuttgart, Germany (Q1'2021)
- next tools will be delivered to partners in the near future

HIGHLY-CONCENTRATED NANOINKS

- XTPL manufactures conductive inks
- silver products sold to academic and industrial partners globally
- copper and gold products under development

CURRENT INDUSTRIAL PROJECT PIPELINE

(only projects in Stage 2 and above shown)

	PROJECT NAME	INDUSTRY AND GEOGRAPHY	PARTNER / END-USER	STAGE 0 Base-technology development at XTPL	STAGE 1 Initial contact and identification of the problem-solution fit	STAGE 2 Technology Evaluation / Development at XTPL site	STAGE 3 Technology Validation at Partner site	STAGE 4 Industrial Prototype Tool	STAGE 5 Industrial "Roll-out"
★	OLED 1.0 um ODR Repair	FPD Korea	Leading consumer electronic manufacturer				Initial discussions		
	TE-OLED	FPD China	Leading electronic components producer				Initial discussions		
★	microLED Interconnect Repair	FPD China	Global provider of ICT infrastructure and smart devices						
	microLED In Depo	FPD USA	Multinational technology company						
★	microLED CCL	FPD USA	Leading semiconductor chip manufacturer						
★	WLP Precision Via Fill	Semicon Taiwan	Global semiconductor foundry					Initial discussions	
★	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						
	Silicon-Through VIA FILL	PCB EU	Leading semiconductor chip maker						

★ New progress in Q1'2021

PIPELINE – DELTA PRINTING SYSTEM

OFFER MADE TO A POTENTIAL CLIENT	DEMO PROJECTS AND NEGOCIACIONS	SALES CONTRACT SIGNED* AND PRODUCT DELIVERED
20	17	1

Delta Printer price: approx. EUR 120-200k / PLN 550-900k

Key milestones in 2020:

- product developed in 2020
- **first device delivered to the University of Stuttgart, Germany**
- business Development Team formed
- commercialization process in place

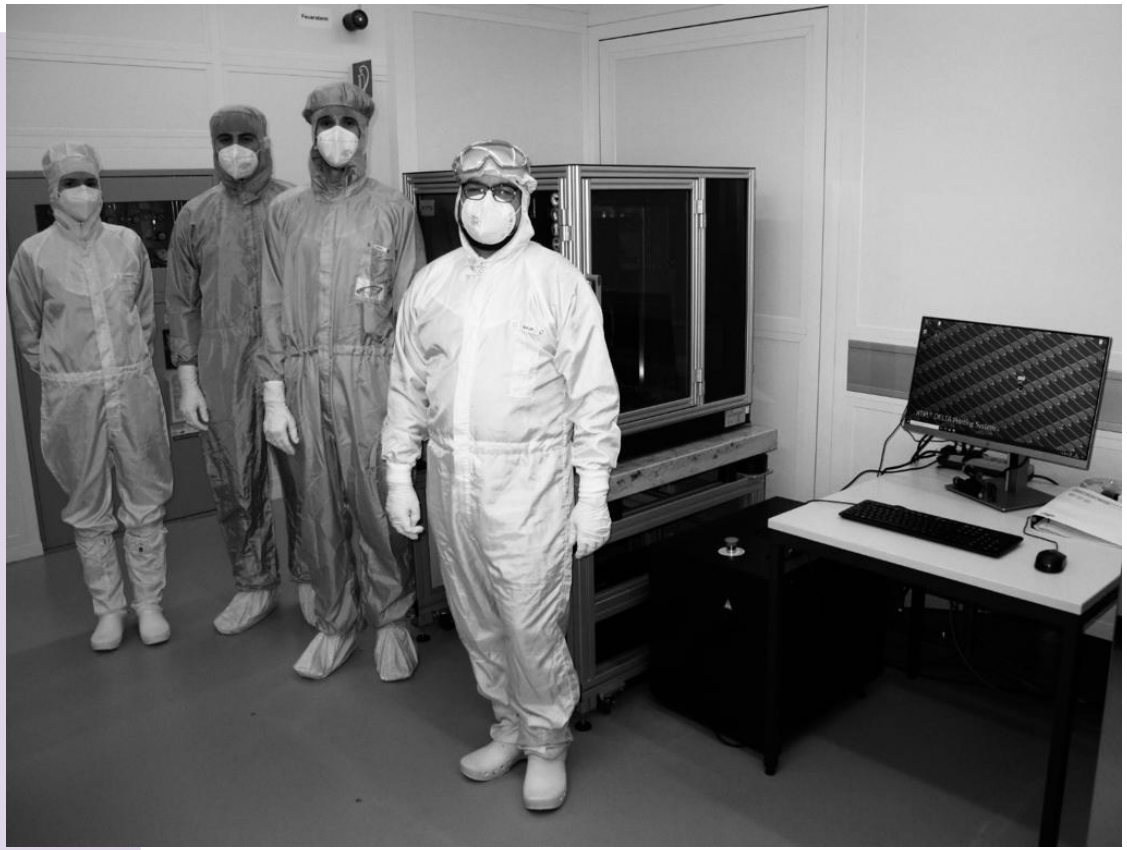
Purpose:

- demonstration of XTPL Technology
- building of Credibility in Industry, by Key Opinion Leaders (expert in the industry)
- identification and opening of new application fields for XTPL platform technology

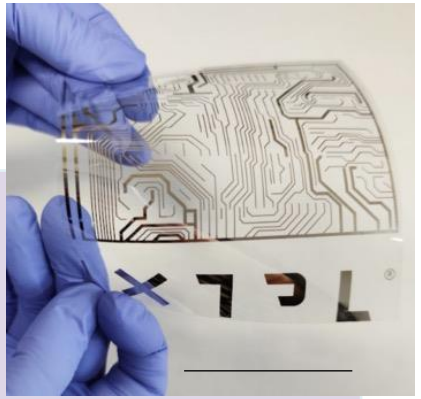
* Equivalent to selling the product

XTPL DELIVERED ITS DELTA PRINTING SYSTEM TO THE UNIVERSITY OF STUTTGART

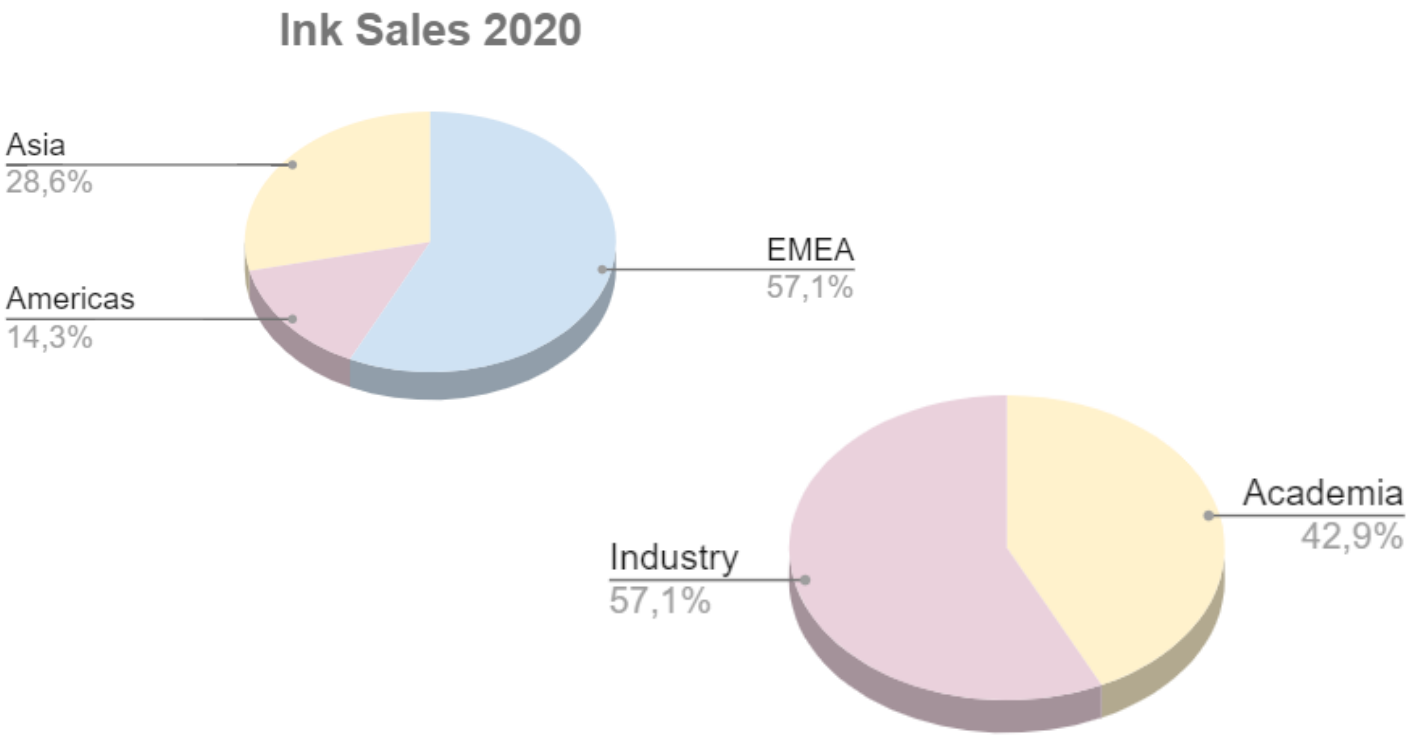
- in November 2020 XTPL signed its first commercial contract for deliver XTPL® Delta printer with the globally recognized Institute for Large Area Microelectronics at the University of Stuttgart (Institut für Großflächige Mikroelektronik “IGM”)
- the researchers led by Prof. Fruehauf at the University of Stuttgart will use the XTPL’s Delta Printing System to demonstrate a fully-printed, high-resolution flat panel display (FPD)
- the maximum contract value is approx. EUR 190 thousand net (approx. PLN 880 thousand net)
- the contract provides for leasing the XTPL demonstrator with a purchase option.
- this is the first significant contract that confirms the potential of the technology commercialized by the Company.
- XTPL is currently in a series of talks at various levels of progress with other potential recipients of the Delta printer



PIPELINE – NANOINKS



OFFER MADE TO A POTENTIAL CLIENT	SAMPLE SENT TO POTENTIAL CLIENT AND NEGOTIATIONS	SALES CONTRACT SIGNED* AND PRODUCT DELIVERED
24	12	7



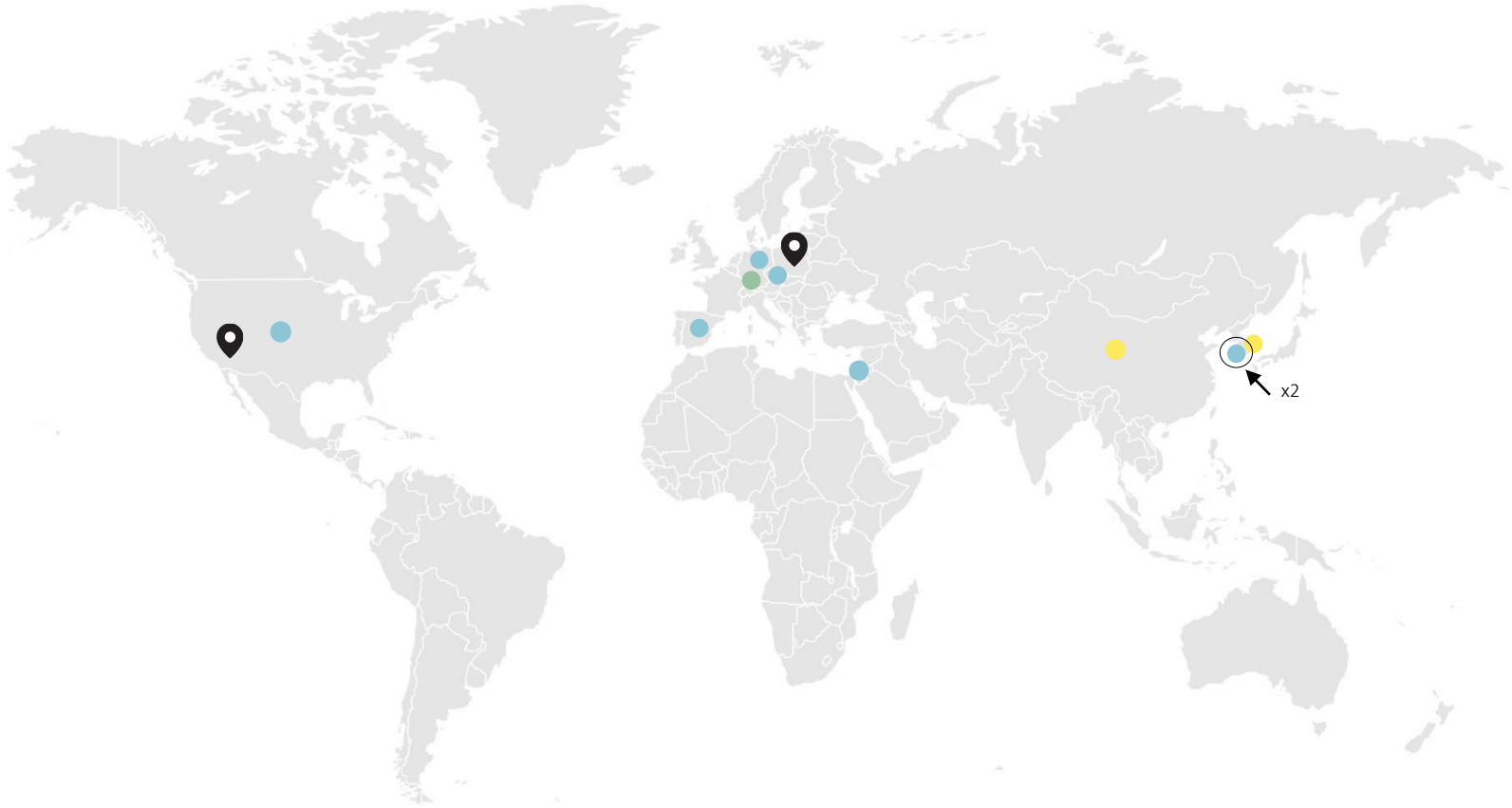
Key milestones in 2020:

- 7 independent orders from THE EMEA region, the Americas and Asia
- Business Development Team formed
- commercialization process in place
- website section deployed, product ads launched

xtpl.com

* Equivalent to selling the product

GLOBAL RANGE OF ACTIVITY



XTPL office locations

Sales of nanoinks

Sales of Delta Printing System

Distributors

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

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

XTPL initiated collaboration with business partners in South Korea and in China.

XTPL TEAMS UP WITH BUSINESS PARTNERS IN SOUTH KOREA AND CHINA

XTPL DISTRIBUTORS

BANDI CONSORTIA (South Korea)

XTPL has established cooperation with Bandi Consortia to support the commercialization of XTPL technology on the Korean market. The Korean partner will officially represent XTPL and strengthen the introduction of the XTPL technology offering into the FPD (flat panel display) and semiconductor industry on the local market. The companies started their first joint project in 2020. As a result, XTPL is involved in advanced technology evaluation for of the world's leading supplier of industrial tools in the FPD industry.

YI XIN (China and Hong Kong)

XTPL is expanding its presence in the Chinese market by starting cooperation with Yi Xin Technology, who will distribute the Company's technological solutions in China. The Yi Xin Technology company specializes in additive technologies and the search for innovative solutions dedicated to the printed electronics segment. The new XTPL distributor has an extensive network of relationships with major Chinese research institutes and industrial manufacturers from the display, touch panel and semiconductor sectors.

COMMERCIALIZATION MODEL – CHANNELS

DISTRIBUTION AGREEMENTS

Agreements with distributors are intended to support XTPL in the introduction of the Delta Printing System, rapid prototyping printer to the regional market and the offer of proprietary nanoinks, and at the same time it will allow reaching a wider group of potential customers in terms of a solution in the form of a printing head with a printing device for implementation industrial

LICENSING

- the company develops technological solution dedicated to a particular application field and license it to a partner
- on its basis, the partner builds devices that allow the technology to be used in the industry
- the company generates revenues from one-off license fees for providing the license, and recurring license fees (royalties) related to the sale of devices in which the developed technology is implemented; recurring revenues are also achieved from the sale of nanoink

STRATEGIC PARTNERSHIP

- the company develops technological solution dedicated to a particular application field; the solution is then commercialized in cooperation with a strategic partner
- the company enters into e.g. a joint venture agreement with the partner
- commercialization tasks are divided between the partners in accordance with their competencies and potential
- the company participates in profits achieved through the joint venture

SALES OF PROPRIETARY PROCUCTS

Delta Printing System:

- the Company began the process of offering a UPD technology demonstrator for use in prototyping, R&D, and small-scale production
- In the following quarters, demonstration devices are to be supplied to trusted business partners for product evaluation and further improvement to reach commercial maturity

Nanoinks:

- the Company has developed a unique formulation of conductive ink to achieve the best printing parameters using the UPD technology on its basis, the partner builds devices that allow the technology to be used in the industry
- XTPL began offering this material to the clients using other additive methods in their work.
- the launch of sales of this product will ensure better market exploration, and will introduce the Company to new application areas that are attractive for its proprietary technology

PLATFORM CHARACTER

XTPL®

ADVANCED ELECTRONICS

- **USD 41.2**bn - value of the global market of printed, flexible and organic electronics in 2020, up 11.0% YoY
- **USD 63.3**bn - estimated value of this market in 2025, with **USD 74.1**bn estimated in 2030
- **9.0%** - CAGR 2020–2025

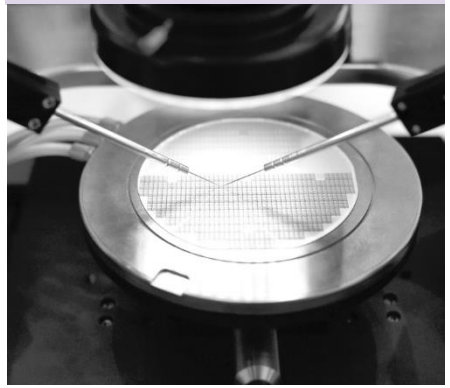
STRONG MEGATREND

- production of technologically advanced devices using cost-effective and scalable methods
- providing a solution for mass production, which will repeatedly perform printing with dimensions below 10 µm - miniaturization and diverse application field

DISPLAYS

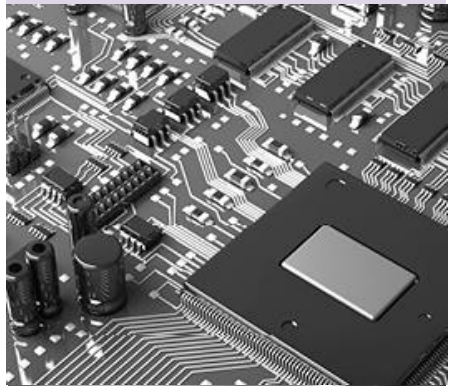
$34.3 bilion
CAGR 2020-2025 10.2%

ADVANCED INTEGRATED CIRCUIT



$14.2 bilion
CAGR 2020-2025 5.8%

ADVANCED PCBs



$75.8 bilion
CAGR 2020-2024 4.3%

SMART GLASS

$3.8 bilion
CAGR 2020-2025 12.1%

BIOSENSORS

$25.5 bilion
CAGR 2020-2025 7.6%

SECURITY PRINTING

$106.3 bilion
CAGR 2020-2025 12.1%

PHOTOVOLTAIC CELLS

$9.4 bilion
CAGR 2020-2025 3.7%

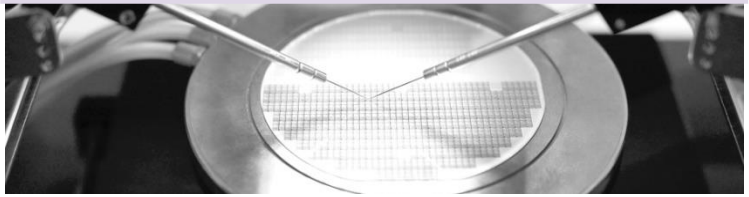
Sources: IDTechEx, MarketsandMarkets™, Yole Développement, Research and Markets

MARKETS WITH HUGE POTENTIAL

DISPLAYS

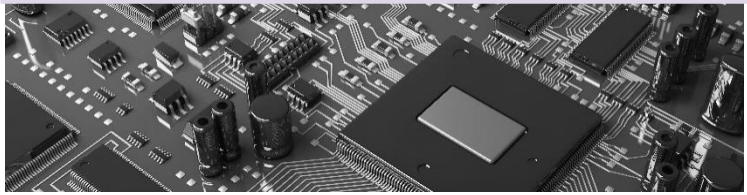
- Very much mature now, the display market continues to see technological innovation, not only that resulting from miniaturization trends, but also in the area of higher efficiency of light emission – thin, very bright and high-contract displays.
- Defects of conductive structures (broken metallic connections) are a frequent and serious challenge for manufacturers from many industries, and one of the reasons for dead pixels occurring in high resolution matrices.
- Electronic components made on the basis of such structures are extremely expensive, which is why repair of those defects is of key importance.
- The repair methods currently available in the market are limited, complicated and costly.

ADVANCED INTEGRATED CIRCUITS



- The currently developed trend in the semiconductor industry is to bring many components into one integrated circuit, e.g. elements such as a microcontroller, memory, sensors, MEMS circuits, antennas, etc., may be put in one closed system rather than exist as discrete components on a PCB. To achieve this, the 2.5D/3D integration methods must be applied.
- So far, the most common solution has been wire bonding – the use of very fine sintered wires for electrodes that are subsequently joined – however, this method does not leave room for further miniaturization.

ADVANCED PCBs

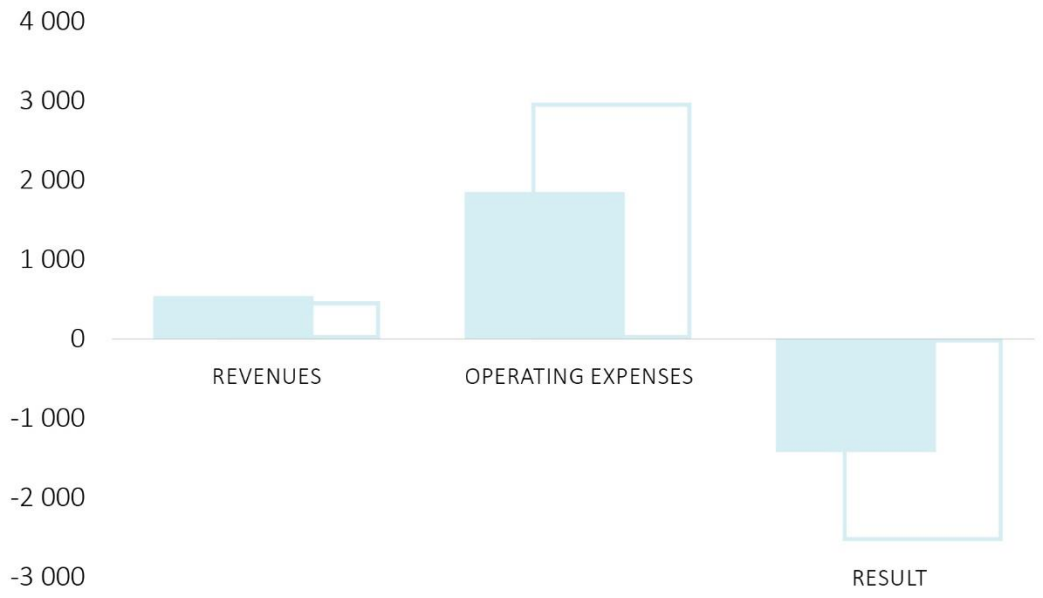


- The miniaturization trend in consumer electronics is also reflected in the design and manufacture of PCBs. To meet these requirements, PCBs increasingly often have a multi-layer structure and may have embedded passive components, such as capacitors or resistors, as well as communication antennas or inductors for wireless power supply.
- As the IoT with wearable devices becomes widespread, PCBs are also made of flexible materials, and are gaining a noticeable market share.

2020 FINANCIAL RESULTS – SUMMARY

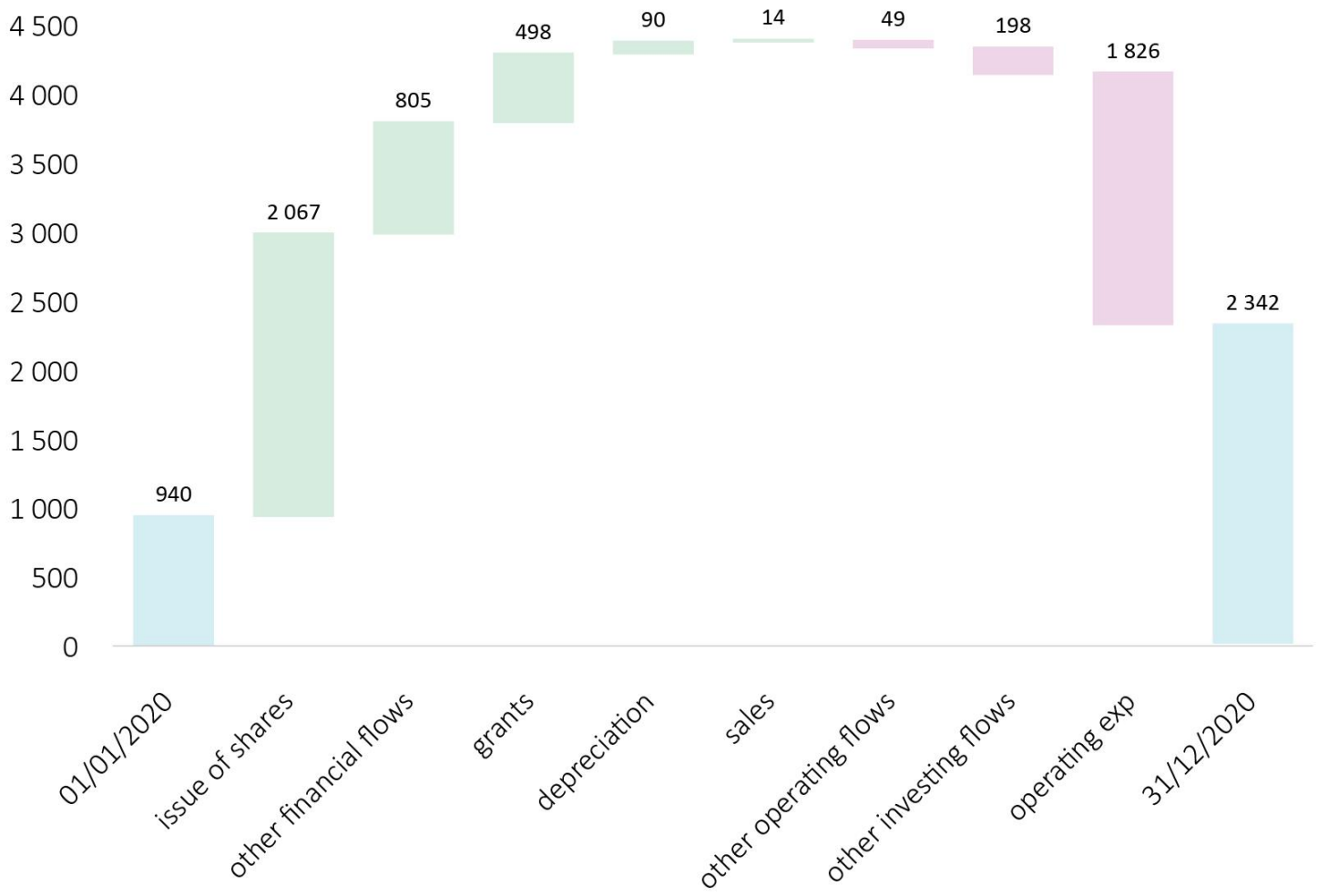
	2020	2019
Revenue from sales	14	0
Grants	498	480
Operating costs	1 826	3 051
Incentive program costs	524	3 028
EBIT	-1 795	-5 600
EBIT adjusted by incentive costs	-1 271	-2 572
CAPEX	-198	-64
CF	1 401	-309
Cash at the end of the reporting period	2 270	924

* figures in EUR thousand



- revenues related to the commencement of commercialization of XTPL products and from NCBR public grants
- significant optimization of operating costs (average monthly operating costs in 2020 in the range of PLN 600-700k vs PLN 900-1000k in 2019)
- obtaining PLN 12.8 million from the issue of shares and bonds

CASH FLOW



* figures in EUR thousand

TECHNOLOGY AND R&D – SUMMARY 2020

- development of high-viscosity Ag CL85 paste with a high metal content.
- development of high-resolution printing technology using highly concentrated conductive ink based on silver nanoparticles.
- repeatable printing of conductive lines less than 2 µm wide, regardless of the substrate on which the process takes place (printing on hydrophobic and hydrophilic materials).
- extension of the replaceable nozzle's life to more than 2 weeks.
- development of a technique for printing features with a width of less than 2 µm on the surface of the actual electronic layer of a high-resolution OLED display.
- demonstrated ability to print precise conductive features that effectively cover a high step in substrate topography, up to 150 µm in height.
- development of a technique for printing microdots for application in microelectronics.
- development of Ag ink formulations dedicated to various printing techniques, notably XTPL Inkjet ink IJ36 technique.

In 2020, XTPL actively participated in numerous international industry events:

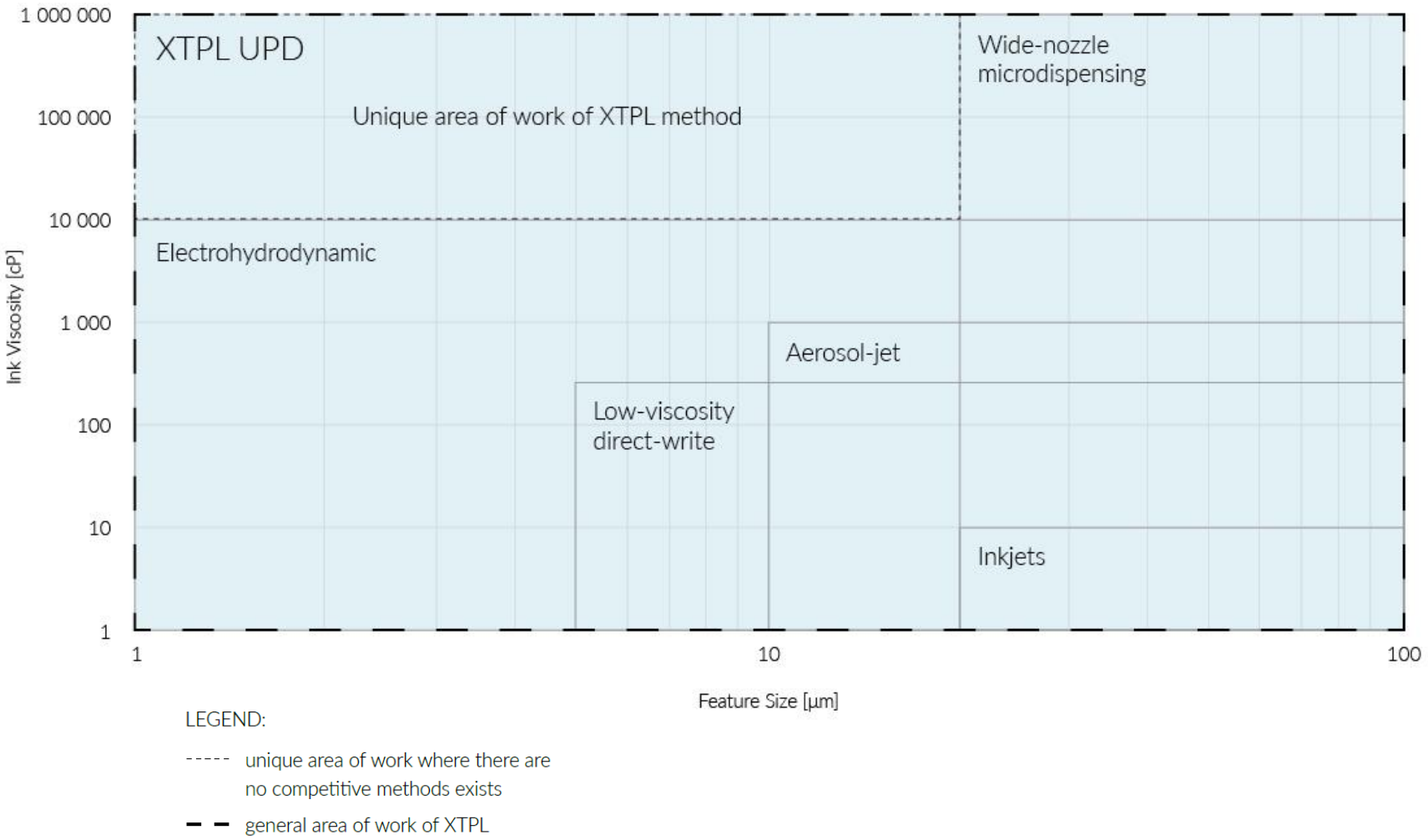
- NANOTEXNOLOGY 2020
- NanoInnovation 2020
- Eureka GlobalStars
- The Metallization & Interconnection Workshop
- International Display Workshops

The events are an excellent opportunity to showcase the unique XTPL technology to leading representatives of industry and science from around the globe.

THE UNIQUENESS OF THE XTPL ULTRA-PRECISE DEPOSITION TECHNOLOGY

The XTPL technology stands out from other methods in terms of both viscosity and structure sizes, which makes it unique on the market

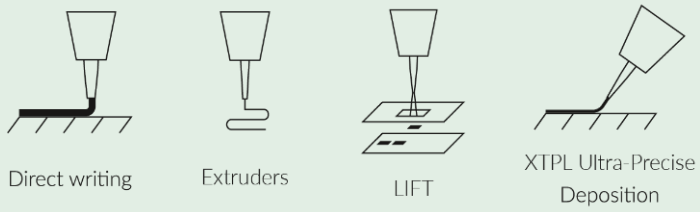
- ability to print high viscous materials along with small feature sizes
- high aspect ratios just after a single pass
- matchless variety of printing different materials
- uninterrupted interconnections on highly complex topographies
- ultra-high-resolution printing on practically any kind of substrate



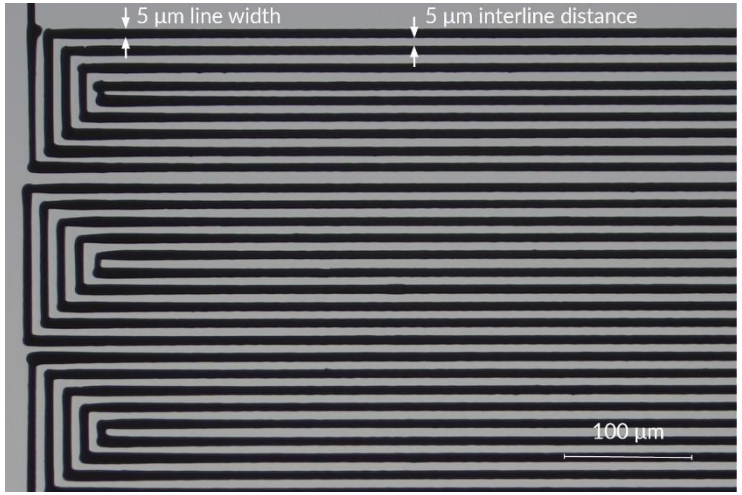
DEVELOPING THE COMPOSITION OF Ag CL85 NANOPASTE

Ag Nanopaste CL85

Conductive silver nanopaste



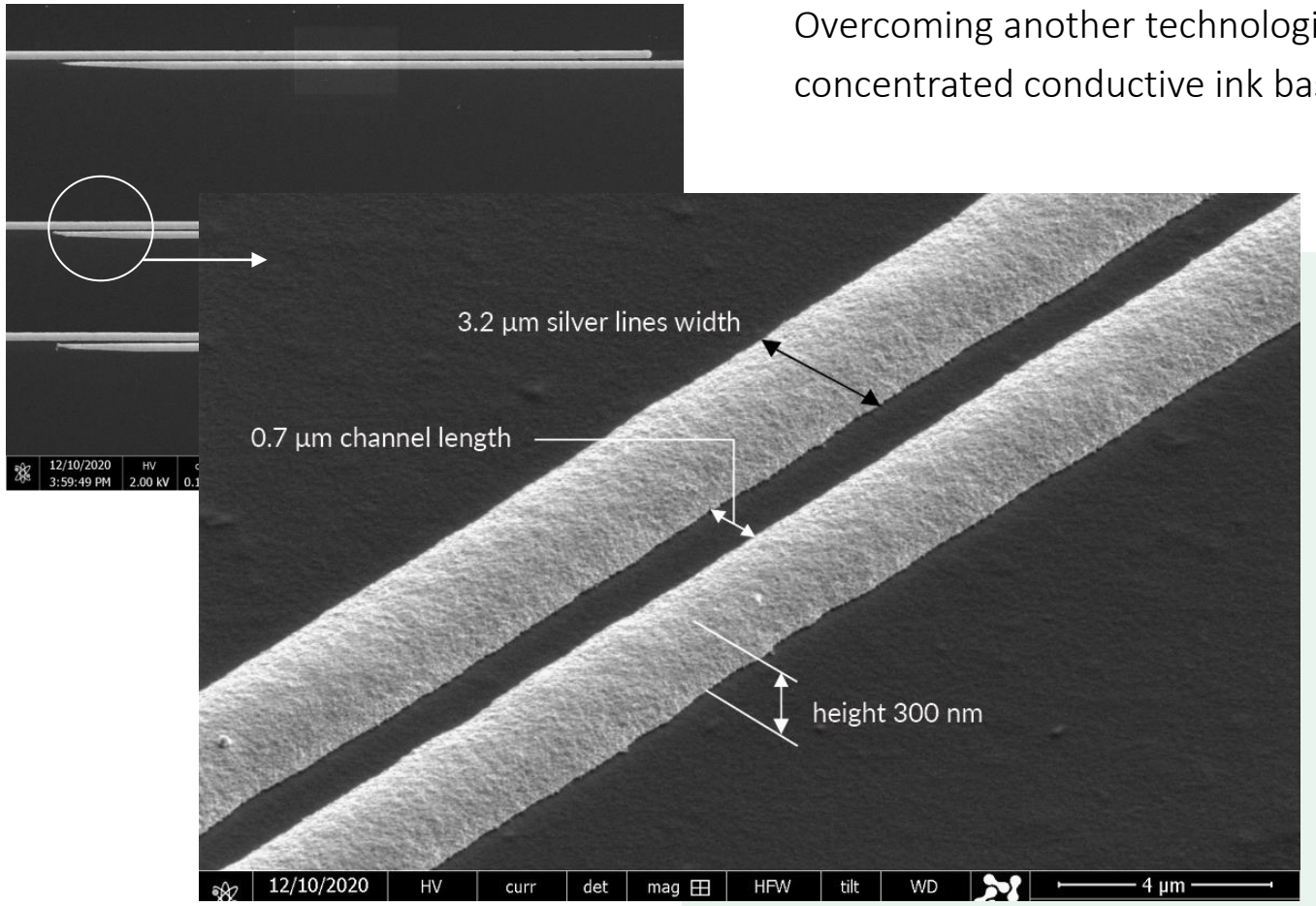
- very high viscosity product, enables the printing of ultrafine features of high aspect ratios
- allows long nozzle lifetime (2.5 µm nozzle opening, even more than 1 month of printing)
- dispensable through capillaries as narrow as 1 µm size



TYPICAL PROPERTIES

Silver content (wt.%)	82 ± 2
Average nanoparticles size [nm] (TEM)	35 – 50
Shape of nanoparticles	Spherical
Electrical resistivity [Ω.m]	$4.20 \cdot 10^{-8}$
Viscosity (25°C, shear rate = 0.2 s^{-1}) [cP]	> 100 000
Solvent(s)	Glycol(s)

DEVELOPMENT OF HIGH RESOLUTION PRINTING TECHNOLOGY

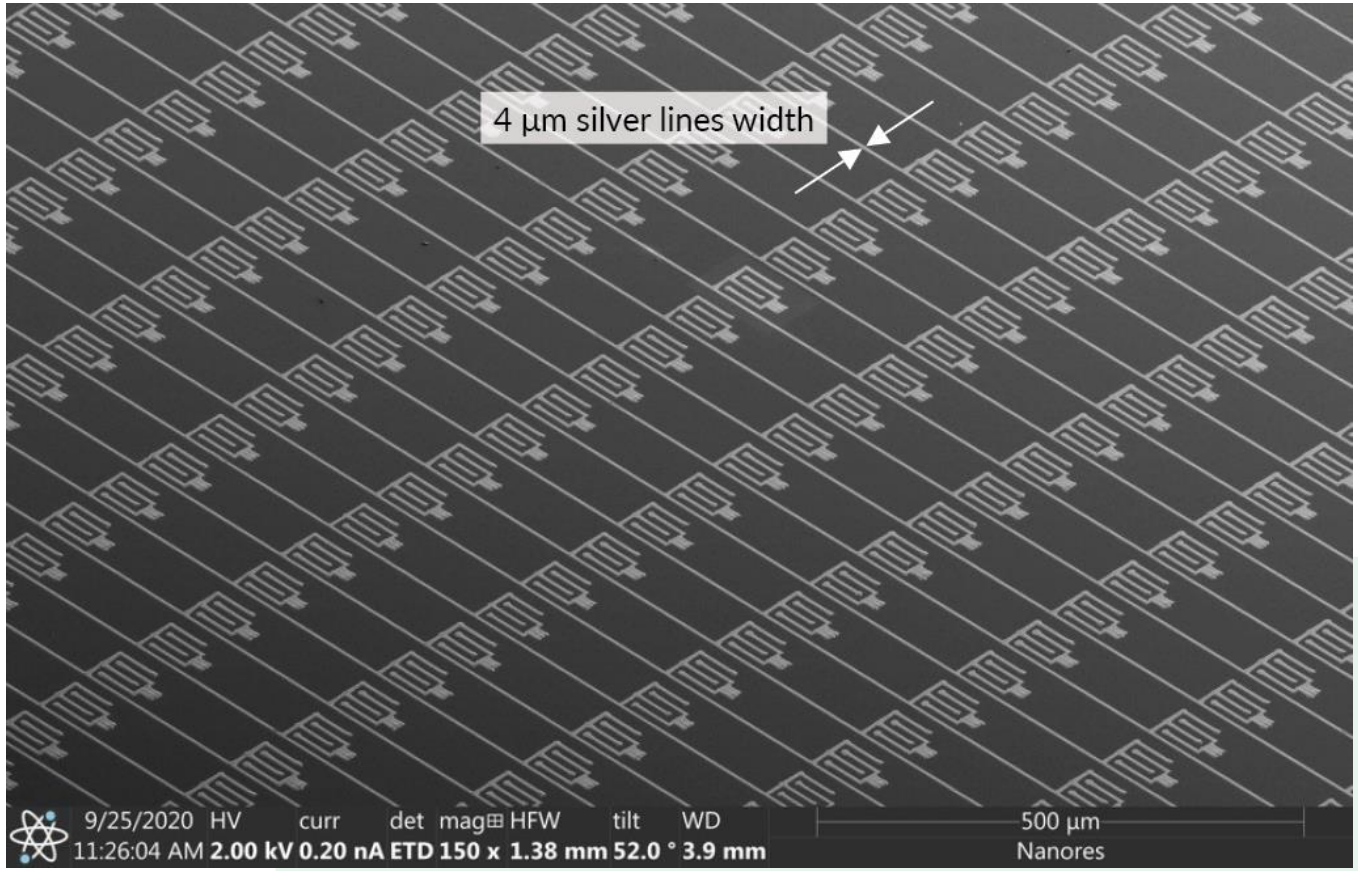


Overcoming another technological barrier by developing a printing process using highly concentrated conductive ink based on silver nanoparticles

XTPL solution

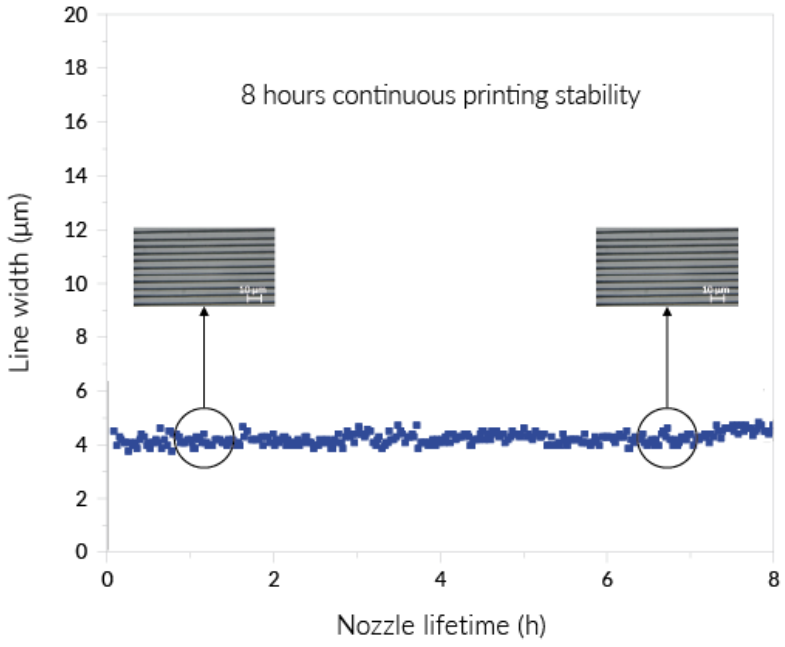
- The printed lines have a very high aspect ratio, i.e. the height-to-width ratio after the printing head has deposited a single layer of ink, i.e. after a single “pass”.
- In order to obtain a similar result by competitive methods it would be necessary to deposit conductive material multiple times at the same point with multiple “passes”, thus extending process duration.

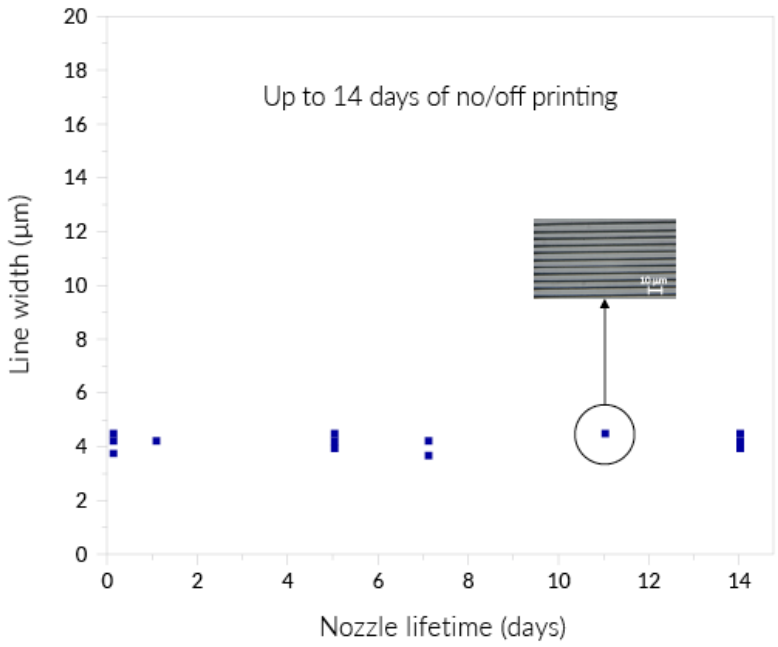
REPEATABLE PRINTING OF FEATURES



- With concentrated ink it is possible to print on non-planar substrates with a complex topography – the continuity of the structure is maintained even if it is printed on a “step”, for example
- The role of the material on which printing takes place is negligible – whether hydrophobic or hydrophilic material is used for printing, the width and height remain almost unchanged, and so does adhesion.

EXTEND THE LIFETIME OF A REPLACEABLE NOZZLE TO MORE THAN 2 WEEKS



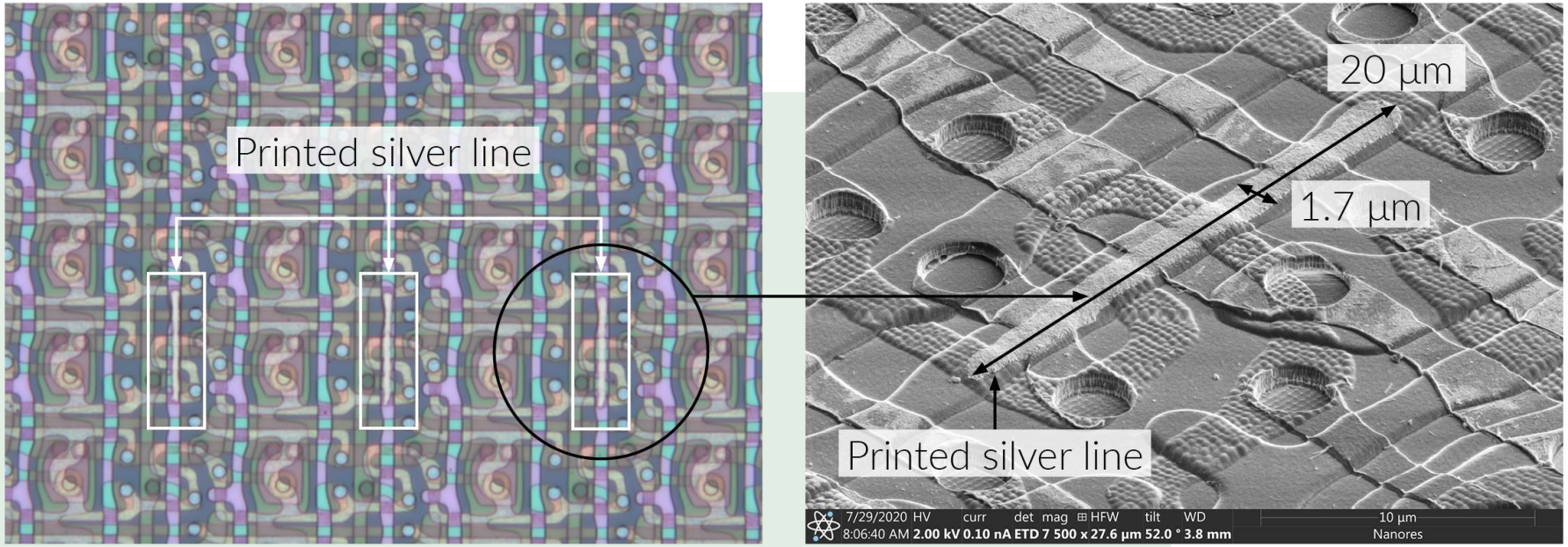


SUPERIOR PRINTING STABILITY

The users of XTPL Printing System benefit from a demonstrated best-in-class printing stability: sustained 1 day of continuous printing, and up to 14 days of on and off printing with XTPL CL85 conductive silver nanopaste.

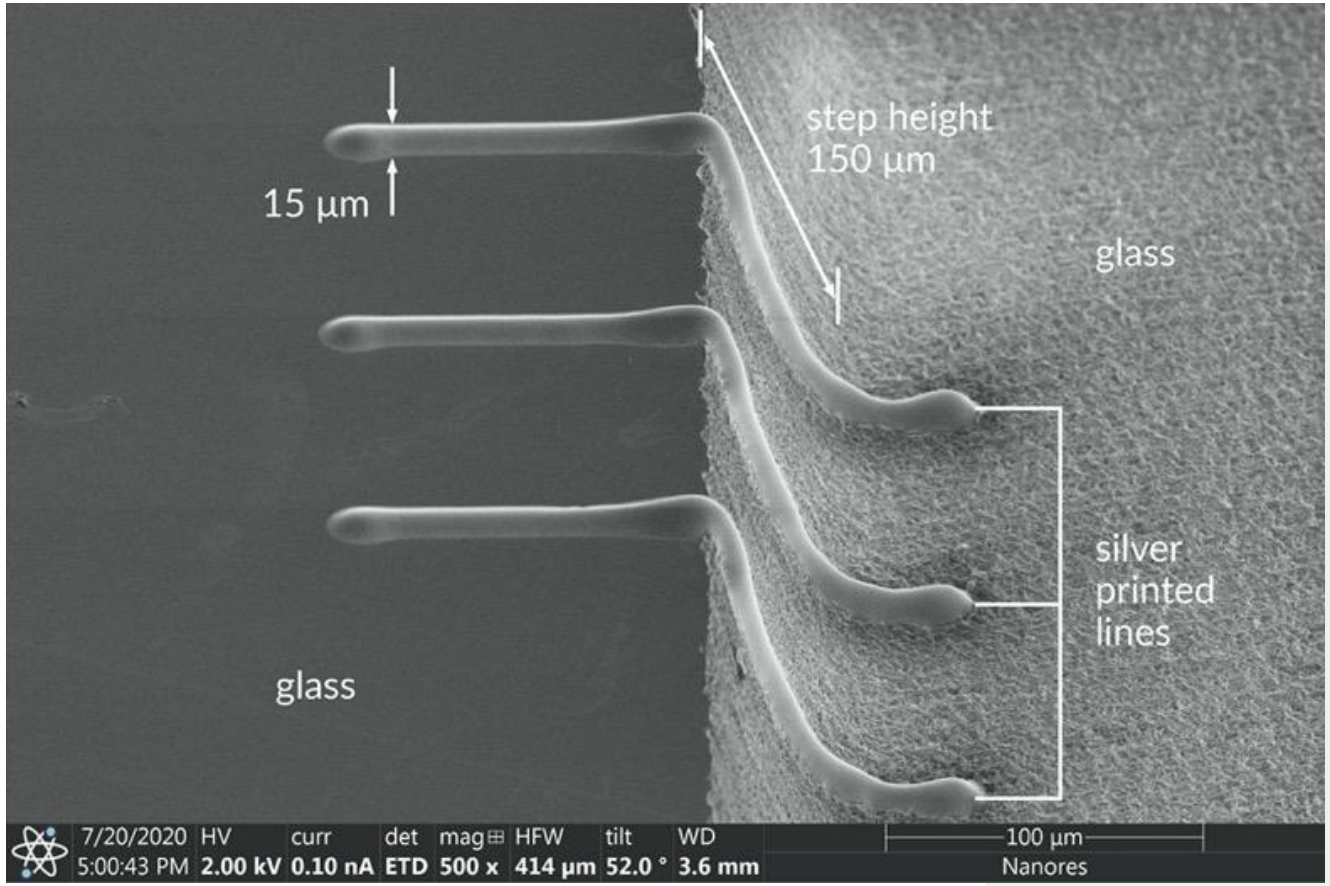
DEVELOPING A TECHNIQUE FOR PRINTING FEATURES WITH A WIDTH OF LESS THAN 2 µm

Printing structures with a **width of less than 2 µm** on the surface of the actual electronic layer of a high-resolution OLED display. Reaching another milestone thanks to the continued cooperation of XTPL with display sector players. The result has been recognized by industry representatives as highly competitive in the ODR application.



Repeatable and continuous silver lines with a **width of 1.7 µm, length of 20 µm** printed on OLED substrate.

STEP COVERAGE

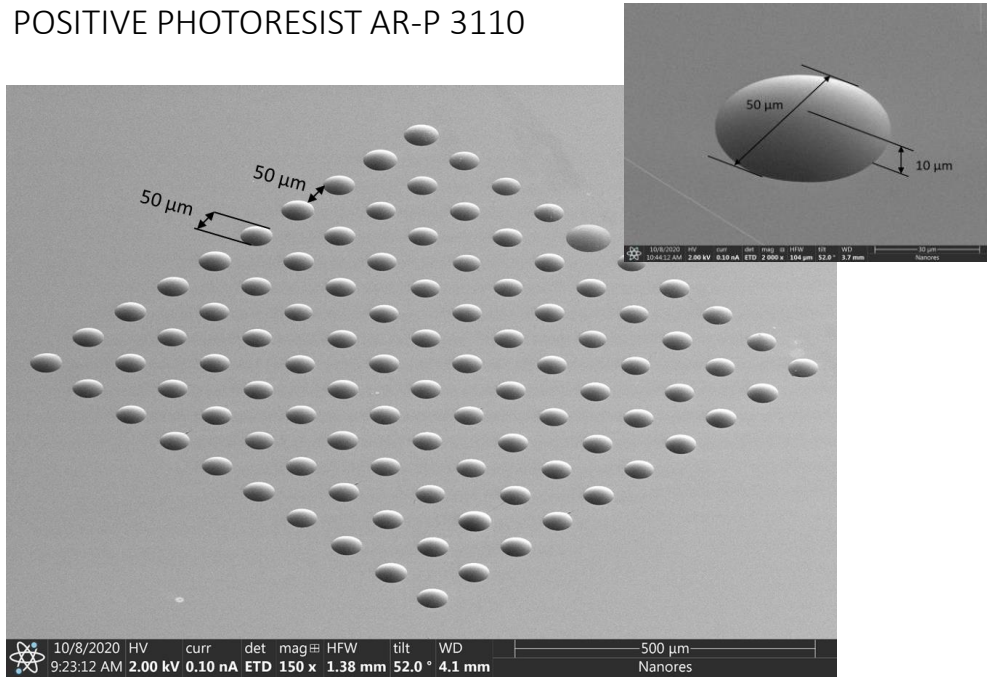


Covering a high step: repeatable and continuous
15 µm-wide silver lines printed on **150 µm-high** step

- A technological breakthrough achieved by XTPL – the ability to cover complex substrate topographies (even up to 150 µm in height) with a single, continuous 15 µm-wide silver conductive line
- Opening further application areas related to advanced electronic circuits/ integrated circuits: flexible hybrid microelectronics, microLED displays, advanced systems of integrated circuits packages, and 3D printed microelectrics
- This capability opens up new talks with potential clients.

DEVELOPING THE TECHNIQUE OF PRINTING MICRODOTS

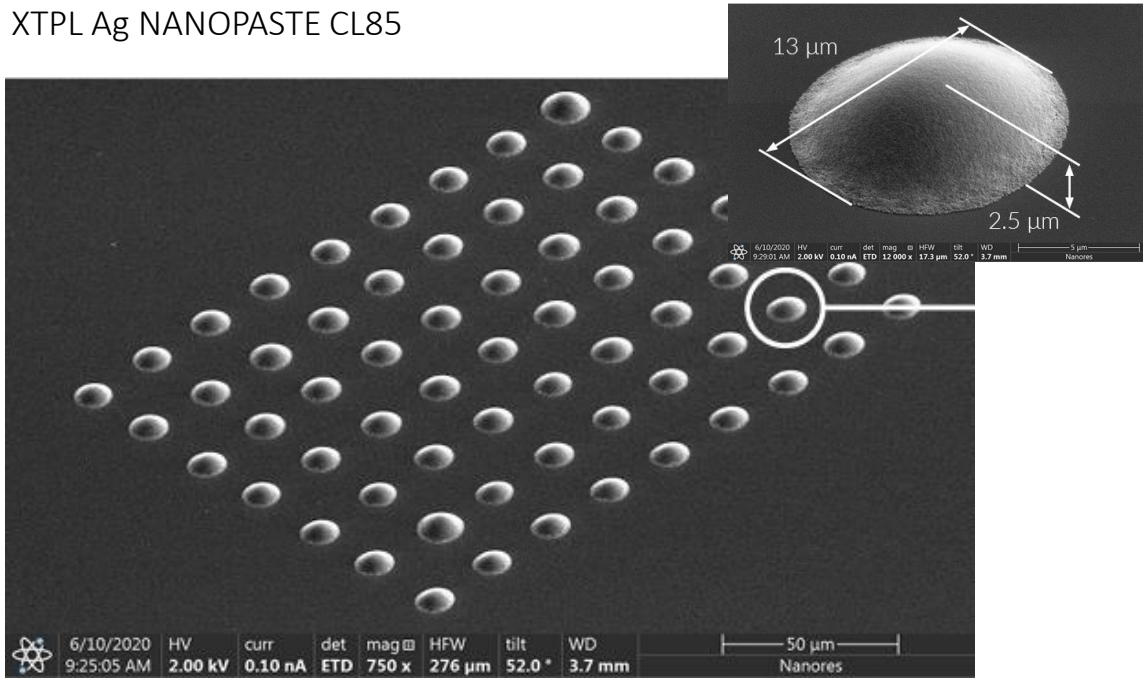
POSITIVE PHOTORESIST AR-P 3110



PARAMETERS

Solid content	28%
Viscosity	12 cP

XTPL Ag NANOPASTE CL85



PARAMETERS

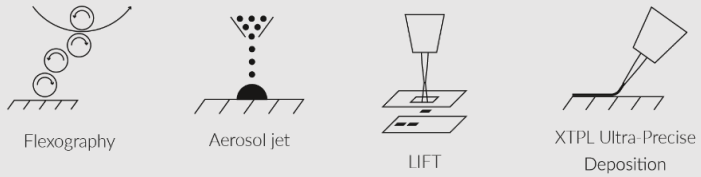
Solid content	85%
Viscosity	1 000 000 cP

DEVELOPMENT OF THE FORMULATION OF THE SILVER INKS

Ag Nanoink CL34

Conductive Silver Ink

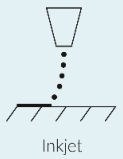
Suited for applications where **low viscosity** inks are searched or necessary



Ag Nanoink IJ36

Conductive Silver Ink

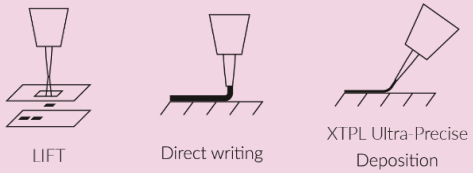
Non-clogging inkjet ink of superior stability



Ag Nanoink CL60

Conductive Silver Ink

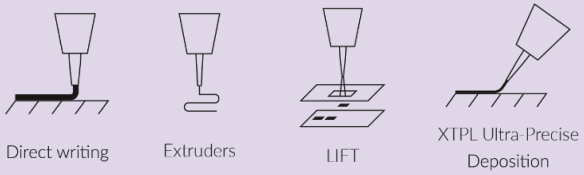
High viscosity product, enabling the printing of **fine features with higher aspect ratios**



Ag Nanopaste CL85

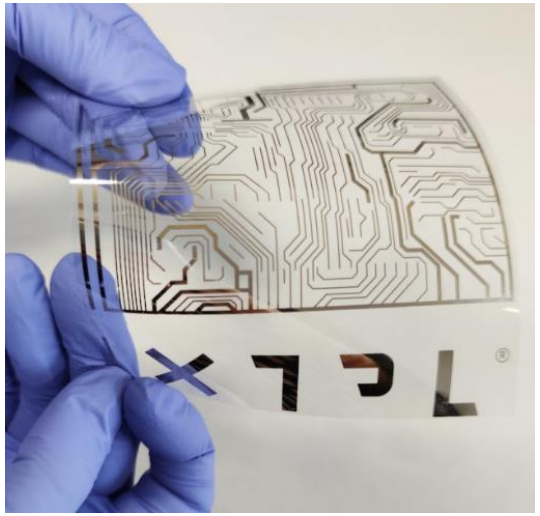
Conductive Silver Nanopaste

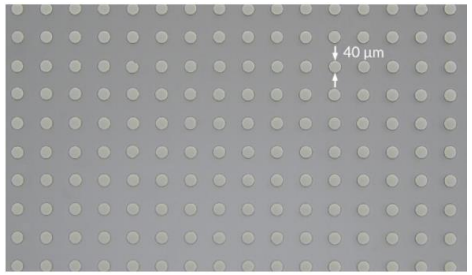
Ultra-high viscosity product, enabling the printing of ultrafine features of high aspect ratios

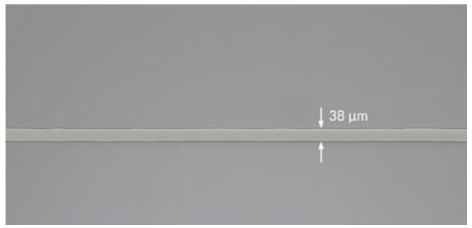


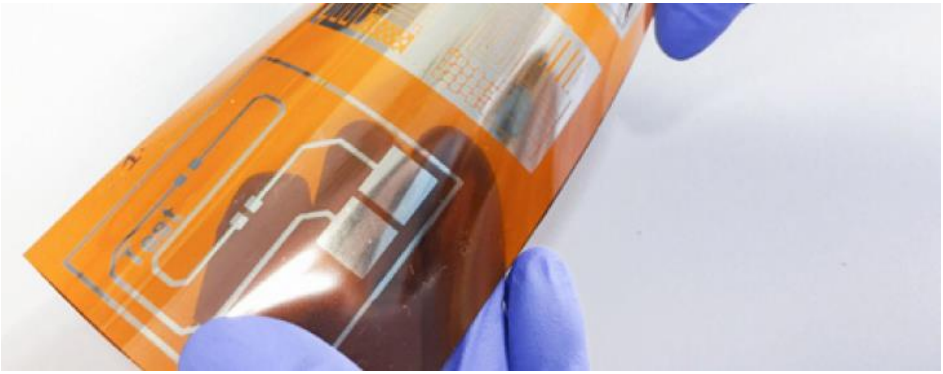
XTPL INKJET INK IJ36

- superior printing stability - over 1 month of continuous work with repeatable results
- reduced clogging of the nozzles - even with the smallest 1 pL cartridges available for Dimatix DMP-2850 Printer
- high electrical conductivity - over 40% of bulk Ag conductivity
- compatibility with various substrates - on e.g. Kapton 500HN, PET, PEN, PEI, Glass substrates





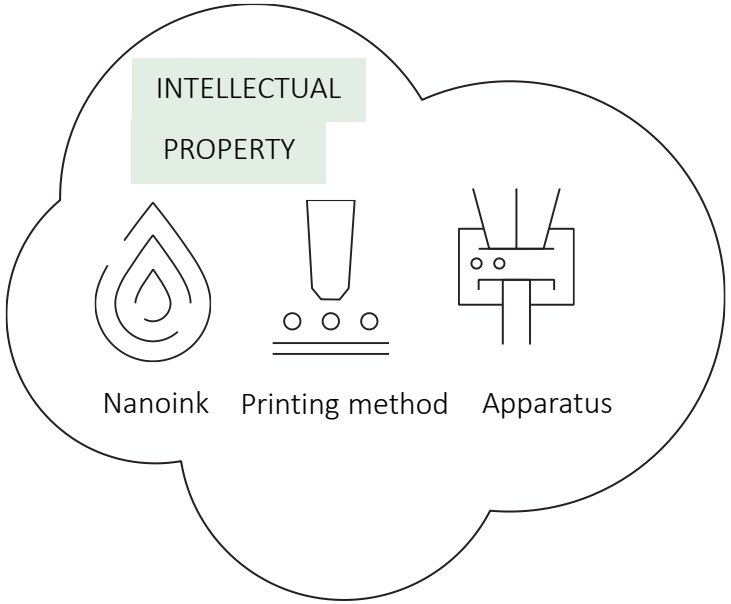




Silver content (wt. %)	32 ± 2
Density [g/cm³]	1.2 - 1.4
Average nanoparticles size [nm] (TEM)	35 – 50
Shape of nanoparticles	Spherical
Electrical resistivity [Ω.m]	$3.95 \cdot 10^{-8}$
Viscosity (25°C, shear rate = 0.2 s^{-1}) [cP]	26 – 30
Surface tension [mN/m] (25°C)	30
Solvent(s)	Glycol ether

INTELLECTUAL PROPERTY PROTECTION – SUMMARY 2020

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



PATENT GROUPS OF SUBMITTED APPLICATIONS

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

DEP technology – patents describing the deposition technology based on dielectrophoresis. Technology originally developed by XTPL.

1
patent granted

10
patent applications filed in 2020

21
patent applications filed in total

§

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

ISSUE OF SHARES AND BONDS

Supporting the goal of widespread use of XTPL technology in industry

In 2020, XTPL's total proceeds from the issue of shares and bonds were **PLN 12.85 million.** The issue proceeds will be used for R&D, continued commercialization, and extension of the intellectual property portfolio.

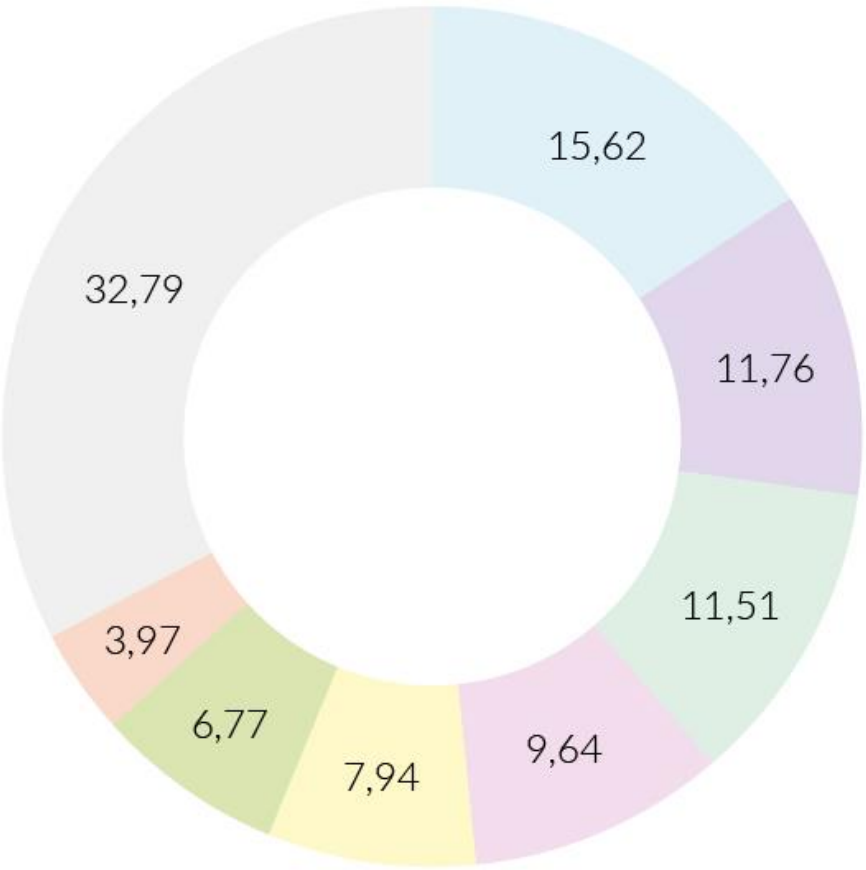
Issue of series T shares – June 2020

- PLN 9.25 million raised as a result of the issue of shares
- Subscription ended: 23 June 2020
- **The** series T shares were admitted and introduced to trading on the regulated market operated by the WSE on 28 August 2020.
- Participation of Polish and foreign investors: ACATIS, Deutsche Balaton, Rockbridge TFI, and the CEO of XTPL Filip Granek

Issue of bonds convertible to series U shares – July 2020

- Acquisition of bonds in the maximum possible pool of PLN 3.60 million
- 2-year bonds, issue price of PLN 74, fixed interest rate at 2% p.a.
- Redemption date: 30 July 2022
- The convertible bonds will not be introduced to organized trading

XTPL SHAREHOLDING STRUCTURE

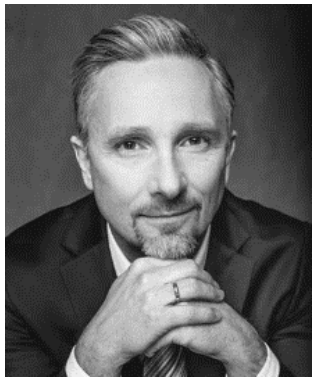


- Filip Granek
- Deutsche Balaton Group (Deutsche Balaton AG and Heidelberger Beteiligungsholding AG)
- Sebastian Młodziński
- ACATIS Investment Kapitalverwaltungsgesellschaft GmbH on behalf of ACATIS Datini Valueflex Fonds
- Leonarto VC spółka z ograniczoną odpowiedzialnością sp.k. (formerly Leonarto sp. z o.o.)
- Investment funds managed by Rockbridge TFI S.A.
- TPL Sp. z o.o. - operator of the incentive program XTPL S.A. based on shares
- Others

* The sole shareholder of TPL Sp. z o.o., which holds 100% of shares, is XTPL S.A.

NEW MEMBER OF THE MANAGEMENT BOARD

Modern business approach thanks to professional managerial staff



JACEK OLSZAŃSKI

MANAGEMENT BOARD MEMBER

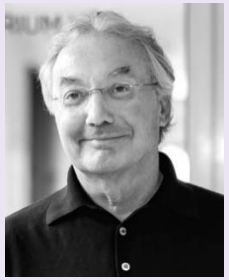
Jacek Olszański has 20 years' hands-on experience in finance and controlling gained in corporate groups. Previously worked for KGHM Polska Miedź S.A. and Selena Group, where he held a number of managerial functions. He run his own business in the market of controlling services outsourcing. Supervisory Board and Audit Committee member at companies from various sectors, including companies listed on the Warsaw Stock Exchange. Jacek Olszański joined XTPL S.A. in October 2018, and so far has served as the financial manager.

OTHER MEMBERS OF THE XTPL BOARD IN POLAND AND USA

FILIP GRANEK

PRESIDENT OF THE MANAGEMENT BOARD, CEO

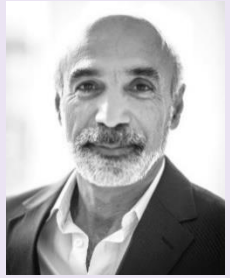
Co-creator of XTPL technology and co-founder of the XTPL Company. An expert in nanotechnology, printed electronics, solar cells and modern technological processes



HAROLD HUGHES

BOARD MEMBER OF XTPL INC.

Former CFO of Intel and CEO of Rambus Inc. He has been developing high-tech projects in Silicon Valley for the past 40 years



AMIR NAYYERHABIBI

BOARD MEMBER OF XTPL INC.

A partner with Benhamou Global Ventures, a VC fund from Silicon Valley which invests in dozens of companies from the digital economy sector

HIROSHI MENJO

BOARD MEMBER OF XTPL INC.

Co-founder of NSV Wolf Capital, a strategic fund from Silicon Valley. An expert in implementing Japanese entry strategies and forging strategic alliances with Japanese companies

NEW MEMBERS OF THE SUPERVISORY BOARD

Support of experts with diversified experience

ANDRZEJ DOMAŃSKI

DEPUTY CHAIRMAN OF THE SUPERVISORY BOARD

Economist, financial market analyst with extensive experience in managing stock exchange funds. He hold a CFA title. For many years he performed managerial functions

BEATA TURLEJSKA-ZDUŃCZYK

SUPERVISORY BOARD MEMBER

Managing Partner in the Leonarto Fund. She is responsible for managing the Fund's investment portfolio. She holds a master's degree in economics in finance, and is an expert in human resources management and marketing

HERBERT WIRTH

SUPERVISORY BOARD MEMBER

Former President of the Management Board of KGHM Polska Miedź S.A. Professor Herbert Wirth has knowledge of the materials technology industry and the business management industry.

OTHER MEMBERS OF THE XTPL SUPERVISORY BOARD

WIESŁAW ROZŁUCKI

CHAIRMAN OF THE SUPERVISORY BOARD

DR BARTOSZ WOJCIECHOWSKI

DEPUTY CHAIRMAN OF THE SUPERVISORY BOARD

PIOTR LEMBAS

SUPERVISORY BOARD MEMBER

DUAL LISTING – DEBUT ON THE FRANKFURT STOCK EXCHANGE

The listing of XTPL shares on the Frankfurt Stock Exchange increases the recognition and credibility of XTPL among business partners and global financial institutions

- since 10 March 2020, XTPL S.A. has been listed on the Open Market of Deutsche Börse in Frankfurt, in the “Quotation Board” segment; XTPL shares are also listed in Munich and Stuttgart
- XTPL shares are traded on a dual-listing basis, with the Warsaw Stock Exchange remaining the Company's main trading floor.
- dual listing may support international investors in acquiring XTPL shares, where e.g. valuation in EUR or characteristics of trading systems play a role
- the admission to trading was a result of the initiative undertaken by Baader Bank AG, the German investment bank that is a pricing intermediary (“Spezialist”) responsible for the process of trading shares of selected companies on the German stock exchange.
- this operation did not generate any costs for XTPL as the Company was not the initiating party

ANALYTICAL COVER BY MAINFIRST

- in 2020, MainFirst Bank AG, a member of the Stifel Group, started issuing recommendations for XTPL
- XTPL is the first Polish company covered by MainFirst
- the institution issued the following recommendations for the XTPL stock during 2020:

  24.02.2020, BUY", at 215 PLN

  24.04.2020, "BUY", at 210 PLN

  29.09.2020, „BUY", at 210 PLN
- among other things, MainFirst notes cost optimization, no impact of COVID-19 on projects, first commercialization and sale of XTPL products
- MainFirst is a European financial services firm, specializing in Equity Brokerage, Investment Banking and Fixed Income which is following about 400 predominantly European stocks.

INTERNATIONAL DISPLAY WORKSHOP (IDW’20) AWARD

- on December 2020 XTPL took part in the IDW’20 conference
- the Company was represented by Aneta Wiatrowska, PhD, XTPL Technology Director
- international Display Workshops is one of the most important events in the world devoted to the design and production of new generation displays
- XTPL’s article “Ultra-Precise Deposition Technology for High-Resolution Flat Panel Display” was selected as one of the most outstanding papers at the event, and won the IDW'20 award

COVID-19 – IMPACT ON XTPL

MARKET IMPACT

- XTPL activities and target markets are not among the ones which are heavily affected by COVID-19
- consumer electronics manufacture and sales have not been significantly impacted by the pandemic. However, the distribution channels will be more dynamically transitioning towards online sales
- COVID-19 does not impact the manufacturing trends related to miniaturization, more efficient use of materials, and desire to deliver more advanced functionalities to the customers
- we are in close contact with our partners and we are monitoring the situation on a continuous basis

IMPACT ON INTERNAL ACTIVITIES

- the Company is well prepared internally for remote work. Technological activities are executed continuously in our labs under appropriate safety restrictions
- XTPL is expanding the network of contacts with distributors on local markets
- the business collaboration with external partners is continued, with frequent e-mail contact, conference calls and experimental evaluation being executed
- however, the collaboration with US-based partners is impacted due to their restrictions related to laboratory work in some of the states. Therefore, some delays in those projects can be expected
- production and delivery of inks and samples which are part of the evaluation programmes were not impacted

WHY XTPL? – SUMMARY

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.

ORGANIZATION

- global operations
- a modern business approach thanks to an interdisciplinary team with extensive expertise and experience – over 30 people in Poland and the USA
- support and trust of significant investors, with XTPL executives in the shareholding structure

STRATEGY

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

MARKET

- reaching many fast-growing organic and flexible printed electronics sectors – a 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
- The existing printing methods do not address the resolution problem, they are complicated, and require a multi-stage resolution process

TECHNOLOGY

- 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, with resolution of 1 µm.
- platform character – with application in many existing sectors of printed electronics
- IP regularly secured by expanding the patent cloud –21 applications filed

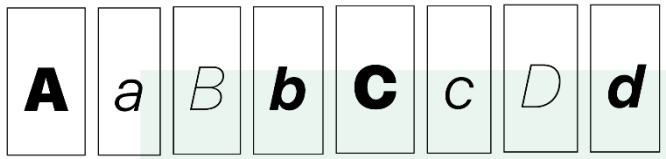
COMMERCIALIZATION

- a consistent commercialization strategy and the start of sales of finished products as well as 9 technology evaluations for industrial implementations with global players
- revolution – enabling production of complex and complicated devices using efficient, cost-effective and scalable printing methods.

FUNDING

- secured liquidity thanks to the issue of shares and bonds, and the funding from National Center for Research and Development (NCBR) – ability to obtain grants
- support for CF generation and revenue diversification by starting product commercialization

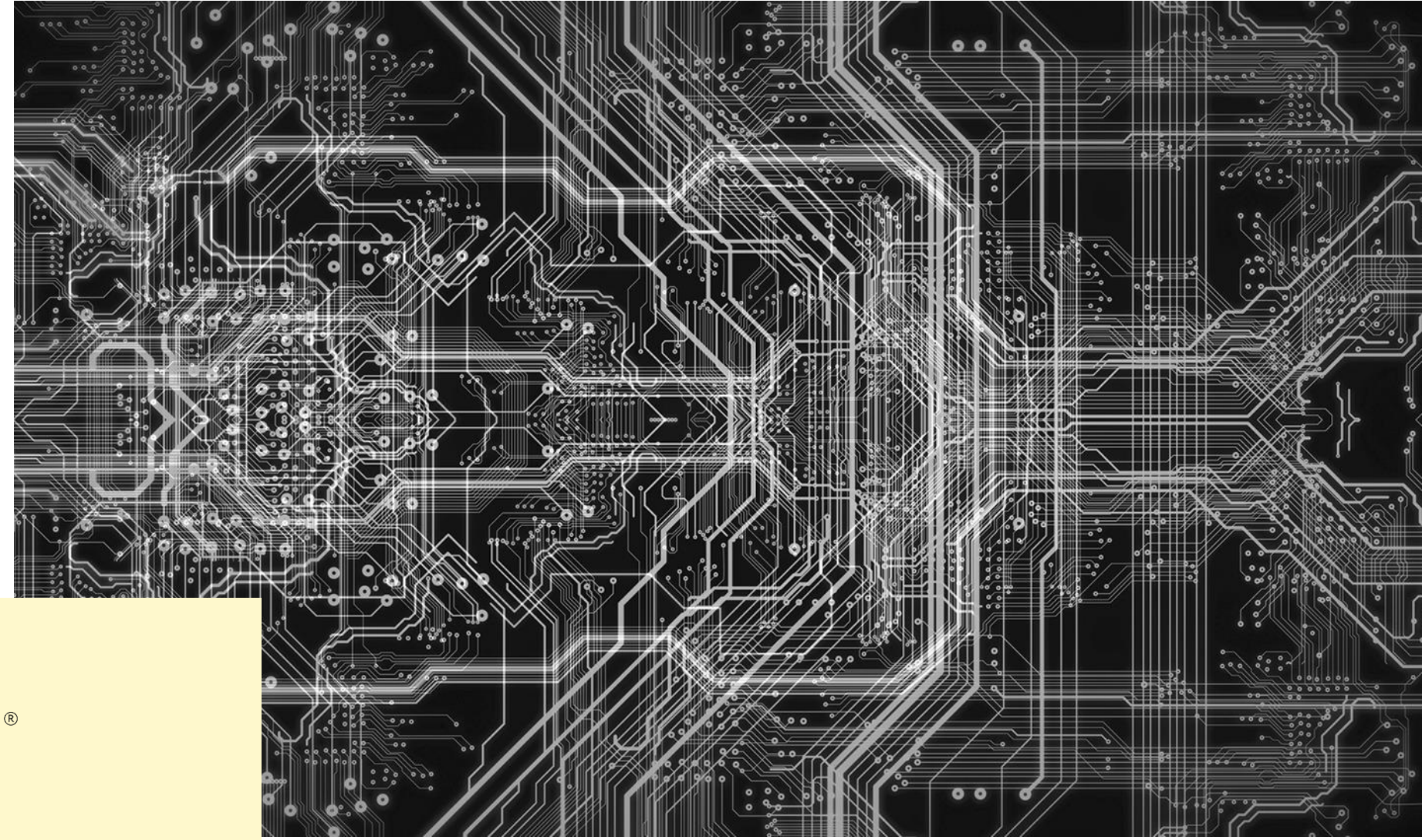
VISION



In the near future, we will print displays, solar cells, biosensors and other advanced elements just as cheaply and quickly as we print newspapers or books today.

This is not just a vision any more.

With XTPL nanoprinting technology, this is a fast approaching reality!



CONTACT FOR INVESTORS:
investors@xtpl.com

XTPL®

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54-066 Wrocław, Poland
xtpl.com

THANK YOU

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