Presentation to Shareholders

AEM Holdings Ltd | AGM 29 April 2019

Disclaimer

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Agenda

- 2018 Financial Review
- Overview of our Strategic Direction
- Strategic Business Units Updates
- AGM Resolutions

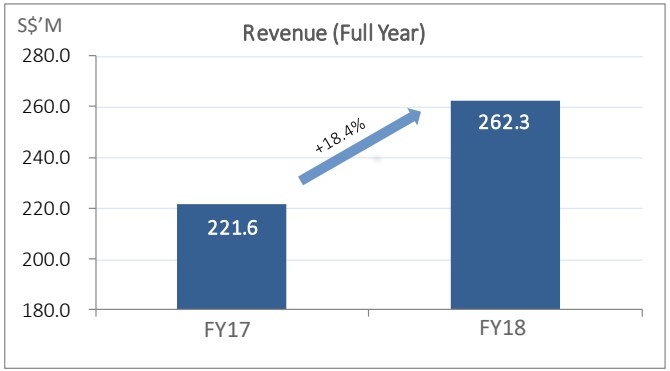


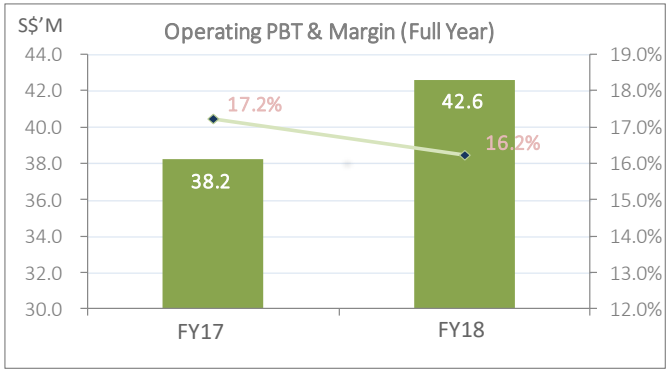
Financial Review

Financial Highlights for FY2018

➢ FY 2018 guidance delivered

Revenue growth supported by increased deliveries of test handlers and pans/kits.





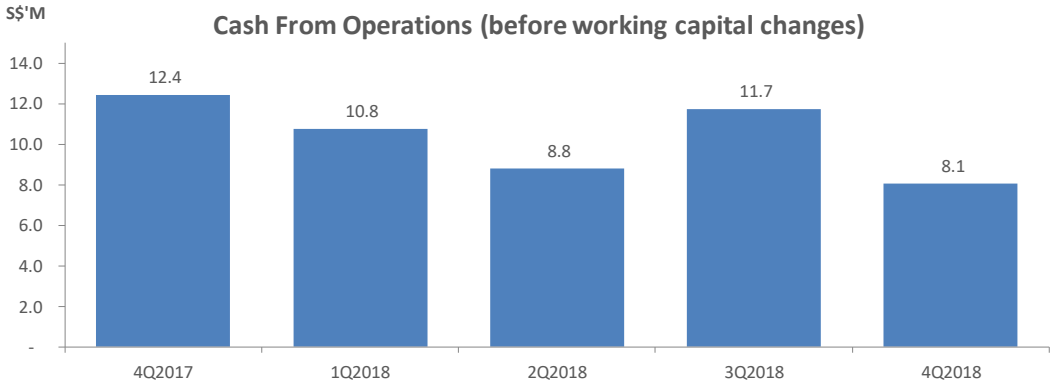
➢ Sales orders

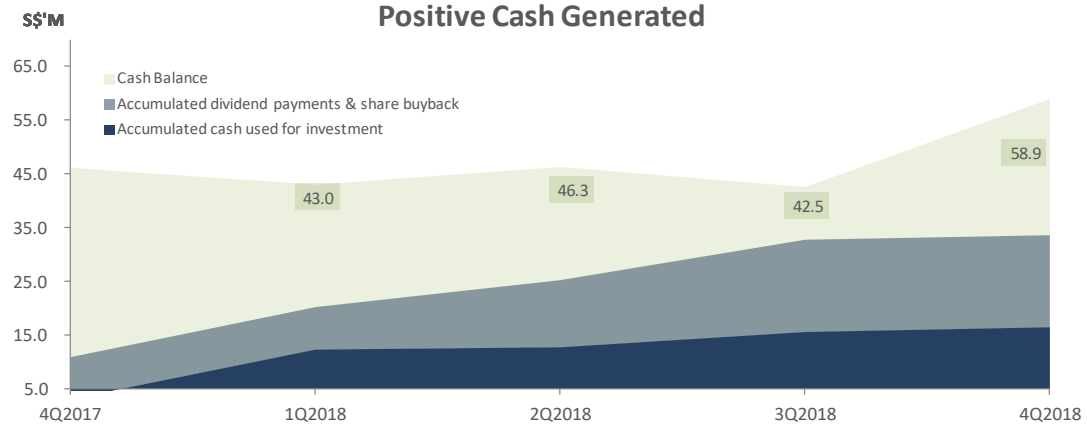
Orders received for FY 2019 delivery increased to $209M as at 25 April 2019.

➢ Dividend

Proposed **final dividend** of **1.9 cents** payable on 31 May 2019. Including interim dividend of 1.5 Singapore cents, the payout is 25% of operating net profit.

Cash and Cash Flow





Cash Generated (FY18)	S$'M
Cash from operations (before working capital changes)	39.4

Cash Paid (FY18)	S$'M
M&A	8.3
Dividend	8.4
Share buyback	1.2
Capex	4.7
Tax paid	5.1
	27.7

Cash balance at S$58.9M as of end of 2018
after using S$23M on acquisitions, dividends, buybacks and taxes



Our Journey Continues

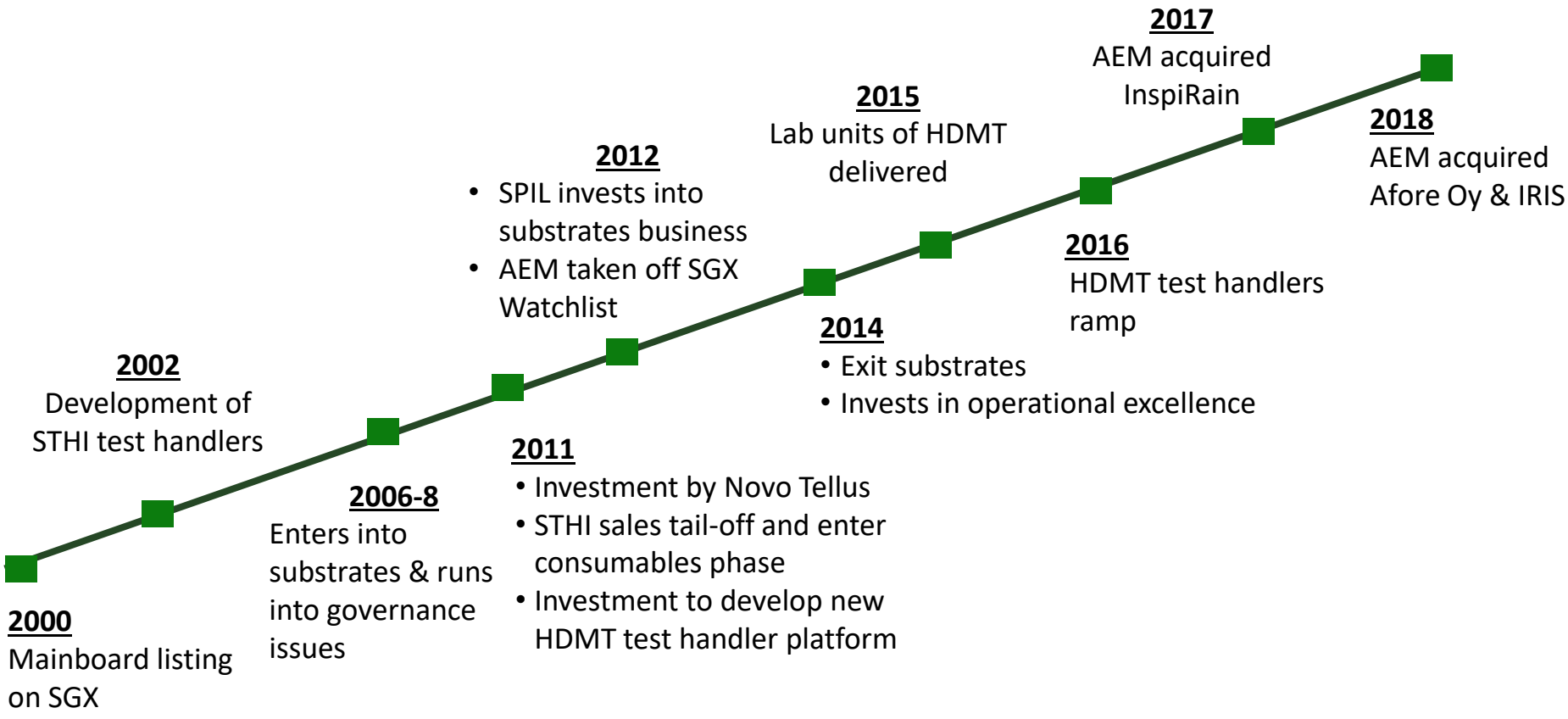
FY 2018 delivered record financial performance

because we invested many years ago to develop technology and execution capabilities

- Record FY2018 financial performance achieving revenue of S$262.3M and operating PBT of S$42.6M driven mainly by sales of test handlers and its related pans/kits
- Core business based on engineering customised state-of-the-art test handler platforms for one of the world's largest semiconductor companies
- New business entry into System Level Test handlers, cable and RF module test measurement systems, MEMS and Cryogenic prober solutions
- Revenue guidance for FY 2019 is between S$225M and S$250M

Note:- TAM means total addressable market

AEM's transformation into a product company started in 2011 and continues...



Transformation into a Global Leader in the Test and Inspection Space

Phase I
2011 - 2016
Re-build the foundation

- Management of key account and win new projects
- Restructure operations and refine business focus
- Invest in R&D to support new projects

Phase II
2016 - 2018
Refine the vision and develop core competencies

- Generate profits and free cash flow
- Deepen key account relationships
- Develop and execute on a corporate investment plan in operations, R&D and M&A

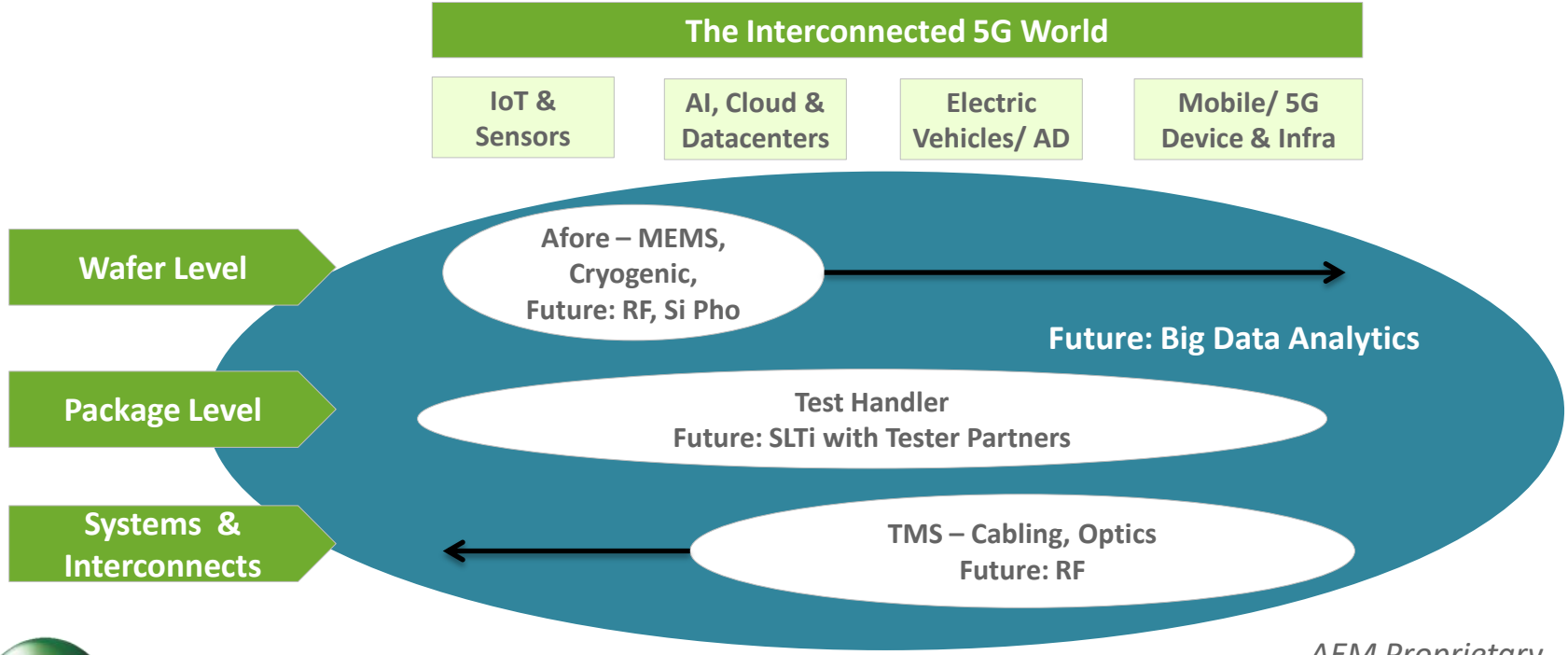
Phase III
2018 and beyond
Apply core competencies to grow

- Expand opportunities with key customers of original and acquired businesses
- Develop solutions for the industry (SLTI, TMS, Afore)
- Grow global reach

A long term view | **A shared vision** | **Continued innovation**

How are we pulling our acquisitions together?

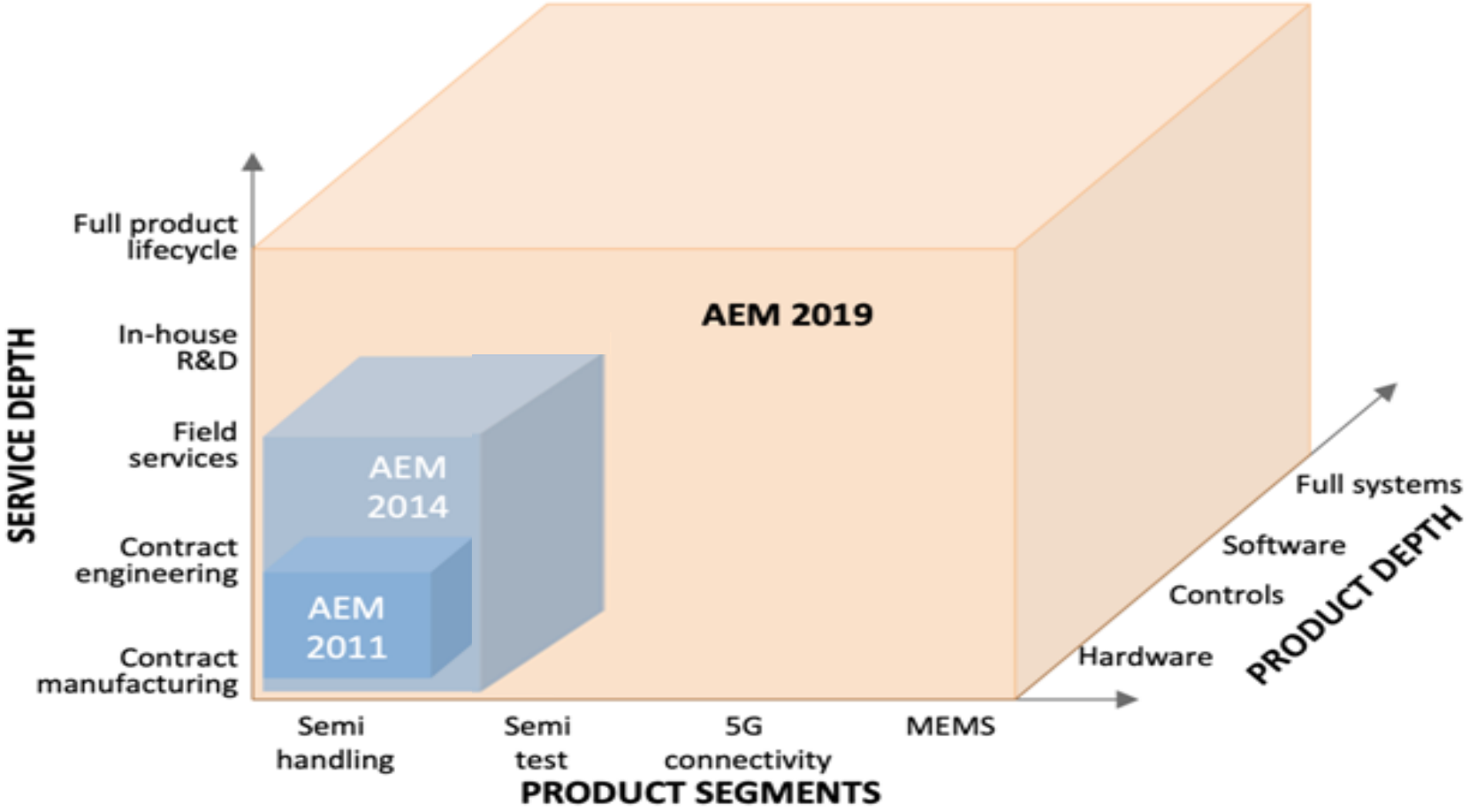
To enable our customers to deliver parts per billion assurance in an interconnected world with smarter testing



AEM Proprietary

Note:- Si Pho - Silicon photonics, TMS – Test & Measurement Solutions

Grow Core Competencies and win new business

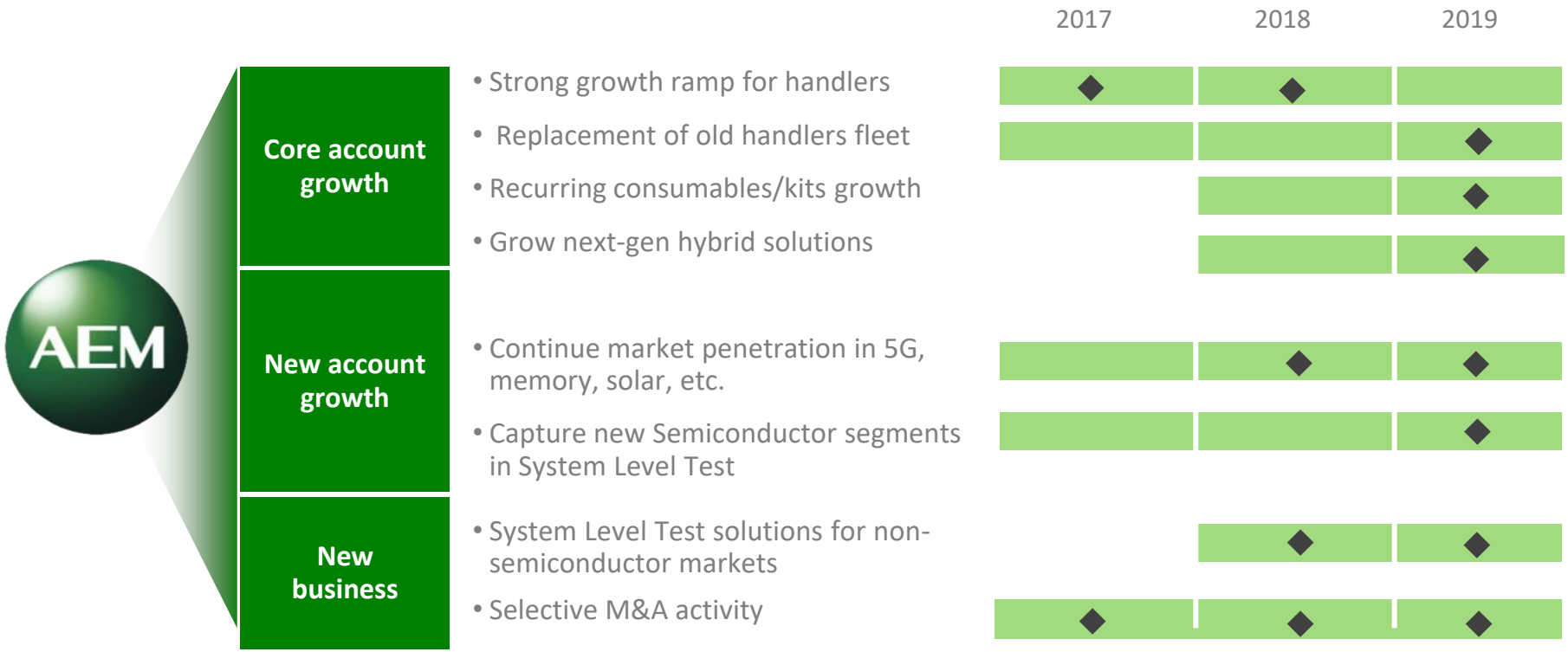




Outlook

Focus on commercial development for Handler extensions, TMS and MEMS

Current generation of test handlers expected to hit maturity in 2019. Earnings will be driven by new handler platforms, consumables, new account programs, and new business units from 2019 and beyond

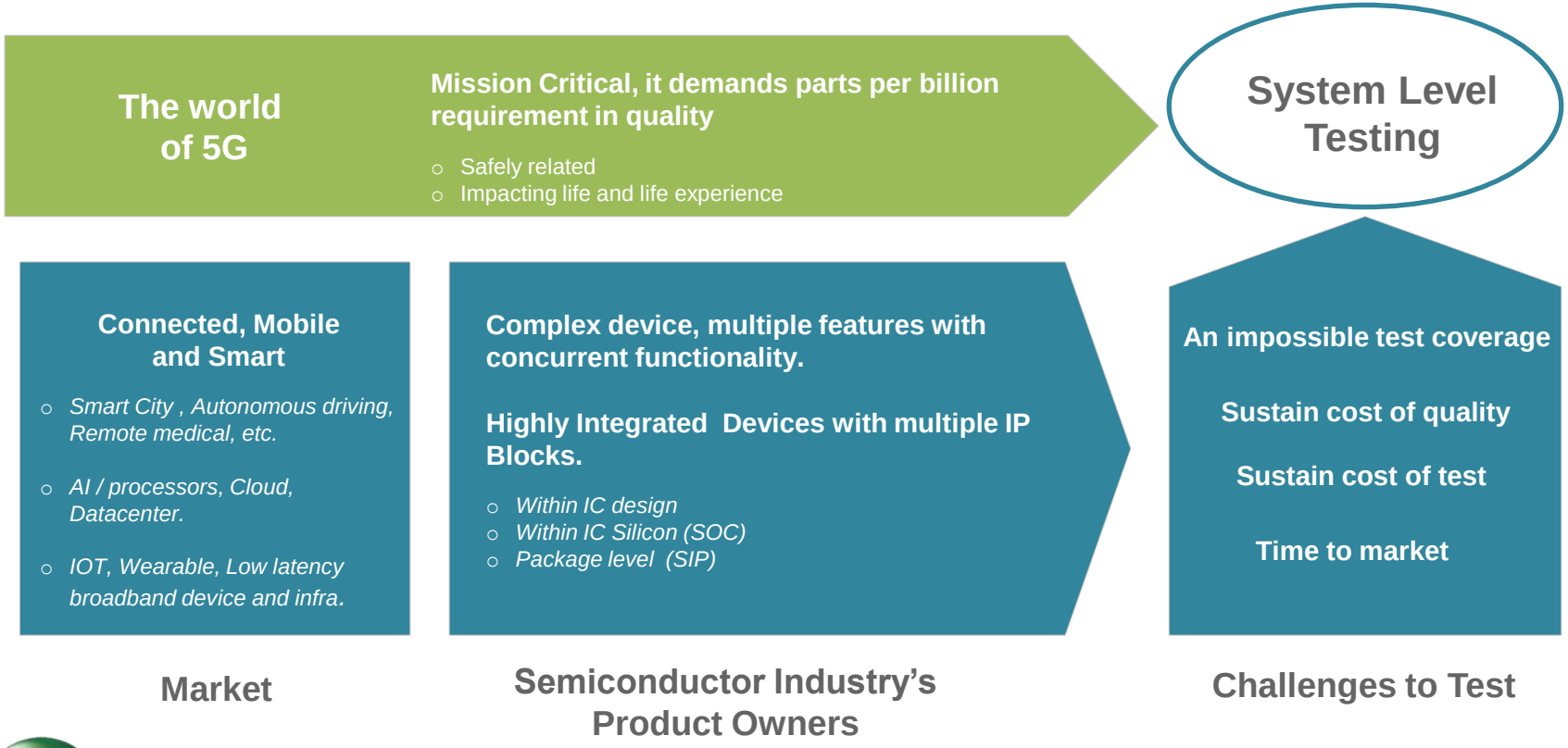




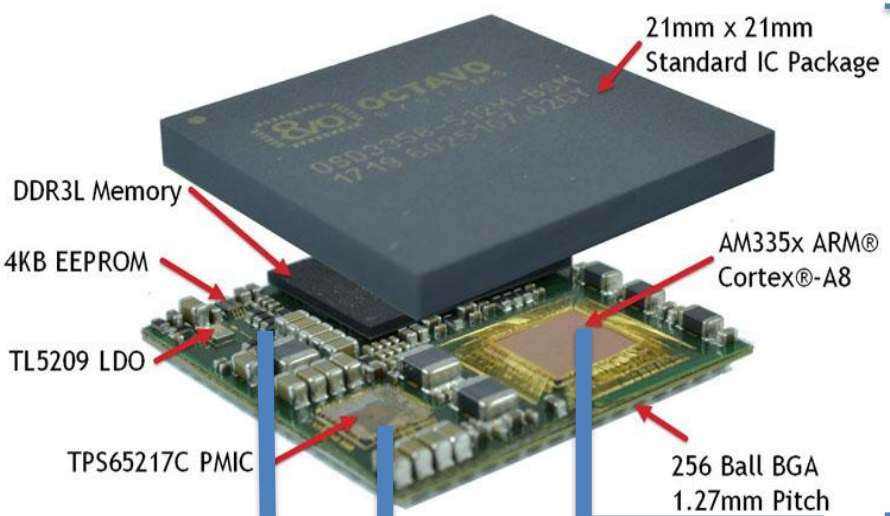
SLTi

Necessity in going into System Level Test

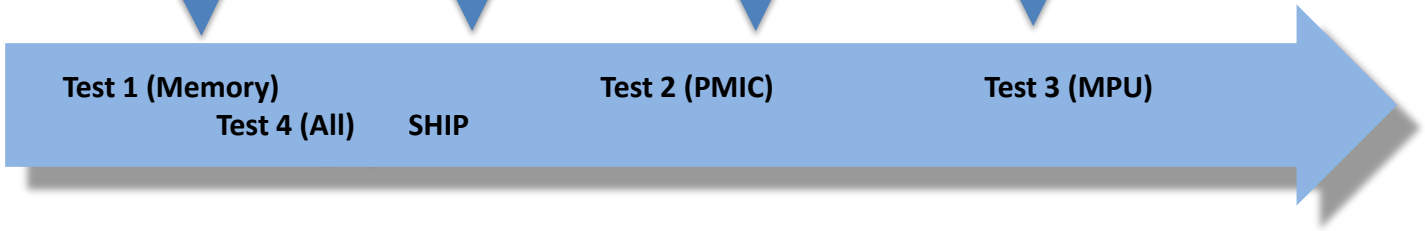
IC testing is heading towards an inflection point !



Complex SiP devices will require new test paradigms

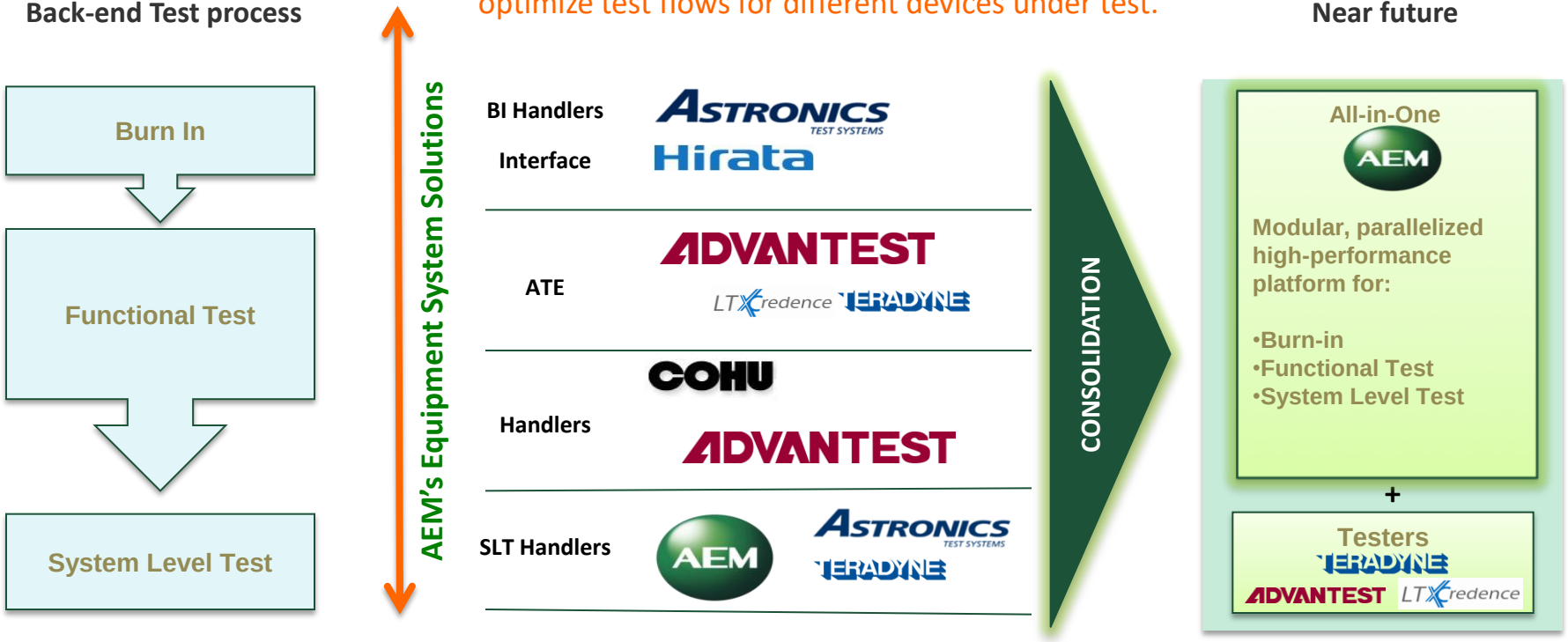


Future Test Flow?



AEM's equipment automated the entire Back-end Test process, and transformed the Cost-of-Test and Time-to-Market performance for Customer

THE BIG DEAL - Automating the entire back-end test process eliminates re-correlation and enables big data analytics to optimize test flows for different devices under test.



AEM has been providing automated SLT solutions since 2002

AEM's solutions to system level testing

- Been supporting customized System Level Test (SLT) solutions since 2001, with more than 700 units deployed globally.

- With industry needing to get into SLT, AEM offers its customized solutions with its ***AMPS platform,*** which is,
  - ***Modular and configurable*** with massively parallel and asynchronous in running.
  - ***A singular platform*** that could co-exist with different testers to accommodate different test processes being executed simultaneously.
  - ***A singular platform*** supporting development, validation and mass production, ease to scalability and time to market.

- Secured 1st AMPS's customer in late 2018, and a prototype system has been shipped to customer facility for evaluations.

- Building up eco system partners and support structure, targeting market in North America and China.

Note:- AMPS means Asynchronous Modular Parallel Smart platform



TMS

First Full Year at AEM

TestPro, multifunction cable tester, launched in the market

- Several awards received, showing industry's acknowledgement of our new tester

Extended international presence and brand building

- New senior staff members in the USA, China, and Singapore add to our marketing strength
- New staff in R&D and increased R&D spending
- World-wide sales channel now setup in North America, Europe, Asia
- Participated in several exhibitions, conferences, and trade shows across the globe
- Focused website www.aem-test.com launched
- AEM brand is now well known among our target customer base!

Synergy across business units

- Several automated test projects in the pipeline reaping benefit from AEM's automation expertise with our test offerings

Huawei

- from customer requirements to conceptualization to 3-party contract negotiation to execution and successful prototype demonstration to customer

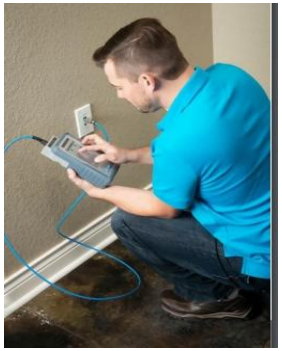
2018 Cabling Installation & Maintenance Gold Innovators Awards



TestPro CV100 Multifunction cable tester

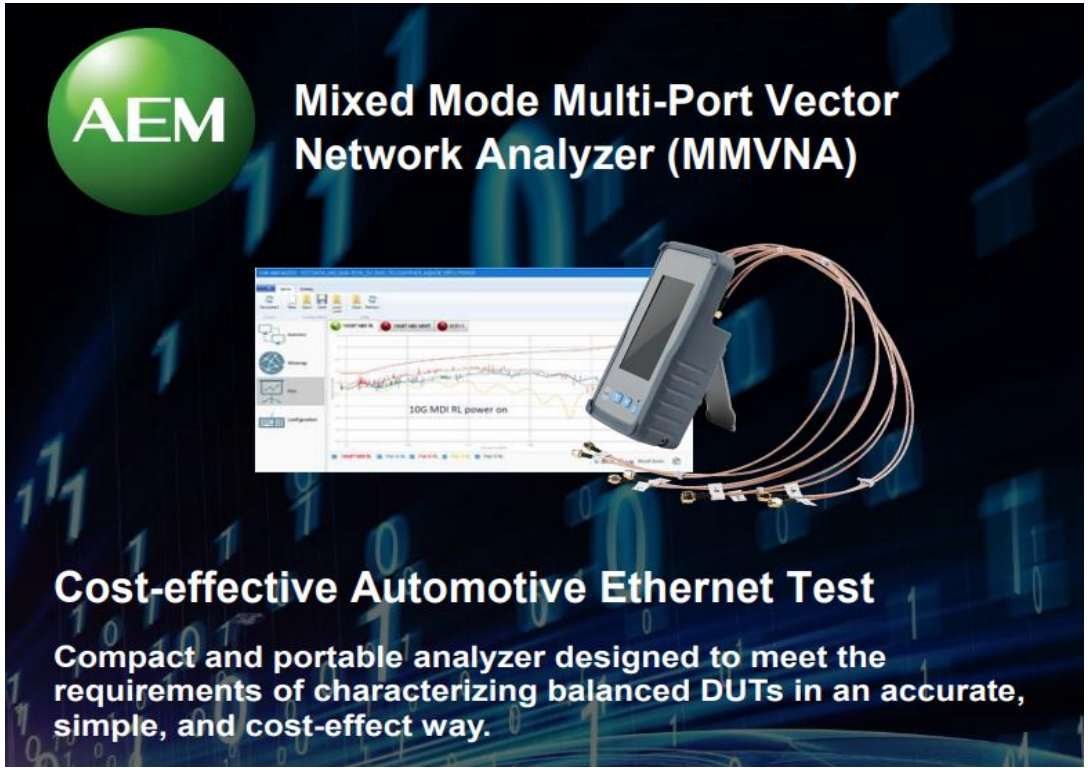


- Handheld RF tester for certifying network cables
- Fastest test speed and widest frequency range in the industry
- Most versatile tester on the market for testing various copper and fiber optic cables





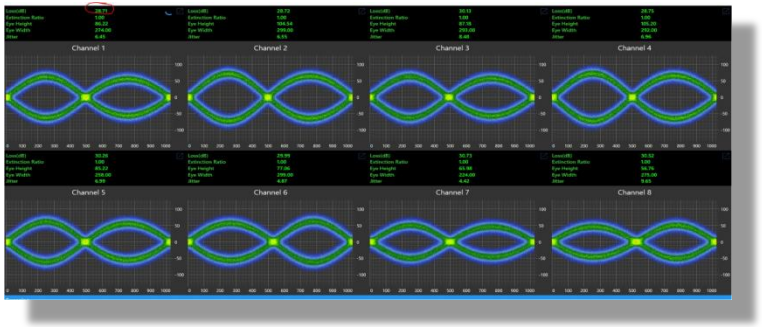
MMVNA for Manufacturing Test of Automotive Cables



- RF test solution specifically for manufacturing testing
- Supports multi-port and high volume testing of RF components

WideOptix fiber test solution





Fast, accurate test of multimode fiber optic cable bandwidth

- PASS/FAIL result for suitability of fiber in 100G links

Huawei Engagement for WideOptix

Multimode fiber for front-haul	High bandwidth of 100Gbps to enable high data rate and low latency for 5G devices in dense areas
	Lower cost compared to singlemode fiber
Huawei's Challenge	Comprehensive bandwidth testing of cables required to ensure 5G quality
	No portable test equipment available for manufacturing and field test
AEM Solution	AEM agreed in 2018 to supply required test solution to Huawei together with CETC23 lab
	AEM's versatile RF measurement engine was adapted to this requirement
	AEM solution has been rigorously evaluated and is now accepted by Huawei



HUAWEI

致中国电子科技集团公司第二十三研究所：

非常感谢贵所于 3 月 25 日在上海参加华为公司的技术评审会。

经过专门讨论，我们认为贵所的 WideOptix SR4 设备达到了预期设定的研发目的，得到了华为内部专家以及相关部门同事的一致认可。第二阶段验收已经通过。

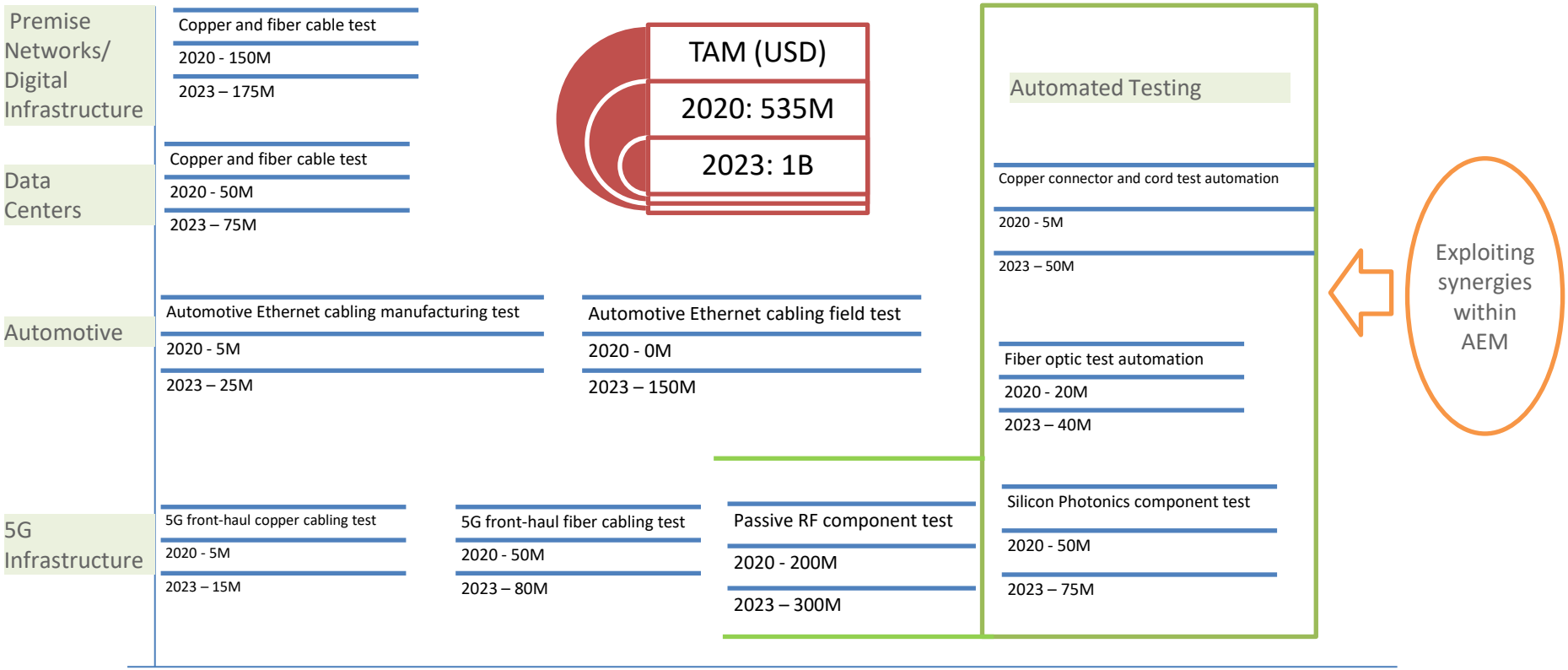
华为公司将会推荐其光缆供应商使用 WideOptix SR4 进行测试，以获取更加精确可靠的判据。由于在第三阶段需要更多的数据验证产品的拦截效果，

我们提醒贵所做好下一阶段华为供应商申购设备的排产需求。

孙安 2019.6.8

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Served Markets By AEM-TMS



Sources
1. AEM internal research
2. Technavio market research report "GLOBAL 5G TESTING EQUIPMENT MARKET – 2018 to 2022"

AFORE OY

AEM AGM 2019



2019-04-29 / Vsq

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1st YEAR WITH AEM

- Lot of positive effect:
  - Being a part of bigger enterprise has increased Afore's credibility -> New customers and opportunities
  - Afore benefits from AEM's global field service, e.g. China, USA
  - Shared Marketing and Sales activities
  - Common R&D activities
  - Financial back-up

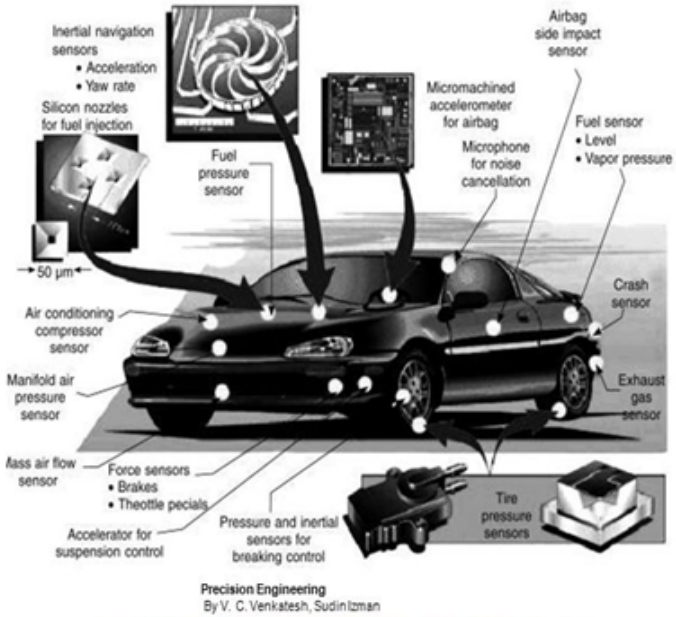


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MEMS MARKET

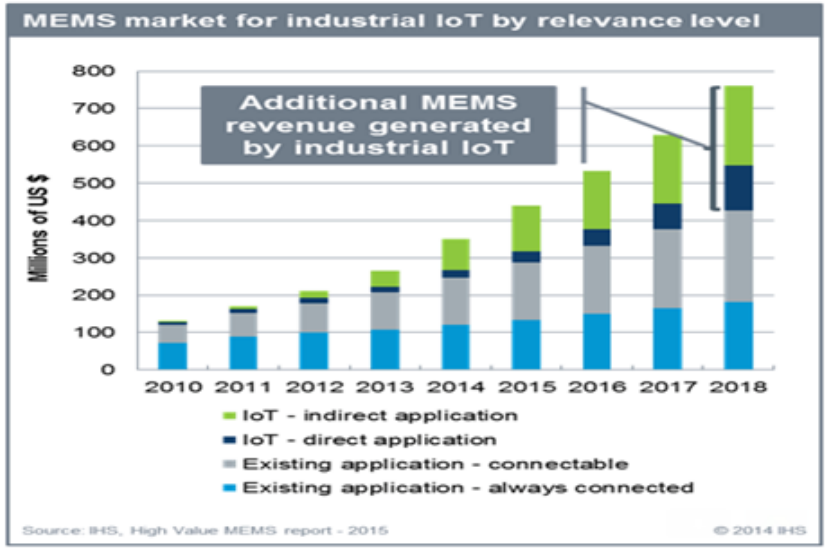
AUTOMOTIVE:

- Trade war and new emission standards has **temporarily** slowed down car sales.
- Still, trend shows > 10% GAGR



CONSUMER MARKET:

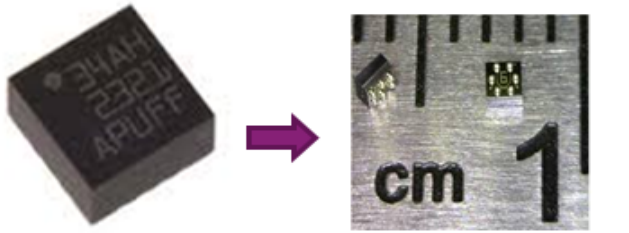
- IOT world demands a huge amount of small sized and economical MEMS sensors



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MEMS is moving towards WLP

- Growing signs the big MEMS players are moving towards advanced packaging (wafer level packaging, WLP, WL-CSP, CSP)
- **Reasons: 1) Cost pressure, 2) smaller size of sensor**
- At the moment concerns consumer MEMS
- Automotive MEMS may follow with FO-WLP
- **Most of Afore's new customer contacts are related to WLP MEMS**



4 x4 mm QFN

1 x1 mm WLCSP

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WHY WLP MEMS IS IMPORTANT TO AFORE?

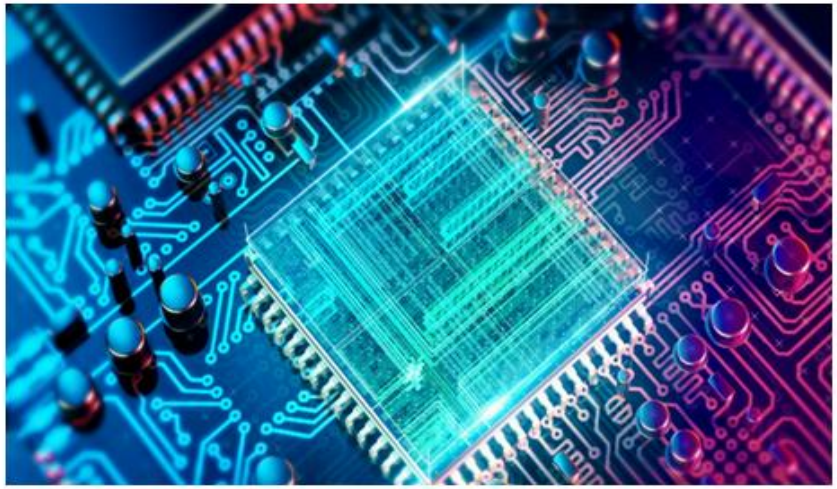
- Afore is forerunner in wafer level final testing of MEMS.
- Afore technology brings tremendous savings in cost of test compared to traditional testing technologies
- Afore has platforms ready for both Inertial (motion) sensors and Environmental sensors
- The technology change has just started!



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NEW MARKET – QUANTUM COMPUTING

- Part of connectivity of the IOT world and big data handling there is a demand for more powerful computers
- Quantum computing technology is stepping out of the labs after long development phase
- "The race" has begun

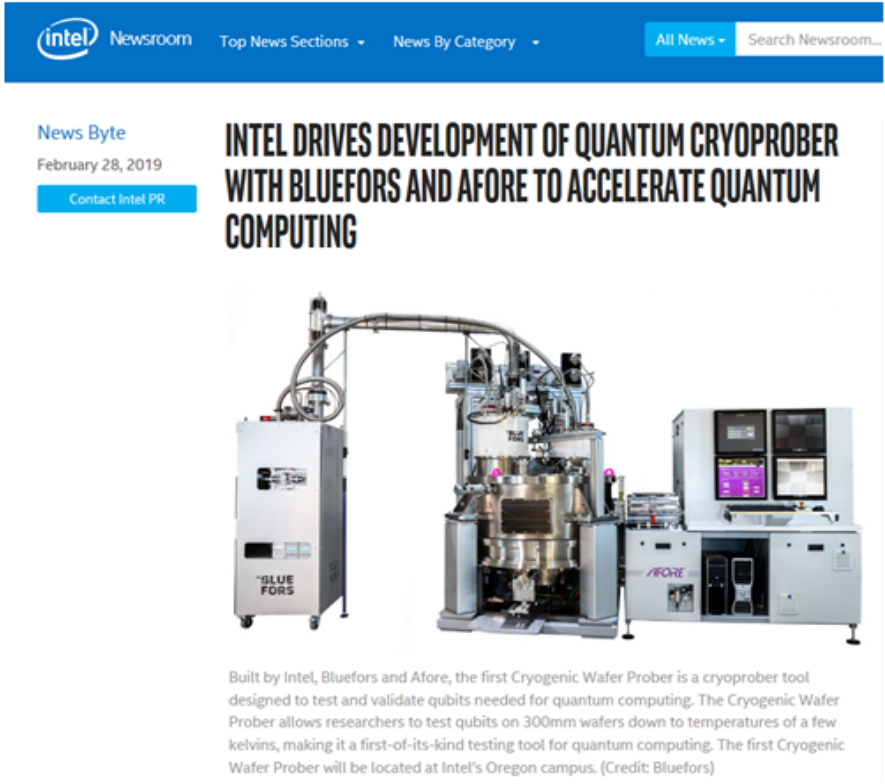


Source:https://thenextweb.com/contributors/2018/09/01/quantum-race-united-states-must-compete/

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QUANTUM COMPUTING AND AFORE

- 2018 Afore in co-operation with another Finnish company, Bluefors, stepped into agreement with Intel to develop Cryogenic prober
- The system is **first** which enables testing of whole 300 mm wafers in temperatures close to absolute zero.
- Shifts the testing from single-chip lab testing to production like testing.
- Four patent application submitted



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INTEL DRIVES DEVELOPMENT OF QUANTUM CRYOPROBER WITH BLUEFORS AND AFORE TO ACCELERATE QUANTUM COMPUTING

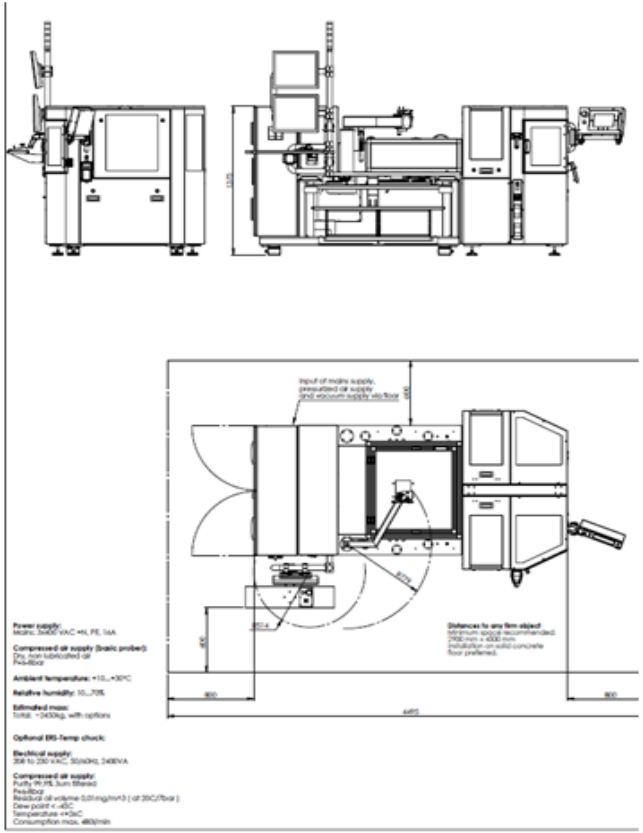
Built by Intel, Bluefors and Afore, the first Cryogenic Wafer Prober is a cryoprober tool designed to test and validate qubits needed for quantum computing. The Cryogenic Wafer Prober allows researchers to test qubits on 300mm wafers down to temperatures of a few kelvins, making it a first-of-its-kind testing tool for quantum computing. The first Cryogenic Wafer Prober will be located at Intel's Oregon campus. (Credit: Bluefors)

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R&D – Keeping Afore in Blue Ocean markets

- R&D has a big role in Afore's growth strategy
- New features to current test handler platforms
- Expansion in new growing MEMS area: Photonics testing in wafer level. Afore has received remarkable funding from EU and Finnish Government

-> Afore is becoming to a special wafer prober company



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Novoflex

NovoFlex Update

sAiL™ Customized Cards – unique logos, more secure, simpler manufacturing process, existing equipment.







- *Letter of Authorisation with MasterCard and VISA*
- *Protected by global patents*
- *Securing pilots with several banks globally with backing from MasterCard*
- *Growing ecosystem of chip and card manufacturers partners*

Summary

Proven ability to innovate and deliver solutions on the global stage

Strategic relationship with one of the world's largest semiconductor companies for >18 years in developing and manufacturing leading –edge test handlers and consumables

Strong financial position

Low debt and capital expenditure requirement, and generating positive cash from operations. Strongest balance sheet position in AEM's history

Strategic expansion through M&A and in-house technology development

- Follow-on development projects with our key customer.
- TMS group has established itself within the last 2 years as a niche leader globally in 5G and EV cable test. Opportunities to expand into communications modules, etc.
- Afore team's landmark delivery of the world's first quantum computing prober solution, and advance pilots for its wafer level test solutions in MEMS
- Continued investment in our execution capabilities and technology development

Thank You

Investor relations contact :

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