



Nano Dimension Introduces DragonFly LDM For Continuous, Lights-Out Digital Manufacturing of Electronics

Global defense & security pioneer HENSOLDT tests the DragonFly LDM additive manufacturing technology and discusses the results

World's first 3D printed electronics system with Lights-Out Digital Manufacturing technology allows for 24/7 unattended, low-volume manufacturing of functioning circuitry

NESS ZIONA, Israel/Munich, Germany, July 24, 2019 – [Nano Dimension Ltd.](#), a leading additive electronics provider for electronics (NASDAQ, TASE: NNDM), today introduced its new DragonFly Lights-Out Digital Manufacturing (LDM) printing technology, the industry's only comprehensive additive manufacturing platform for round-the-clock 3D printing of electronic circuitry. The initial deployment took place at the Munich premises of sensor and defense electronics provider HENSOLDT. The unique DragonFly LDM system is designed for Industry 4.0 and manufacturing for the Internet of Things and is the extension of the successful DragonFly Pro precision system, which is dedicated to printing electronic components such as multilayer Printed Circuit Boards (PCBs), antennas, capacitors and sensors. The DragonFly LDM is already available through Nano Dimension's global sales channel. In Germany, the launch of the DragonFly LDM was already initiated by Nano Dimension's reseller, Phytex New Dimension.

Defining LDM: *The Lights-Out Digital Manufacturing (LDM) is a manufacturing methodology in which systems run with little to no human intervention, around the clock. In the case of additive manufacturing, LDM means DragonFly users can 3D-print more functioning electronic circuitry faster, extending the DragonFly's rapid prototyping capabilities and increasing opportunities for short-run, small volume manufacturing of printed electronics.*

Nano Dimension's DragonFly LDM extends 3D printing for printed electronics beyond prototyping to true in-house, lights-out digital manufacturing, enabling one-off prototypes as well as low-volume manufacturing of printed electronics.

The DragonFly LDM augments the capabilities of the award-winning DragonFly Pro system with new, proprietary, state-of-the-art technology that enables 24/7 uninterrupted 3D printing. Improvements include the optimization of Overall Equipment Effectiveness (OEE) and significantly improved workflow and production processes of 3D printed electronics.

The DragonFly LDM combines new advanced printer head software management algorithms with an automatic self-cleaning of its print heads every few hours. The new system is equipped with real-time automatic material monitoring capabilities that ensure maximized runtime. The new technology minimizes the frequency and duration of scheduled downtime to typically just one weekly maintenance operation.



DragonFly LDM Technology Features & Benefits

- Long uninterrupted printing for increased uptime and improved yield
- Supports 3D printed multilayer PCBs, capacitors, coils, sensors, antennas and more
- Simpler and faster operation for minimal maintenance
- New automatic printhead self-cleaning system
- Offered also as an upgrade for existing DragonFly Pro users

HENSOLDT started working with a DragonFly system in 2016, in order to examine the possibilities of 3D printing electronics and is still active in innovative field of technology.

For HENSOLDT, the existing working experience in realizing 3D printed multilayer circuits with the multi-material inkjet-process, offered by Nano Dimension, shows that a high amount of personal care is needed to keep the printer system operational. The implementation of the new LDM system allows for a significant reduction of time and cost for realizing circuits, which are often needed as fast as possible.

During the joint LDM-campaign, HENSOLDT contributed by generating reference circuits to outline the advantages of the new LDM system.

The comparison of the actual printing time showed that the LDM system achieves more than 40% higher printing time.

“The DragonFly LDM is a necessary evolutionary setup up from the DragonFly Pro, enabling low-volume manufacturing of electronic circuits fast and easy to do in-house, with minimal operator time. It will be a great addition for Hensoldt, enabling us to develop innovative applications faster and with far better machine availability and lower maintenance than ever before,” said Andreas Salomon, responsible project leader for 3D printed electronics at HENSOLDT.

“The DragonFly LDM is designed to help our customers prepare for Industry 4.0. and stay competitive in a world that demands electronic devices with increasingly sophisticated features. Like its predecessor, the DragonFly Pro, it's the first of its kind on the market, carefully designed for both ease-of-use and even more agile, faster and affordable 3D printing of functional circuitry,” said Amit Dror, CEO and co-founder of Nano Dimension. “We’re confident that the LDM system will provide best in class additive manufacturing of printed electronics on the market, making it possible for companies to be more innovative, improve productivity and reliability, lower costs and reduce time-to-market.”

Links:

[Nano Dimension](#)

[DragonFly LDM images](#)



About Hensoldt

[HENSOLDT](#) is a global pioneer of technology and innovation in the area of defense and security electronics. The company is a market leader in civilian and military sensor solutions, developing new products to counter evolving threats based on disruptive concepts in such fields as big data, robotics and cyber security. With a workforce of some 4,500 employees, HENSOLDT generates revenues of more than 1 billion euros per year.

About Nano Dimension

Nano Dimension (Nasdaq, TASE: NNDM) is a leading electronics provider that is disrupting, reshaping, and defining the future of how cognitive connected products are made. With its unique 3D printing technologies, Nano Dimension is targeting the growing demand for electronic devices that require increasingly sophisticated features. Demand for circuitry, including PCBs - which are the heart of every electronic device - covers a diverse range of industries, including consumer electronics, medical devices, defense, aerospace, automotive, IoT and telecom. These sectors can all benefit greatly from Nano Dimension's products and services for rapid prototyping and short-run manufacturing. For more information, please visit www.nano-di.com.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995 and other Federal securities laws. Words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates" and similar expressions or variations of such words are intended to identify forward-looking statements. For example, Nano Dimension is using forward-looking statements in this press release when it discusses the benefits of its products, including but not limited to, that the LDM system will provide best in class additive manufacturing of printed electronics on the market, making it possible for companies to be more innovative, improve productivity and reliability, lower costs and reduce time-to-market. Because such statements deal with future events and are based on Nano Dimension's current expectations, they are subject to various risks and uncertainties. Actual results, performance or achievements of Nano Dimension could differ materially from those described in or implied by the statements in this press release. The forward-looking statements contained or implied in this press release are subject to other risks and uncertainties, including those discussed under the heading "Risk Factors" in Nano Dimension's annual report on Form 20-F filed with the Securities and Exchange Commission ("SEC") on March 15, 2018, and in any subsequent filings with the SEC. Except as otherwise required by law, Nano Dimension undertakes no obligation to publicly release any revisions to these forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. References and links to websites have been provided as a convenience, and the information contained on such websites is not incorporated by reference into this press release. Nano Dimension is not responsible for the contents of third-party websites.



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