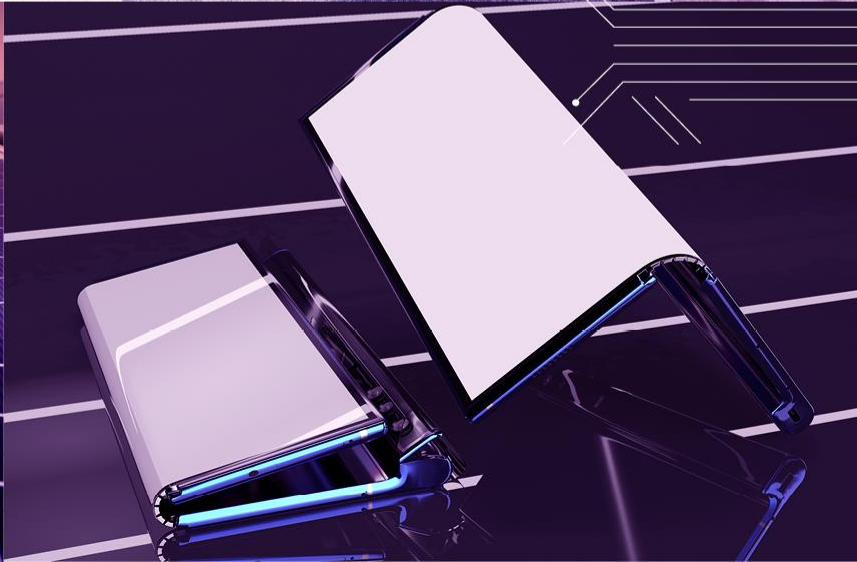


shaping global nanofuture

INVESTOR'S PRESENTATION FOR Q3 2020

XTPL S.A.
November 26, 2020



1. EQUITY STORY	2. APPLICATIONS	3. TECHNOLOGY	4. COMMERCIALIZATION
5. EVENTS	6. FINANCE	7. TEAM	8. VISION

EQUITY STORY



XTPL develops the most precise printing technology in the world applicable in the rapidly growing printed electronics market.

Value of printed electronics market in 2019

\$ 37,1 mld

Number of application fields in which the company is currently commercializing its technology

5

\$ 74 mld

Global value of printed, flexible and organic electronics market in 2030

ADVANCED ELECTRONICS

- The global value of printed, flexible and organic electronics market amounted to \$ 37.1 billion in 2019
- Its estimated value in 2030 is \$74 billion
- CAGR 2019–2030 – 6.5%

STRONG MEGATREND

Production of technologically advanced devices using cost-effective and scalable methods.

XTPL has developed a **technology** that **enables that advance**.

SMART GLASS



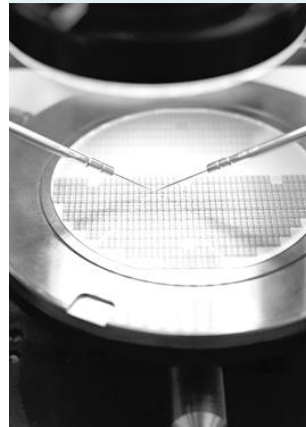
\$1.45 billion
CAGR 2019-2026 16.3%

DISPLAYS



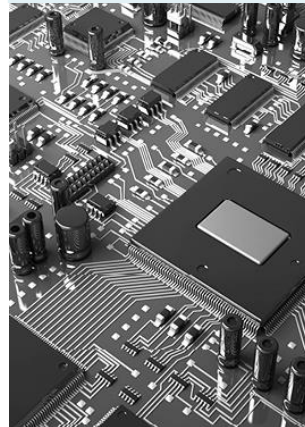
\$28.7 billion
CAGR 2019-2023 12.6%

SEMICONDUCTORS



\$469 billion
CAGR 2019-2024 4.1%

ADVANCED PCBs



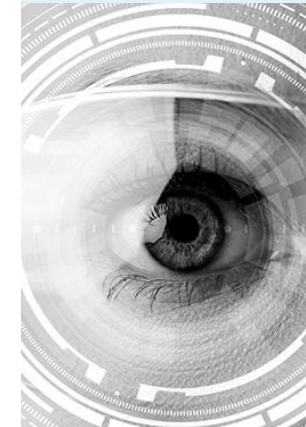
\$55.4 billion
CAGR 2019-2024 4.49%

SECURITY PRINTING



\$51.8 billion
CAGR 2019-2024 12.5%

BIOSENSORS



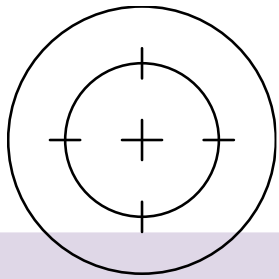
\$3.9 billion
CAGR 2019-2029 0.98%

PHOTOVOLTAIC CELLS

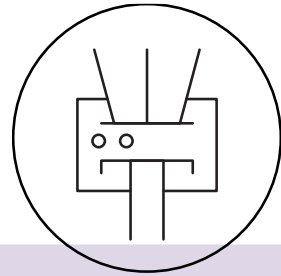


\$19.4 billion
CAGR 2019-2023 19.4%

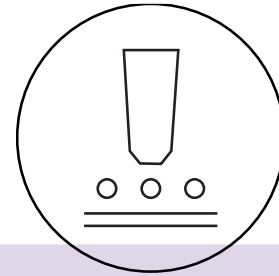
XTPL's nanoprinting method is ground-breaking. This is because of a unique combination of several features:



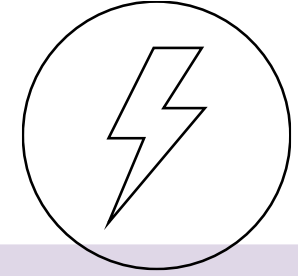
it offers the level of **precision** that **cannot be achieved** by any other printing method in the world



it allows for the traditional advantages of print – such as **scalability, cost effectiveness, simplicity and speed** – to be used in production of advanced electronics



additive method
it ensures significant time and material savings



it **does not require electric field**, which fully **eliminates the risk of damage** caused by such field to any electrically active components

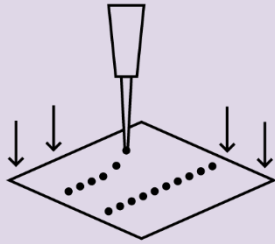
APPLICATION

TIME AND COSTS

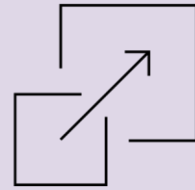
ENVIRONMENT

SUBSTRATE

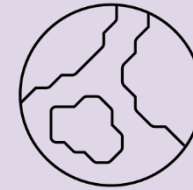
XTPL[®]
ADDITIVE



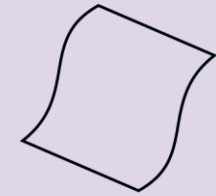
Precise application/ simple process



Effective and flexible

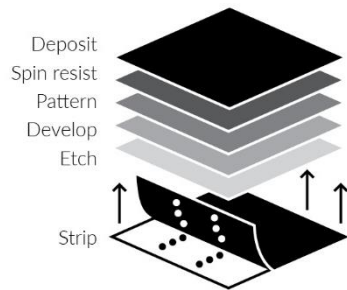


Safe for the environment

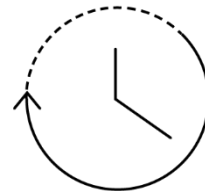


Most substrates/ even curved ones

SUBTRACTIVE



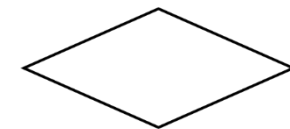
Removal of unnecessary material to obtain a pattern/ multi-stage process



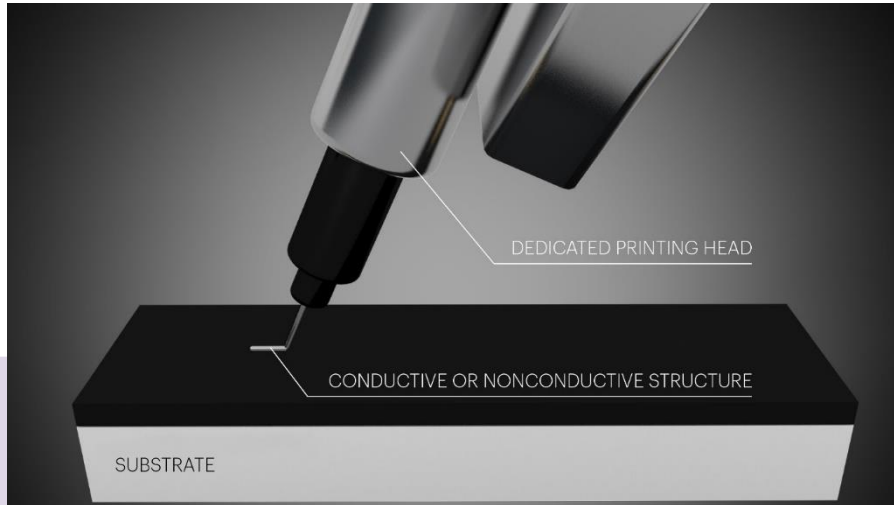
Time and material consuming



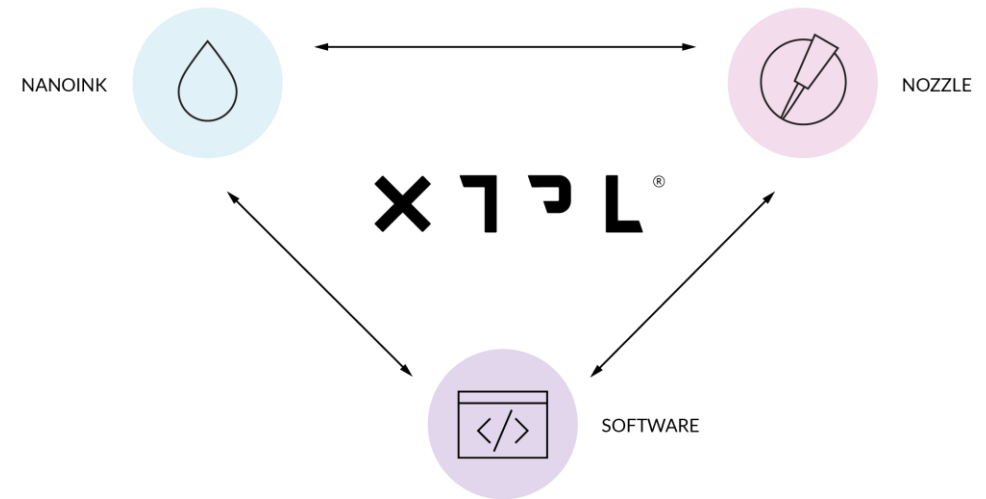
Requires highly corrosive solutions



Only flat substrates

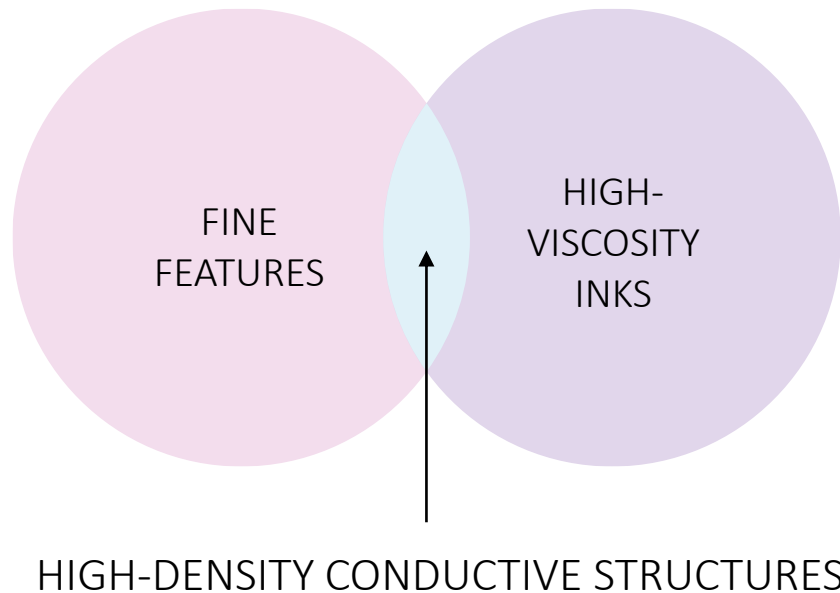


- Pressure based direct writing
- Dedicated high-viscosity inks
- Flexible glass nozzle
- Purely additive
- No electric field required



In-house parallel development of

- Nano-ink synthesis
- Nozzle preparation
- Process optimisation



Subtractive methods suffer from:

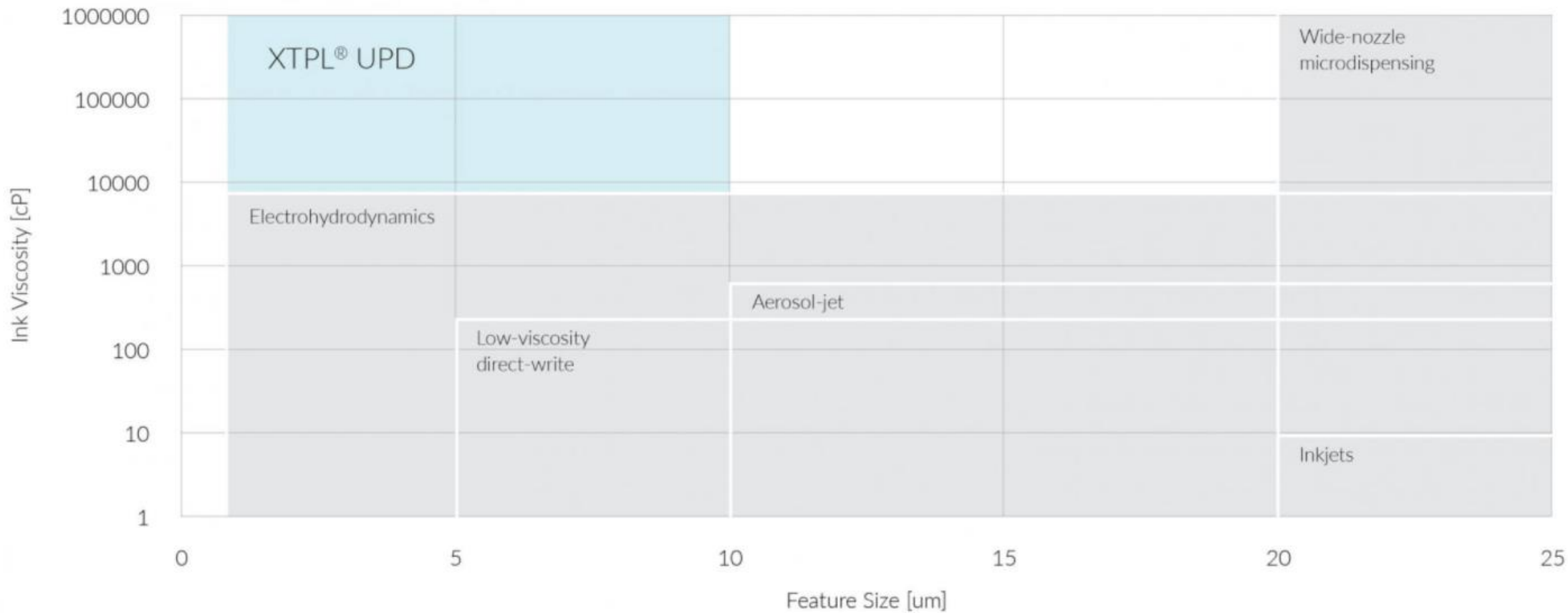
- limited flexibility
- high complexity
- time consuming and costly

Existing additive methods suffer from:

- low resolution (tens of μm)
- fine features require application of electric field
- low viscosity inks \rightarrow low conductivity
- low aspect ratio

The need for fabrication of **high-density hybrid microelectronics**:

- existing technologies do not provide the required fine feature sizes
- requires precise deposition of high-viscosity conductive inks

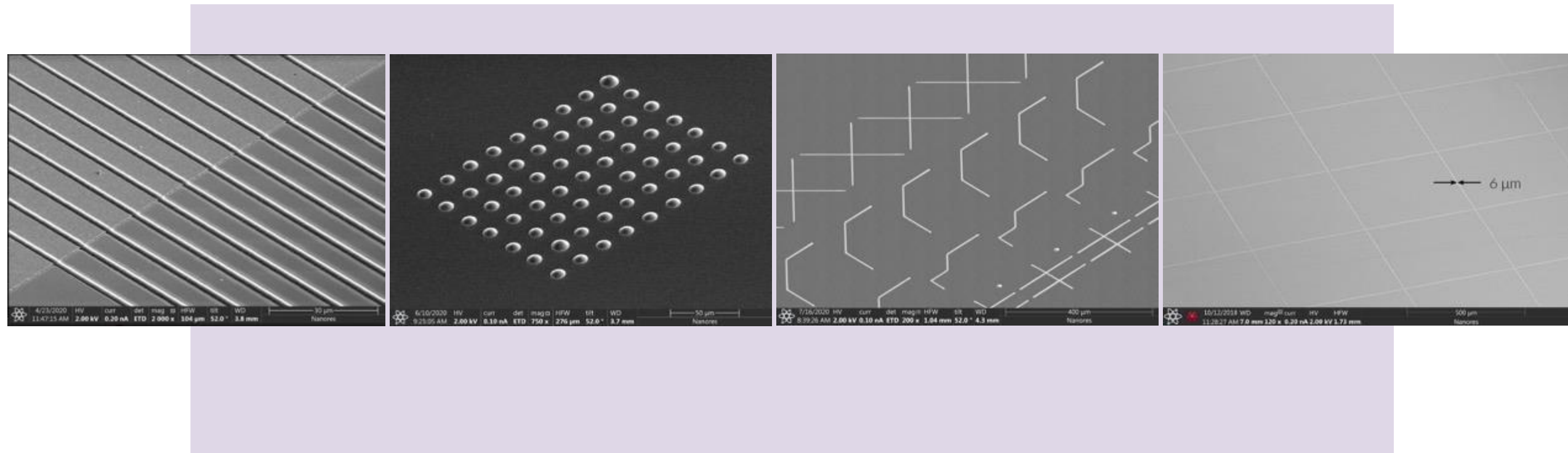


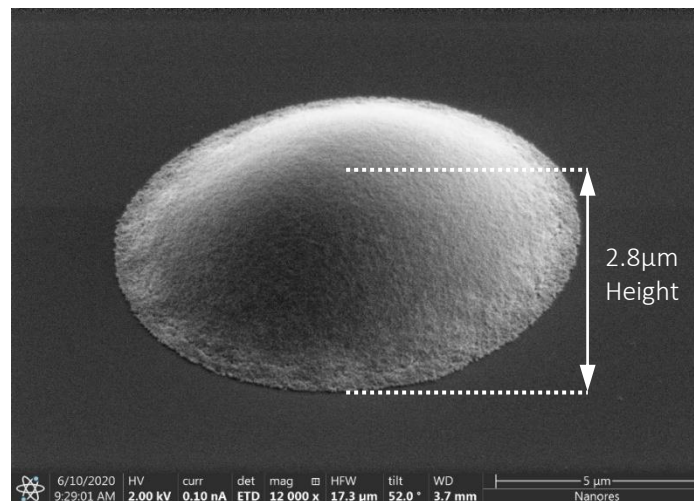
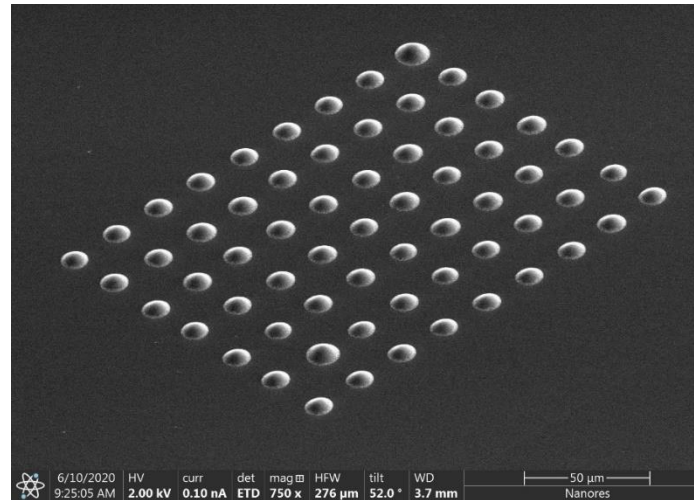
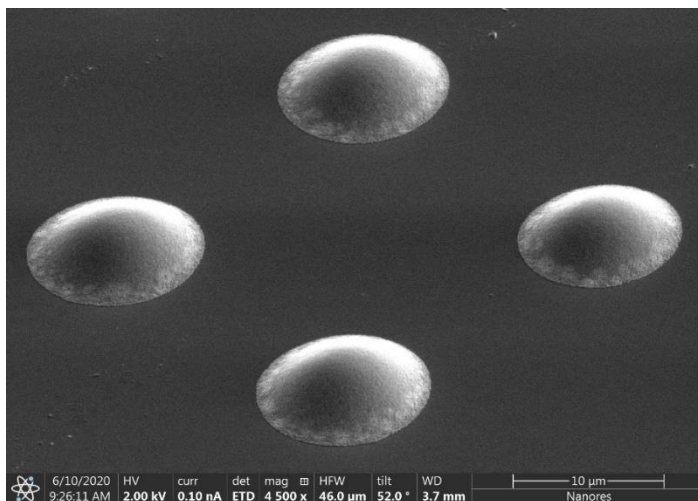
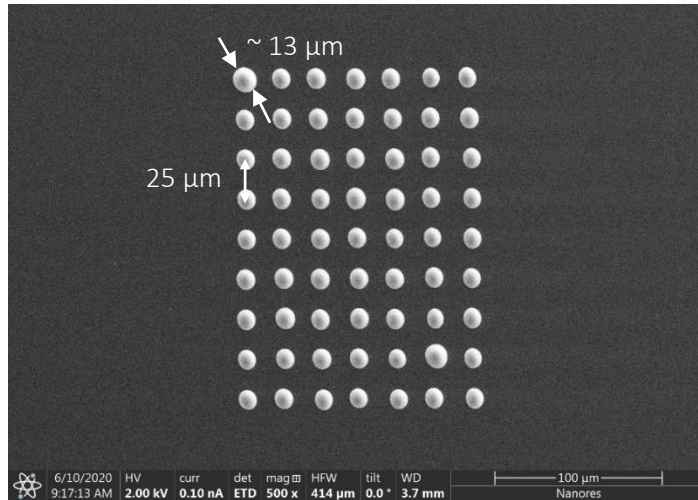
Microlines

Microdots

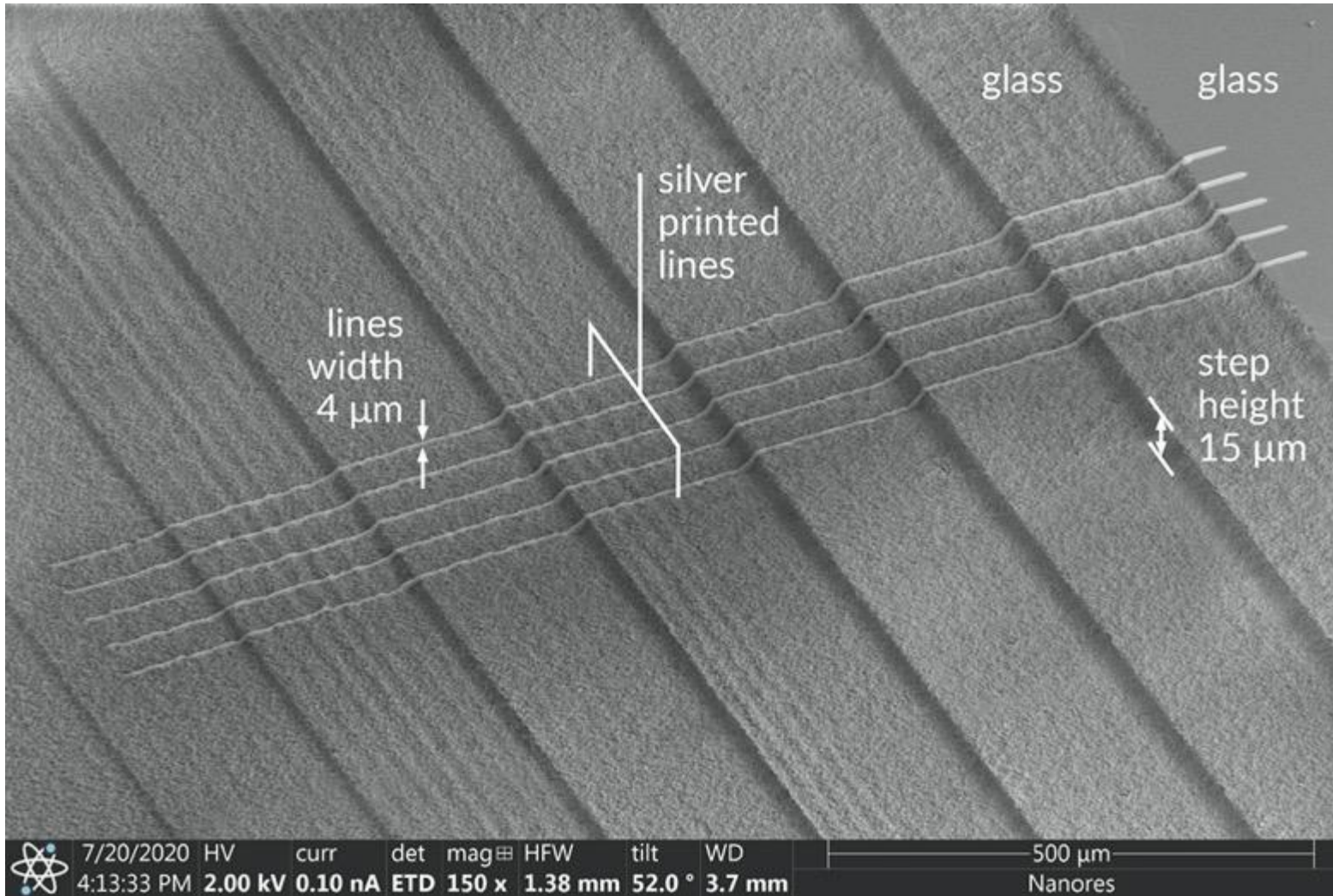
Microtrails

Meshes



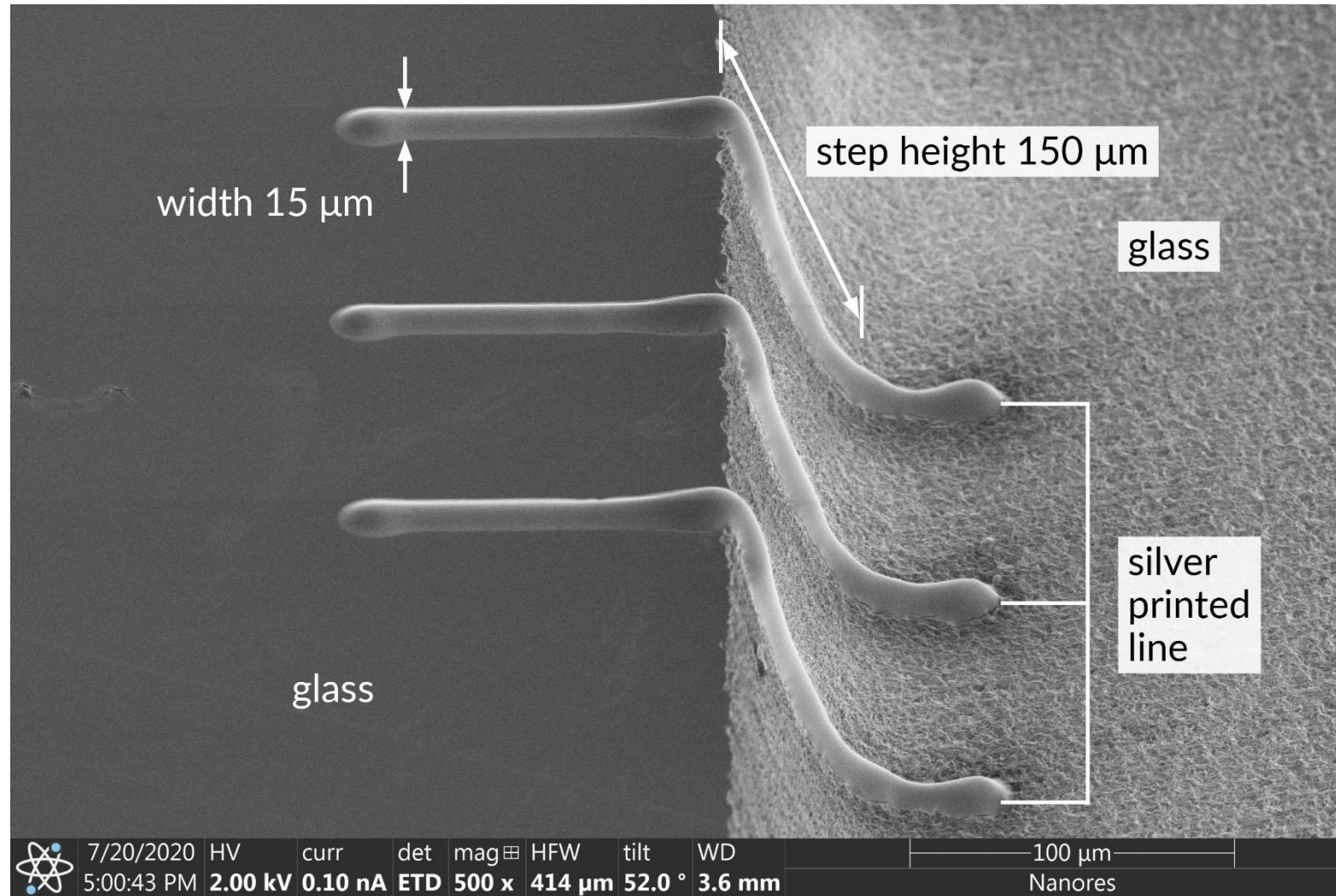


Silver microdots with **diameter of around $13 \mu\text{m}$ and height of $3 \mu\text{m}$** were deposited on the glass using XTPL Ag paste (CL85) and XTPL Ultra-Precise Deposition.



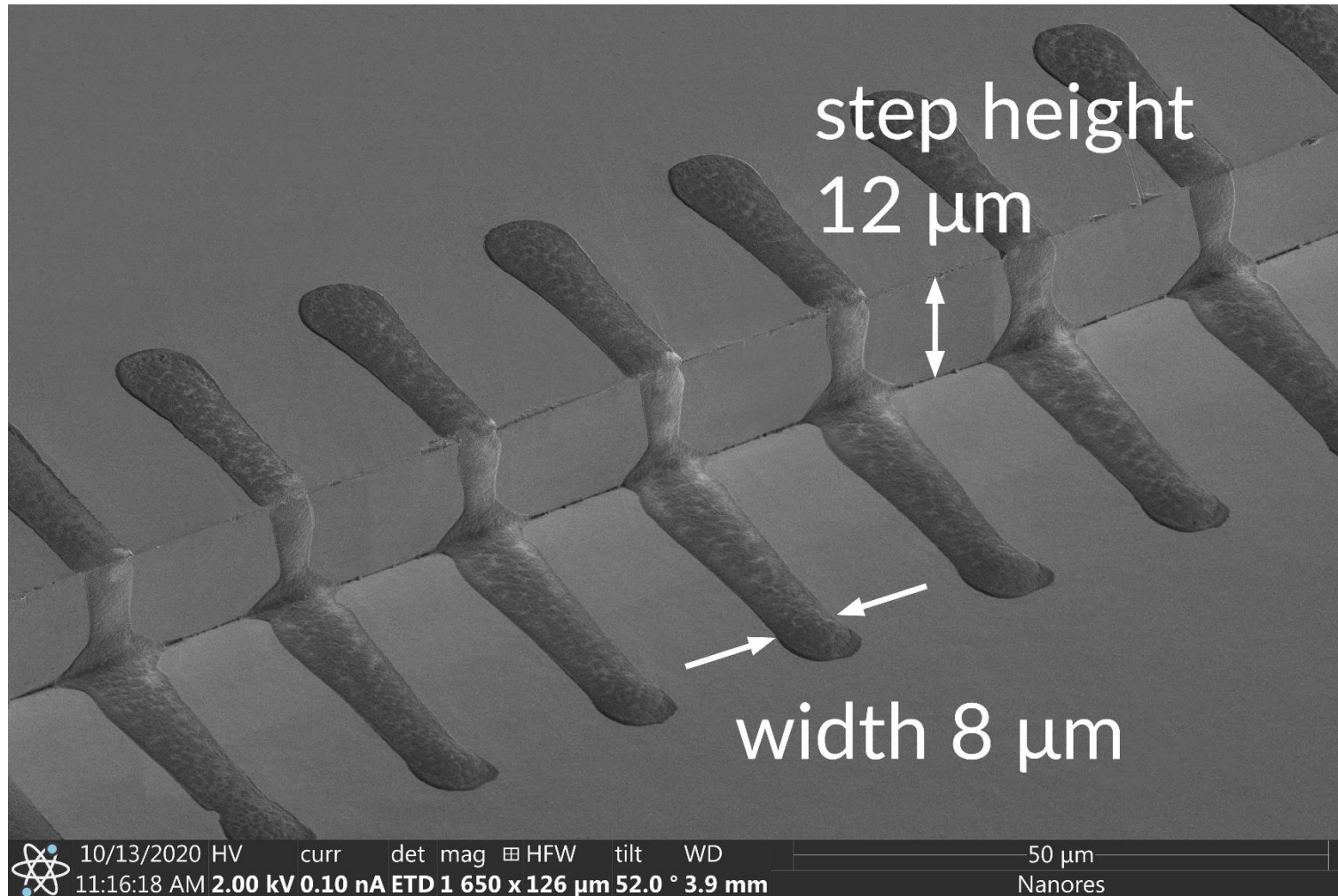
Step coverage

Repeatable and continuous silver lines with a **width of 4 μm** printed on the series of steps with the **height of 15 μm** .



Step coverage

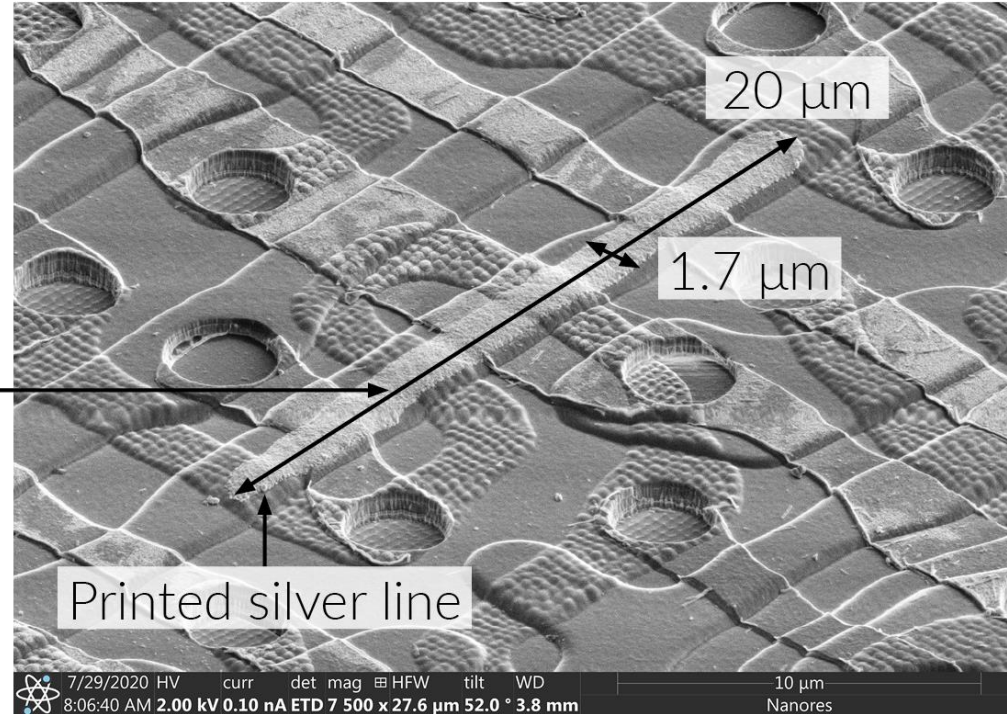
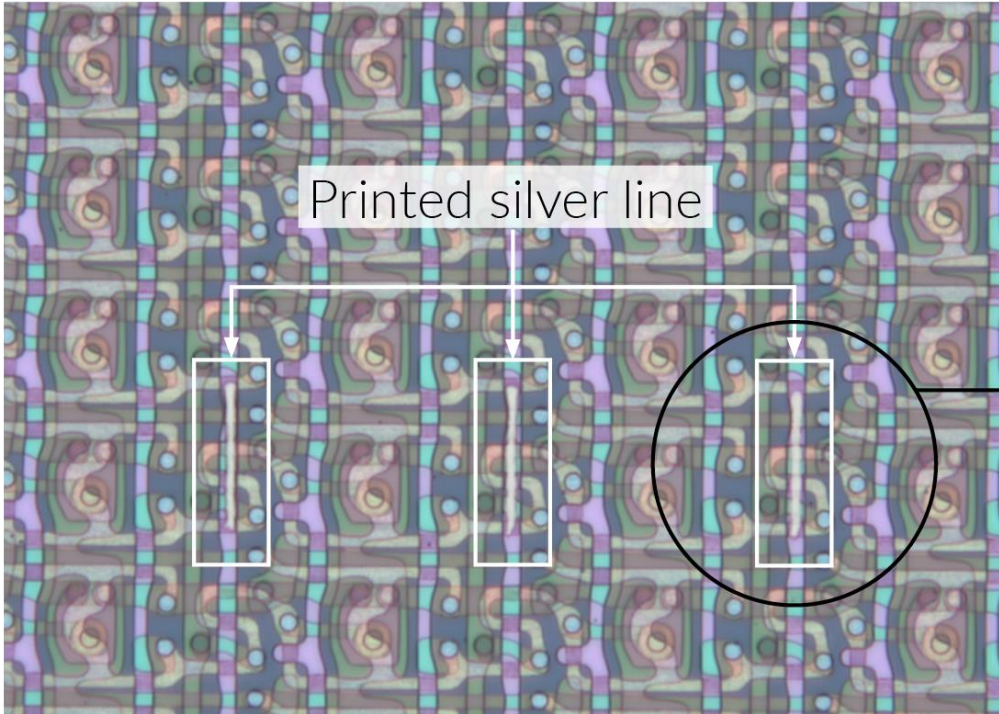
Repeatable and continuous silver lines with a **width of 15 μm** printed on the step with the **height of 150 μm**.



Print time on the step

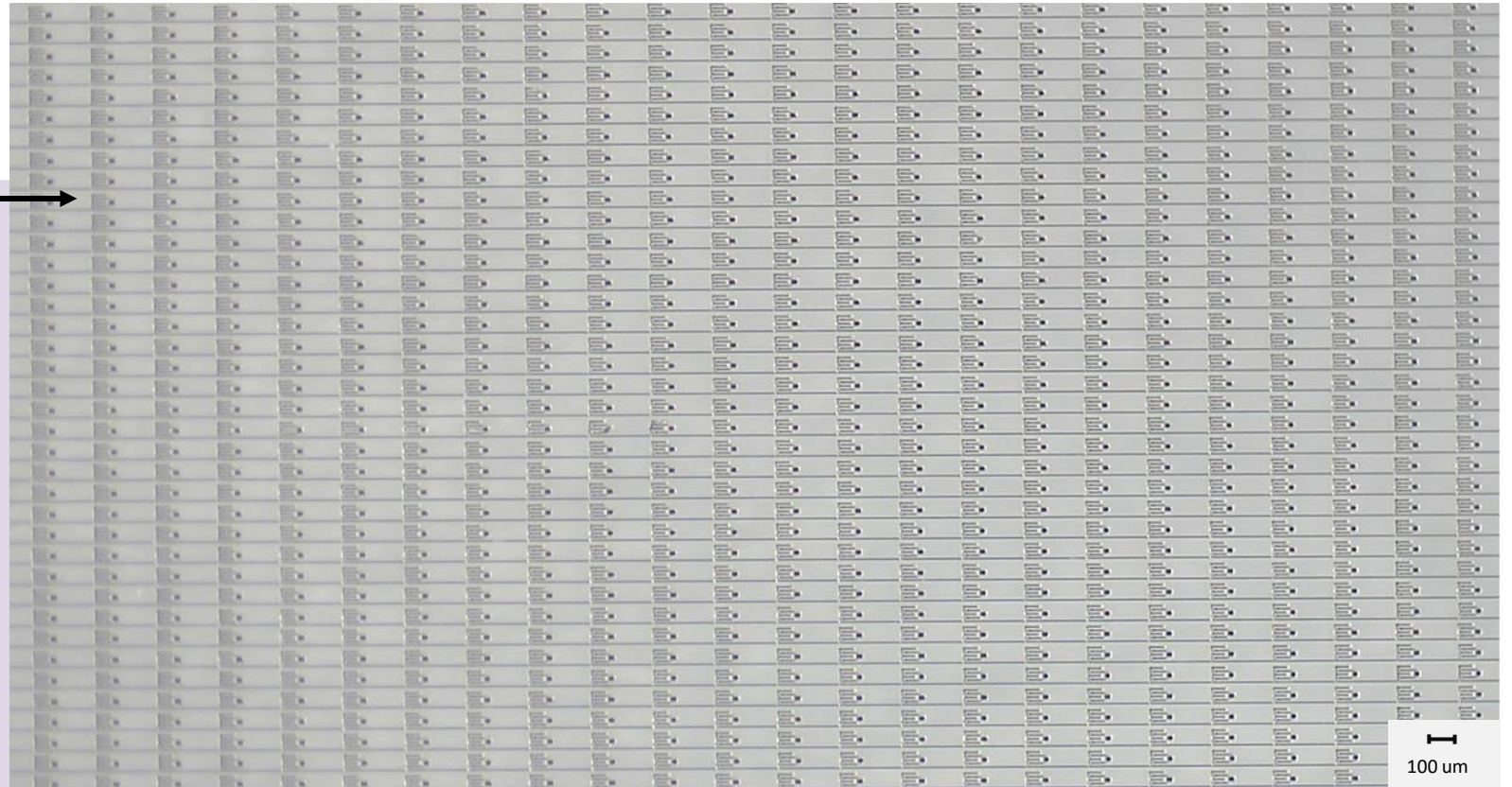
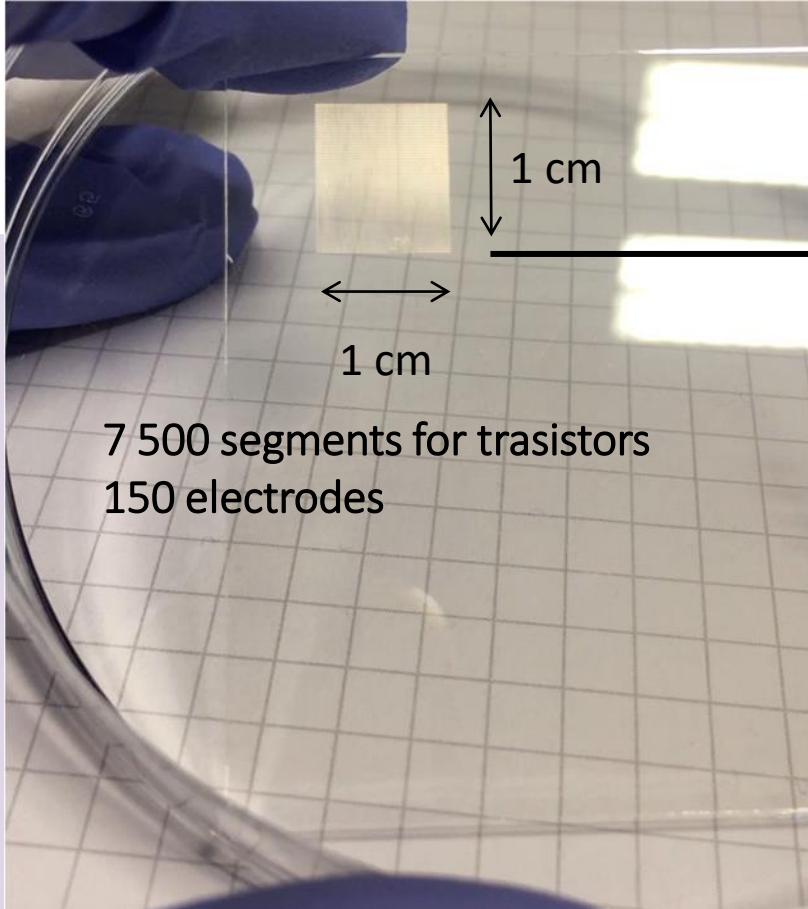
Repeatable and continuous 8 μm width silver lines printed on 12 μm high step, for which the print time has been optimized and now is less than 1s

Open Defect Repair on OLED devices

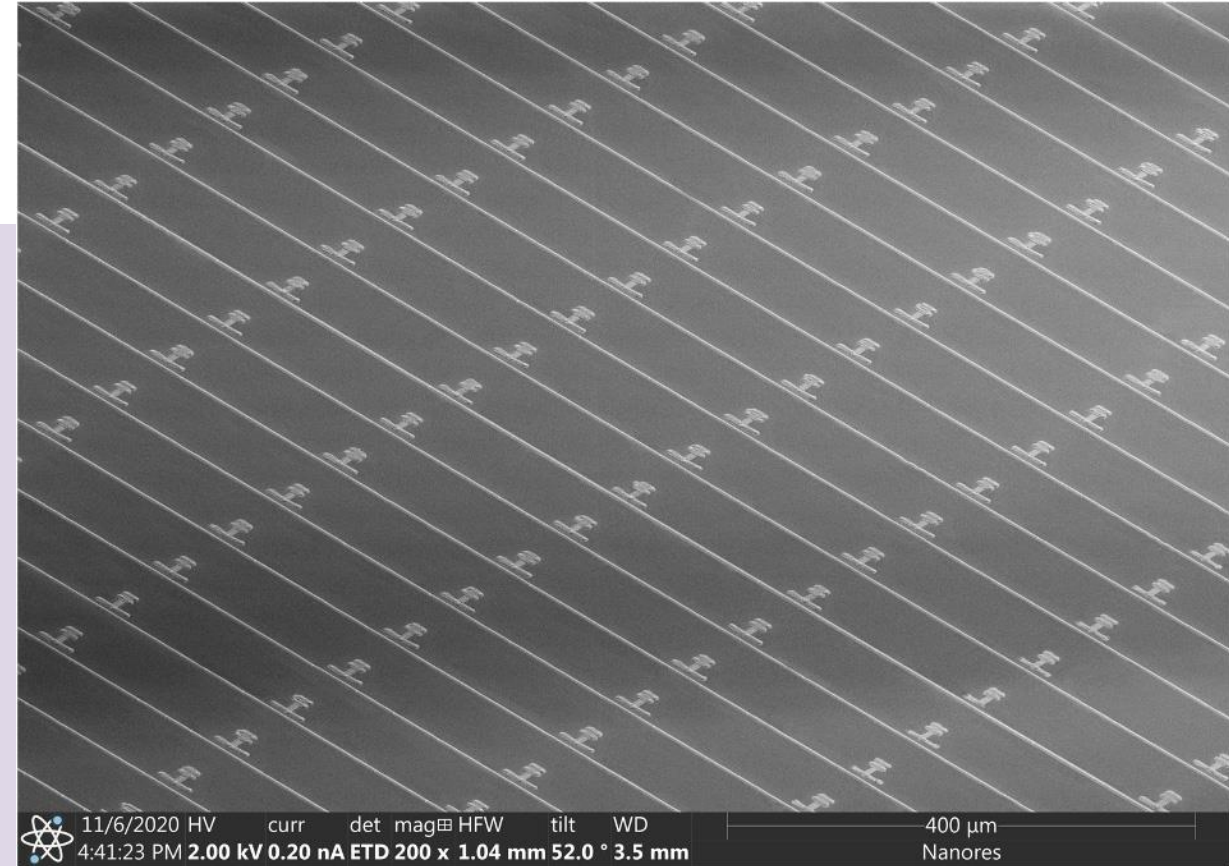
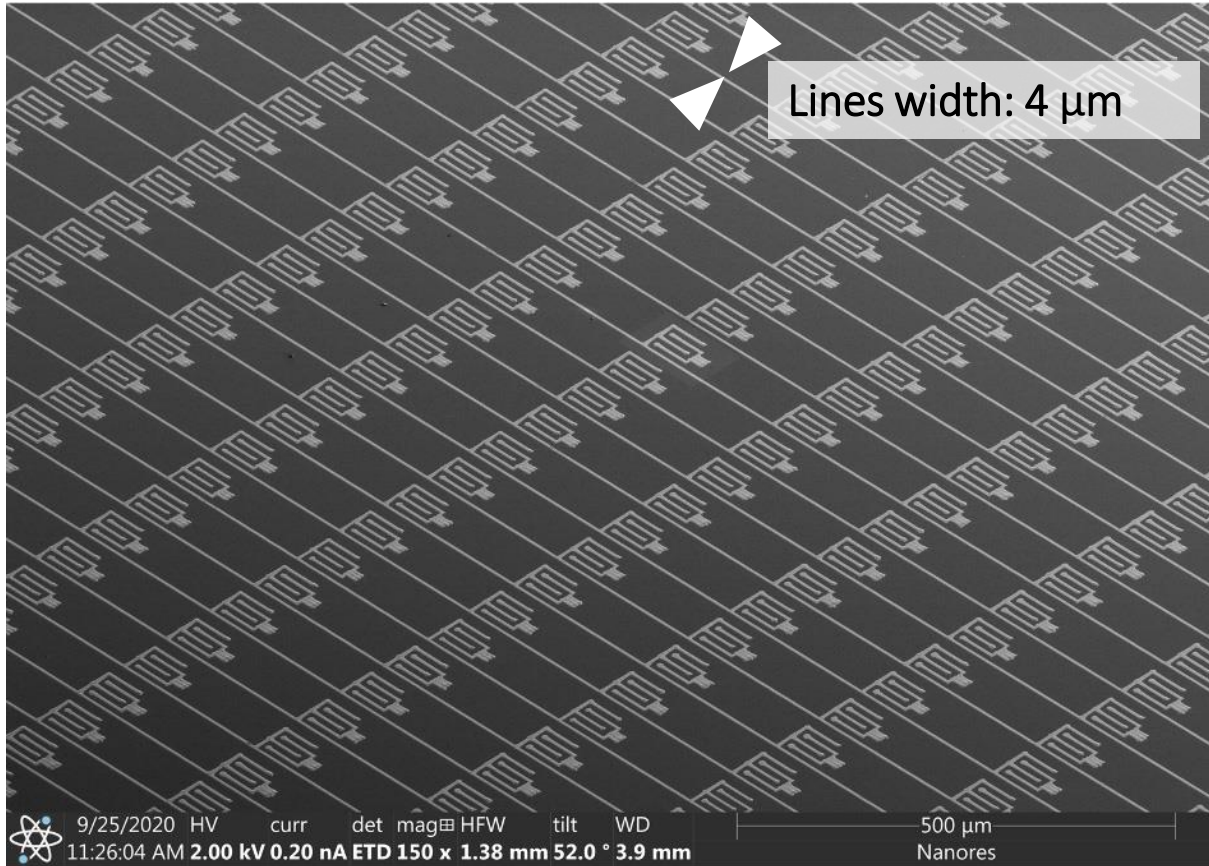


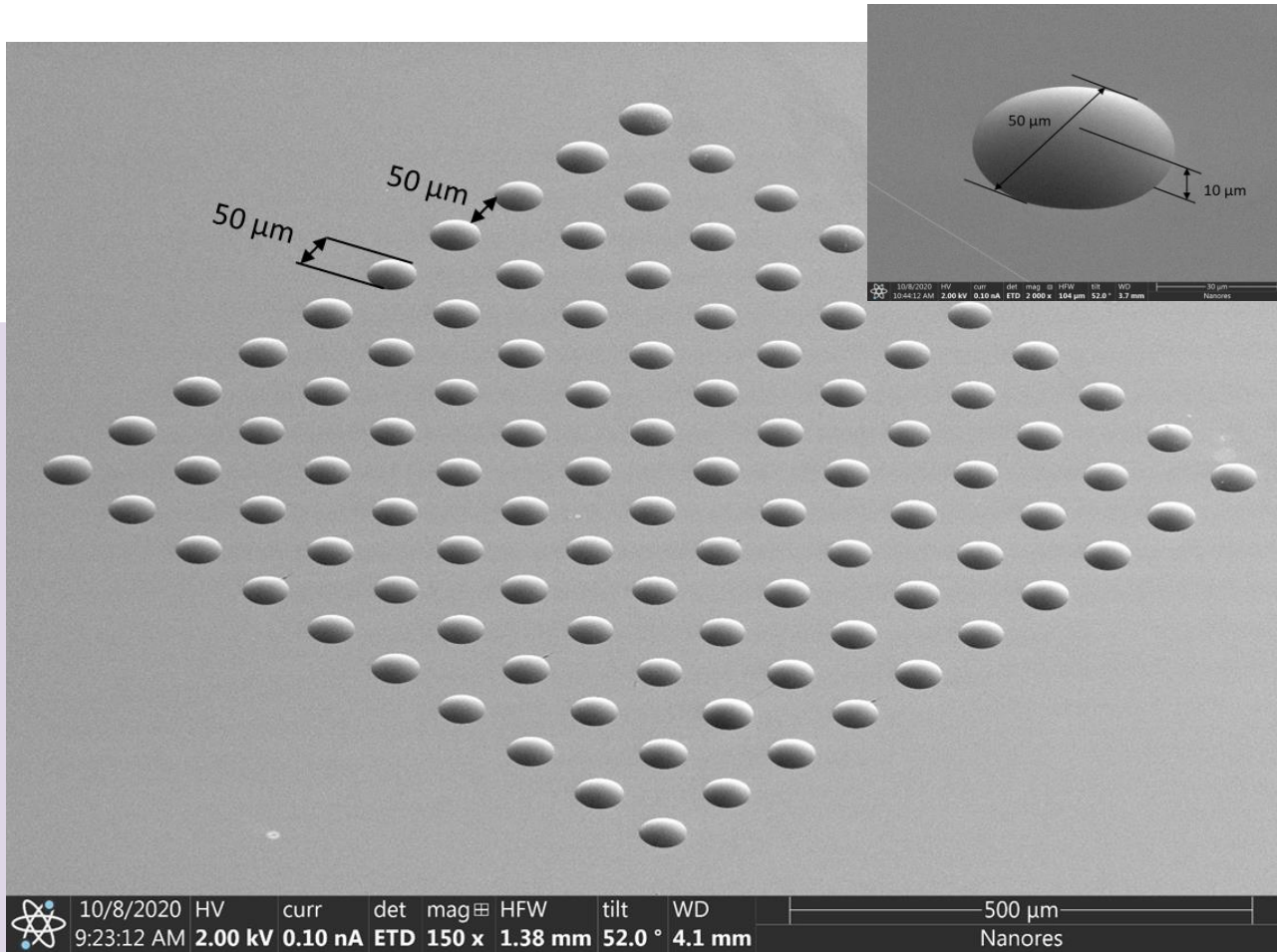
Repeatable and continuous **1.5 μm width** and **20 μm length** silver lines printed on OLED substrates

Array of S/D metal layer for printed FPD



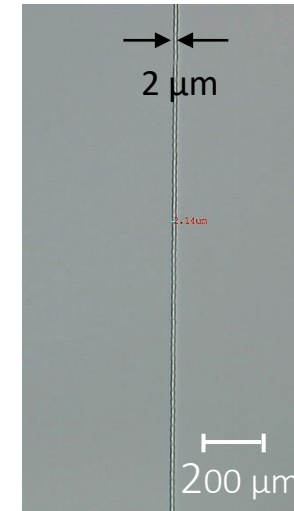
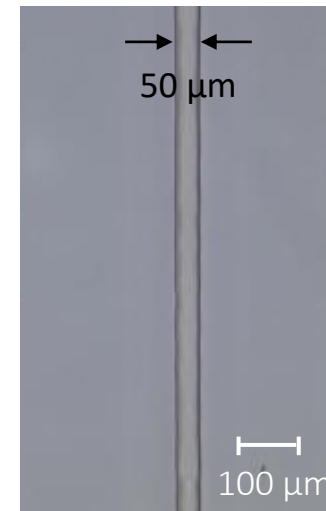
Array of 7 500 TFT on glass for printed FPD





POSITIVE PHOTORESIST AR-P 3110

PARAMETERS	
Solid content	28 %
Viscosity	12 cP



1.

Technology protected by international patent applications

2.

The results expected by the market can only be achieved by the unique interaction between the device, the printing process and the ink

3.

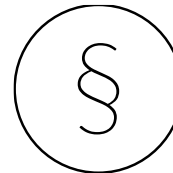
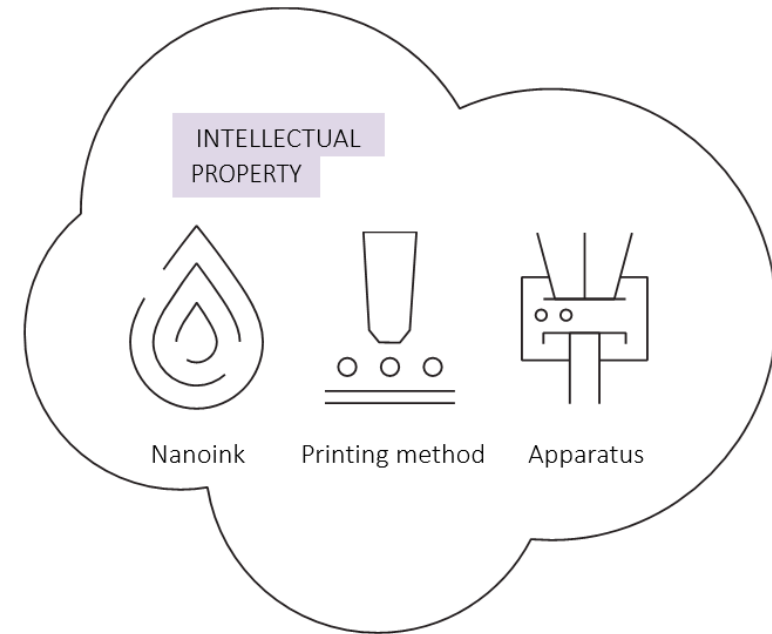
The cost of the technology being copied and the risk of failure are very high due to its unique nature

The market has been waiting for such solution for years, but so far no company has been able to provide it

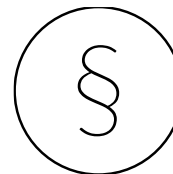
XTPL global solution is systematically secured by expanding the patent cloud. The company has already submitted 18 patent applications.

Unique and well-protected intellectual property

- is a product
- determines the company's market position
- significantly affects the company's value
- allows to gain a competitive advantage over other market players
- enables safe commercialization
- guarantees appropriate negotiating position before commercial contracts are signed

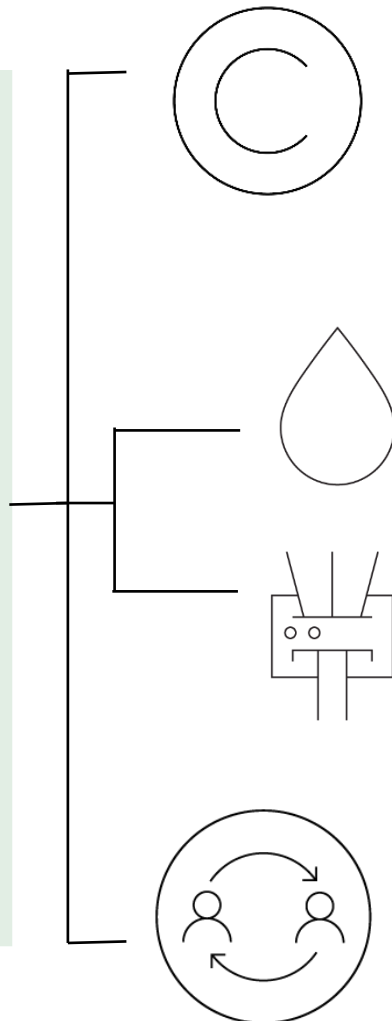


Gill Jennings & Every LLP, London UK
K&L Gates, Palo Alto, CA, USA



United States Patent and Trademark Office

XTPL commercializes its technology by selecting a model that is best suited to the specific application field



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

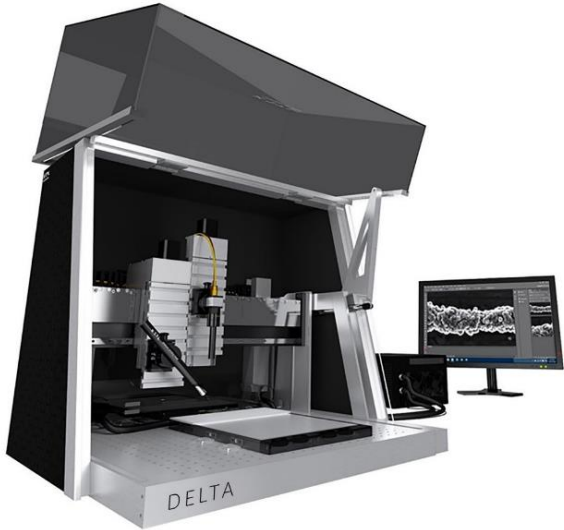
SALES OF PROPRIETARY PRODUCTS

- 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.
- 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

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





User groups	The added value of cooperation
R&D departments in industry	<ul style="list-style-type: none"> Validation of XTPL technology at the customer's site Increasing awareness of the XTPL technology Discovery of new application fields
Scientific Institutions	<ul style="list-style-type: none"> Discovery of new application fields Increasing awareness of the XTPL technology Reference visits
Precision printer manufacturers (integrators)	<ul style="list-style-type: none"> Distribution network

Additional incomes :

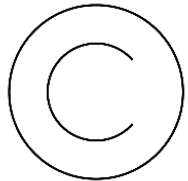
Each sale of demo printer should generate monthly revenue through the sale of consumables, services and system upgrade:

- 1,000 – 2,000 EUR/per month (first two years of use)
- 2 000 – 3 000 EUR/per month (subsequent years of use)

Market size:

Global annual sales of printers for research and development as well as rapid prototyping and small series production in the field of widely defined printed electronics amounts to approx. **250-500 pieces**

The price range of this type of printers is from **50,000 EUR up to over 500,000 EUR** per item.



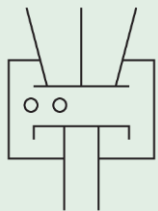
LICENCE / STRATEGIC PARTNERSHIP

- ACTIVE PROJECT WITH **9** INDUSTRIAL ENTITIES FROM AROUND THE WORLD
- INDUSTRIES: DISPLAY, LIGHTING, SEMICONDUCTORS, BIOSENSORS, SMART GLASS
- TECHNOLOGY EVALUATION ON DIFFERENT LEVELS



DELTA PRINTING SYSTEM

- MORE THEN **150** PROSPECTS
- TALKS AND TECHNOLOGY EVALUATION WITH **58** ENTITIES FROM AROUND THE WORLD FROM ALL CUSTOMER GROUPS AND APPLICATION FIELDS
- OFFERS MADE TO **22** POTENTIAL CLIENTS FROM EUROPE, ASIA AND MIDDLE EAST
- DEMO AND PRICE NEGOCIATION FOR **15** POTENTIAL CUSTOMERS
- DELIVERY OF THE DELTA PRINTER TO **1** CUSTOMER



INTEGRATION WITH PRECISION PRINTER MANUFACTURERS

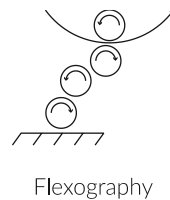
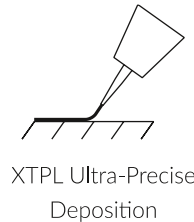
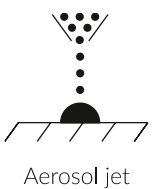
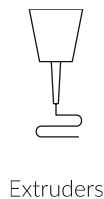
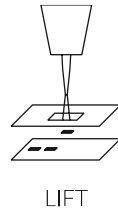
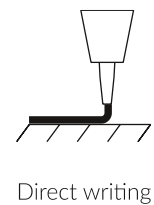
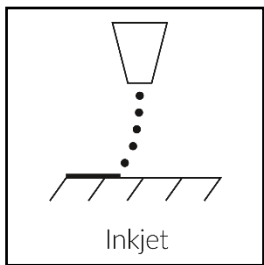
- ACTIVE PROJECT WITH **4** ENTITIES FROM EUROPE AND MIDDLE EAST – PRINTING HEAD INTEGRATION
- ACTIVE PROJECT WITH **1** ENTITY FROM ASIA –DELTA PRINTING SYSTEM DISTRIBUTION

RANGE OF INKS COMPATIBLE WITH THE TECHNOLOGY:

- XTPL inks are currently being tested in many R&D units in Europe
- XTPL develops ink formulations dedicated to established and industrially emerging markets such as *Ink-Jet* and *Aerosol Jet* deposition methods
- Currently tested technologies include: *Aerosol Jet*, *Ink-Jet*, *Micro-dispensing*, *LIFT* and *EHD*
- Performance evaluation of products compatible with *Flexography*, *Gravure* and *Screen-printing* deposition methods are planned

IN ADDITION:

- SEPARATE SALES TEAM
- SUBPAGE ON THE WEBSITE
- PRODUCT ADVERTISING



PIPELINE

- MORE THAN **272** PROSPECTS
- TALKS WITH **53** ENTITIES FROM AROUND THE WORLD
- OFFERS MADE TO **20** POTENTIAL CLIENTS FROM EUROPE, ASIA AND MIDDLE EAST
- SAMPLES SENT TO **12** CLIENTS
- SALES TO **6** CLIENTS

JULY 2020

- XTPL acquired PLN 9.25 million as a result of shares issue.
- the Company acquired also the bonds in the maximum possible pool of PLN 3.6 million
- overall, the Company's proceeds from the issue of shares and bonds are PLN 12.85 million
- the issue proceeds will be used for R&D, continued commercialization, and extension of the intellectual property portfolio
- the capital increase will ensure steady operations of the company until at least Q1 2022 (not taking into account revenue and public grant contributions)





AUGUST 2020

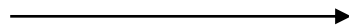
- Rockbridge Towarzystwo Funduszy Inwestycyjnych S.A. exceeded the 5% threshold in the total number of votes at the Company's General Meeting
- the increase in the total number of votes in the Company is a result of the acquisition by the Funds of 22,764 XTPL shares
- before the transaction, the Funds held a total of 93,896 shares of the Company, which constituted 4.63% of the share capital
- after the transaction, the Rockbridge Funds hold a total of 116,660 shares of XTPL, which constitute 5.75% of the share capital

SEPTEMBER 2020

- German MainFirst Bank AG from the Stifel Group recommends “BUY” with regards to XTPL and valued the company share at a PLN 210 price target
- XTPL is the first Polish company covered by MainFirst
- MainFirst recognizes that the first tangible results in the commercialization process of XTPL are visible.
- MainFirst is a European financial services firm, specializing in Equity Brokerage, Investment Banking and Fixed Income which is following about 400 predominantly European stocks.



**Q3
2020**



1 new patent applications submitted in Q3 2020

- Patent application submitted in Q3 2020 allows using XTPL method for high-resolution printing on complex topographies, typical for novel microelectronic devices, such as next-generation microLEDs and flexible hybrid electronics (FHE). In particular, XTPL method gives a unique possibility to make reliable planar interconnections in flexible electronic devices.

**AFTER
Q3 2020**



1 new patent applications submitted after Q3

- Another patent application was submitted in October. The newest patent protects the methods of precise positioning of the printing nozzle when printing on arbitrary substrates with complex topographies, like the modern displays or flexible hybrid microelectronic circuits. All the claimed methods are based on advanced algorithms developed by our R&D and are implemented in the XTPL printers.

United States
Patent and
Trademark Office

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.
- 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.
- as a response to general market uncertainty, we reduced our monthly operating costs from PLN 1 million to around PLN 600,000 PLN.

NOVEMBER 2020

- on November 5 Andrzej Domański, economist, financial market analyst with extensive experience in managing stock exchange funds, joined the Supervisory Board of XTPL S.A.
- Andrzej Domański is the Deputy Chairman of the Supervisory Board and a Member of the Audit Committee
- new Member of the Supervisory Board has a university degree (master of economy) and holds CFA title. For many years held managerial functions



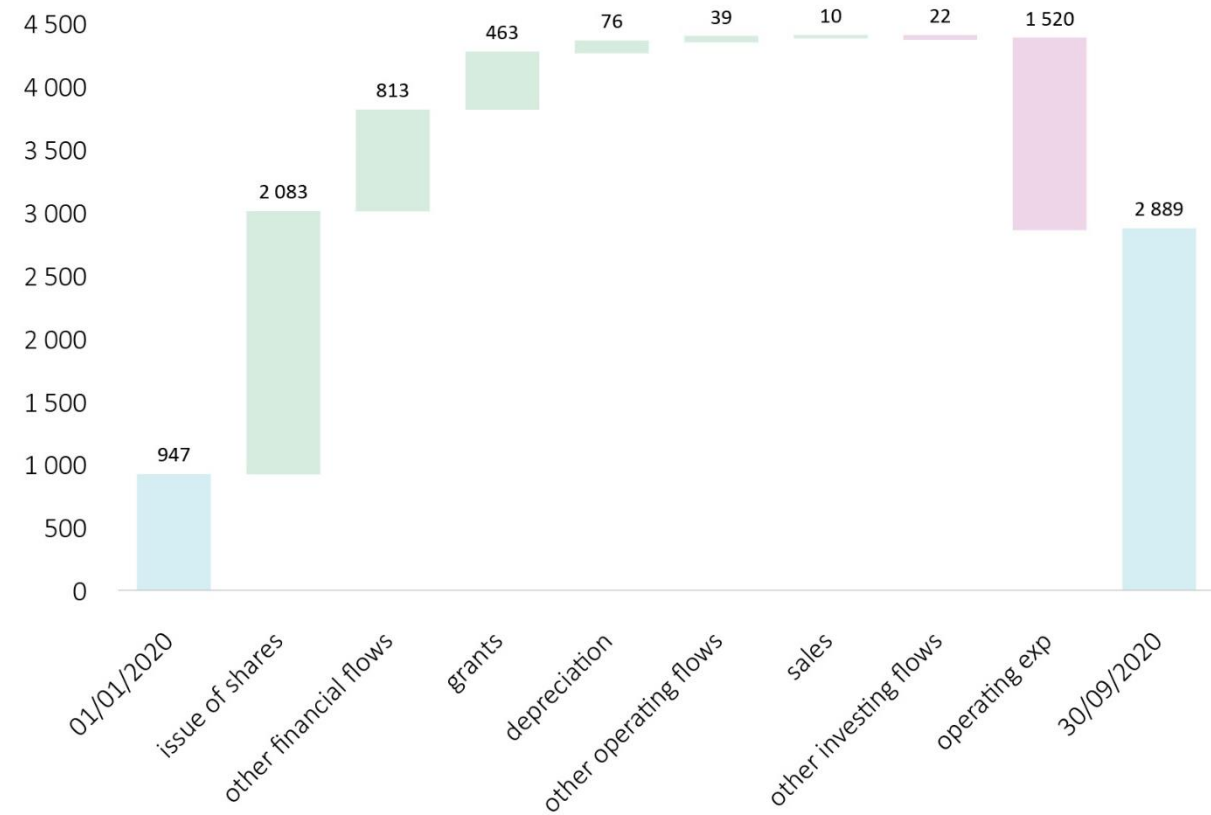
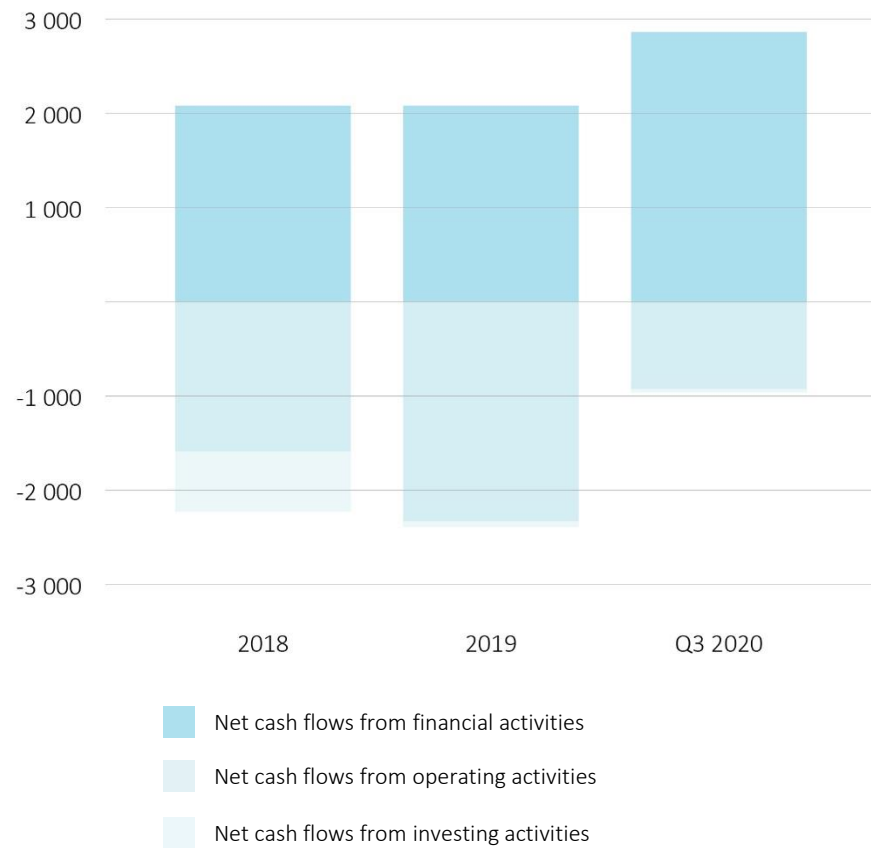


Render for illustration purpose only. The design of the final product may differ from the one shown.

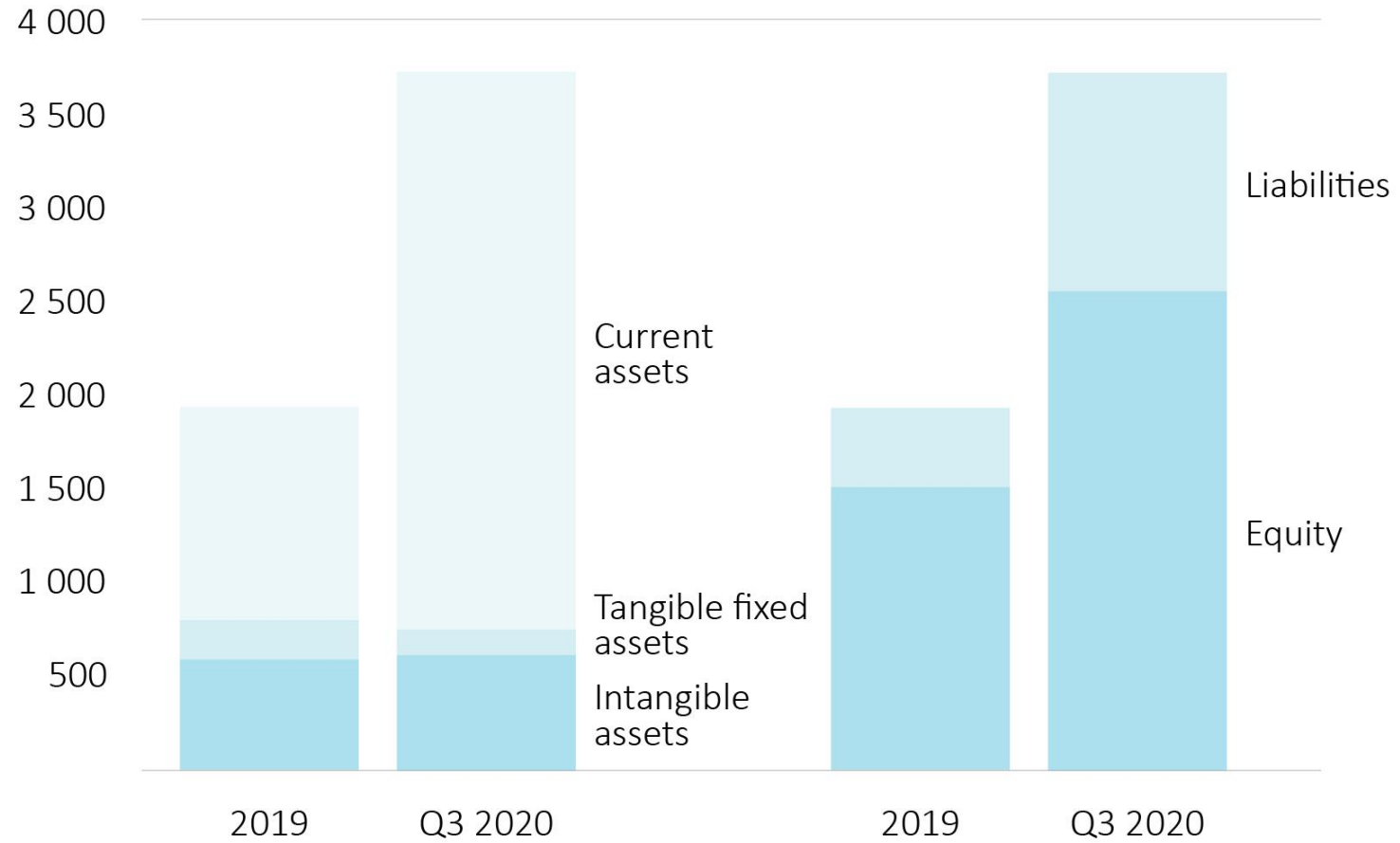
NOVEMBER 2020

- 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.

* figures in EUR thousand

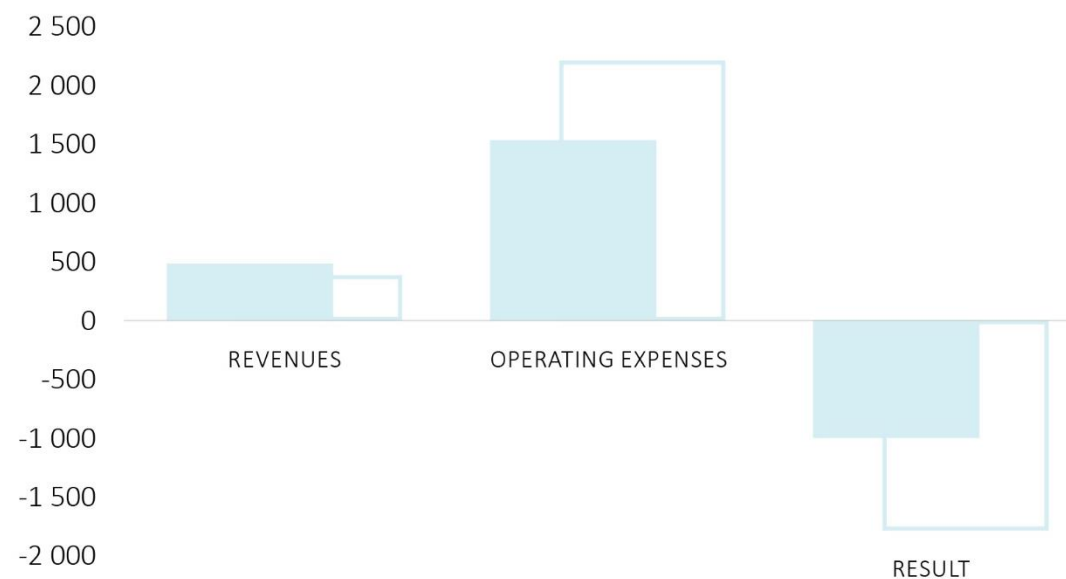


* figures in EUR thousand



	Q3 2020	
	without ESOP	including ESOP
Revenue from sales	473	473
Research and development expenses	479	568
Gross profit (loss)	-6	-95
General and administrative expenses	1 040	1 396
Other operating income and expenses	40	40
Operating profit (loss)	-1 007	-1 451
Financial income and expenses	5	5
Profit/ loss before tax	-1 002	-1 446
Tax	1	1
Total comprehensive income	-1 003	-1 447

	WITHOUT ESOP	
	Q3 2020	Q3 2019
Revenue from sales	473	359
Research and development expenses	479	856
Gross profit (loss)	-6	-497
General and administrative expenses	1 040	1 332
Other operating income and expenses	40	-39
Operating profit (loss)	-1 007	-1 869
Financial income and expenses	5	13
Profit/ loss before tax	-1 002	-1 855
Tax	1	9
Total comprehensive income	-1 003	-1 774



* figures in EUR thousand

LP	SHAREHOLDER	NUMBER OF SHARES HELD	% SHARE
1.	Filip Granek	315,998	15.57
2.	Sebastian Młodziński	285,696	14.08
3.	Leonarto VC spółka z ograniczoną odpowiedzialnością sp.k. (formerly Leonarto sp. z o.o.)	202,894	9.99
4.	ACATIS Investment Kapitalverwaltungsgesellschaft mbH on behalf of ACATIS Datini Valueflex Fonds	195,663	9.64
5.	Heidelberger Beteiligungsholding AG**	190,571	9.39
6.	Investment funds managed by Rockbridge TFI S.A.	116,660	5.75
7.	TPL Sp. z o.o. *	85,162	4.20
8.	Deutsche Balaton AG**	48,006	2.37
9.	Others	588,572	29.00
	TOTAL	2,029,222	100.00

Number of shares = Number of votes
% of shares = % of votes

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

** Companies from the same capital group, jointly possess 238 577 XTPL's shares which equals 11.76% of the share capital



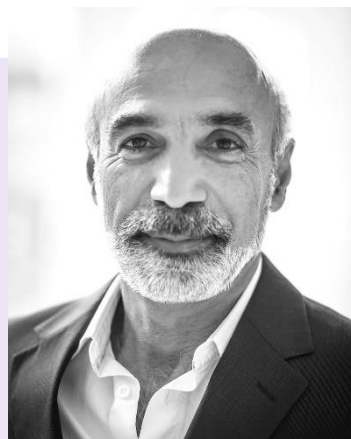
WIESŁAW ROŻUCKI
CHAIRMAN OF THE SUPERVISORY BOARD
Co-founder and former president of the Warsaw Stock Exchange



HERBERT WIRTH
SUPERVISORY BOARD MEMBER
Former President of the Management Board of KGHM S.A. He has vast experience in the area of materials' technologies, international trade and global business administration



HAROLD HUGHES
BOARD MEMBER 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 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 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

TEAM



Currently 30 people in Poland and the United States

TECHNOLOGY

an interdisciplinary, well-balanced team with advanced **knowledge & experience** in:

- chemistry
- physics
- electronics
- mechanics
- material science
- numerical simulations

8 PhDs in the team

BUSINESS

business leaders & highly skilled professionals who possess **know-how & experience** in:

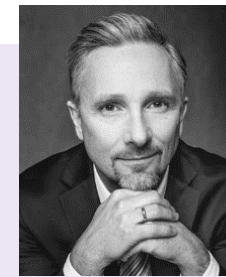
- product development
- marketing & communication
- implementing innovation
- finance
- B2B sales
- capital market

... and proven successes achieved in international markets



Filip Granek

MANAGEMENT BOARD,
CEO



Jacek Olszański

MANAGEMENT BOARD
MEMBER



Aneta Wiatrowska

TECHNOLOGY



Krzysztof Berezowski

PROJECT MANAGEMENT
/PRODUCT DEVELOPMENT



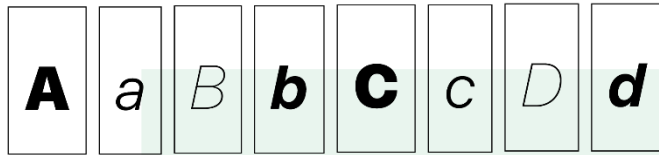
Dariusz Świderek

LICENSING / IP
MANAGEMENT



Piotr Kowalczewski

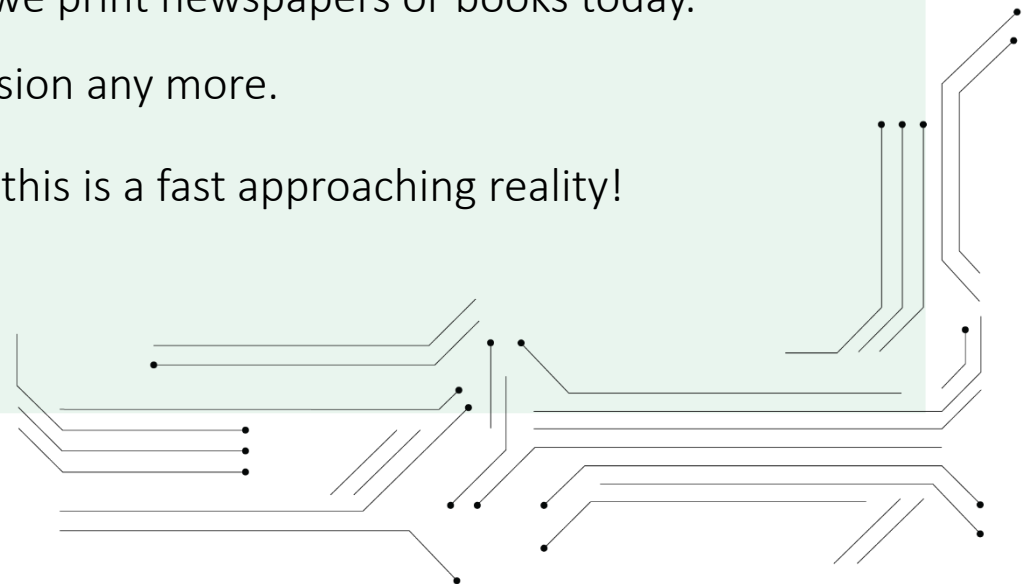
PATENTS

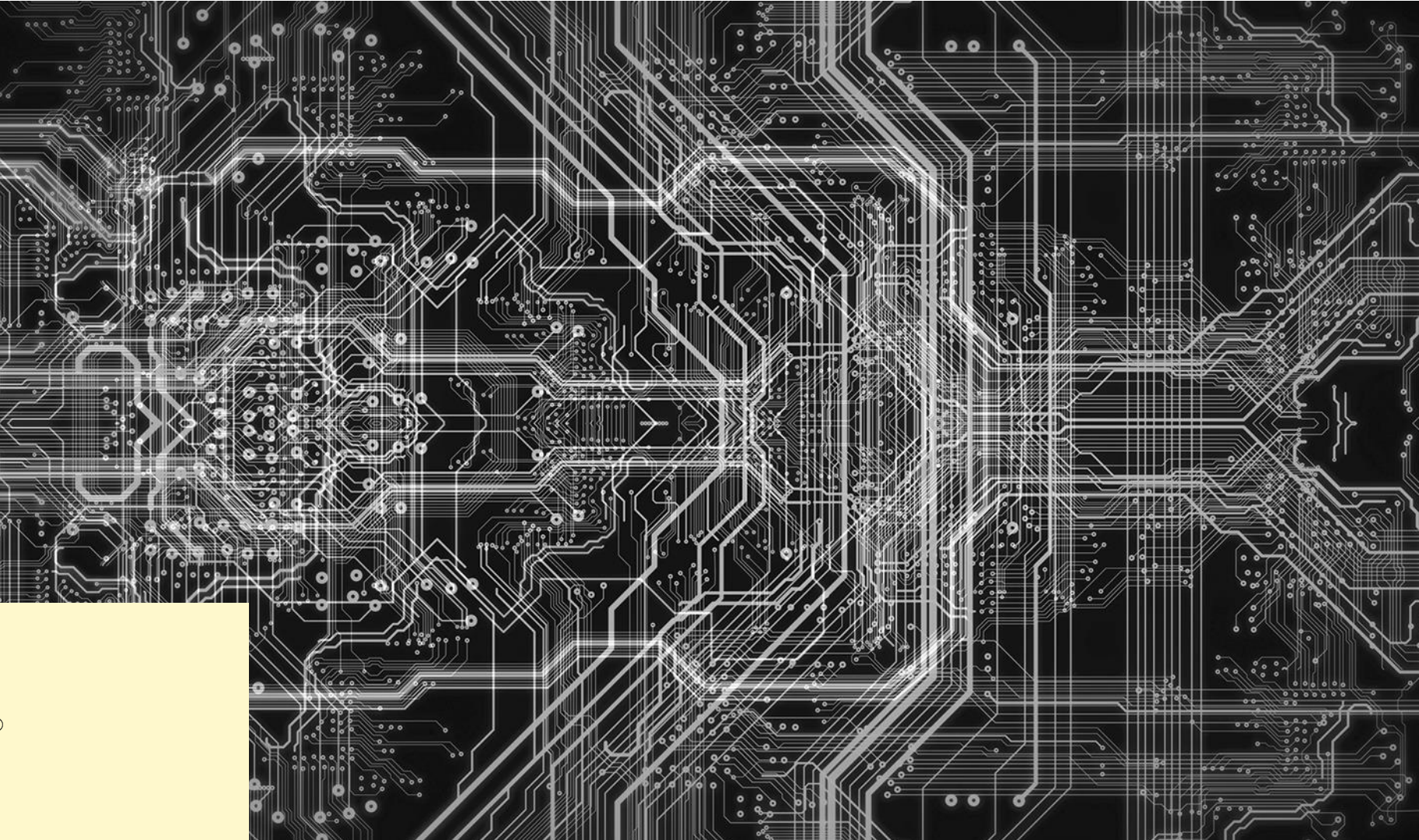


In the near future, we will print displays, solar cells, biosensors and other advanced elements just as cheaply and quickly as we print newspapers or books today.

This is not just a vision any more.

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





X T P L®

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Stabłowicka 147
54-066 Wrocław, Poland
xtpl.com

THANK YOU

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