Bertin Alpao Reaches an Industrial Milestone with its New eDM Deformable Mirror

Grenoble (France) – May 17, 2026 – **Bertin Alpao announces the launch of its new eDM (Embedded Deformable Mirror) and the signing of two series orders with European industrial partners. This launch confirms the company's shift toward industrial-scale production targeting high-end markets such as defense, microscopy, and ophthalmology.**

A Compact Deformable Mirror Designed for Industry

Always attentive to its customers' needs, Bertin Alpao has been developing turnkey adaptive optics solutions for over 15 years and continues its innovation drive to meet the demands of new markets. The eDM addresses the growing demand for integrating adaptive optics into industrial instruments. The eDM builds on the proven performance of Bertin Alpao's traditional deformable mirrors while adopting a more compact form factor through the integration of an embedded electronics module that requires only a power supply and an Ethernet port. Thanks to miniaturized electronic boards, the housing is reduced from 260mm to just a few millimeters. This new architecture drastically reduces cabling, eliminates external drivers, and enables simple and rapid integration, whether on optical benches or within scientific instruments.

Compact, turnkey, equipped with an intuitive user interface, and designed for rapid deployment, the eDM has already attracted several high-profile industrial customers. It is currently available in 57, 69, and 97 actuators configurations.

Two European Orders in Ophthalmology and Defense

The first order, from the ophthalmology sector, is part of a long-term collaboration with a major player in retinal imaging. Thanks to the eDM's compact size, this partner will be able to integrate an adaptive optics system directly into its clinical instruments, enabling retinal image resolutions below 2 microns and thus improving early detection of eye diseases as well as the monitoring of their progression.

The second order concerns the defense market, where the eDM will be integrated into embedded systems, whether ground-based, maritime, or airborne. In these applications, adaptive optics plays a key role in correcting wavefront distortions in real time, whether caused by atmospheric turbulence, vibrations, or the mechanical constraints inherent to platforms. It is used both to stabilize and enhance optical communications between platforms (by reducing scintillation, improving beam quality and therefore link security) and to improve the imaging quality of optronic sensors by increasing resolution and detection capability in complex environments.

The size of the deformable mirror and its performance therefore make it a strategic component for these systems, where footprint, robustness, and reliability are essential.

A Shift Toward Industrial Production

With the launch of the eDM, Bertin Alpao confirms its transition toward high-volume industrial production, while maintaining the quality standards that have built its reputation among laboratories and research centers worldwide. This new product enables the company to address a growing number of industrial applications requiring precision, stability, and compactness.

About Bertin Alpao

Bertin Alpao, a subsidiary of the French group Bertin Technologies, has been designing and marketing a comprehensive range of adaptive optics products for research and industry since 2008. Bertin Alpao provides deformable mirrors, wavefront sensors, and software.

Bertin Alpao's products are used in a wide range of applications including astronomy, ophthalmology, microscopy, free-space optical communications, and laser technologies. With over 15 years of experience, Bertin Alpao's deformable mirrors are recognized for their large stroke, fast deformation, high-resolution imaging, and excellent optical quality.

Bertin Alpao is a French company with international reach, present in more than 20 countries across 4 continents, with over 90% of its revenue generated from exports.

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