

The logo for AEHR Test Systems features the letters 'AEHR' in a large, bold, black sans-serif font. Below 'AEHR' is the text 'TEST SYSTEMS' in a smaller, bold, black sans-serif font. To the right of the text is a graphic element consisting of four horizontal orange bars of varying lengths, stacked vertically.

AEHR TEST SYSTEMS

Setting the Test Standard for
Tomorrow

Nasdaq: AEHR

Forward Looking Statements

This presentation contains forward-looking statements that involve risks and uncertainties relating to projections regarding industry growth and customer demand for the Company's products. Actual results may vary from projected results. These risks and uncertainties include without limitation, acceptance by customers of the ABTS™ and FOX™ technologies, the Company's development and manufacture of a commercially successful wafer level burn-in and test system, world economic conditions, the timing of the recovery of the semiconductor equipment market, the Company's ability to maintain sufficient cash to support operations, and the potential emergence of alternative technologies, which could adversely affect demand for the Company's products in fiscal year 2021. See the Company's recent 10-K and 10-Q reports filed with the SEC for a more detailed description of the risks facing the Company's business. The Company disclaims any obligation to update information contained in any forward-looking statement to reflect events or circumstances occurring after the date of this presentation.

Company Overview

- Worldwide supplier of burn-in test equipment and pioneer of wafer level burn-in (“WLBI”) platform
- Leader in WLBI, stabilization, and infant mortality test which is being commercially adopted across multiple high-growth market segments
- AeHR’s FOX wafer level and singulated die/module systems and consumables have been validated and adopted by Tier 1 customers for rapidly growing applications including Silicon Photonics, Silicon Carbide, and 2D & 3D Sensing
- Developing next generation packaged part burn-in (“PPBI”) platform for high voltage, high power automotive and industrial applications
- High margin proprietary WaferPak and DiePak consumables are a significant percentage of revenues
- Ability to rapidly scale production in existing manufacturing footprint
- In discussions with Memory Suppliers regarding next generation WLBI system for wafer level test during burn-in for Flash/DRAM (an upside opportunity not included in forecast)

Production Semiconductor Test & Burn-In for over 40 Years



Multiple Wafer / Die Level Test & Burn-In Solutions



Single Wafer Test & Burn-In Solutions



Packaged Part Test & Burn-In Solutions

Worldwide Customer Base



Aehr has been a leader in burn-in test solutions for over 40 years with thousands of systems shipped worldwide

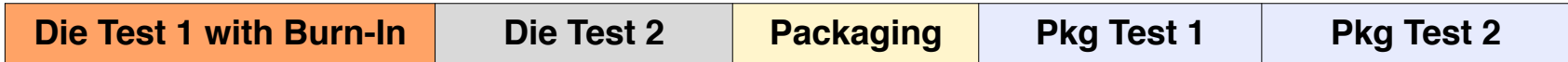
(Partial Customer List)

WLBI vs. PPBI Test Flow Example

Packaged Part Burn-In Test Flow



Aehr Test FOX-XP



Wafer Level Burn-In Test Flow

Wafer Level Enabling Technology

- Aehr's FOX-XP is capable of both functional burn-in and test solutions by leveraging proprietary aligner and contactor technology
- Multi-wafer technology enables customers to achieve an overall decrease in test equipment cost and fab footprint, while increasing die yield and throughput

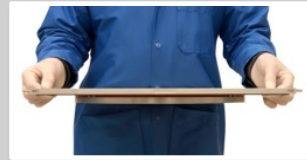
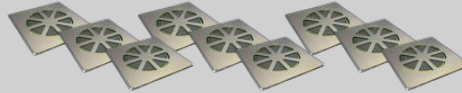
MULTI-WAFER TESTER



**FOX-XP Multi-Wafer
Test System**

- May be configured with up to 18 Blades, enabling 18 wafers to be tested in parallel – driving cost efficiency and throughput
- High performance thermal chucks allow uniform temperature control of the wafers
- Footprint similar to single wafer automated test equipment – reducing lab test space

CONTACTOR



FOX-XP WaferPaks

- Houses the wafer and distributes signals and power to the wafer itself
- The WaferPak contactor is capable of over 50,000 contacts in a single touchdown on up to 300mm wafers
- Consumable input into the test system driving recurring revenue from the installed base

ALIGNER



**FOX WaferPak
Aligner**

- Integral piece of test cell as it loads the wafer in the WaferPak at immense levels of precision
- By perfectly setting the wafer in a cartridge it ensures perfect contact
- Performs wafer alignment “offline” which eliminates the need for one wafer prober per wafer during long burn-in and test times

FOX Family of Test & Burn-In Systems

Wafer Level & Singulated Die Solutions for Engineering through Production



FOX™ XP

Multi-Wafer & Singulated Die
Test & Burn-In Systems



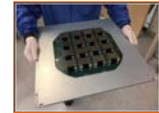
FOX™ CP

Single Wafer
Test & Burn-In Systems



FOX™ MP

Engineering & NPI
Test & Burn-In Systems



FOX-P WaferPak & DiePak
Contactors

Customer Momentum and Opportunities

Recent Customer Momentum

- Major new customer for very high-volume devices in data center on Aehr proprietary WLBI
- Top three semiconductor company significantly expanding silicon photonics production capacity with Aehr FOX-XP and recently introduced FOX-NP systems
- Three new customer wins in silicon photonics test and burn-in with FOX-NP will move to high volume with FOX-XP
- First new customer win in silicon carbide using FOX-XP for HVM WLBI
- Major mobile supplier purchases DiePaks for installed base of FOX-XP

New Customer & Market Opportunities

- Aehr engaged in over two dozen new customer applications for wafer level and singulated die test and burn-in with new FOX-P line of solutions
- Multiple silicon photonics and 5G communication infrastructure and data center devices
- Data storage devices
- Automotive devices including EV control and sensors for ADAS and autonomous vehicles
- 3D and 2D mobile sensors test & burn-in
- Memory device WLBI represents significant upside opportunity

Market Drivers

Need for cost-efficient wafer level and singulated die burn-in & testing as well as new requirements in package part burn in are creating significant revenue opportunities in the following key markets

- **Data Center Infrastructure** and unstoppable growth in **Data Storage**
- **Worldwide 5G Infrastructure** build out using **Silicon Photonics** fiber optic transceivers
- **Automotive IC growth** in motor control and power management using **Silicon Carbide & IGBT devices**, sensors, control, information, and entertainment
- **3D and 2D Sensors** including facial recognition in smartphones, tablets, and other applications
- **Heterogeneous Integration of semiconductors** and **3D fabrication and stacking** driving technology and cost roadmaps pushing known good die with test and burn-in of device in wafer form prior to packaging



Silicon Photonics

- Integrated laser devices directly on silicon transceiver drastically lowering the cost of fiber optic transceivers for data centers and the internet cloud are driving a new requirement and opportunity for wafer level and singulated die burn-in and test



Silicon Photonics growth driven by data centers, sensors, and optical switches

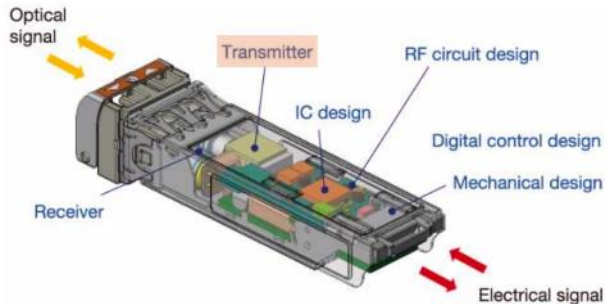


Aehr has five customers in Silicon Photonics worldwide and is engaged with over 15 companies in this space

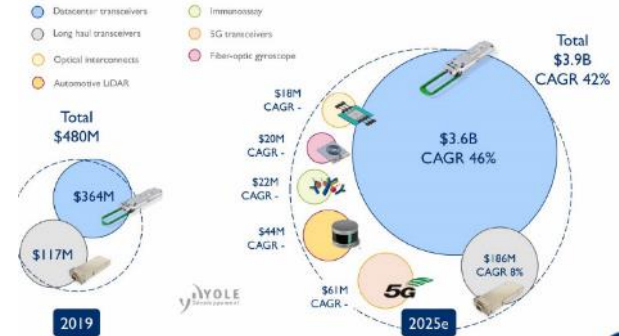
Silicon Photonics Stabilization & Infant Mortality

Silicon Photonics Market Opportunity

- Silicon photonics provides wafer level integration and HVM scale -> disruptive cost advantage over discrete fiber optic transceivers
- Wafer Level and Singulated Die/Module level Stabilization & Burn-in not only the most cost effective, but is considered an ENABLING capability to scale to HVM and low cost
- AeHR is unique in our ability to contact 100% of the lasers on a wafer, drive Die with individual constant current drivers, and manage the thermal load of wafers with as much as 2kW load



SILICON PHOTONICS FORECAST, BY APPLICATION
2019 - 2025 forecast



Silicon Photonics growth driven by data centers, telecom, & 5G

Automotive & EV Semiconductor Device Market

- Automotive IC growth in sensors, control, information, and entertainment has substantially higher requirements for initial quality and long-term reliability
- New high bandgap / high voltage semiconductors (like Silicon Carbide and Gallium Nitride) create new opportunities in test and burn in.

Collision Detection



EV / HEV Power Management

Autonomous / Driver Assistance



Silicon Carbide and EV/HEV Module Market

- High Voltage / Power Electric Automobile powertrains driving high bandgap Silicon Carbide semiconductors with substantially higher initial quality and long-term reliability than current processes support drives burn-in
- Silicon Carbide is known in the industry to have very high defect density and high infant mortality related to high voltage break down failure – defect density drives up to 50% initial yield loss and 5% or more yield loss during BI



Plug in Automotive Power Conversion



Electric Vehicle Powertrains



Tesla Model 3 Inverter with ST SiC Power Modules

Silicon Carbide Infant Mortality Market

Silicon Carbide Market Opportunity

- Silicon carbide wafers have very high defect density with low initial yield and high infant mortality (recognized industry wide)
- Devices must be burned in at high temperatures to remove infant mortality for 48 - 100 hours
- Wafer Level Burn-in allows removal of bad die PRIOR to packaging in the module with other die
- Two types of stress / BI tests drive different configurations. We have introduced a solution for one of the two stress conditions with our FOX systems which works for our current customers and are in the process of prototyping the other with customer feedback. In addition to capturing the WLBI opportunity, we are introducing the new MAX5 system for discrete and other applications where package part burn in is preferable.

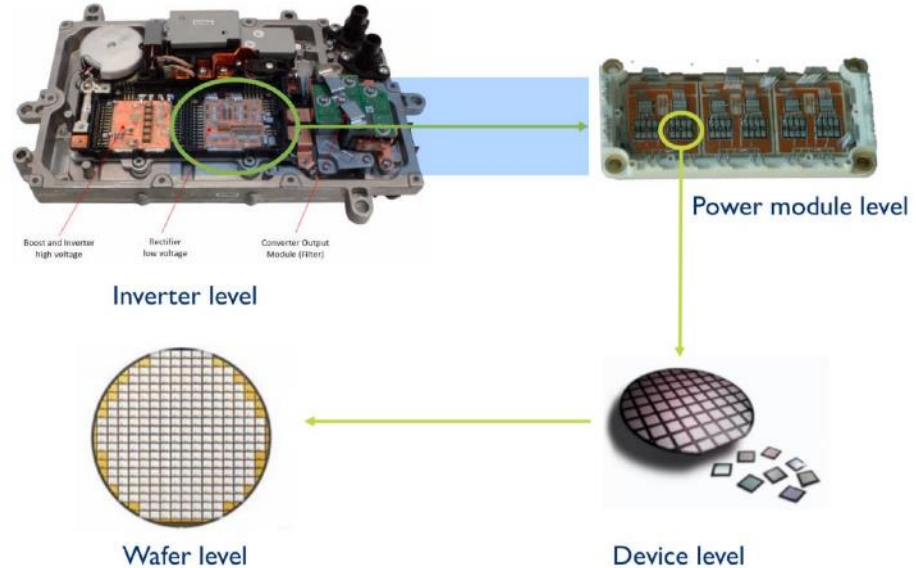


Silicon Carbide Die Packaging

Burn-in at Module is Very Expensive on Yield



Silicon Carbide Module with 8 Die



Customers driving to move Silicon Carbide burn-in to Wafer Level

\$1B Market Opportunity for AEHR

- 2019 Packaged Part Burn in Systems Market: **\$218M**
- 2019 Packaged Part Burn-in Consumables Market: **\$540M**
- Estimated 2021 Wafer Level and Singulated Die Burn-in Systems, Consumables, and Material Handlers Market: **\$400M+**

*Packaged Part Burn in TAM source: VLSI Research May 2020
Wafer Level Burn-In Equipment TAMs based on VLSI Research, Yole
Development, and AeHR actual customer data models*

Key Takeaways

- Pioneer of next generation technology platform for wafer level testing
- Significant need for lower cost wafer level test / burn-in
- Wafer level and singulated die test / burn-in being adopted by across multiple high-growth markets including Silicon Photonics and Silicon Carbide
- Over two dozen new customer engagements for wafer level test / burn-in
- Growing, high margin consumables revenue
- \$1B+ market opportunity

*Packaged Part Burn in TAM source: VLSI Research May 2020
Wafer Level Burn-In Equipment TAMs based on VLSI Research, Yole
Development, and AeHR actual customer data models*

The logo for AEHR Test Systems features the letters 'AEHR' in a large, bold, black sans-serif font. Below 'AEHR' is the text 'TEST SYSTEMS' in a smaller, bold, black sans-serif font. To the right of the text is a graphic element consisting of four horizontal orange bars of varying lengths, stacked vertically.

AEHR TEST SYSTEMS

Setting the Test Standard for
Tomorrow

Nasdaq: AEHR