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News Release

## Keysight, NOEIC and CompoundTek Establish Open Standards for Layout, Design and Automation of Photonic Integrated Circuit Testing

SANTA ROSA, Calif; LIVERMORE, Calif.; SINGAPORE, February 7 2020 – [Keysight Technologies, Inc.](#) (NYSE: KEYS), a leading technology company that helps enterprises, service providers and governments accelerate innovation to connect and secure the world, National Information Optoelectronics Innovation Center (NOEIC), an innovative institute aimed at building a world-class R&D for the information optoelectronics industry, and [CompoundTek](#), a global foundry services leader in emerging silicon photonic solutions (SiPh), will work together to establish layout design standards for the automated testing of photonic integrated circuits (PICs).

PICs offer a multitude of advantages over their discrete components and bulk optics counterparts including significant footprint reduction, improved stability and lower energy consumption. PICs are ubiquitous in telecommunication networks solutions and attract increasing attention in new applications like sensing, bio-medical, cryptography and quantum computing. As the range of applications widens, a high level of standardisation and automation becomes essential to ensure the scalability, process monitoring and yield required for volume production.

Keysight, NOEIC and CompoundTek will collaborate to establish a globally recognised standardised approach to PIC layout, enabling access to automated testing, generic assembly and packaging services for scaling to volume production. The goal is to interface with PIC designers who define the test protocols during the design stage with the test facilities which will enable automation and define measurement procedure and their parameters.

The consortium will work together to standardise PIC layout conventions and design rules for edge-coupled circuits, which include, but are not limited to, die orientation, location of I/O ports, placement of DC pads, fiducials and indication of restricted areas important for automated testing, assembly and packaging. Adopting and deploying a proven integrated solution, featuring Keysight's Photonic Suite on a fully automated probe station with speed optimised test executive algorithm, facilitates high throughput testing, while enabling Design-For-Test (DFT) and First-Design-Right (FDR) techniques to reduce overall costs associated with the test. Keysight's Photonic Suite is comprised of Keysight's [PathWave](#) and [Photonic Application](#) solutions.

### About NOEIC

National Information Optoelectronics Innovation Center (NOEIC) is a national R&D and innovation hub settled in Wuhan China Optics Valley that brings together the resources of its world-class platform, industrial companies, research institutes and investment partners to promote commercialization of scientific and technological achievements in information optoelectronics. NOEIC helps the industry to breakthrough key generic and common technologies such as materials growth, PIC technology, advanced packaging and provide high-end information optoelectronics solutions for 5G, high speed optical communications, data centers and other applications. For more information, visit <http://www.noeic.com>.

### About CompoundTek Pte Ltd

Founded and supported by industry veterans and technologists, Singapore-based CompoundTek combines world-class commercial foundry with leading silicon photonics (SiPh) research institutes to provide cutting-edge SiPh technologies that enhance foundry services capabilities. CompoundTek brings to the marketplace revolutionary semiconductor applications designed to meet critical requirements in high bandwidth and high data transfer solutions particularly in emerging connectivity driving Industry 4.0. For more information, visit <http://www.compoundtek.com> and [LinkedIn](#).



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## About Keysight Technologies

Keysight Technologies, Inc. (NYSE: KEYS) is a leading technology company that helps enterprises, service providers and governments accelerate innovation to connect and secure the world. Keysight's solutions optimize networks and bring electronic products to market faster and at a lower cost with offerings from design simulation, to prototype validation, to manufacturing test, to optimization in networks and cloud environments. Customers span the worldwide communications ecosystem, aerospace and defense, automotive, energy, semiconductor and general electronics end markets. Keysight generated revenues of \$4.3B in fiscal year 2019. More information is available at [www.keysight.com](http://www.keysight.com).