

## CompoundTek's 8"/12" SiPh Wafer Test Hub commercialises new wafer edge coupling tech, reduces test time and hardware costs

- *Company reaffirms rollout of competitive mass production SiPh Wafer Testing to include "test parallelism"*
- *Further improvement of SiPh wafer test time by an additional 40% in the pipeline*

**Singapore, 1 Oct 2021** – CompoundTek Pte Ltd, a global foundry services provider in emerging Silicon Photonics (SiPh) solution announces the commercialisation of its new wafer edge coupling tech, delivered by the company's agnostic 8"/12" Silicon Photonics Wafer Test Hub. Billed as Asia's first facility of its kind, the test hub's latest collaborative innovation will be available to key customers starting October 2021 and addresses three key areas of SiPh wafer testing: wafer-level edge coupling, test time reduction, and test hardware cost reduction.

The company's transformative wafer edge coupling solution increases coverage of existing SiPh wafer tests to include detection of failures in edge couplers and can achieve best-in-class coupling loss lower than 2dB per facet as well as high repeatability of measurement with sigma lesser than 0.05dB.

In today's mainstream SiPh wafer test technology, light is vertically coupled into the device under test (DUT) through grating couplers, an inherent mismatch with actual end-application where light is instead, coupled horizontally into the device at the die edge. This reinforces the gaps between the wafer test environment and final application in SiPh test coverage, a challenge CompoundTek can successfully mitigate by simulating real-world based test scenarios to screen out failures through its advanced wafer-level edge coupling solution. Forming a game-changer for the industry, the solution transforms testing cycle time, reduces cost significantly and improves yield accuracy and supply at the transceiver module level.

CompoundTek's proprietary Test Executive Systems (TES), introduced in Q2 2020, is another key differentiator in the company's solutions portfolio. Incorporating full test automation and machine learning capabilities, TES reduces SiPh wafer test time by up to 40% to as short as 1.5 hours (from 2.5 hours) or 46 hours (from 72/96 hours). Paving the way for an industry 'gold standard layout rule', it is a pioneering benchmark in TES that significantly reduces the setup time needed when switching between different tests – a common issue attributed to complex opto-electrical (DC and RF) tests.

Combining the new wafer edge coupling tech and TES with other ongoing development efforts between CompoundTek and its partners in shaping cost-efficient standardised SiPh wafer test solutions, a robust expertise portfolio will be capable of achieving a good balance of test coverage with competitive test time and competitive hardware cost.

Further reaffirming CompoundTek's commitment to expanding its pipeline of competitive mass production SiPh wafer testing capabilities, is the company's "test parallelism" project. This phased initiative is poised to improve test cycle time *by an additional 40%* - making it a likely candidate for the first-of-its-kind service that better integrates the SiPh value chain and solidify the manufacturing ecosystem.

Since its launch in 2017, Singapore-based CompoundTek has over 20 global commercial customers and partnerships with over 20 research institutes and universities in various high-growth SiPh applications spanning telecommunications, automotive radar, data communications, bio-sensing, artificial intelligence, quantum computing and smart sensors.

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## 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. As one of the elites offering SiPh solutions internationally, 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. The company's in-depth know-how includes end-to-end technologies - from proprietary fabrication process expertise to product design support with strategic partners and extended services for end-product manufacturing. CompoundTek's global customers span leading brands and FORTUNE 500 companies in high-growth industries including artificial intelligence, automotive, bio-medical diagnostics, data centre, lidar, smart sensor, telecommunication and quantum optical computing.

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