

# The Voice of the Industry



*Giuliano Piccino, President and CEO of Bright Solutions*

## Changing Landscape for Solid-State Lasers

The landscape for solid-state lasers is undergoing significant transformation. Over the past two years, our industry has experienced a noticeable shift. **Traditional applications of solid-state lasers** in the industrial field have seen a **decline in demand** as customers increasingly seek lower-cost alternatives. However, this challenge is coupled with a **surge in innovation**, particularly within the **medical, defence, and aerospace sectors**.

In aerospace, commercial applications for **satellites and spacecraft** are driving substantial growth. Europe, North America, and Asia, especially China, have become the fastest developing regions in this field. **Despite the historical collaboration between Chinese and European space agencies**, it seems **political tensions** have led to a more polarized environment, limiting our collaborations to ESA and NASA programs. This shift underscores the **complex geopolitical landscape in which our industry operates**.

Our high-power lasers play a crucial role in various aerospace applications. They are integral to **sensors for earth observation, precision mapping**, transmitters for high-energy **LiDAR detection**, and sensors for **portable spectrometers**. We are also pioneering flash LiDAR technology for critical tasks such as spacecraft landing, docking, and rendezvous. These advancements highlight the intersection of innovation and application, driving progress in aerospace technology.

Research and Development (R&D) remains the important part of our business strategy. There is a strong **trend towards innovation, miniaturization and reducing time to market** with existing technology not only in the space field. As a medium-sized company, we prioritize R&D to stay ahead in innovative markets like aerospace. The insights gained from these efforts are not limited to aerospace alone; they significantly enhance our offerings in the medical and other healthcare applications, as well as in advanced manufacturing sectors.

However, the challenge of continuous innovation and renewal is large. The rapid pace of technological advancement means that **lower-cost Asian competitors could potentially match our offerings in shorter times**. To maintain **our competitive edge, we must consistently innovate and deliver unique, high-quality products**.

**Public investment in technological infrastructure** has been pivotal, particularly in the post-COVID recovery phase. The **European Union's support has been essential in sustaining research** and transition towards innovation in several areas. Even if not specifically directed to photonics, those measures are positively influencing also the photonic industry in Europe. This momentum is crucial as we look to expand our business over the next few years. **Similar investments in the US and China have bolstered their high-tech sectors**, highlighting the importance of state funding in driving industry growth. For Europe, these investments are vital not only to maintain our position but also to soften the impact of economic fluctuations in China on the global market.

In conclusion, **the solid-state laser market is at a crossroads, with declining demand in traditional sectors juxtaposed against burgeoning opportunities in high-tech fields**. By embracing innovation and leveraging public investment, we can navigate these changes and secure a prosperous future.

At Bright Solutions, we are committed to staying at the forefront of this evolving landscape, driven by our dedication to research and the pursuit of excellence. As we move forward, we are inspired by the potential of our technology to revolutionize industries and improve lives.

**Giuliano Piccino**

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