



AIM PHOTONICS: ADVANCING US MANUFACTURING AND GROWING A SKILLED AMERICAN WORKFORCE

About AIM Photonics

In 2012, the US government committed \$1 billion to build a network of manufacturing institutes (i.e., the National Network for Manufacturing Innovation) – now known as “Manufacturing USA” – dedicated to advancing US manufacturing in areas determined to be of national importance.

In 2014, the Department of Defense (DOD) announced a competition for an Integrated Photonics Institute for Manufacturing Innovation (IP-IMI) and in 2015, awarded the institute – AIM Photonics – to a New York-based consortium.

Advances in optics and photonics – the science and application of light – can be leveraged across a wide range of disciplines and applications. AIM Photonics is developing advanced manufacturing capabilities to support industry and defense applications in datacom/telecom, analog radio-frequency, sensors technologies and array technologies. The consistent goal across these applications is to increase performance while at the same time decrease cost and power consumption. The targeted market for this manufacturing capability is expected to be more than \$100 billion by 2025.

It will not be possible for the US to accomplish these objectives without substantial growth in our skilled workforce. AIM Photonics is taking the lead in developing the integrated photonics workforce by collaboratively working with community colleges and universities to inspire, attract and retain students through career transitions to the photonics integrated circuits (PIC) industry. This “teaching factory” provides a unique opportunity for the education and training of students and workers at all levels, while providing the shared assets to help companies – most importantly small manufacturers – access the cutting-edge capabilities and equipment to design, test and pilot new products and manufacturing processes.

The National Footprint of AIM Photonics

The primary AIM Photonics team, led by SUNY Polytechnic Institute in New York State, includes faculty from the University of Arizona, Massachusetts Institute of Technology, University of California Santa Barbara, University of Rochester and industry partners such as Intel, HP, IBM, Cisco, Infinera, Raytheon, Lockheed Martin, and Northrup Grumman. Overall there are more than a dozen other prestigious universities and 50 large and small companies participating in the team.

Maintain Federal Funding to Support American Manufacturing and Skilled Workers

The DOD is the lead for the federal government in its partnership with AIM Photonics, along with significant involvement from the Departments of Commerce and Energy, as well as NASA and the National Science Foundation. AIM Photonics was awarded \$110 million in federal funding, combined with a commitment of \$250 million in funding from the State of New York, and matching contributions from the various participants totaling over \$500 million for the duration of the program. **In order to sustain the significant contributions of AIM Photonics to advancing US manufacturing and the workforce, federal funding for the institute must be maintained.**

The National Photonics Initiative

The National Photonics Initiative (NPI), a collaborative alliance among industry, academia and government to raise awareness of photonics and the impact of photonics on our everyday lives, coordinated responses from dozens of experts within the national photonics community who organized to answer DOD’s request. While the NPI did not endorse a specific IP-IMI proposal, it is strongly committed to supporting the winning New York consortium, AIM Photonics and its government partners through the platforms, programs and resources of its top scientific societies – the American Physical Society (APS), the IEEE Photonics Society (IPS), the Laser Institute of America (LIA), The Optical Society (OSA) and SPIE, the International Society for Optics and Photonics (SPIE).

For additional information, please visit the NPI website, www.lightourfuture.org, or e-mail NPI staff Laura Kolton, lkolto@osa.org, and Krisinda Plenkovich, krisindap@spie.org.