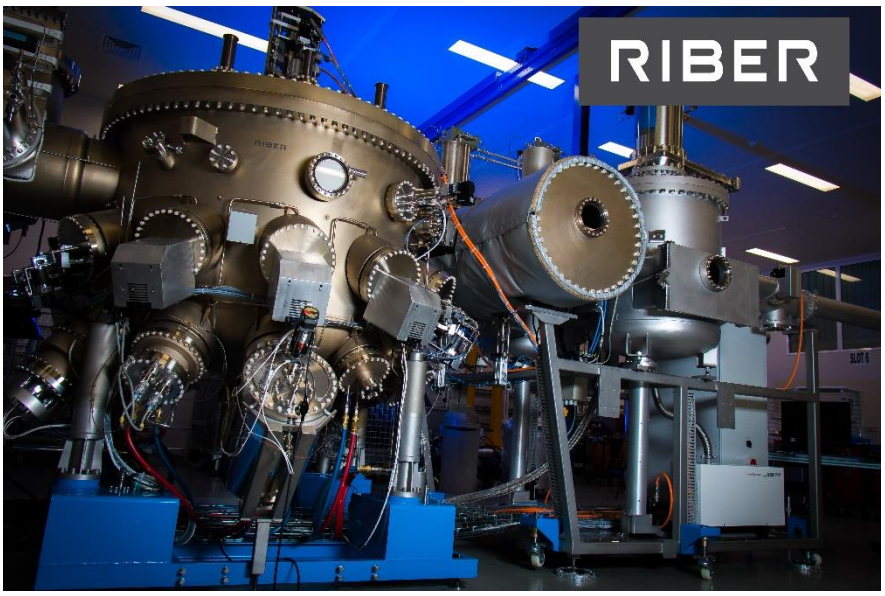
RIBER and IntelliEPI have qualified the MBE 8000 performance

- **State-of-the-art laser emission resolution, 3 nm, for VCSEL applications market**
- **Extremely high thickness and doping uniformities across 8x6in or 4x8in wafers run**
- **Final qualification expected by 4th quarter for high volume optoelectronic and micro-electronic applications**

Bezons (France), June 14, 2023 – 5:45pm (CET) – RIBER, the global leader for molecular beam epitaxy (MBE) equipment serving the semiconductor industry, is announcing major milestones in the joint development program with IntelliEPI for the qualification of the new MBE 8000 production platform.



As the new Riber's flagship, the MBE 8000 is the highest capacity MBE production tool available on the market, able to handle batches of eight 150 mm (6 inches) or four 200 mm (8 inches) wafers. The design of this machine benefits from over 20 years' experience in production MBE systems running daily around the world and enabling outstanding process performances and stability, thus reducing their cost of ownership.

Following the delivery of the first MBE 8000 platform and after a thorough qualification work carried out in close cooperation with IntelliEPI, the results obtained have exceeded the expectations for such technology, particularly in terms of uniformities, defect densities, increasing yield, and interface abruptness, which is key for superlattices structures to achieve high performance lasers.

Those performances combined with a high level of run-to-run repeatability control in large-scale production will enable new generation lasers, in particular for the fast-

growing VCSEL (vertical-cavity surface-emitting laser) technology with significant market opportunities in the field of smartphone under display facial recognition.

In its latest report on VCSEL, Yole Group specified: a "*major change expected is a shift in wavelength from 940 to 1,380nm (…)to achieve an integration of the VCSELs behind organic light emitting diode (OLED) displays, which are transparent at this wavelength. The first application could be the proximity sensor being placed under the display (…).*" (source)

On top of the VCSEL market, the precise control of the doping uniformity and the processes stability offered by the MBE 8000 platform will also enhance microelectronic device performances, such as conductivity.

Over *the past few months, as results were disclosed to several industrial customers, interest for this machine as grown quickly, leading to discussions for potential purchase*.

According to Yung-Chung Kao, IntelliEPI President and CEO, "From the initial evaluation so far, this Riber MBE 8000 has shown very impressive performance in terms of being able to produce high quality epi materials over such a large substrate platen area with excellent composition and thickness uniformity across the 8x6" platen. With this improvement, the MBE 8000 platform offers a solution to make large-scale production MBE technology more competitive especially for high performance and high throughput market opportunities

Christian Dupont, Riber's CEO : "Thanks to the efforts of Riber and IntelliEPI teams, we have reached a major step for MBE 8000 qualification. The results provided by the machine exceed our initial objectives. With an optimum cost of ownership and large capacity the MBE 8000 equipment has strong commercial prospects. In addition, our milestone in this joint development program with IntelliEPI demonstrates the capability to bring MBE technology in high volume semiconductor industry. "

About IntelliEPI

Intelligent Epitaxy Technology, Inc. (IntelliEPI) is a leading supplier of epitaxy-based compound semiconductor epi wafers to the electronics and optoelectronics industries based on GaAs, InP, GaSb and other substrates. IntelliEPI utilizes multi-wafer production molecular beam epitaxy (MBE) systems equipped with proprietary real time in situ growth monitoring technology to manufacture high performance epi wafers. The company was established in Texas in 1999.

www.intelliepi.com

About RIBER

RIBER is the global market leader for MBE - molecular beam epitaxy - equipment. It designs and produces equipment for the semiconductor industry and provides scientific and technical support for its clients (hardware and software), maintaining their equipment and optimizing their performance and output levels.

Accelerating the performance of electronics, RIBER's equipment performs an essential role in the development of advanced semiconductor systems that are used in numerous

applications, from information technologies to photonics (lasers, sensors, etc.), 5G telecommunications networks and research including the field of quantum computing.

RIBER is a BPI France-approved innovative company and is listed on the Euronext Growth Paris market (ISIN: FR0000075954).

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