

# X T P L

shaping global nanofuture



**MONTHLY REPORT  
DECEMBER 2018**

**XTPL S.A.**

Wrocław, 14.01.2018 r.

## 1. INFORMATION ON ISSUE OBJECTIVES AND OTHER IMPORTANT EVENTS IN THE REPORTING PERIOD

### A. SUMMARY OF OPERATING ACTIVITIES IN THE AREA OF THE ISSUER'S BUSINESS DEVELOPMENT IN DECEMBER 2018

In December 2018, the Issuer focused on operational activities in the area of business development, leading to the finalisation of the projects undertaken over the last months to commercialise the ultra-precise printing technology. The projects are carried out in cooperation with partners from the United States and China. At the XTPL laboratory, work was also in progress on the development of technologies to fit specific applications indicated by market partners. Key events in the reported period included:

- Finalisation of a proof-of-concept project for a leading US manufacturer from the smart glass industry. Fulfilment of the received technical specification means meeting the condition for agreeing and conducting integration tests with the technology used by the potential client. Now the US manufacturer's laboratory will conduct its own tests to assess the degree of compliance with the requirements and the ability to implement XTPL solutions in its technological process.
- Reference visit, held in the first week of December, by representatives of the Issuer's partner from China – a global manufacturer of equipment for the production of displays. The next steps towards starting the cooperation will be discussed during the return visit in China – at present arrangements are being made to determine the date of the visit by the representatives of the XTPL business team. A well-developed cooperation model and full satisfaction of the technological expectations of the Chinese partner are important condition for dynamic implementation of the technology on the partner's production lines. In the context of future talks with other interested parties, this may also strengthen the attractiveness of the XTPL's offer.
- Finalisation of work by the R&D team on two patent applications, covering subsequent layers of the obtained IP in the area of nanoprinting. The official registration of applications, which will also mark the moment of starting the international legal protection, will take place in the first quarter of 2019. In the patent process, XTPL will be supported by an experienced US law firm. The patent applications will ensure security for the company and its disruptive technology, and may potentially have a positive impact on the ongoing and future commercialisation talks.

Financing business development activities was one of the objectives of the series M shares issue. Financing operations in US market was one of the objectives of the series N and O shares issue. Financing the work related to strengthening the patent position was one of the objectives of the series O shares issue.

## 2. BASIC INFORMATION ABOUT THE COMPANY

Business name: XTPL Spółka Akcyjna  
Registered office: Wrocław  
Address: Stabłowicka 147, 54-066 Wrocław  
KRS No.: 0000619674  
Telephone number: +48 71 707 22 04  
Website: www.xt-pl.com  
E-mail: investors@xt-pl.com

### THE MANAGEMENT BOARD:

- dr Filip Granek – President of the Management Board
- Maciej Adamczyk – Member of the Management Board

### SUPERVISORY BOARD:

- Wiesław Rozłucki - Chairman of the Supervisory Board
- Bartosz Wojciechowski - Vice-chairman of the Supervisory Board
- Konrad Pankiewicz
- Sebastian Młodziński
- Piotr Lembas



### 3. THE ISSUER'S BUSINESS PROFILE

The Issuer operates in the nanotechnology segment. XTPL's interdisciplinary team develops a technology of ultra-precise printing of nanomaterials, which is innovative on a global scale and is protected by an international patent application. The XTPL solution has all the features of a disruptive technology and will be consistently developed as part of advanced research with a view to defining further, innovative uses of the solution in specific application areas.

The Company commercialises its solution in a phased approach: it intends to supply nanoprinting equipment, compatible nanoinks, dedicated to specific applications, and printing heads to buyers from e.g. the printed electronics sector. In the first place, XTPL develops laboratory printers for R&D works by research and development departments of potential business clients and research centres. The next phase will include comprehensive solutions for the industry: unique printing heads – dedicated for specific application fields, as well as compatible, precisely adjusted nanoinks. The company plans for the printing heads – enabling implementation of the revolutionary nanoprinting and ultraprecise deposition technology - to be designed by XTPL, manufactured by external contractors and assembled finally by XTPL. Nanoinks will be manufactured by a selected subcontractor – based on patented formulations. XTPL intends to sell nanoinks (based commercial partner's production capacity) and printing heads directly, as well as to implement technology as a service for selected clients (technology consulting).

XTPL's goal is to revolutionise selected areas of the broad sector of printed electronics. Strong development of this market is due to the growing number of new applications of printed, flexible and organic electronics in various fields. XTPL technology will be used in many existing areas of printed electronics industry or - thanks to the unprecedented precision of the nanomaterials printing solution – XTPL might enable implementation of new areas in this sector. The technological revolution is based on enabling the production of complex and complicated electronic components using cheap and scalable printing methods. Just as today we cheaply and quickly print newspapers and books, in the future we will print displays, solar cells, biosensors and other elements. **The size of the entire electronics market: 2017 – USD 29.3 billion; 2027 – USD 73.4 billion; CAGR 9.3% (forecast)**

## THE KEY IDENTIFIED APPLICATIONS OF XTPL TECHNOLOGY IN THE PRINTED ELECTRONICS SECTOR INCLUDE:

### OPEN DEFECTS REPAIR



Micro- and nano-conductive structures are indispensable in the broadly understood electronics (i.e. integrated circuits, LCD/ OLED displays, PCBs, solar cells and many others). This sector faces a major problem as these conductive structures are very often damaged at the production stage. 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 very limited,

complicated and costly. XTPL offers a new breakthrough solution that allows defects in conductive paths to be repaired at low cost, with unparalleled precision and speed.

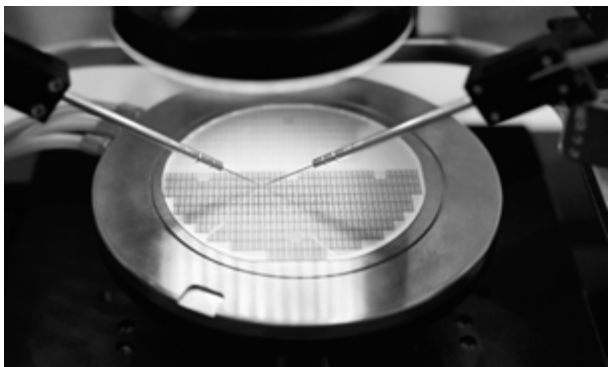
### TRANSPARENT CONDUCTIVE FILMS (TCF)



Transparent conductive films are indispensable in the production of displays, monitors, touch screens and photovoltaic cells. Currently, the most commonly used TCFs are based on indium-tin oxide (ITO). Indium is a rare element whose supply on a global scale is mostly controlled by China (about 50%-60% of global production) and Korea (15% market share). ITO-based films are not flexible (which is a serious limitation for electronics manufacturers); they insufficiently conduct electricity and have a limited

optical transparency. Due to limitations of ITO, technology companies around the world are looking for new generation TCF technology as an alternative to ITO. XTPL solution presents such an alternative. It ensures full transparency, excellent conductance parameters, low production costs due to the use of commonly available materials (i.e. silver) that can provide the sought-after technological independence from indium as well as flexibility of the conductive films, which will enable electronics manufacturers to develop and provide new generation of revolutionary solutions to customers.

## SEMICONDUCTORS



XTPL solution responds to the needs of equipment manufacturers in the semiconductor sector who seek to replace photolithography with a simpler and cheaper method, yet one that ensures the highest precision. Photolithography is a technique which is highly complex, very expensive and not versatile. It requires an extremely clean substrate and ideal temperature conditions that are void of all contaminants, liquids and environmental hazards. Furthermore, it is used only for flat surfaces

in order to produce effective patterns. The additive, ultra-precise technology of creating submicron structures offered by XTPL eliminates all these disadvantages and is a sought-after alternative in this sector.

The Company's registered office and research laboratories are located on the premises of the PORT Wrocław Research Centre. Currently, the XTPL team consists of more than 45 people in Poland and the United States – scientists and technologists with interdisciplinary expertise in chemistry, physics, electronics, mechanics and numerical simulations (including nine persons with a doctorate degree), as well as specialists in strategic management and technology commercialisation with experience and successful track record in product development, marketing and capital markets. An important advantage is the fact that the Issuer's team includes many professionals with know-how developed in international markets, who in their professional career have cooperated with global corporations and research institutes.

#### **4. SUMMARY OF THE INFORMATION PUBLISHED BY THE ISSUER IN THE FORM OF CURRENT REPORTS DURING THE REPORTING PERIOD**

##### **CURRENT AND PERIODIC EBI REPORTS:**

1. Report No. 31/2018 (14/12/2018) Monthly report November 2018

##### **CURRENT ESPI REPORTS:**

In the current reporting period the Issuer did not publish any ESPI current reports

#### **5. INVESTOR'S CALENDAR, ENCOMPASSING EVENTS TAKING PLACE IN JANUARY 2019 (OR LATER) WHICH CONCERN THE ISSUER AND ARE SIGNIFICANT FROM THE POINT OF VIEW OF INVESTORS' INTERESTS, INCLUDING IN PARTICULAR: THE DATES OF PUBLICATION OF PERIODIC REPORTS, PLANNED GENERAL MEETINGS, OPENING OF SUBSCRIPTIONS, MEETINGS WITH INVESTORS OR ANALYSTS, AND THE EXPECTED DATE OF PUBLICATION OF THE ANALYTICAL REPORT**

**14 February 2019:** publication of monthly report for January 2019

#### **6. INFORMATION ON TRENDS AND EVENTS IN THE ISSUER'S MARKET ENVIRONMENT WHICH, IN THE OPINION OF THE ISSUER, MAY HAVE A MATERIAL EFFECT ON THE ISSUER'S FINANCIAL CONDITION AND RESULTS IN THE FUTURE**

In the opinion of the Issuer's Management Board, in the period covered by the monthly report there were no events nor significant new trends in the Company's market environment which could have a significant effect on the Company's financial condition and financial results.

##### **THE MANAGEMENT BOARD:**

Maciej Adamczyk

Member of the Management Board