

NeoPhotonics Charges Forward in 800G Transceiver Race: Week in Brief: - March 4, 2022

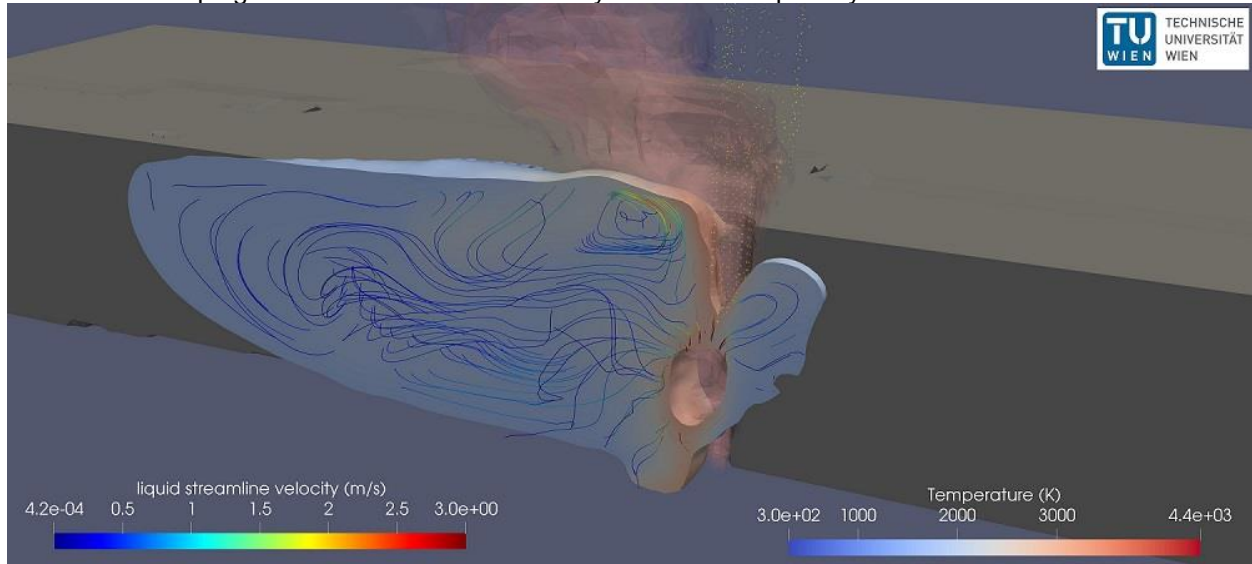
SAN JOSE, Calif., March 4, 2022 — **NeoPhotonics Corp.** reported that it successfully used its indium phosphide-based coherent receiver and coherent modulators, coupled with its ultranarrow linewidth tunable lasers or distributed feedback lasers to demonstrate 120-Gbaud operation in applications ranging from 800-G LR (long reach) transmission to 400-G long haul transmission. The company said its 120-Gbaud components coupled with its ultranarrow linewidth external cavity “nano” tunable laser or distributed feedback lasers, along with concurrent DSP advances, could enable pluggable modules to operate at 800-G for applications within and between datacenters. NeoPhotonics also identified the possibility to extend the speed and reach of embedded telecom systems.

REDONDO BEACH, Calif. — **Northrop Grumman** and **Ball Aerospace** will design and develop the two mission payloads for the U.S. Space Force’s Next Generation Overhead Persistent Infrared Polar (NGP) program. In May 2020, the U.S. Space Force awarded Northrop Grumman a \$2.37 billion contract for the first phase of the NGP program. The two satellites, operating in highly elliptical orbits, will include infrared sensors to detect and track ballistic and hypersonic missiles; an enhanced communication system that will transmit mission data to the ground, allowing decision makers to identify infrared heat signatures of incoming threats; and resiliency features that reduce vulnerabilities to counter cyber- and space attacks.



Northrop Grumman and Ball Aerospace will design and develop the two mission payloads for the Next Generation Overhead Persistent Infrared Polar program. Courtesy of Northrop Grumman.

VIENNA — Researchers at the **Technical University Wien** collaborated with **Civan Lasers** to simulate the company's dynamic beam laser technology. The simulation tool will play a critical role in process development, helping to optimize beam shape and frequency for a variety of laser materials processing applications. Reportedly the first and only multiphysics simulation software capable of modeling the megahertz-level frequencies of Civan's dynamic beam lasers, the work improves understanding of how these beam-shaping lasers influence control of keyhole and melt-pool dynamics.



TU Wien multiphysics simulation software modeling the megahertz-level frequencies of Civan's dynamic beam-shaping lasers, which play a critical role in process development by providing insights into the effect of beam shape and frequency on keyhole and melt-pool dynamics. Courtesy of TU Wien.

HANNOVER, Germany — Scientists at **Laser Zentrum Hannover (LZH)** developed a laser to detect water in the polar regions of the moon. The Institute of Optical Sensor Systems of the German Aerospace Center (DLR-OS) incorporated the laser from LZH into a demonstrator model of the actual "Volatiles Identification by Laser Ablation" measuring instrument (VOILA). The long-term goal is to integrate the

VOILA laser system into a moon rover.



In the LUVMI-X project, the LZH developed a laser for searching for volatile elements such as water in the polar regions of the moon. Courtesy of LZH.

GREENSBORO, N.C. — **Process Insights** acquired **Guided Wave Inc.** from Singapore-based **Advanced Holdings Ltd.** Guided Wave designs and manufactures complete analytical systems using NIR and UV-VIS spectroscopic technologies. The Calif.-based company will join Process Insights' existing portfolio of brands and technologies for process analytics, monitoring, and control.

ST. FLORIAN, Austria — Wafer bonding and lithography equipment supplier **EV Group** and silicon photonics company **Teramount** will collaborate on the implementation of wafer-level **optics** in fiber chip packaging. Under this collaboration, standard CMOS wafers that implement silicon photonics chips will be post-processed using EVG's nanoimprint lithography technology to implement optical elements such as mirrors and lenses for Teramount's optics. This enables flexible beam extraction from the chips and easy connection to a large number of optical fibers, as well as wafer-level optical inspection capabilities for enhancing silicon photonics wafer manufacturing.

REDONDO BEACH, Calif. — **Northrop Grumman Corp.** received an award with a potential value of \$692 million from the Space Development Agency to produce and field a constellation of 42 low-Earth orbit satellites for the Tranche 1 Transport Layer (T1TL) mesh satellite communications network. T1TL will provide resilient, low-latency, high-volume data transport supporting U.S. military missions around the world.

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