

Keysight Technologies 2023 Investor Day

March 7, 2023

Introduction and Opening Remarks

Jason Kary

VP, TREASURER & INVESTOR RELATIONS

Safe Harbor

This communication contains forward-looking statements as defined in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, and is subject to the safe harbors created therein. Statements preceded by, followed by, or that otherwise include the words “anticipate,” “plan,” “effort,” “estimate,” “expect,” “goal,” “intend,” “forecast,” “strive,” “target,” “pledge,” “project,” “believe,” “outlook,” “prospect,” “vision” and similar words or expressions, or future or conditional verbs such as “will,” “should,” “would,” “may,” or “could”, or statements regarding the company’s goals, priorities, commitments, anticipated revenues, anticipated demand, growth opportunities, strategic direction, customer service and innovation plans, new product introductions, anticipated financial condition, anticipated gross and operating margins, future earnings, the anticipated continued strengths and expected growth of the markets the company sells into, and future operations, earnings, and tax rates are intended to identify forward-looking statements. Keysight disclaims any intention to, and undertakes no responsibility to, update or revise any forward-looking statement, whether as a result of new information, a future event, or otherwise. The forward-looking statements contained herein include, but are not limited to, predictions, guidance, projections, beliefs, opinions, and expectations regarding the company’s future goals, revenues, financial condition, earnings, and operations that involve risks and uncertainties that could cause Keysight’s results to differ materially from those expressed in such statements. Such risks and uncertainties include, but are not limited to, impacts of supply chain constraints; inflation, recession or depression; geopolitical tension and conflict; impacts related to endemic and pandemic conditions; changes in the demand for current and new products, technologies, and services; customer purchasing decisions and timing; delays in customer spending, order cancellations; delays in delivery, and impacts of increased trade tensions and tightening of export control regulations. For additional risks and uncertainties that could impact Keysight’s actual results, please see our latest Form 10-Q for the fiscal quarter ended January 31, 2023 included but not limited to the discussion under “Risk Factors” therein, which may be viewed at www.sec.gov.

This presentation includes a number of different financial measures, both GAAP and non-GAAP, in analyzing and assessing the overall performance of the business, for making operating decisions and for forecasting and planning for future periods. Non-GAAP measures exclude primarily the impacts of amortization of acquisition-related balances, share-based compensation, acquisition and integration costs, restructuring and related costs, and any one-time adjustments that may have a material effect on the Company’s expenses and income from operations calculated in accordance with GAAP. Also excluded are tax benefits or expenses that are not directly related to ongoing operations and which are either isolated or cannot be expected to occur again with any regularity or predictability. For future periods, most of these excluded amounts pertain to events that have not yet occurred and are not currently possible to estimate with a reasonable degree of accuracy. This limits our ability to provide a reconciliation of the expected non-GAAP earnings per share to the GAAP equivalent. The definitions of these non-GAAP financial measures may differ from similarly titled measures used by others, and such non-GAAP measures should be considered supplemental to and not a substitute for financial information prepared in accordance with GAAP. Keysight generally uses non-GAAP financial measures to facilitate management’s comparisons to historic operating results, to competitors’ operating results and to guidance provided to investors. In addition, Keysight believes that the use of these non-GAAP financial measures provides greater transparency to investors of information used by management in its financial and operational decision-making. Refer to appendix for more details on the use of non-GAAP financial measures.

Today's Agenda

8:30am

Introduction and Opening Remarks

Jason Kary | VP, Treasurer & Investor Relations

Company Overview and Strategic Direction

Satish Dhanasekaran | President & Chief Executive Officer

Culture: An Enduring Competitive Advantage

Ingrid Estrada | Chief People & Administrative Officer

Communications Solutions Group

Kailash Narayanan | President, Communications Solutions Group

9:35am

Q&A

9:50am

Break

Electronic Industrial Solutions Group

Ee Huei Sin | President, Electronic Industrial Solutions Group

Holistic Customer Solutions through Software, Services, and Sales

Mark Wallace | Chief Customer Officer

Financial Update

Neil Dougherty | Chief Financial Officer

Closing Remarks

Satish Dhanasekaran | President & Chief Executive Officer

11:00am

Q&A

11:30am

Product Demos and Leadership Networking

Company Overview and Strategic Direction

Market-Defining and Diversified Innovations Driving Value Creation

Satish Dhanasekaran

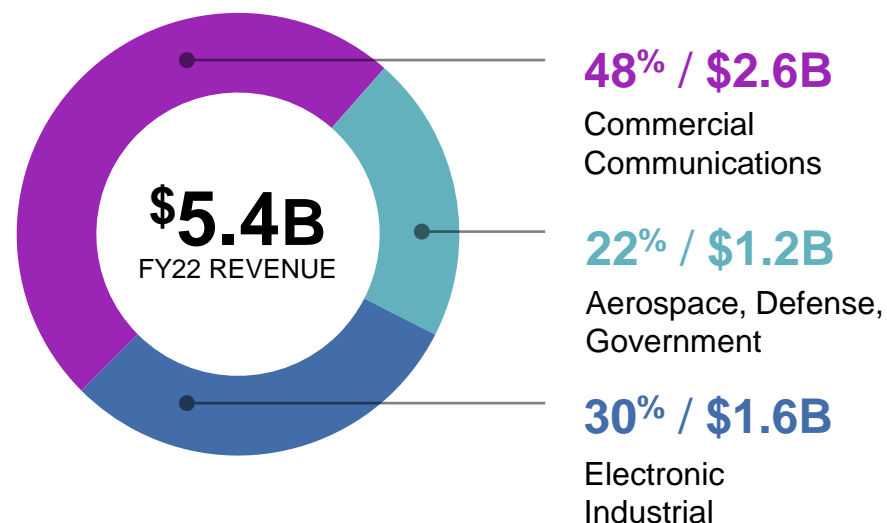
PRESIDENT & CHIEF EXECUTIVE OFFICER

Keysight at a Glance (NYSE: KEYS)

Our Purpose:

Accelerate innovation to
connect and secure the world

FY22 Revenue



41%
AMERICAS

16%
EUROPE

43%
ASIA
PACIFIC

#1 Market Position¹

FY22 Company Highlights

30K+
Total customers²

15K
Employees⁴

100+
Countries served

21%
Recurring revenue

29%
Operating margin³

22%
EPS growth³

~\$1B
Free cash flow^{3,5}

\$31B
Market capitalization⁴

Deep, Long-Term Global Customer Relationships

Strengthening market-leading positions with 30,000+ customers



**Commercial
Communications**



**Aerospace, Defense,
& Government**



**Electronic
Industrial**

14/15 Top mobile operators

5/5 Top cloud companies

S E R V I N G M A R K E T L E A D E R S

22/25 Top aerospace &
defense contractors

10/10 Top automotive companies

25/25 Top semiconductor companies

10/10 Top engineering universities

S E L E C T C U S T O M E R S

Alphabet • Amazon • AT&T
Broadcom • Cisco • Fujitsu • HP • Innolight
Nvidia • Lenovo • LG • Meta • Microsoft
Nokia • Qualcomm • Samsung

BAE Systems • Boeing
Leonardo • Naval Research Lab
US Government

Daimler • Delphi • Ford
Infineon • Qorvo • Siemens
Taiwan Semiconductor • Tesla

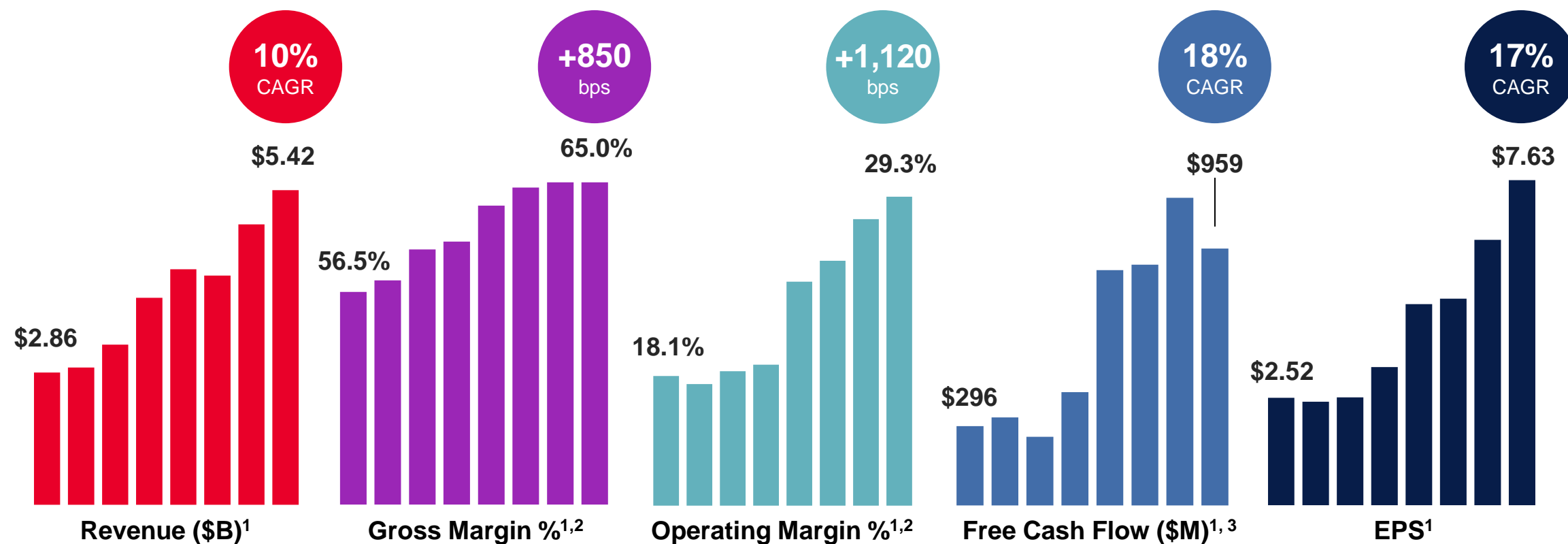
23/25 Top technology companies¹

67/100 Fortune 100 served

Track Record of Compounding Growth

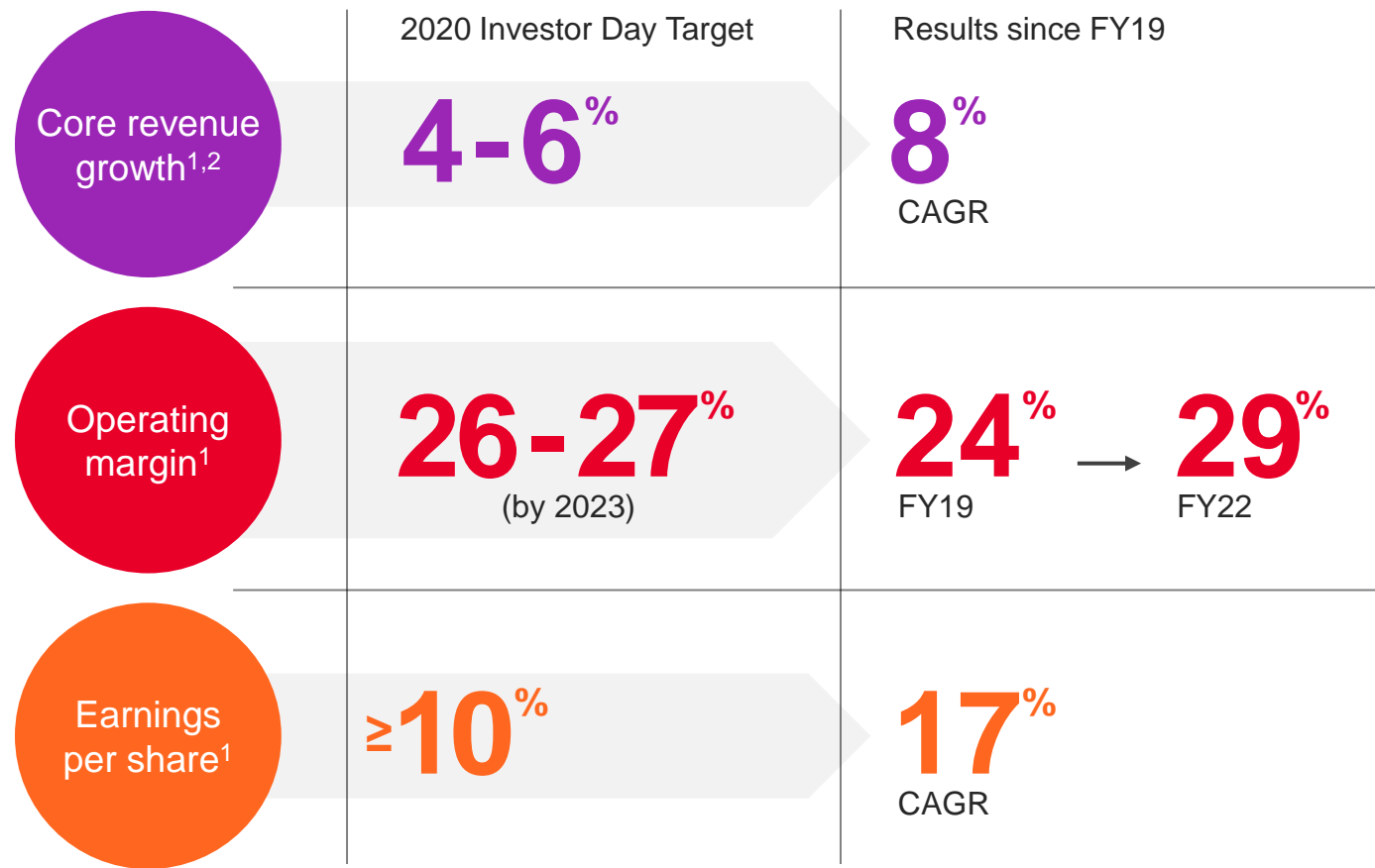
Enabled by strong execution of software-centric solutions strategy

FY15 – FY22



+453% total shareholder return⁴, outperforming S&P 500

Achieved FY23 Financial Commitments Ahead of Schedule



Key Accomplishments

- Capitalizing on decades-long growth trends to outperform the market and gain share
- Exceeded \$1B in software revenue in FY22 with ~50% annualized recurring revenue (ARR)
- Successfully navigated pandemic, supply chain, and geopolitical disruptions
- Returned capital through \$1.9B+ in share repurchases since 2020
- Recognized in 2022 by Fortune as one of the “100 Best Companies to Work For” and the Wall Street Journal for “Best Managed Companies”

Actions Taken Since 2020 to Drive Long-Term Value Creation



GROWTH

- Capitalizing on decades-long secular growth trends to outperform the market
- Extending **5G** leadership to capitalize on long-term opportunity
- Investing to enable **6G** vision and ecosystem
- Expanding **automotive** portfolio to advance innovation in new mobility
- Investing in solutions and strategic partnerships for **quantum** computing
- Capturing continuing **semiconductor** investments
- Ongoing strategic evaluation of **future growth drivers**



MARGINS

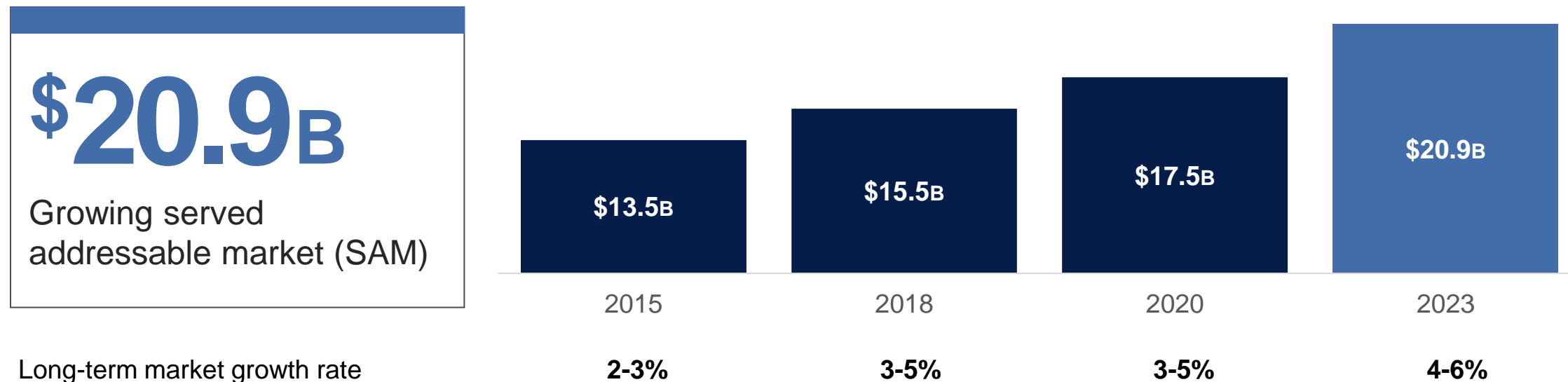
- Driving active portfolio management and value selling to expand gross margin
- Emphasizing lifecycle value and recurring revenue growth (software and services) through go-to-market
- Driving operational excellence through expansion of supplier base and enterprise digitization initiative to improve automation and enhance customers' experience
- Growing the Keysight brand worldwide and expanding the customer base, via signature programs



CULTURE

- Heightening customer-centricity and leveraging unique, collaborative culture as a competitive advantage
- Executing to ESG and DEI commitments, including achieving net-zero emissions by 2040
- Institutionalizing organizational agility practices to enhance durability and resilience

Leader in Growing and Attractive Market



\$5B+

Pursuing SAM expansion opportunities in attractive adjacencies

Software Test

Pursuing adjacencies to current position (Eggplant AI/automation)

Network Analytics

Extending current Open RAN platform with performance analytics

Data Management

Building PathWave platform capabilities spanning cloud and edge data management, analytics, and connected workflow

System Simulation and Emulation

Expanding industry-leading EDA (electronic design automation) position to system-level simulation and emulation use cases for RF

Favorable Long-Term Market Drivers

Technology Trends

- Next-generation connectivity
- High-performance computing driven by AI/ML applications
- Next-generation semiconductors

\$13.1T

5G enabled global sales across industries in 2035 resulting from digital transformation¹

\$15.7T

Potential contribution from artificial intelligence to the global economy in 2030²

Transforming Industries

- Automotive electrification and autonomous systems
- Digital health
- New space

\$450-500B

Total value created by connected-car use cases in 2030, up from \$65B in 2020³

\$29B

Invested in digital health startups based in the U.S. in 2021⁴

Market Dynamics

- Government investments
- Defense modernization
- Onshoring
- Sustainability

\$280B

Funds allocated by the CHIPS Act to build U.S. capacity and support R&D⁵

62%

Manufacturers started reshoring or near-shoring production capabilities⁶

Consistent Software-Centric Solutions Strategy

Accelerating innovation of long-term technology trends

**First-to-Market Design
and Test Solutions**

to create

**Sustainable
Lifecycle Value**

Strengthening Customer Value Proposition

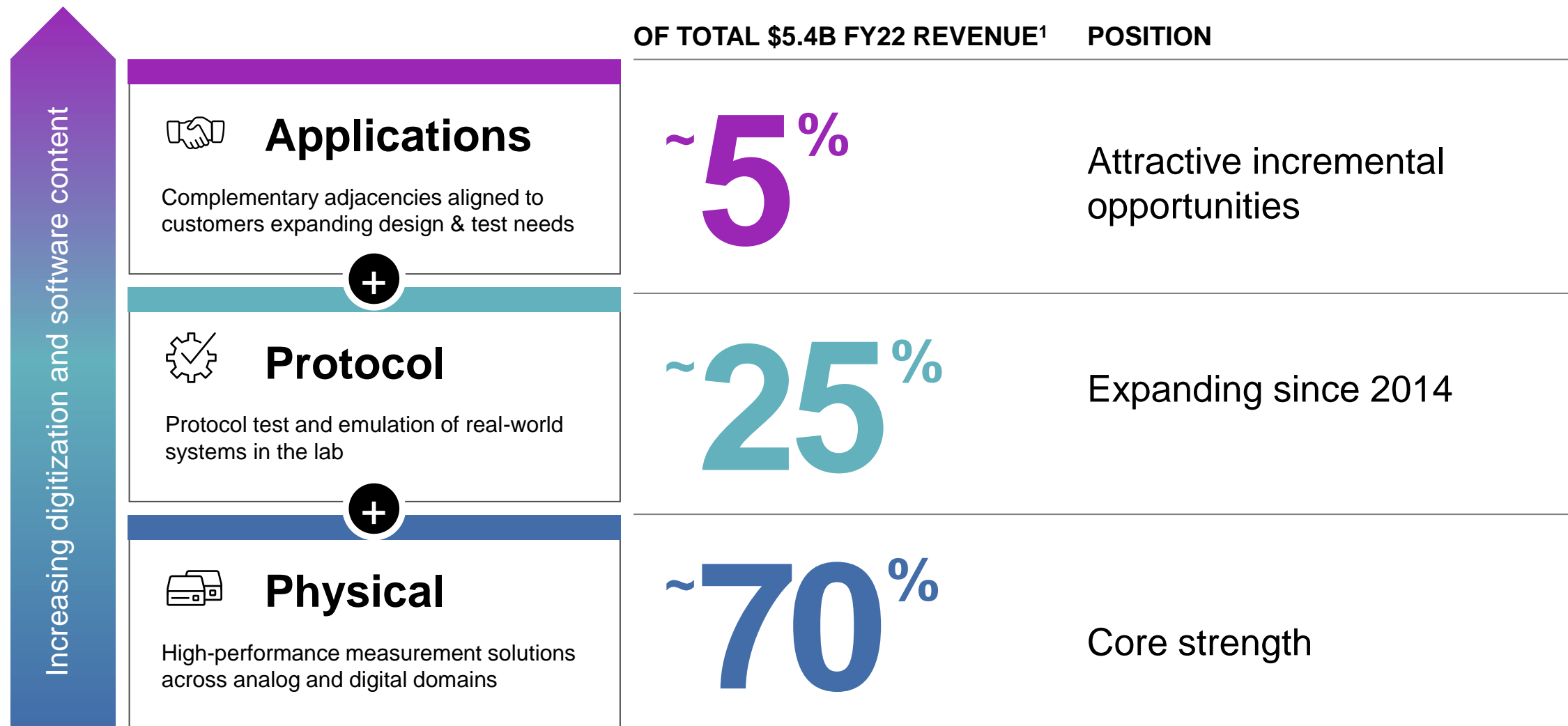
Time to market • Productivity

Stronger Keysight Business Outcomes

Accelerating profitable growth • Improving resiliency • Expanding margins

Multiple Vectors for Growth

Actioning faster-growth opportunities across the technology stack



Physical Layer: Growing Differentiation

PHYSICAL

STRATEGY TO WIN

Provide **high-performance measurement solutions** for the most complex and challenging use cases across analog and digital domains

UXR

World's most advanced measurement platform



Highlights

- Measurement technology and fidelity enables complex designs on leading-edge wireline technology (e.g., 400G, 800G, 1.6T)
- Positions us to address newer emerging opportunities, such as 6G
- Services and software add-ons provide greater customer value and monetization opportunity



The UXR and VSA solution as it stands today is by far the most capable and versatile solution for signal capture and analysis. UXR verification and analysis completed within a single 6-hour lab shift, whereas previous legacy efforts take days to weeks to complete.



— Aerospace / Defense
Validation Engineer

Protocol Layer: Expanding Use Cases

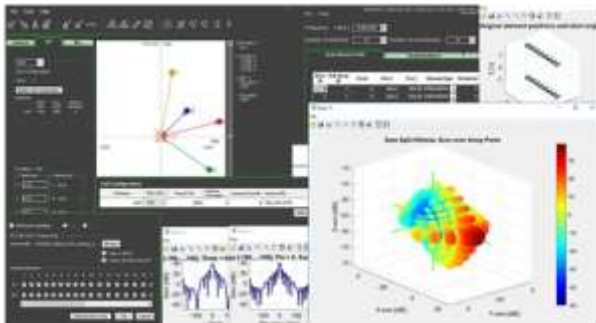
PROTOCOL

STRATEGY TO WIN

Move beyond protocol test to **emulate complex and real-world systems** in the lab

Channel Emulation Platform

Pushing the limits of communications technology by emulating real-world conditions – from underground to deep space – in the lab



Highlights

Enables accurate replication of mission-critical use cases, including:

- High-speed train conditions with 350 km/hr.
- Non-terrestrial networks with very high atmospheric propagation effects like Doppler
- Underground (e.g., mines) to surface communications



Keysight is a strategic customer that enables innovation through their industry-leading platforms, leveraging AMD's adaptive computing solutions to solve challenging and important problems.



– Victor Peng, President, Adaptive and Embedded Computing Group, AMD

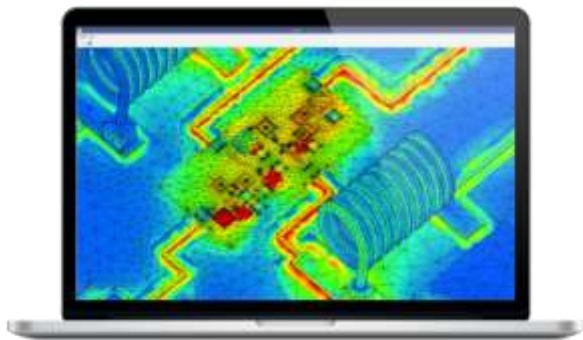
Applications Layer: Pursuing Attractive Adjacencies

STRATEGY TO WIN

Expand portfolio to **address new, emerging applications** through organic and inorganic investments

PathWave Design Software

EDA software used by ~70% of RF designers¹



Highlights

- Used by customers to design components and systems for nearly every wireless communications technology
- Expanding SAM through adjacencies, including system-simulation, high-speed digital, and power electronics
- Recently acquired Cliosoft for data and intellectual property (IP) management software tools



A full-up workspace in Keysight PathWave System Design with our Sys-Parameters models speeds everything up. It's a step beyond anything we've seen out there for RF system reference designs.

— Brad Hall, Senior Manager,
System Integration Engineering,
Analog Devices

Durable and Sustainable Competitive Advantages

Strategic enablers of Keysight's continued value creation



Keysight Leadership Model

1

Deep, long-term global customer relationships

2

Unique technology expertise and capabilities

3

Differentiated, first-to-market solutions portfolio

4

Durable and resilient business model

5

Collaborative and innovative culture

Co-Innovation Model Unlocks Future Growth Opportunities

“The signing of this MoU with Keysight will greatly advance Samsung's 6G strategy of combining the **company's expertise in communication technology with capabilities in software and AI**. Joining forces with Keysight enables Samsung to influence a future that uses 6G to improve human connection, health, and safety.”

Sunghyun Choi,
Executive Vice President,
Samsung Research

“Our research with **Keysight drives many innovations** with significant positive impact across a multitude of sectors that rely upon robust wireless connectivity. We are pleased to leverage **Keysight's expertise** in 5G emulation platforms to help the validation of our research and development for satellite-driven 5G NTN communications.”

Tingfang Ji,
Vice President Of Engineering,
Qualcomm Technologies

“Lockheed Martin is leveraging **expertise** in the commercial sector to scale, adapt and integrate 5G technology rapidly and affordably across mission-critical operations across land, sea, air, space, and cyber domains. Keysight's end-to-end 5G test platforms...provide an opportunity to **develop customized solutions** that meet the stringent requirements of the defense industry.”

Dan Rice,
Vice President,
5G.MILPrograms,
Lockheed Martin

“We see an increasing need to intensify battery testing and tailored deployment. **Keysight's experience and expertise** in battery testing has resulted in a solution that meets our requirements, which made them the perfect choice to realize this crucial project.”

Håkan Örnhed,
Head of Test Cell Operation
Battery and E-components,
Scania

World-Class Talent and Technology Capabilities Feed Robust Innovation Ecosystem

Technology Differentiation

Industry-Leading Talent Platform & Unique Innovation Engine

- 3,100+ R&D engineers worldwide
 - >40% with M.S. or Ph.D. degrees
 - >67% focused on software development
 - Keysight and IEEE Fellows
- 3,800+ patents¹ with 100s of new invention disclosures generated annually
- Central R&D team inventing breakthrough technology, plus business-specific teams innovating customer solutions

Deep Semiconductor & System Integration Expertise

- Proprietary, purpose-built chips, modules, and interconnects enable higher performance and margin expansion
- Best-in-class analog, digital, and software system architectures optimized for measurement, test, and emulation use cases

PathWave Software

- Platform maximizes customer workflow and lifecycle productivity
- Actionable insights via automation, data management, and analytics

INNOVATION ECOSYSTEM



Differentiated, First-to-Market Solutions Portfolio

Our Approach

1. Select best opportunities to maximize lifecycle value through design and test

2. Create market-leading solutions
(hardware + software + services)

3. Maintain high leverage across both business groups (40%+ solutions crossover)

Simulate

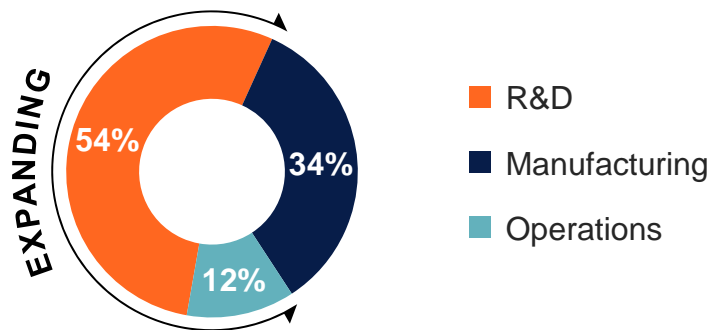
Prototype

Validate

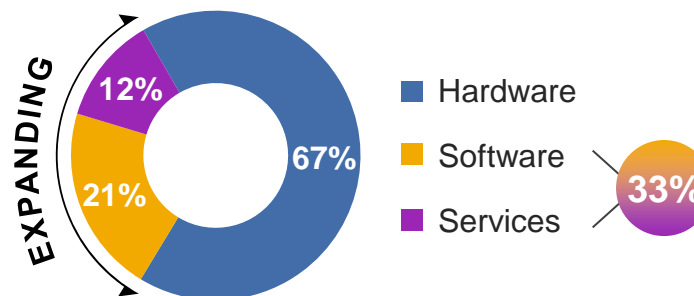
Manufacture

Optimize

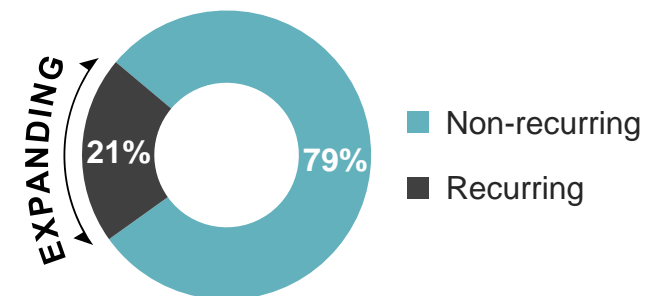
Expanding R&D Mix¹



Growing Software and Services¹

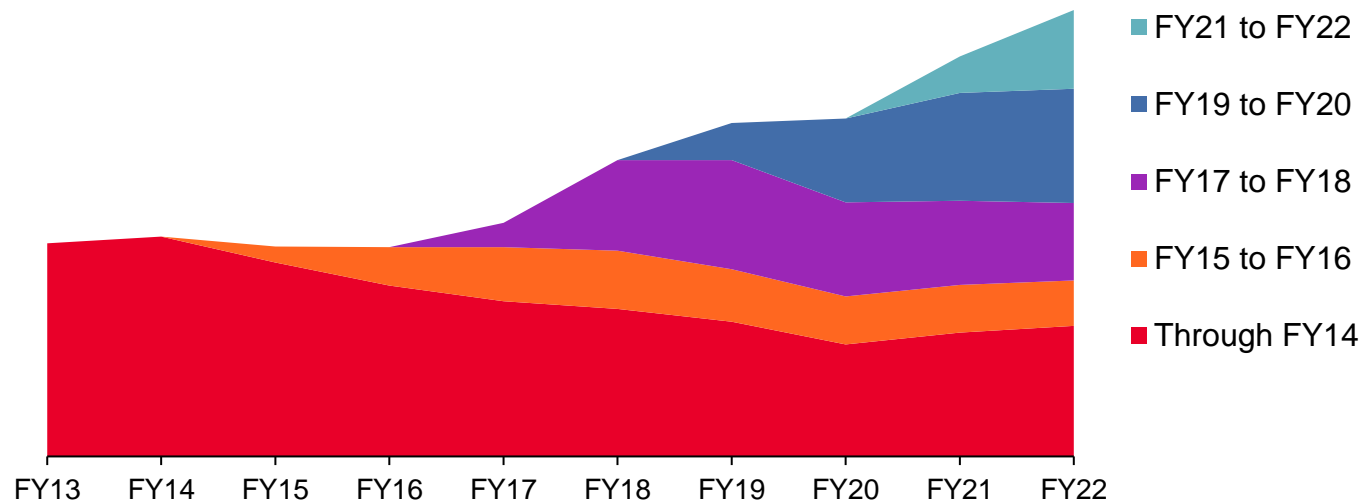


Increasing Recurring Revenue¹



Diversified and Durable Business

Sustained Revenue Growth with Compounding Layers of Innovation (by product introduction year)



+50%

Revenue from products released within the last 5 years

+90%

Top 1,000 customers do business with Keysight annually¹

Investments for Profitable Growth Since Spin

R&D

\$4.8B+ organic R&D investment



M&A

Deployed ~\$3.0B for 20 acquisitions to expand workflow offerings

Disciplined Capital Allocation Enables Strategy and Creates Value

1



Drive Organic Growth

~16% of revenue invested in R&D; up from 12% at spin

2



Disciplined M&A

When strategic and financial criteria are met

3



Return of Capital

NEW \$1.5B share repurchase authorization

Creating Value through M&A

5G, Networking, and Computing Solutions

Anite

ixia

MICRAM

prisma
telecom testing

SCALABLE
NETWORK TECHNOLOGIES

SANJOLE

Software for Electronic Design and Test

eggplant

Quamotion
Make your app shine

clio soft

Services

Electroservices

Liberty
Calibration

PSNA

THALES
Australia Calibration Services

Quantum Solutions

Signadyne

q|b quantum
benchmark

Labber
QUANTUM

Automotive and Energy Solutions

scienlab
electronic systems

nordsys
NORDDEUTSCHE SYSTEMTECHNIK

verisco
Verifast Drive's Communication

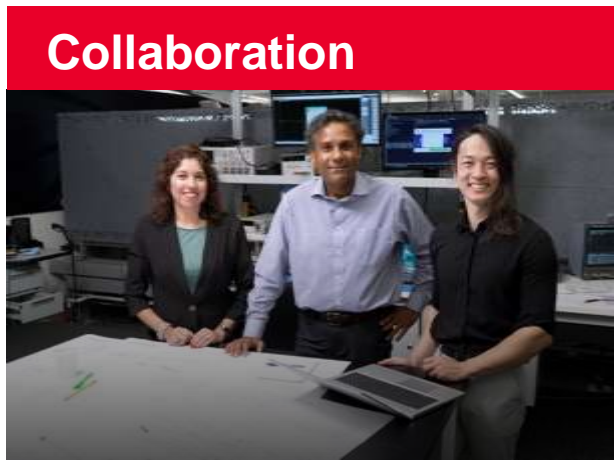
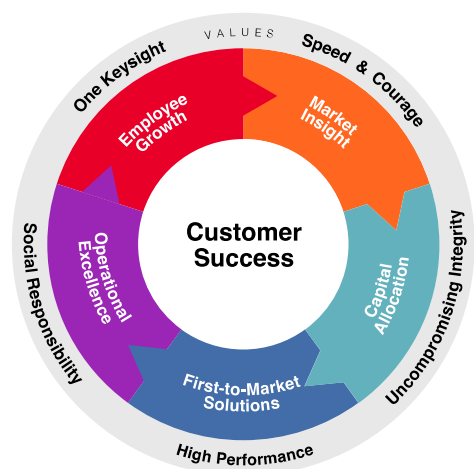
Supplier

Swiss-Micron

M&A Capabilities

- Highly disciplined with strong strategic and financial criteria to assess value creation potential
- Long-term planning to evaluate new markets aligned with strategy
- Strong business accountability for assessing targets in identified markets
- Robust diligence process based on technology, customer, and culture fit
- Centralized team to drive transaction execution and integration
- Proven and disciplined playbook for realizing sources of value and leverage

Our Culture Continues to Drive Financial Performance and Gain Recognition



BUILT AROUND KEYSIGHT LEADERSHIP MODEL AND ONE KEYSIGHT



Strong and Experienced Leadership Team



Satish Dhanasekaran

President and Chief
Executive Officer



Neil Dougherty

Chief Financial Officer



Ee Huei Sin

President, Electronic Industrial
Solutions Group



Ingrid Estrada

Chief People and
Administrative Officer



Gooi Soon Chai

President, Order Fulfillment
and Digital Operations



Marie Hattar

Chief Marketing Officer



Jeffrey Li

General Counsel
and Secretary



Kailash Narayanan

President, Communications
Solutions Group



John Page

President,
Global Services



Mark Wallace

Chief Customer Officer

Raising Long-Term Expectations



Keysight's Position of Strength

- Differentiated technology stack enables market-leading solutions portfolio aligned to long-term growth drivers
- Strong and deep customer relationships furthered by industry-focused go-to-market engine
- Durable operating model with strong balance sheet
- Balanced and disciplined capital allocation approach
- Proven leadership team driving winning culture



New Targets

5–7%

Sustainable core revenue growth¹ CAGR

31–32%

Operating margin² (by FY26)

≥10%

EPS growth²



Favorable Long-term Drivers

- Ecosystems are expanding
- Innovation intensity is accelerating
- Greater need for system-level capabilities
- Customers seeking deeper and earlier collaborations
- Technology investments are an increasingly greater driver of GDP

Culture: An Enduring Competitive Advantage

Value Creation Through the Keysight Leadership Model, Developing a Diverse Workforce, and Enabling a Sustainable Future

Ingrid Estrada

CHIEF PEOPLE & ADMINISTRATIVE OFFICER

Key Messages

1

Culture is an enduring competitive advantage and critical enabler for our software-centric solutions strategy

2

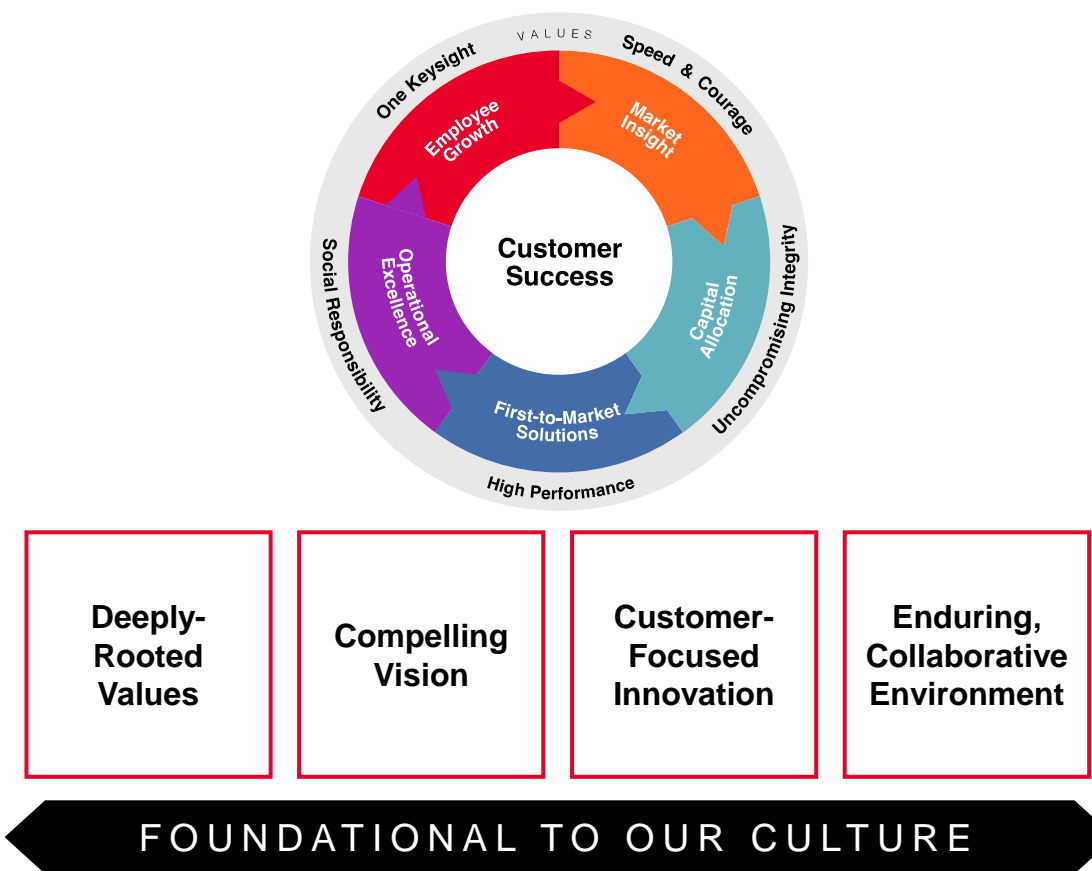
Enhancing organizational capability in alignment with our strategy and Keysight Leadership Model to deliver value to all stakeholders

3

Environmental, social, and governance efforts integrated into strategy and positively impacting global community

Our Diverse, Customer-Focused Culture Accelerates Innovation

The Keysight Leadership Model: A Winning Formula



Highly Engaged Workforce

15K Employees	30 Countries	86 Self-identified nationalities
5 Generations	7% Avg. turnover vs. 13% industry avg. ¹	12 YEARS Avg. tenure
3,200+ & 99.5% New employees from 20 acquisitions; high acceptance rate		

Our People Strategy Enables Our Business Strategy

Evolving organizational capability to execute software-centric solutions strategy at scale

Organization

- Evolved organizational design **to align with customers and industry solutions**, while maintaining technical differentiation and building customer-focused culture
- Variable **compensation metrics aligned with business results** (e.g., ARR, DEI)

R&D

- **Co-innovating with market-leaders to be first** to market (e.g., 5G/6G, automotive, semi)
 - ~31% of new products and solution orders are software¹
- Driving continued progress in internal software development to improve time-to-market

Go-to-market

- Expanding business models by **scaling enterprise subscription sales, growing ARR**, and expanding value-added services
- **Driving recurring revenue** with dedicated software and services sales team

Talent

- **Assimilated 20 technology and software acquisitions** to enable end-to-end solutions (3,200+ employees, primarily software engineers)
- **Recruiting and retaining world-class technical talent** to maintain our track record of enabling breakthrough innovations with market leaders – **we are the “engineer’s engineer”**



Driving High-Performance Culture to Enable Company Strategy

100% of employees on variable pay program tied to financial performance

STEM Education Development

- 1.7M+ students¹ and future engineers engaged
- Expanding reach and diversity through redefined intern and campus recruiting, including HBCUs

Career Development

- >1,300 employees participating in mentoring program
- Annual training aligns employees with **software-centric solutions** strategy

Technology Expertise

- >67% of R&D roles are **software engineers**
- >40% of engineers have M.S. or Ph.D.
- Lower-than-industry-average attrition rate ensures stability

Leadership Development

- 700+ alumni from **award-winning² next-gen program**
- >100K learning **courses** completed

Emeritus Program

- **Knowledge transfer** from retiring tenured employees to develop colleagues and retain IP and technology expertise

“The most rewarding aspect of my career with HP-Agilent-Keysight is seeing how instruments that I helped design are solving customers’ needs. Seeing a customer testing their product using a Keysight instrument that I helped develop is an amazing experience. I can’t think of any other company, government agency, or university with the rich mix of people, equipment, and facilities that we have.”

PRODUCT DEVELOPMENT ENGINEER | 48-year tenure

Upskilling and stability of talent lead to superior outcomes

Highly Engaged, Productive Team Exemplifies Our Purpose and Values



Home garage labs during the pandemic



Tech talks and annual hackathon



Innovation Challenge: women-led university teams compete with sustainability inventions



STEM labs funded in rural India communities



14 employee network groups grew **>300%** since FY20



Keysight Technical Conference brings together technologists and business leaders

SPEED AND
COURAGE

UNCOMPROMISING
INTEGRITY

HIGH
PERFORMANCE

SOCIAL
RESPONSIBILITY

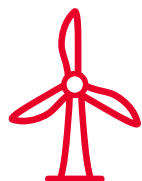
ONE
KEYSIGHT



>85%

of employees are enthusiastic about Keysight's mission and feel surrounded by people who share their values¹

Comprehensive ESG Actions Deliver Business Value



Solutions for a Sustainable Future

- Clean tech innovations in renewable energy and e-mobility ecosystem (e.g., automotive FY22 orders >\$500M)
- Contributing to power reduction in communications networks with Open RAN solutions

Building a Better Planet with Technology



Pathway to Net Zero by 2040

- Net zero in Scope 1 and Scope 2 with interim goal of 55% renewable energy and 10% absolute energy reduction by end FY30
- Submitted proposed targets for validation to Science Based Targets initiative

Plan to Achieve Paris Agreement a Decade Early



Diversity, Equity, and Inclusion (DEI)

- Diverse board and management team; >50% ethnic/gender diversity on board
- Top leaders' compensation tied to advancing specific DEI goals and objectives
- Publish annual DEI report as part of commitment to transparency

Engineering Equality Starts at the Top

Robust and rigorous reporting framework with key impact goals across all ESG pillars

Our Culture and Commitment to Diversity and Sustainability Are Being Recognized



Key Takeaways

1

Enhancing customer-focused culture

to enable world's best engineers
and continue innovating
at the speed of the customer

2

Cultivating talent skills necessary for growth

to expand R&D talent pools
in software, 6G, and automotive

3

Heightening focus on ESG

and delivering solutions
to build a better planet

Communications Solutions Group (CSG)

Capitalizing on Megatrends in Connectivity, Computing, and Defense Modernization;
Expanding Reach in Customer Workflows, and Advancing Future Innovation

Kailash Narayanan

PRESIDENT, COMMUNICATIONS SOLUTIONS GROUP

Key Messages

1

Building on strong track record of outperformance to sustain market leadership

2

Maximizing growth opportunities by focusing on R&D workflow and key secular technology megatrends

3

Driving above-market growth by expanding our differentiated solutions portfolio that spans entire customer innovation cycle

4

Leveraging solutions synergies and operational excellence to expand margins

CSG Performance: Delivering Robust, Sustained, Above-Market Growth

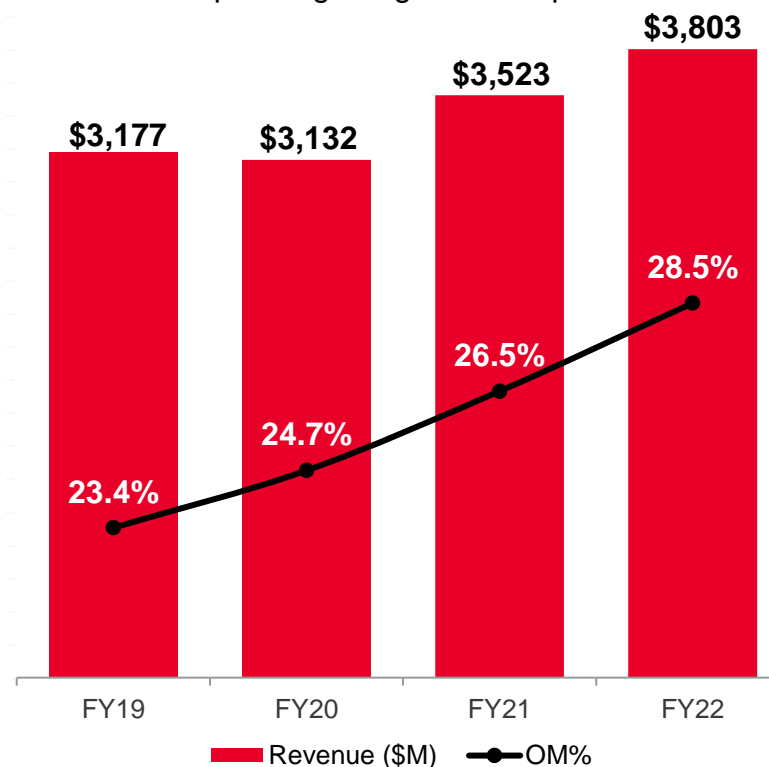
FY22 Highlights

+8% YoY revenue growth	28.5% Operating margin
\$1.1B Operating income	\$15B Served addressable market (~25% share)
+16% YoY operating income growth	4-6% Long-term market growth rate ¹

Revenue and Operating Margin

3-year revenue CAGR: ~6%²

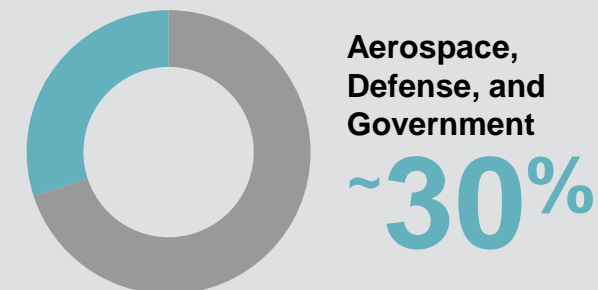
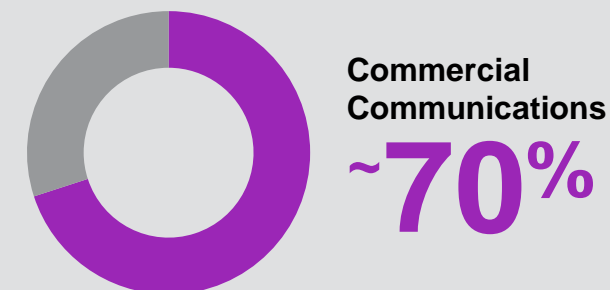
Operating margin: +510 bps²



Communications Solutions for Diverse, Growing Key End Markets

Global talent pool with >2,000 engineers

REVENUE



CSG Business: Serving Diverse and Complementary End Markets



Commercial Communications

Wireless

- Chipsets
- Devices
- RAN infrastructure
- Core networks

Wireline

- Silicon
- Data centers
- Edge computing
- AI/ML workloads

Service Providers & Enterprises

- CSPs
- Cybersecurity
- Live networks
- Enterprise IT
- Private networks

Enabling end-to-end customer innovation workflow **from simulation to design and deployment** across entire ICT industry from silicon to cloud



Aerospace, Defense, & Government

Communications

- Spectrum operations
- Radio technologies
- Radars
- Cybersecurity

Space & Satellite

- Space & satellite
- 5G applications
- Advanced emulation & design

Government Research

- 5G applications
- Quantum
- Energy, EV
- Government enterprise

Advancing digital transformation of **defense workflows and mission-critical operations**, and enabling sovereign investments in **technology and research**

Leveraging synergies in communications and computing technologies across both markets

Strong Track Record of Creating Value

	What We Said at 2020 Investor Day	Actions Taken & Results
1	Investing to expand market position and leadership	<ul style="list-style-type: none">Achieved 6% 3-year revenue CAGR for Commercial Communications and Aerospace, Defense & GovernmentCapitalizing on global 5G rollouts and enabling new applications, including Open RANLeveraging industry-leading 5G platform to deliver 40 new solutions while expanding installed base to >1,600 customersCapturing growth from defense modernization and new investments in space and satellitesActioning synergies from new acquisitions: Sanjole, Scalable, and Micram
2	Accelerating portfolio transformation to enable digital revolution in end markets	
3	Expanding software, services in high-growth markets creating runway for profit expansion	
4	Increasing differentiation and customer adoption enabling lifecycle value capture	

Recognized industry leader – consistently exceeding commitments and compounding returns

Well-Positioned in Attractive and Growing End Markets

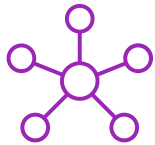
Addressable Market¹

\$15B

FY22	Commercial Communications	Aerospace, Defense, and Government
FY22 Revenue	\$2.6B	\$1.2B
LT Market Growth Rate	4-6% ¹	3-4% ¹
Industry Dynamics	<p>2023E ICT global spend of \$4.7T expected to increase to \$5.8T by 2026E²</p> <ul style="list-style-type: none">• Digital transformation in verticals and in new use cases• Ongoing investment in connectivity and networking – 5G, 400G, 800G, early 6G research• AI/ML workloads driving high-performance computing• Satellite and operational networks	<p>Combined U.S. and allied nations defense spending of \$1.5T³</p> <ul style="list-style-type: none">• Acceleration of defense modernization due to geopolitics• Ramping investments in space• Advanced research in 5G/6G, energy, and electrification initiatives• Sovereign investment in key technologies• U.S. CHIPS Act and impact

Investing to outperform market by 100-200 bps

CSG Profitable Growth Strategy



Capitalize on Secular Technology Megatrends in Commercial Communications

Maximize 5G, 6G, and next-generation technologies



Accelerate Aerospace, Defense, and Government

Digital transformation and modernization



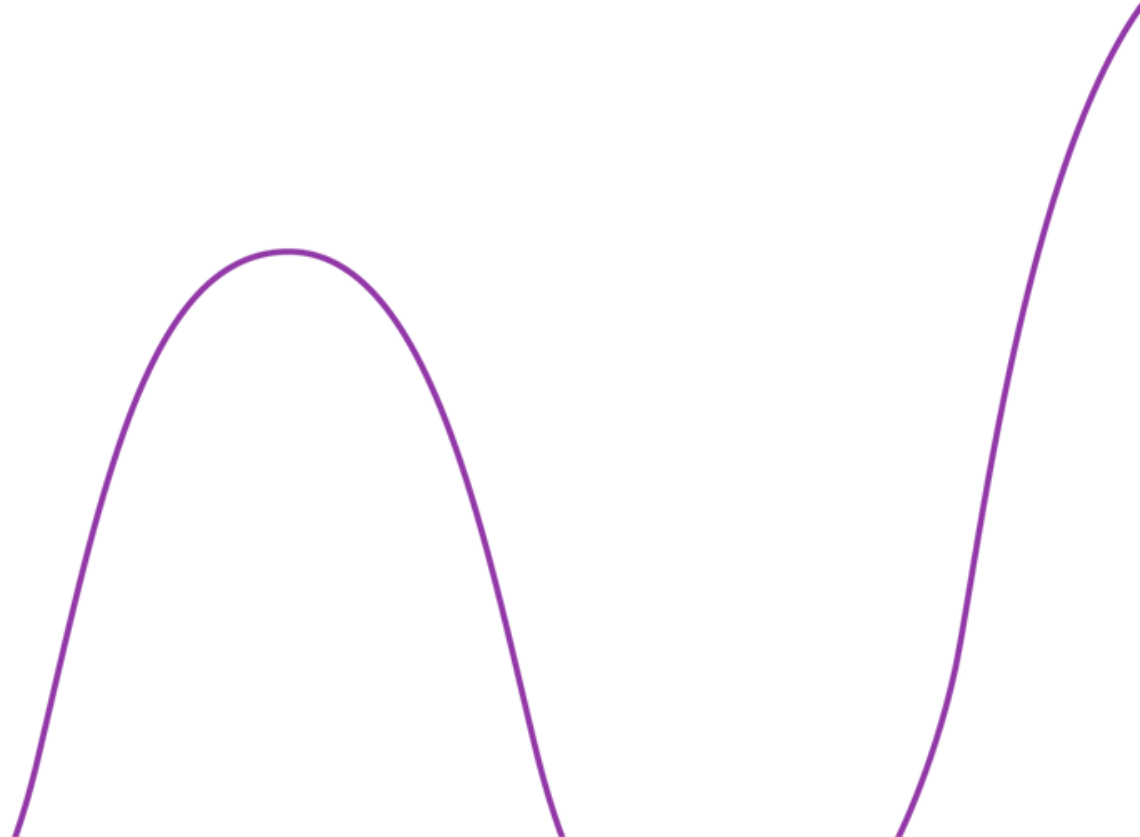
Expand Software Solutions

Margins and lifecycle monetization

Operational excellence is foundational to our growth strategy

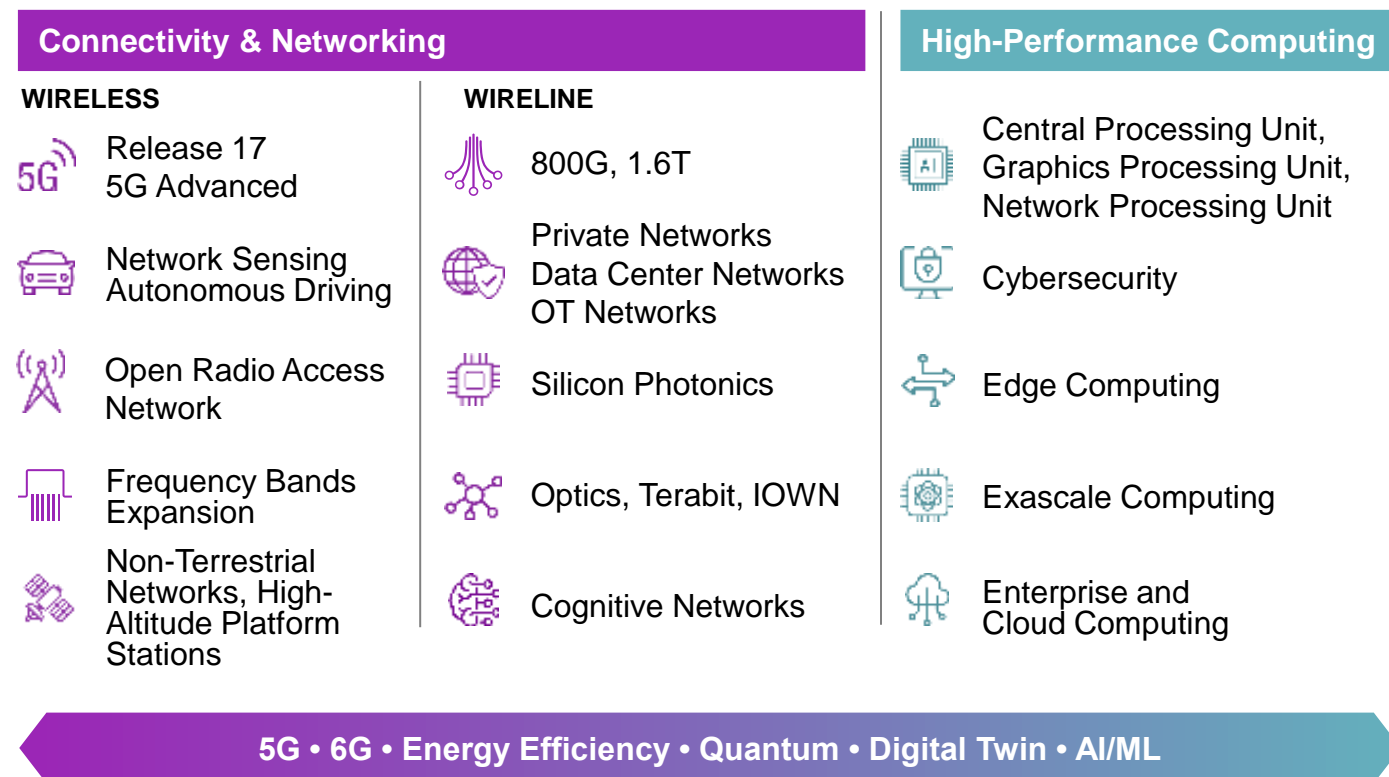
Commercial Communications

**Capitalize on secular technology megatrends:
maximize 5G, 6G, and next-generation technologies**



Technology Megatrends Drive Sustained Investment and Innovation in ICT Industry

Well-positioned to capitalize on technology waves



5G Regional Deployments Ramping

- Subscribers expected to increase from 1B to 5B in 5 years
- FWA expected to grow from 110M to 270M subscribers

Network Virtualization: Key in Scaling 5G Deployments

- >2X expansion in Open RAN in next 4 years

Growing Space & Satellite Investment, Including 5G NTN

- 24,000 new satellite launches expected over next 10 years

Silicon Photonics and Terabit Research Underway

- Silicon photonics expected to grow from 20% to 30% of optical transceiver market by 2027

Artificial Intelligence / Machine Learning

- Data center AI networking market expected to grow from \$350M to \$6.5B in 2027

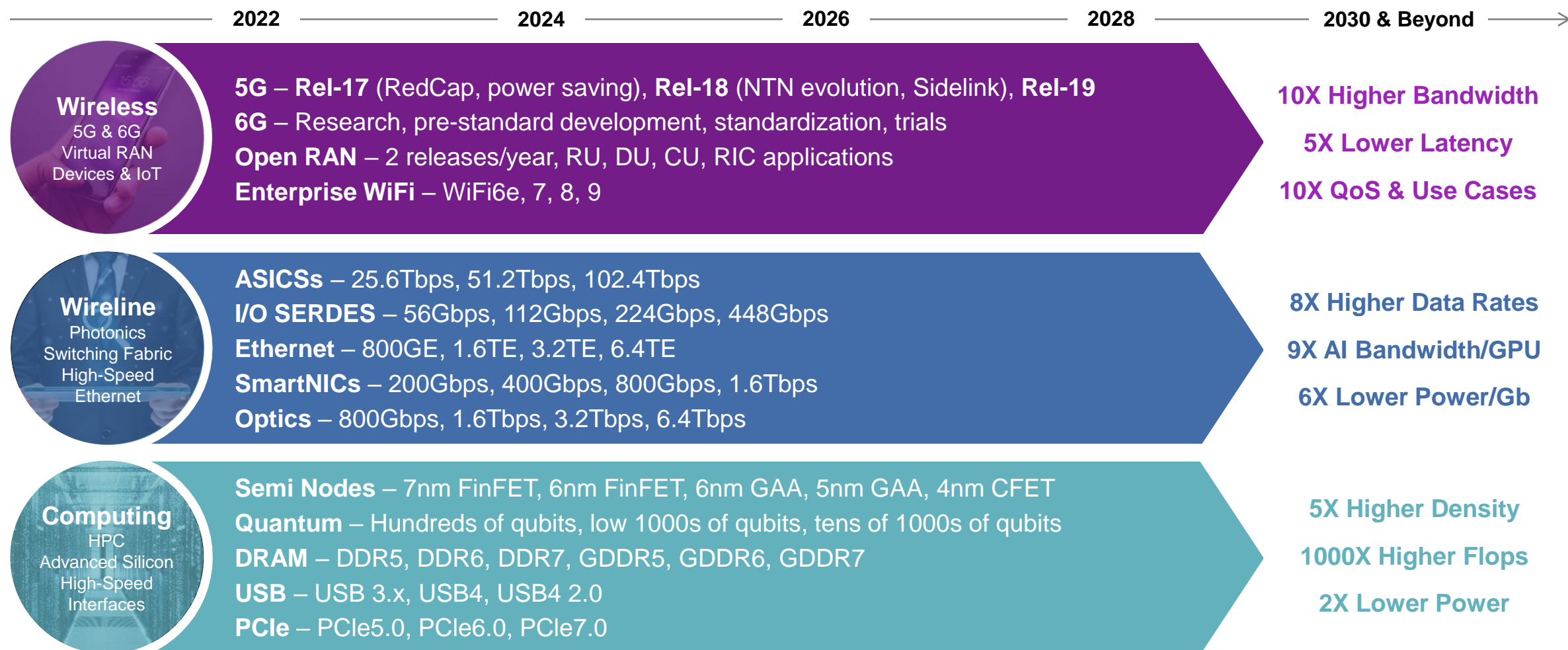
Enterprise IT Spend Expected to Increase at 7% CAGR

- Digital transformation driving investment across multiple growing and diverse sets of end markets

Investing in differentiated solutions to advance connectivity, computing, and digital innovation

Enabling Future Digital Infrastructure; Multiple Tracks of Innovation

Overlapping technology waves provide secular growth opportunities



Commercial Communications: How We Win

Enabling next-generation digital infrastructure; covering critical aspects of design workflow

Deep Industry Engagements

- Partnering with **O-RAN Alliance** to enable ecosystem and deployments
- Enabling market-defining customers with **5G-Advanced** and **early 6G** research
- Collaborating with **industry consortia** (IOWN, NextG Alliance, QED-C)



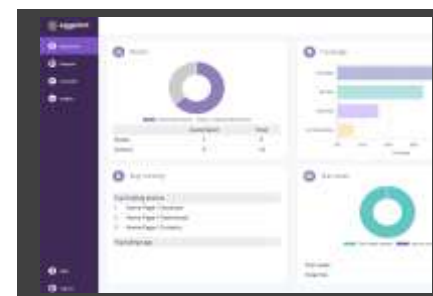
First-to-Market Solutions

- Launching industry-first **silicon photonics** solutions
- Delivering industry-first **terabit** transmissions with leading customers
- Developing solutions for satellite **5G/non-terrestrial networks**



Differentiated and Broad Portfolio

- Increasing portfolio breadth through **acquisitions**
- Capturing mmWave investments for lab tools with best-in-class **physical** layer solutions
- Expanding into the **protocol** and **application** layer with higher software content



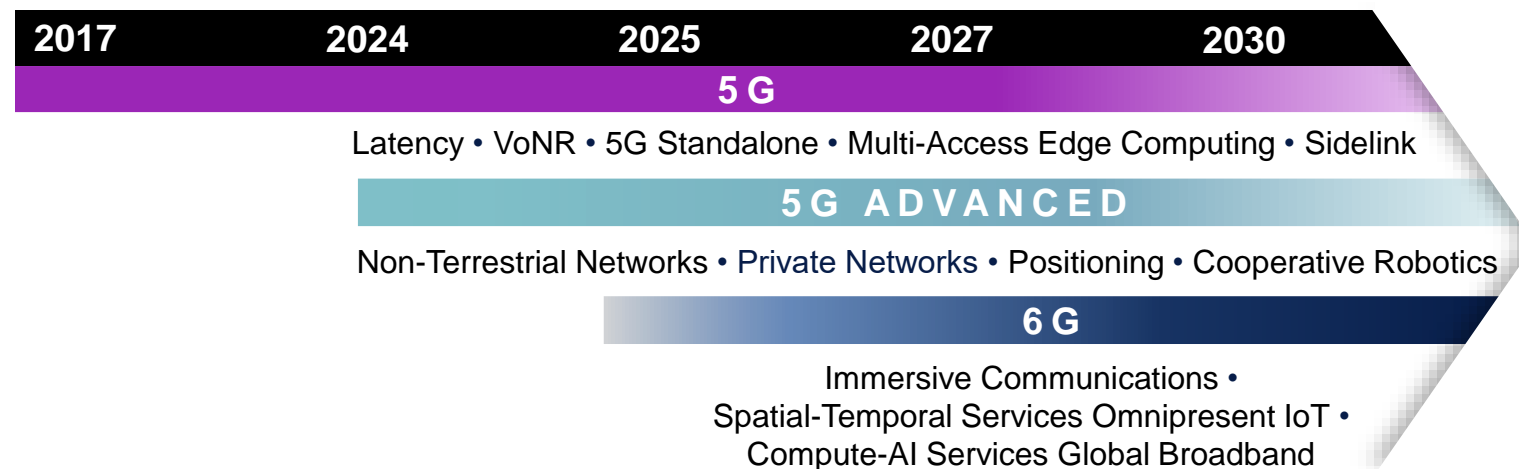
Expansion Across Workflow

- **Increasing workflow coverage** through **systems-level simulation** (channel emulation for NTN, network digital twin)
- Exploring new SAM in **deployment** applications e.g., **Open RAN**, **network analytics**



Capitalizing on 5G Expansion, Advancing Early 6G Research

Extending leadership as standards progress and deployments scale; expanding installed base with new use cases



> 125 SOLUTIONS TO DATE



5G Network Emulation Solutions



Private and Industrial Network Solutions



Sub-THz 6G Testbeds

Strategy to Capture Growth

1

Enable standards progression, Rel-17 through Rel-21

Extending industry-leading 5G platform to support 5G-SA, mmWave, D2D, UL improvements

2

Maximize growth with scaling of 5G deployments leveraging solution breadth

Opportunities being pursued:

- 5X subscriber growth to 5B by 2028
- ~3X network growth by 2027
- Regional scaling in Europe/India
- Industrial: automotive, RedCap (IIoT)
- Aerospace and defense: HAPS, NTN

3

Enabling early 6G research with first-to-market solutions

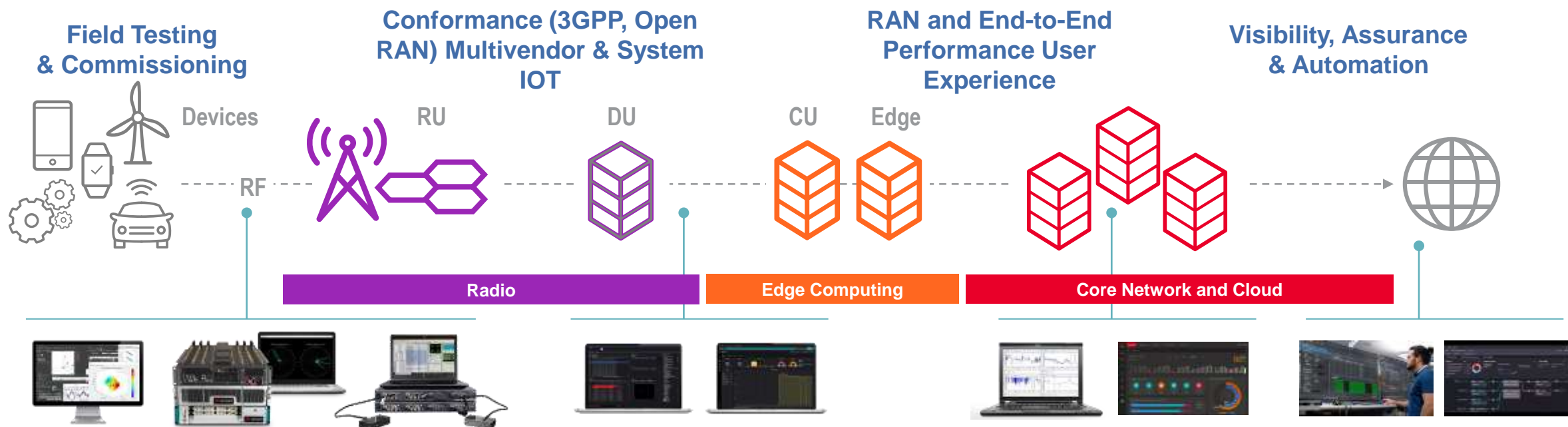
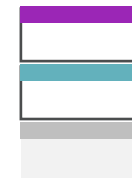
- Leveraging industry-leading partnerships to advance diverse use cases

Keysight Enabling New Network Architecture: Network Virtualization

Advancing Open RAN and expanding customer base

APPLICATIONS

PROTOCOL



Altistar • Analog Devices • AT&T • AWS • Cisco • Fujitsu • Google Cloud • HPE • Jio • Mavenir
NVIDIA • Radisys • Rakuten • Telecom Italia • Telefónica • >125 additional customers

Enabling Next-Generation Data Center Networks

Driving wireline innovation in 400G/800G/terabit and photonics

PROTOCOL

PHYSICAL

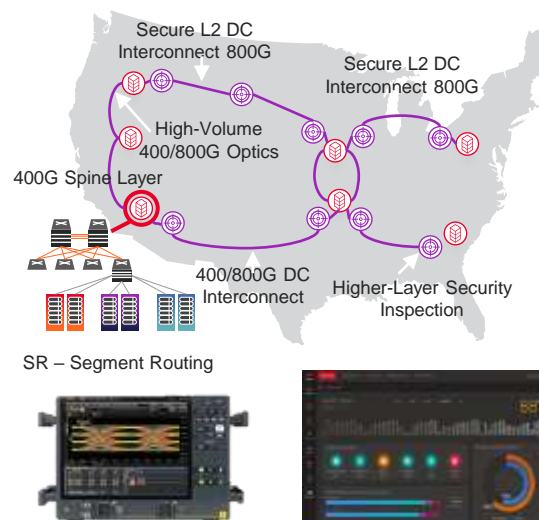
Industry Challenges

- Data traffic continues to increase, and **massive new AI/ML computation** pushes innovation in data center networking and computing technologies
- 400G and initial deployments of 800G underway requiring simulation, design and validation; next generation of 1.6T silicon development underway
- Design and deployment of integrated optics (O-E, E-O interfaces) and photonic chips require new capabilities



Differentiated End-to-End Portfolio

- First-to-market advanced physical (224 Gbps) and protocol layer (800G) capabilities, including industry-leading analog bandwidth (>75 GHz) with AWG
- Parametric characterization, protocol stack validation and cybersecurity use cases (including cloud-native offerings)



Outcomes

- Design and emulation solutions adopted by >200 customers in 4 years

“*Keysight’s groundbreaking 8x400GE APS-M8400 cybersecurity test platform delivers the port density, multi-terabit application and TLS throughput rates, and session scalability that help Fortinet test and validate the performance and real-time threat protection our customers expect.*”

JOHN MADDISON

Executive Vice President of Products and Chief Marketing Officer at Fortinet

Enabling Emerging Inflection in AI/ML

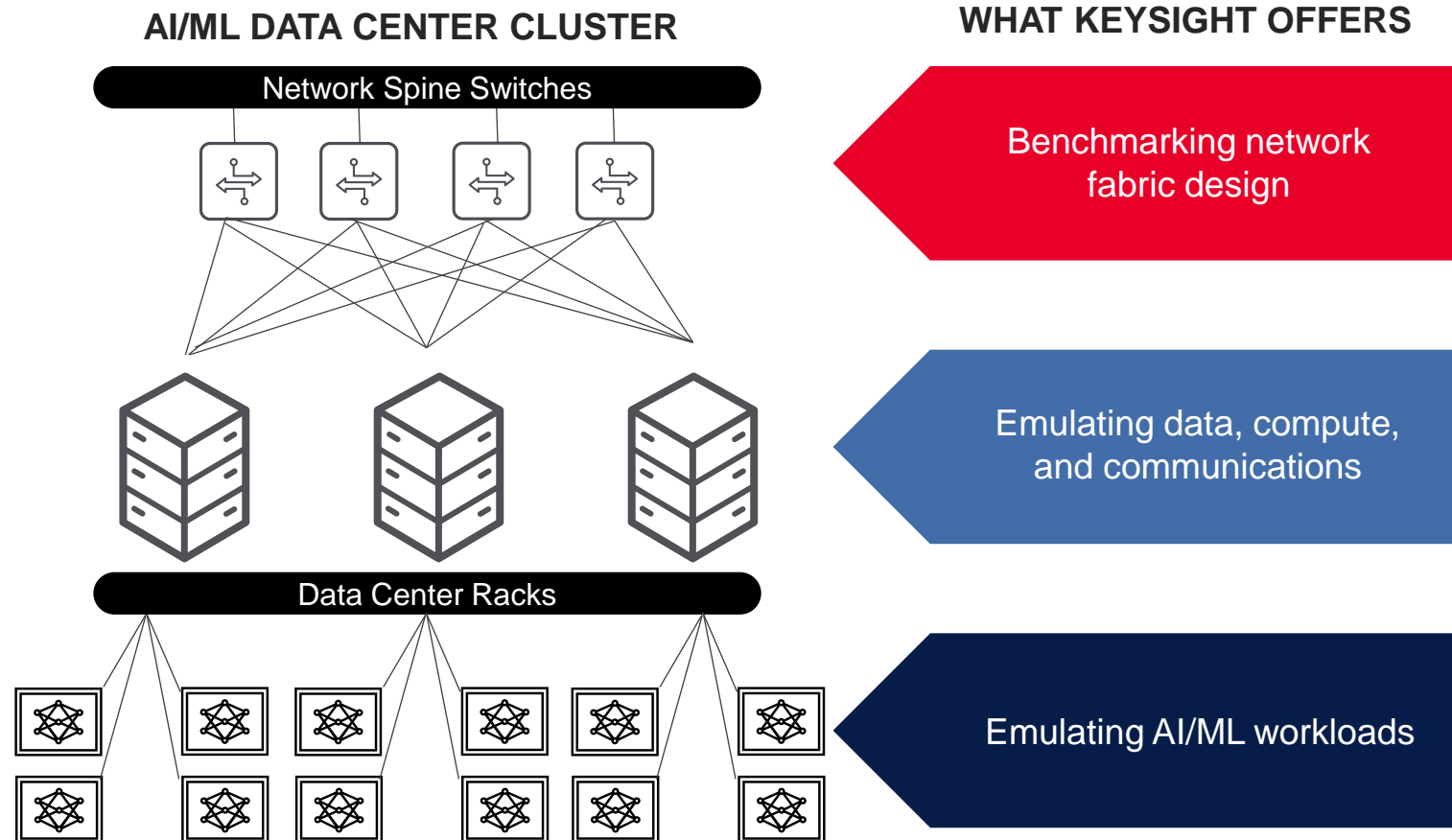
Keysight advancing solutions for network infrastructure at data centers and hyperscalers

Industry Challenges

- AI/ML workloads require high networking bandwidth (800G, 1.6T) and computing performance
- Questionable accuracy, long processing times, and high cost of AI/ML training and inference
- Cost prohibitive to run large-scale “what-if” scenario assessments for network design and operations

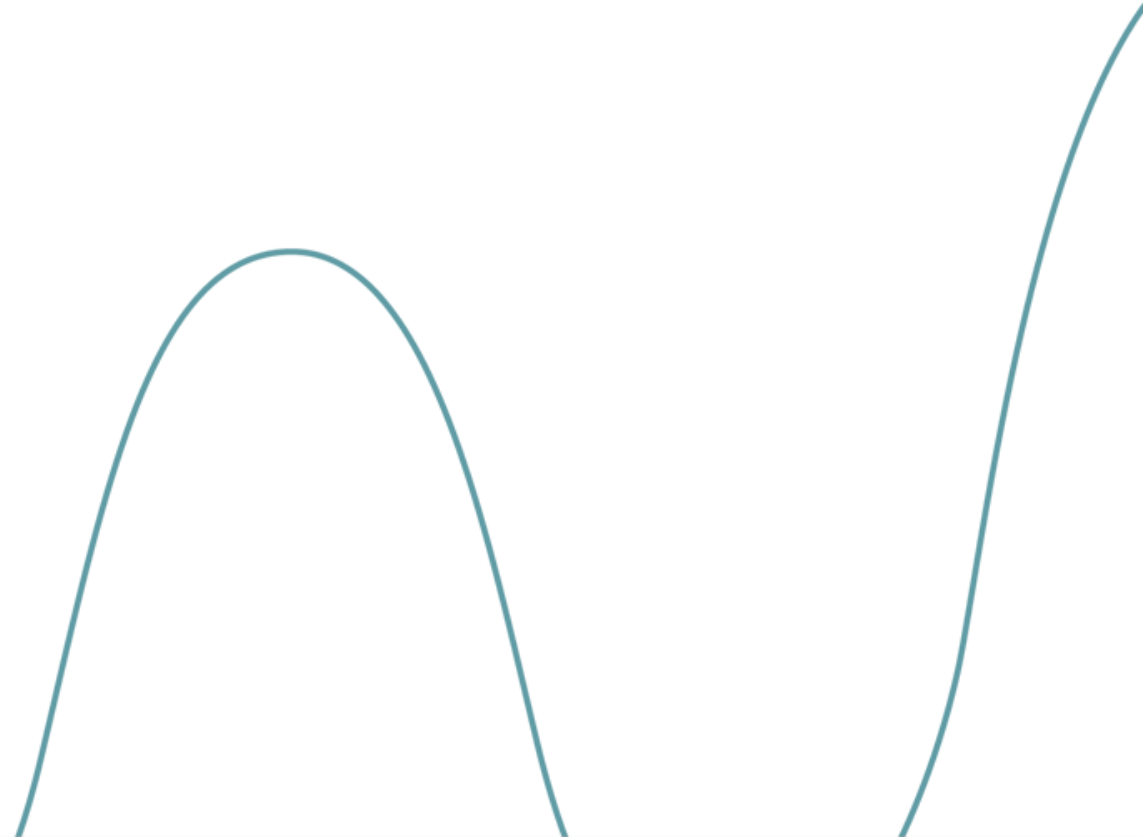
Keysight Value Proposition

- Industry-leading network test solutions used to design, evaluate, build, and optimize system infrastructure beneath AI/ML training and inference workloads
- Industry-leading 8 port density in 800G solution
- Accelerating innovation to optimize complete systems, encompassing physical, communication protocols, and neural network models



Aerospace, Defense, and Government

Accelerate defense modernization and digital transformation



Digital Transformation and Geopolitics Driving Investment in Aerospace and Defense

Keysight accelerating defense modernization and advancing research

Key Drivers

5G / 6G

Spectrum Operations

Autonomous Systems

New Space

Electrification

Network Digital Twin

AI/ML

Quantum

Favorable Global Spend Environment

- **LEO satellite market** expected to grow at >15% CAGR through 2026¹
- **U.S.:** Defense budget FY23 approved: \$847B (+8% YoY); research, development, test, and evaluation budget at record level (\$130B) in FY23 (+16% YoY)²
- **NATO:** Increasing budgets significantly in response to current geopolitical situation and need for modernization
- **Japan:** Record-high FY23 defense budget, up 26% YoY³
- **South Korea:** Initiative to develop comms systems for domestic use and exports; additional investment in space

Opportunities



COMMUNICATIONS



SPACE &
SATELLITE



GOVERNMENT
RESEARCH



AEROSPACE DEFENSE
SUPPLY CHAIN



GOVERNMENT
ENTERPRISE

Rich Market
Insights



Strong Core
Portfolio



New Solutions
5G-AD and Space



Strategic
Partnerships

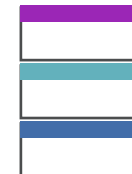
Capturing New Investment in Satellite Networks

Enabling space connectivity with new modelling and emulation capabilities

APPLICATIONS

PROTOCOL

PHYSICAL



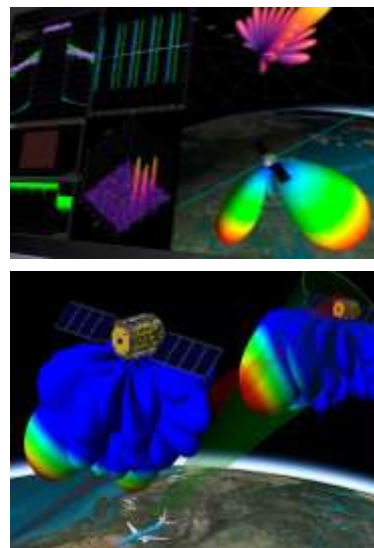
Industry Challenge

- Need for innovation in the satellite communications industry (e.g., next-generation satellites with greater interoperability in current and future infrastructure)
- Satellite connectivity accelerating, extending beyond GPS and legacy video broadcast
- >100 satellite networks planned for broadband internet, IoT, and earth observation



Differentiated End-to-End Portfolio

- Phased-array antenna design solutions with industry-leading phase noise (>30dB better) for characterization
- Physical and protocol layer modelling software, including 5G NTN
- Network solutions for traffic emulation



Outcomes

- Industry-first NTN milestone enabled customers to validate their designs for messaging via satellite links
- Advancing ground telcos, satellite operators, and cloud providers

“ Keysight has been a critical enabler of our 5G.Mil program. Among other things, we utilize Keysight’s NTN protocol solutions to enable our cross-functional teams to **collaborate, design and prototype our next-generation communication technologies and products.** ”

DANIEL RICE
VP of 5G.MIL Program,
Lockheed Martin

Accelerating Global Quantum Innovation

Advancing qubits expansion and control; expanded global engagements to >100

APPLICATIONS

PROTOCOL

Industry Challenge

- Enterprise and governments seeking first-mover advantage and long-term technical sovereignty
- Roadmaps accelerating, with U.S. and global ecosystems leading – 100s qubits in 2-3 years, 1000s by end of decade



Differentiated End-to-End Portfolio

- Portfolio covering emulation, error characterization, control and test

Quantum Emulation



Quantum Qubits Control



Quantum Benchmark



Core Products Portfolio



Outcomes

- Engaged globally with more than 100 companies and research institutions
- Leading industry consortia presence (U.S., QED-C, Japan, Q-STAR)

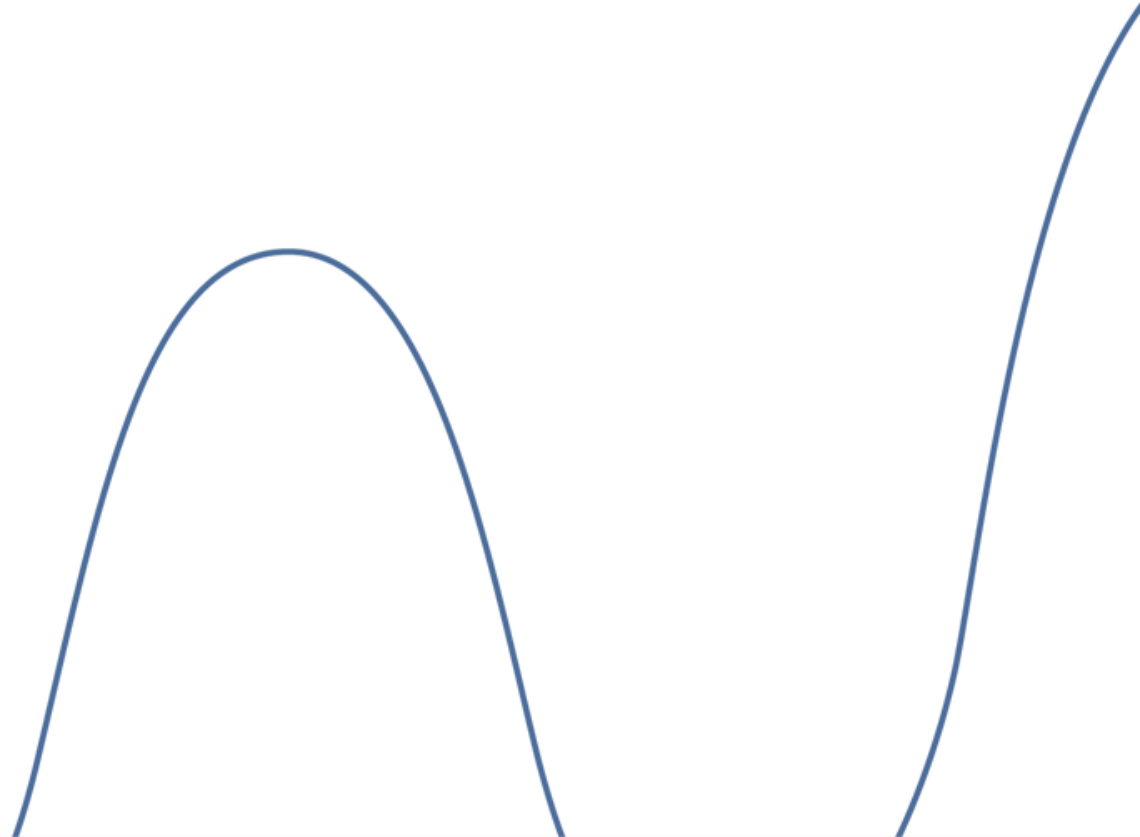
“Joint work between Quantum Benchmark and the Advanced Quantum Testbed at Berkeley Lab... has led to a **dramatic improvement in the area of quantum control** and **significant performance enhancements** for quantum applications.”

DR. IRFAN SIDDIQI

Director, Quantum Systems
Accelerator, Lawrence Berkeley
National Laboratory

Expand Software Solutions

Margins and lifecycle monetization



Customer Innovation Workflows Driving Software Expansion Opportunities

Customers' connectivity and computing IP becoming increasingly software-centric

APPLICATIONS

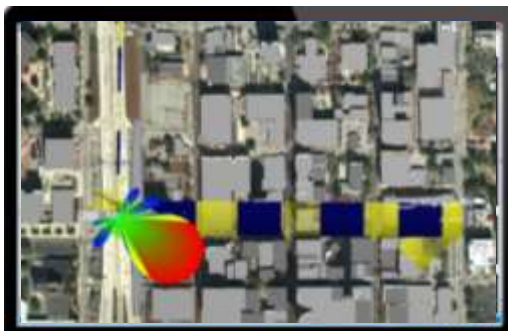
PROTOCOL



EXPANDING SOLUTIONS AND ADDING CAPABILITIES FOR NEW APPLICATIONS

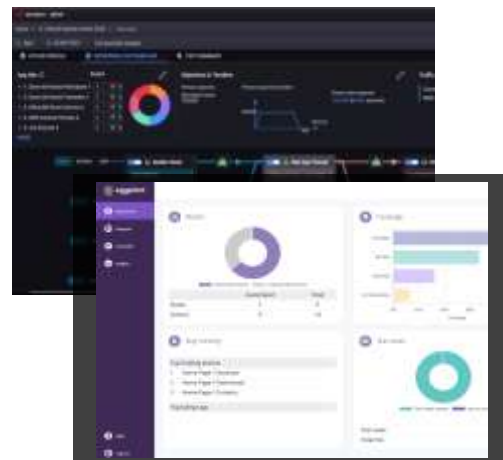
Modelling

Non-terrestrial networks, digital twin, and complex systems



Virtualization

Network functions virtualization, cybersecurity, cloud, and 5G.AD applications



Live Workflows

Analytics, quality of service, quality of experience, and monitoring



Software portfolio expansion through organic investment and acquisitions is driving above-average growth in software and recurring revenue

- CSG software revenue FY19-FY22 CAGR of high single digits
- Strong synergies with **IXIA**, **Prisma Telecom**, **Sanjole**, **Scalable Network Technologies**, and **Eggplant** acquisitions are increasing new software capabilities

Driving Operational Excellence

Multiple levers enabling increase in operating margin

Leveraging common R&D investment across end markets

- Reuse common physical and protocol layer portfolio
- 10+ new solutions addressing use cases in both end markets in the next 3 years

Driving continuous improvement in solutions value

- Improving customer experience in new solutions
- Increasing software delivery cadence across multiple solutions

Ongoing focus on supply-chain excellence

- Reducing material price premiums and driving value-engineering projects

Key Takeaways

1

Capitalizing on steady investments in long-term overlapping technology waves, driving innovation in growing markets

2

Deepening customer engagements in existing workflows and in advancement of future technologies

3

Broadening industry-leading solutions portfolio through organic investment and synergies from recent acquisitions

4

Increasing solution and software content and leverage across end markets driving margin expansion and efficiency

Creating value through advancing technology waves, enabling defense modernization, expanding margins, and driving operational excellence

Q&A Session

Break

Electronic Industrial Solutions Group (EISG)

Strengthening and Capitalizing on Market-Leading Position, Advancing Customer Innovation in High-Value Applications, and Driving Automotive Leadership

Ee Huei Sin

PRESIDENT, ELECTRONIC INDUSTRIAL SOLUTIONS GROUP

Key Messages

1

Consistent track record of sustained profitable growth through strategy execution and operational excellence

2

Well-positioned to capitalize on industry mega trends for digitization, new mobility automotive, and next-generation semiconductor innovation

3

Competitive advantage from leveraging Keysight's broad and deep technology expertise across a diverse set of fast-growing markets for speed-to-market

4

Continued market outperformance by capturing new tech investments, targeting emerging verticals, maximizing installed base, and expanding software solutions

EISG Performance: Strong Track Record, Above-Market Growth

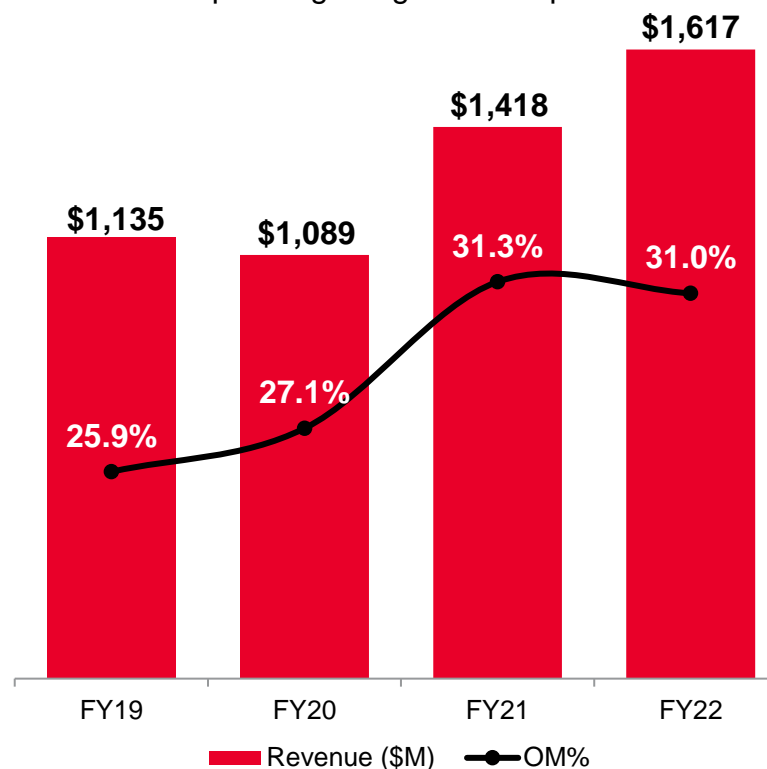
FY22 Highlights

+14% YoY revenue growth	31% Operating margin
\$0.5B Operating income	\$5.9B Served addressable market (~27% Share)
+13% YoY operating income growth	4-6% Long-term market growth rate ¹

Revenue and Operating Margin

3-year revenue CAGR: ~12.5%²

Operating margin: +510 bps²



Electronic Industrial Solutions for a Diverse Set of Growing End Markets

CUSTOMERS

MARKET DRIVERS



General Electronics

- Electronics Designers and Manufacturers
- Academic Institutions

- Digitization
- Post-Covid Recovery



Automotive & Energy

- OEMs
- Tier 1 and 2 Suppliers

- New Mobility
- Increasing Electronic Content



Semiconductor

- Foundries
- Equipment Designers and Manufacturers

- Semi Assurance of Supply
- Advanced Nodes Deployment

Continually Delivering Profitable Growth

What We Said at 2020 Investor Day		Actions Taken & Results
1	Delivering strong results consistently	<ul style="list-style-type: none">• Accelerated growth, captured market share, and expanded margins through growth strategies targeting high-value mega trends• Delivered 12.5% revenue CAGR and 510 bps operating margin expansion from operational excellence initiatives (FY19-FY22)
2	Capturing inflection points in high-value automotive and first-to-market IoT applications	<ul style="list-style-type: none">• Broadened solutions across battery and automotive ecosystems• Accelerated growth through key bolt-on acquisitions: Verisco and Nordsys• Expanded into consumer technology, digital health, and industrial IoT verticals
3	Leveraging innovation to maintain leadership and enable tech advancements in semiconductor industry	<ul style="list-style-type: none">• Strengthened leadership position in advanced semi technologies• Leveraged market leadership position and deep customer collaboration to enable semi capability advancements• Increased market share through “design-in” with our differentiated solutions
4	Well-positioned to unlock new opportunities and accelerate profitable growth	<ul style="list-style-type: none">• Driving leadership position in smart cars and new mobility infrastructure development and deployment• Leveraging technology leadership to enable digital transformation in AI, IoT, cloud computing, ML, and 5G• Capitalizing on broad technologies to develop solutions for smaller, more efficient, and integrated chipsets advancement

Executed and delivered on commitments, capturing new opportunities

Capturing Opportunities from Industry Mega Trends



Acceleration in Digitization

- Immersive technologies expected market growth >38% CAGR^{1,2}
- Digital health market to increase 3X from 2021 to 2027¹
- Growing government funding for advanced research (U.S. NSF, German Research Foundation, Japan 6G research fund, etc.)

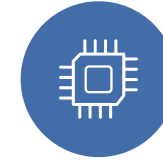
Emergence of Complex and Dynamic Ecosystem



Automotive Industry Evolution

- ICE to EV transition gains pace
- Continued investment in AV/ADAS increases road safety
- Electronic and SW content of vehicles increasing with new architectures; electronics expected to be ~50% of new car cost by 2030¹

Growing New Mobility Development and Deployment



Semiconductor Next-Gen Innovation

- Government investments (U.S. CHIPS Act, EU Digital Compass 2030, etc.)
- Advanced nodes development and deployment (7nm-5nm-3nm-2nm)
- “More than Moore” IC driven by the deployment of 5G, IoT, immersive technologies, and automotive evolution

Demand for Smaller, Power Efficient, and Highly Integrated Chipsets

Increasing market share by capitalizing on emerging technology advancements and expansion

EISG Profitable Growth Strategy



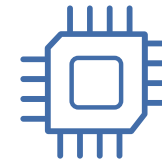
Enable Smart Applications in General Electronics

Driving innovation and expanding
into new emerging verticals



Advance Innovation for New Mobility

Expanding first-to-market solutions
for electric vehicles and autonomous
vehicles, and customer base



Capitalize on Semiconductor Next-Gen Development and Expansion

Capturing greater wallet share of global
chip investments, and enabling advanced
chipset development and deployment

End-to-end solutions across physical, protocol, and application layers

Drive **operational excellence** and continuous improvement through Keysight Leadership Model and best practices

Why We Win: Our sustainable competitive advantages

Market Leadership: First-to-market solutions & technology differentiation • Deep customer relationships • Diverse culture and talent

Enable Smart Applications in General Electronics

Innovation and differentiation + emerging megatrends

Market Focus and Opportunities



Digitization, edge computing, and big data **drive high-speed, low-latency technology and security**

- Investments in high-speed digital technologies (HDMI 2.1, PCIe, USB) and new frequency bands (6GHz, mmWave) development **supporting immersive tech evolution**
- **Growing emerging IoT applications** with digital transformation – consumer, smart manufacturing, digital health, digital classroom learning
- **Technology research** focusing on sub-THz spectrum, quantum, next-gen communications, advanced material, and devices development

STRATEGY TO WIN

Drive Innovation in Emerging Verticals

- **Target connected consumer devices and industrial automation** for manufacturing test, battery test, high-speed digital, and regulatory compliance & standards
- **Expand digital health** into connected medical devices and new imaging modality
- **Focus on academia advanced research** in emerging technologies and new cloud-enabled software solutions for hybrid and digital learning
- **Capture significant opportunity** by scaling and expanding margins across broad customer base

Accelerate speed-to-market by leveraging Keysight's broad portfolio across diverse set of customers

Emerging High-Growth Verticals

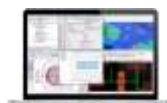
Accelerate speed-to-market by leveraging our broad portfolio

Immersive Reality	Smart Manufacturing	Consumer IoT Devices	Digital Health	Academia Advanced Research
CUSTOMER APPLICATIONS FOR HIGH-GROWTH VERTICALS				
<ul style="list-style-type: none"> High-fidelity audio and video interfaces in next-gen gaming/TV Regulatory compliance of 6GHz wireless technology deployment and access 	<ul style="list-style-type: none"> High-speed digital connectivity compliance testing for new embedded industrial controllers Reliability/quality testing of mission-critical smart sensors in R&D and manufacturing 	<ul style="list-style-type: none"> Design validation and manufacturing of IoT devices (connectivity, co-existence, continuity, cybersecurity, compliance, customer experience) Development and compliance of wireless technologies (Bluetooth, ZigBee, WiFi) 	<ul style="list-style-type: none"> Wireless and battery life for resilient operations of connected medical devices Embedded VNA technologies in new POC medical imaging (incubating for commercialization) 	<ul style="list-style-type: none"> AI-assisted comms network Smart mobility, smart energy Advanced material science for sub-THz IC, sustainable material, nanotech semi, advanced composite, quantum devices Biomed engineering and POC transformation
Panasonic LG NXP Simplay Labs	Rockwell Automation SECO SICK	Canon Epson Harmonic Vimta Midea	EMVision Medtronic Starkey	Nanyang Technological University Singapore McGill University

DIFFERENTIATED SOLUTIONS LEVERAGING KEYSIGHT TECHNOLOGIES AND EXPERTISE



HDMI Compliance Test Solution



PathWave Advanced Design System



USB/DDR/PCIe Compliance Test Solution



IoT Device Battery Life Optimization Solution



IoT Wireless Test Solution



IoT Battery Life Optimization Solution



PNA Network Analyzer



Regulatory Compliance Test Solution, WiFi-6E



IIoT Sensor Battery/ Energy Domain Analysis Software



Manufacturing In-circuit Test System + Analytic



EMC Compliance Test Solution



Embedded VNA Module



M8000 Series AWG system



Infiniium UXR Oscilloscope

Advance Innovation for New Mobility

Customers and solutions expansion + first-to-market

Market Focus and Opportunities



Increasing ICE vehicles to EV transition – opportunity due to government-driven shift away from ICE

- U.S. goal of 50% ZEV for light vehicle sales by 2030, 100% for California by 2035; EU and China to ban ICE by 2035
- New entrants without ICE legacy challenge incumbent OEMs

Growing ADAS investment and continuing work on higher levels of autonomy

Technology advances increase electronic content: ECU production volume 12% CAGR (2022-2025)¹

Semi shortage: 50% of top 10 automotive OEMs will design their own chips by 2025²

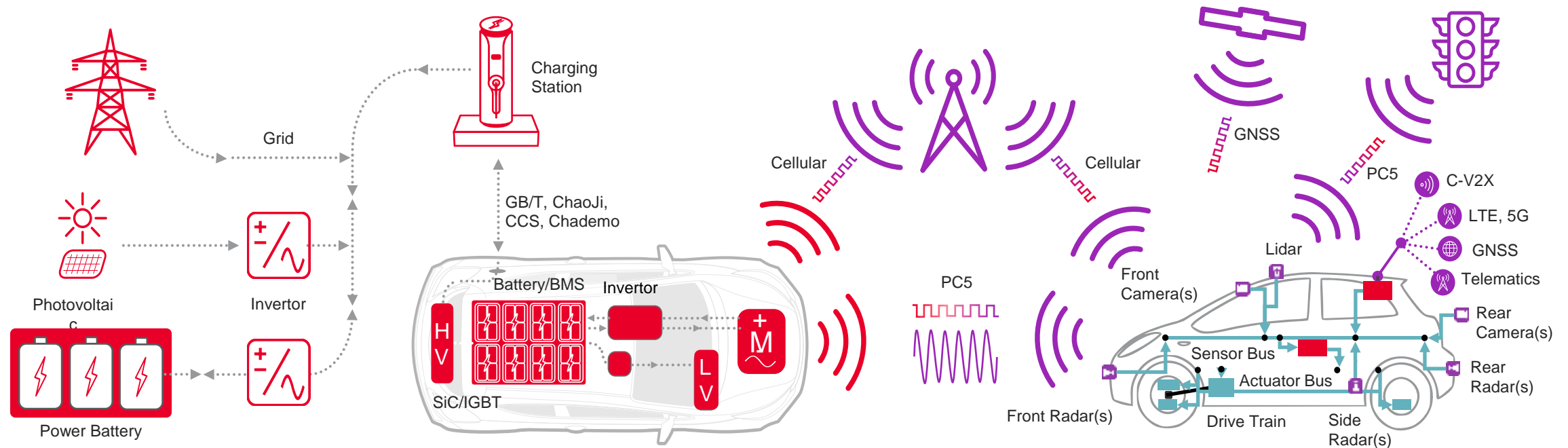
STRATEGY TO WIN

Capture Investments in New and Future Mobility

- **First-to-market AV solutions** leveraging Keysight's strengths for ADE, C-V2X, and automotive ethernet platforms
- **Expand EV test solutions** to battery test ecosystems, charging and discharging infrastructure
- **Acquire or partner** to increase customer base and regional penetration
- **Drive operational excellence** in design, emulation, and test capabilities to enable industry evolution

Drive leadership and advancement in fast-growing new mobility automotive

Keysight Automotive and Energy Solutions Enabling Transition to New Mobility Ecosystems



EV Ecosystem

- Smart Grid
- Battery Cell, Module, Pack, BMS
- Invertors, Power Train
- Charging
- Photovoltaic

Autonomous Driving

- C-V2X, 4G, 5G
- Radar, Lidar
- WiFi, Bluetooth, TPMS, Keys
- Autonomous Drive Emulation
- ECall & ERA-GLONASS
- Cybersecurity

In-Vehicle Systems

- Automotive Ethernet
- High-speed Digital Bus, SerDes, MIPI A-PHY
- VCU, Domain ECU/MCU
- CAN & CAN-FD
- LIN, SENT, MOST, FlexRay

EV | Enabling Customer Success with Industry-First Solutions

EV Battery

EV Demand is Driving Investments

- Battery performance is key to OEM success
- Push for best price/performance – battery packs drive cost, range, performance, and charging time

High-Performance Solutions from Cell to Pack Level

- Enable assessment of performance, quality, and safety
- Industry-leading energy efficiency minimizing operational costs; >96% energy regeneration
- Software-driven test automation and workflow management



“The intensive exchange with Keysight on a very professional level and their deep understanding of our needs make Keysight the perfect partner to jointly drive this project to success.”

DR. FREUNDT
Head of Battery Testing and Validation at ElringKlinger AG



EV Charging

Expansion of Global EV Infrastructure

- Robust and easy consumer experience
- Investment into DC fast charging to optimize charging time and experience
- Government funded infrastructure investments (U.S. >\$5B in NEVI Formula funding, EU €280B for charging)

Only Solution to Cover All Global EV Charging Standards

(CCS, CHAdeMo, Bharat, ChaoJi, GB/T)

- Accelerated use case and conformance test coverage through Verisco acquisition
- Ready to address latest vehicle-to-grid / vehicle-to-infrastructure



“Partnering with Keysight enables DEKRA to better serve an automotive industry with solutions in an area where the energy grid meets the automotive world.”

BEAT KREUTER
VP of Business Line Product Safety Testing at DEKRA



AV | Enabling Customer Success with Industry-First Solutions

Automotive Radar


ADAS Functions are Build-on Radar Modules

- Automotive radar is considered critical for AV/ADAS
- Future vehicles will have 6-12 radar modules

Multi-Award-Winning Radar Scene Emulation Enables New Levels of Testing

- Address missing link between simulation and road testing
- Enable repeatable tests under real-world conditions with real sensors
- Emulate complex, full-scene roadway scenario in a lab environment
 - Wider FOV: $\pm 70^\circ$ horizontal, $\pm 15^\circ$ vertical, 1.5 meters minimum distance
 - Real-world complexity: up to 512 reflections (higher and dynamic resolution)



 *AV/ADAS functions are becoming more intertwined with each other, which makes it important for us to explore the means of simulating the sensor for use on the testing bench and making decisions as early as possible.*

MARC PAJON

Expert Leader of Testing & Measurement Technologies at Groupe Renault



Vehicle-to-Everything (V2X) Communication


Essential for AVs

- Non-line-of-sight communication is critical especially in highly condensed, urban driving scenarios
- Leverage existing communication infrastructure
- Regional, standard driven implementations

Only Solution to Cover Test Cases from Lab to Field

- Leverage Keysight's 5G communication leadership
- Broadest solution portfolio through Nordsys acquisition
- Simulate and emulate complex non-line-of-sight drive profiles
- Support for all regional standards (DSRC, C-V2X)



 *Congratulations to Keysight for being the first to achieve OmniAir Qualification for their C-V2X test system. Working together with industry partners like Keysight allows OmniAir to offer the world's first testing and certification program for C-V2X radios.*

JASON CONLEY

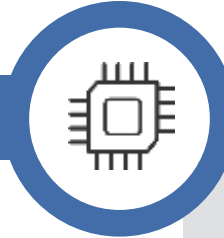
Executive Director of OmniAir Consortium



Capitalize on Semiconductor Next-Gen Development and Expansion

Leadership + differentiation + adjacent applications

Market Focus and Opportunities



Digital transformation drives continuous demand for next-generation semiconductor technology

Regional strategic chip investments for supply decoupling, self-sufficiency, supply resilience, and technology leadership

- U.S.: CHIPS Act, FABS Act
- EU: Digital Compass 2030
- India: Semicon India Program
- South Korea: K-Belt Semiconductor Strategy

Advanced nodes and mainstream expansion with new fab investments

Early product validation for “More than Moore” wafer test

STRATEGY TO WIN

Strengthen Market Leadership

- **Enable advanced nodes** development and deployment through close collaboration with industry leaders
- **Expand into adjacent applications** for integrated IC wafer testing
- **Capture greater share of customer spending** in global semiconductor investments
- **Drive operational excellence** and **increase margins** with leading technology and scalability through first-to-market solutions

Highly differentiated solutions enabling leading-edge semiconductor evolution

Semiconductor Next-Gen Development and Expansion

Advanced Nodes Development

Next-Generation Parametric Test Development

- Higher density testing
- Faster test speed with μA low current
- Faster current-voltage pulse measurement

Enabling next-gen semiconductor equipment with advanced optical capabilities and positioning metrology solutions

Partnering with key customers on new disruptive technologies to support 3nm and beyond



Keysight P9000 Series
Massive Parallel
Parametric Tester

“More than Moore” Application

- Leverage Keysight technologies and application-specific components to provide first-to-market solutions for integrated chipset testing
- Enable silicon photonic, mmWave, and power semi at wafer acceptance test
- Provide modular, scalable, and application-specific solutions with PathWave semiconductor test software



Keysight Silicon Photonics
Wafer Level Test System

Enabling innovation in semiconductor technology as complexity increases

“More than Moore” Application Wafer Level Testing for Semi Capability Expansion

Silicon Photonics

First-to-Market Solution

- Optical transceivers for high-speed data transfer
- Better reliability and efficiency for ever increasing network traffic, 5G, cloud, and data center



mmWave

First-to-Market Solution

- mmWave (5G, radar) device test at wafer level for cost efficiency
- Best measurement technology for fully automated mmWave wafer test solution



Power Semi

Most Complete Solution

- Industrial/automotive devices utilizing WBG technologies
- Provide safe, accurate, and fast test solution for time-to-market



Parallel Reliability Test

Most Effective Solution

- Guarantee reliability of mission critical devices by accurate stress and measure testing in parallel
- High count parallel (>100) and accurate test solution to rapidly determine outliers



Modular, scalable, and application-specific solutions with PathWave semiconductor test software

Key Takeaways

1

Executing a clear strategy

to extend consistent track record of sustained profitable growth

2

Capitalizing on industry mega trends

in digitization, new mobility automotive, and next-generation semiconductor innovation

3

Accelerating speed-to-market

by leveraging breadth and depth of technology expertise across diverse and fast-growing markets

4

Outperforming the market

by maximizing installed base and expanding software solutions

Holistic Customer Solutions through Software, Services & Sales

Uniquely Positioned to Address Evolving Customer
R&D Needs with First-To-Market Solutions

Mark Wallace

CHIEF CUSTOMER OFFICER

Key Messages

1

Growing customer lifetime value and extending first-to-market leadership beyond the solution sale

2

Harnessing the power of our **go-to-market approach** to maximize customer success

3

Leveraging our compelling, **customer-centric strategy** to address evolving needs with a broad portfolio of innovative solutions

Sustaining Growth, Differentiating Keysight

FY22 Highlights

30K+

Customers served annually

\$6B

Total orders

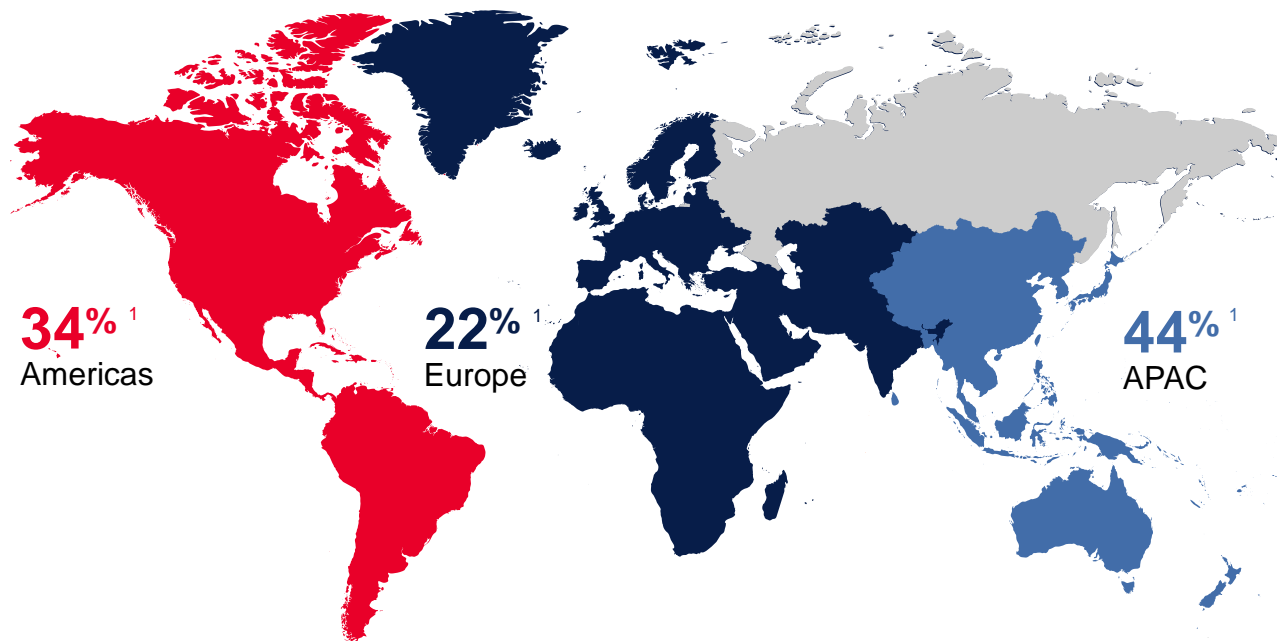
14%

Core order growth

33%

Software & services sales (% of total)

GLOBAL TEAM SERVING CUSTOMERS



R&D and Technical Sales Teams Are Close to Customers

Industry-leading Technologies

- 5,000+ R&D, solution, and service engineers globally near customers
- Deep connections with top research universities

Thought Leadership

- Active in top standards bodies and industry consortia such as 3GPP, NIST, O-RAN-ALLIANCE, IEEE, NCSLI, and many more
- 140+ public customer collaborations
- 3,800+ patents² and applications with 100s of invention disclosures generated annually

Embedded with Market Leaders

- Diverse and deep customer relationships globally
- Viewed as a trusted advisor and partner
- 500+ embedded account managers and solution engineers at industry-leading customers

Scaling Across Ecosystems

- More customers seeking earlier and deeper engagements
- Global salesforce now extending strategic customer collaborations

Delivering Strong Results: Actions in Place to Accelerate Momentum

What We Said at 2020 Investor Day

Actions Taken & Results

1	Double frontline sales capacity at a lower cost per order dollar (CPOD) from FY16-FY22	<ul style="list-style-type: none"> • More than doubled our sales capacity • 47% increase in annual productivity at a 29% lower CPOD • Deploying full sales capability to scale strategic customer collaborations
2	Deepen customer relationships and focus on value selling to expand margin	<ul style="list-style-type: none"> • Top 200 customers grew 35% • Added over 6,000 new customers contributing >\$900M • Accelerated cadence of price increases
3	Grow services orders to exceed \$600M	<ul style="list-style-type: none"> • Achieved over \$720M in services orders in FY22 • Expanded solutions and subscription services
4	Optimize global sales capacity with emphasis on recurring revenue from services and software	<ul style="list-style-type: none"> • 11% services and software order CAGR • >14% recurring revenue CAGR from a shift to software subscriptions, support contracts, and enterprise agreements
5	Launch new offerings and attached services upfront, adding recurring revenue	<ul style="list-style-type: none"> • Launched solution services, now ramping in all end markets • New offerings, including KeysightCare, are nearly 100% recurring revenue • 28% services upfront order CAGR with a 60% attach rate

Harnessing the Power of Our Go-to-Market Approach

Enabling customers to accelerate innovation

ADDRESSING COMPLEX CUSTOMER CHALLENGES

☑ TIME TO MARKET

☑ R&D WORKFLOW COMPLEXITY

☑ GLOBAL & REGIONAL DYNAMICS

Direct Sales

Industry Solution & Products

Deepening and Expanding Engagements with Industry Leaders

- Bring next-generation technology to customers through solutions consisting of hardware, software, and services
- Apply market insights to guide investments in first-to-market solutions and grow wallet share

Direct Sales

Standalone Software & Services

Scaling Enterprise Software and Services Sales

- Leverage the expanding portfolio of enterprise software to deliver continuing value to customers
- Increase enterprise subscription sales, grow annualized recurring revenue, and expedite integration of inorganic software sales channels

Indirect Sales

Partners + eCommerce

Improving Customers' Transactional Buying Experience

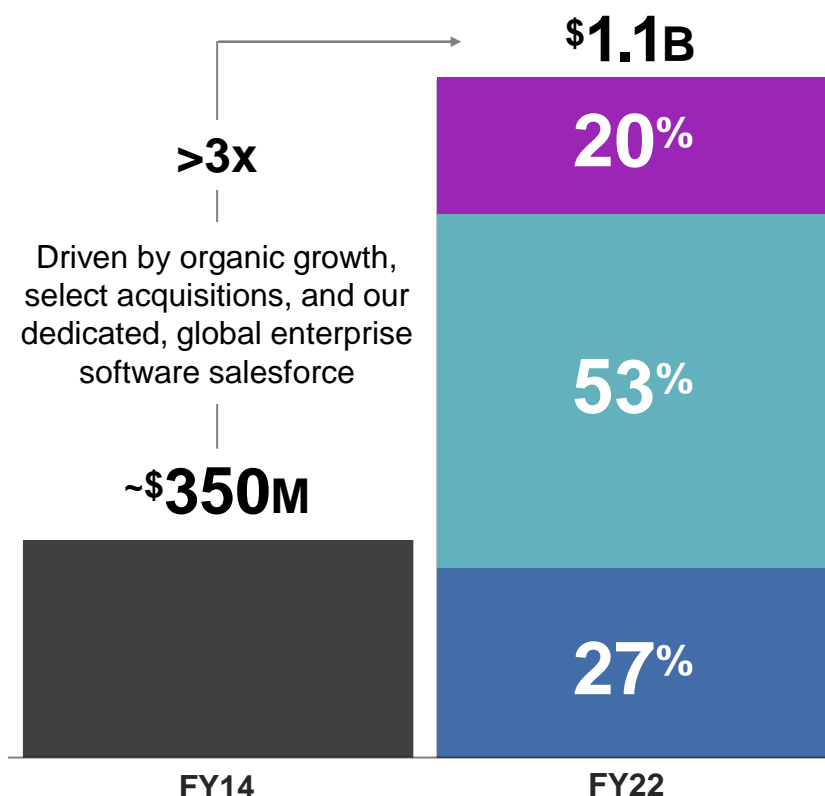
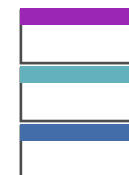
- Increase ease of purchasing solutions
- Grow distribution and eCommerce faster than Keysight: >30% of business from new customers
- Maximize reach with >800 global partners

Seizing Opportunities to Increase Software Revenue and ARR

APPLICATIONS

PROTOCOL

PHYSICAL



SW% of Revenue

12%

21%

SW ARR

31%

48%

Standalone Software

Digital workflow solutions focused on PathWave design and simulation, automation, test, and assurance



Solutions Software

Software applications that unify multiple instruments into industry-specific solutions



Instrument Software

Organically grown software and applications pre-installed on Keysight instruments



What We Achieved

- ✓ Captured value through business model expansion and go-to-market capabilities
- ✓ Onboarded engineers to match solution selling and support skill requirements



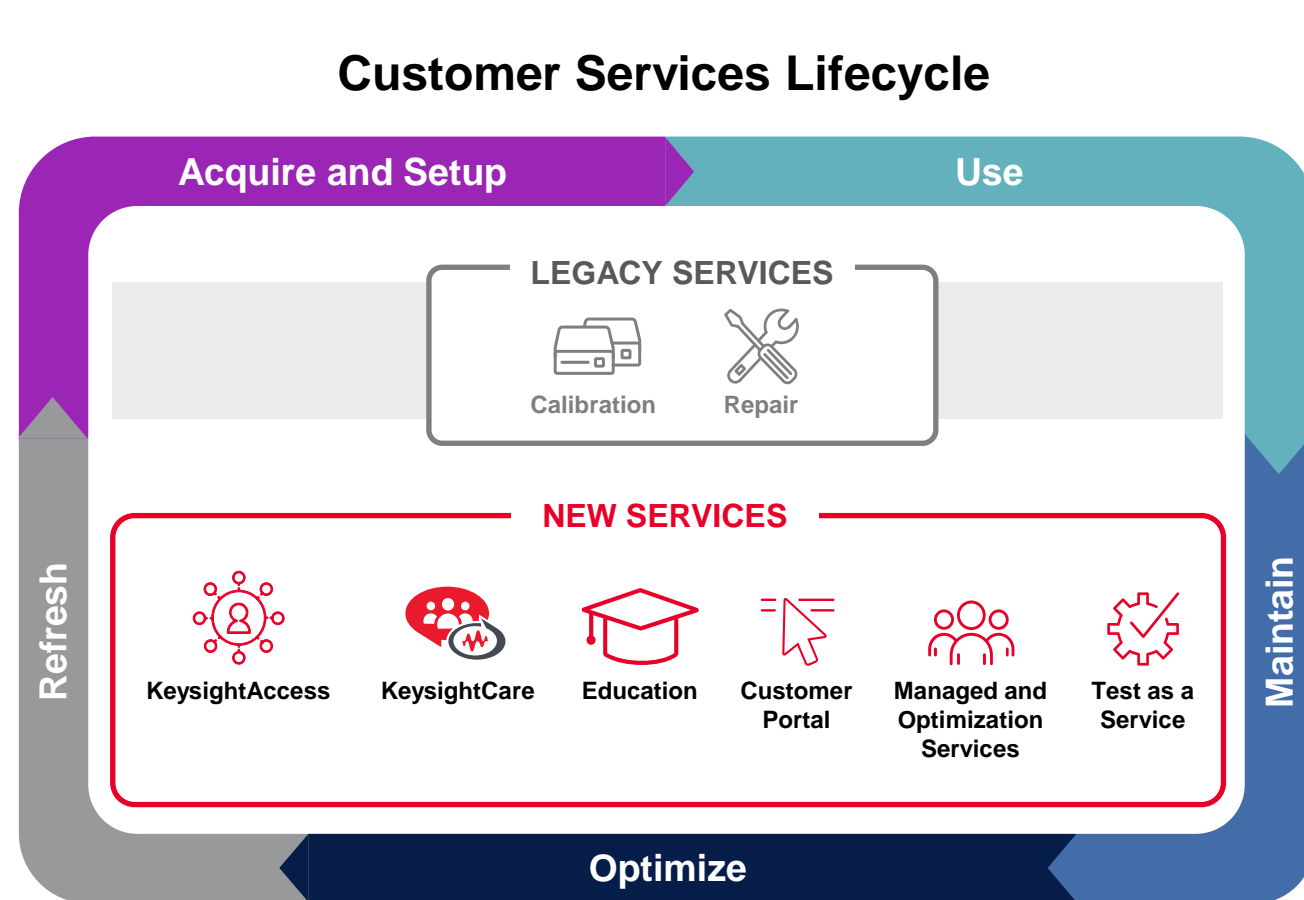
How We Will Grow

- **Increase** software portfolio through organic and inorganic investments
- **Maximize** cross-selling opportunities among go-to-market channels
- **Solve** customer challenges by co-innovating software solutions
- **Scale** value capture through enterprise software sales

Over the next 3 years, software order growth expected to continue to outpace overall Keysight

Improving Customer Experience and Value Through Keysight Services

Services enable a seamless experience, higher-value engagements, and efficiencies across customer lifecycle



Services Growth Drivers Expanding ARR

1

KeysightCare

- Accelerate the momentum of KeysightCare's expansion from 60% to 80% of services purchased at point of sale
- Capture recurring value by doubling KeysightCare hardware and software renewal rate

2

Solution Services Expansion

- Capitalize on the high growth of solutions
- Monetize our expertise to help customers solve more complex problems as they use our solutions to achieve desired outcomes

3

Smart-Connected Customer Experience

- Deliver a personalized, seamless, end-to-end, digital, post-sales customer service experience, enabled by smart-connected solutions and integrated services

Ecosystem Spotlight

Enabling Japan's advanced optical and wireless communications

Industry Challenge

- A team of commercial companies, including NTT and research institutes, was selected by the Japanese government to align the country's optical industry and develop a next-generation transmission system
- This team needed a **strategic, global partner with expertise in global telecommunications and comprehensive optical and wireless solutions** to emulate real-world environments in the lab



Differentiated End-to-End Portfolio

- Keysight was selected as **the key partner to provide a complete suite of optical solutions**, enabling customer's time-to-market advantage
- The solution was a combination of **best-in-class hardware, software, and Keysight experts** placed in customer labs
- We are **extending collaborations** for each new government funding round in 400G, 600G, 800G, 1.2T, and now 1.6T



Outcomes

Customer

- Development and commercialization of high-capacity transmission systems with **increased speed-to-market**

Keysight

- Bolstered position as **#1 end-to-end solution provider for terabit test** and first-to-market AWG
- **Preferred supplier** for the team for 1.6T and extending wireless work with Innovative Optical and Wireless Network (IOWN®)

“ Keysight is **one of the most important companies who can assist our innovation** and without them, we could not have achieved the 800G to 2T proof of concept. ”

DR. MASAHIITO TOMIZAWA, Vice President, Head of NTT Device Innovation Center

Key Takeaways

1

Accelerate customers' R&D success by extending first-to-market leadership beyond the solution sale

2

Enhance a seamless customer experience by harnessing the power of our go-to-market approach

3

Grow customer lifetime value and market share through our value-added software and services

4

Compound growth by leveraging our customer-centric strategy and broad portfolio of innovative solutions

Financial Update

Compounding Returns, Increasing Share in Growing Market, Expanding Margins, Improving Cash Generation and Financial Resiliency, and Sustaining Growth Investments

Neil Dougherty

CHIEF FINANCIAL OFFICER

Key Messages

1

Compounding returns

significantly
transformed financial
performance

2

Increasing financial resilience

well-positioned
for varied macro
environments

3

Leveraging consistent and disciplined capital allocation framework

balancing organic
growth, M&A, and
return of capital

4

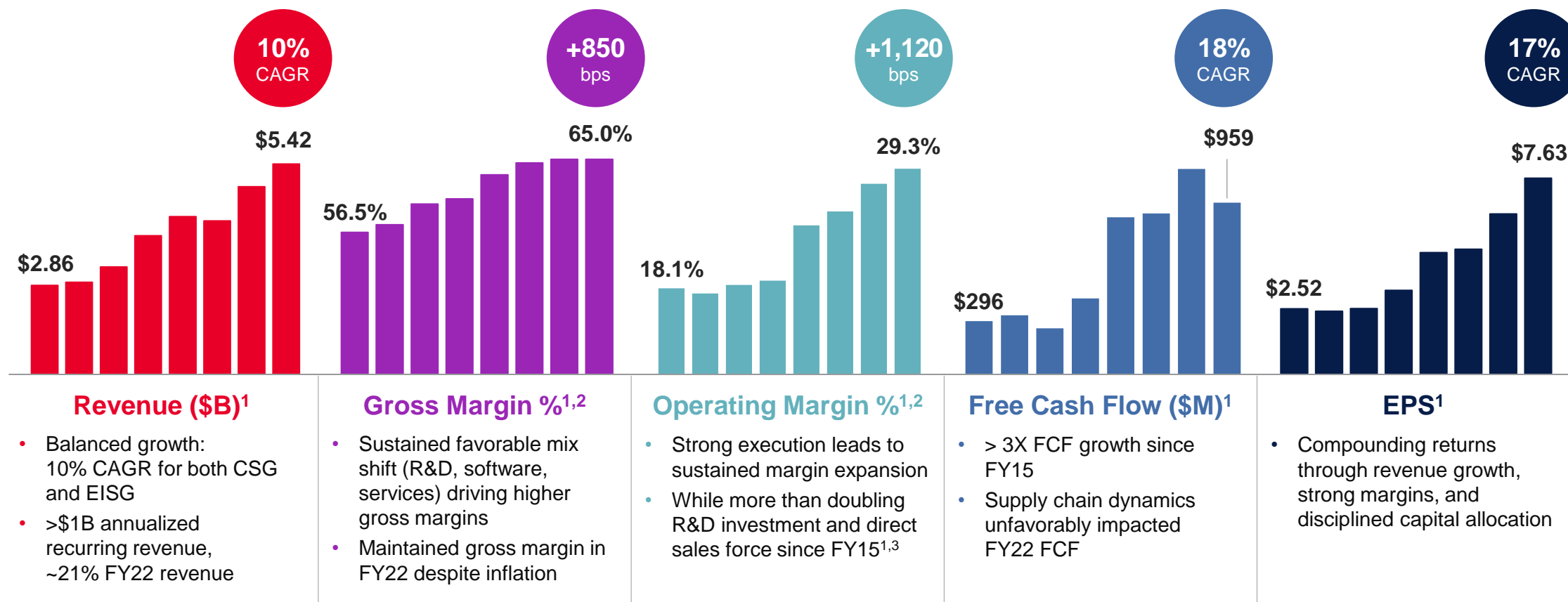
Continuing to raise the bar

increasing long-term
growth expectations
and financial targets;
committing to
additional margin
expansion

Well-positioned to increase market-leading presence and capture additional share in a growing market

Compounding Returns and Record Performance Driven by Strong Execution

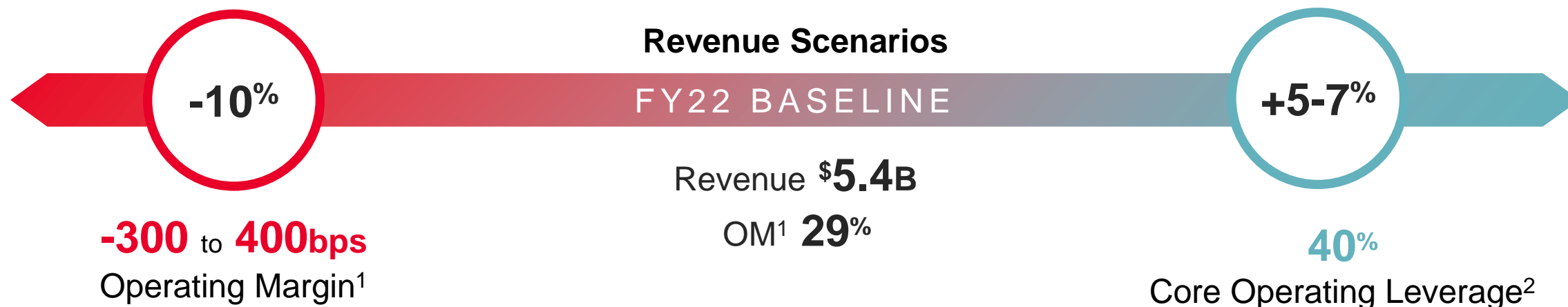
FY15 - FY22



Positioned for continued growth, margin expansion, and cash flow generation

Positioned to Outperform in Current Macro Environment

Durable and resilient financial model



Enabled by a Flexible Cost Structure

- 100% of employees on variable pay
- ~50% of production is outsourced
- ~20%+ of sales via indirect channels
- Strategic use of flexible staffing
- **NEW:** Zero-based budgeting program to drive efficiencies and synergies

Model Durability Proven in 2020 Pandemic

- Flexible cost structure and financial playbook preserved margins and liquidity as planned
- Q2 FY20 revenue down 18% YoY, while maintaining 19% operating margin¹, down only 520bps YoY; ~\$900M FY20 FCF¹
- Strong topline growth leveraged cost structure for margin expansion through pandemic (FY20-FY22)

Resiliency of Financial Model Supported by:

- Increased software and services (recurring revenue)
- Favorable and strong secular growth drivers (e.g., 5G/6G, new mobility, digitization)
- Strong free cash flow generation
- Flexible and defensive balance sheet
- \$2.5B backlog exiting Q1 FY23

Strong Balance Sheet and Flexible Capital Structure

Leverage Profile (\$M)	As of Q1 FY23
\$750M Revolving Credit Facility	Undrawn
4.55% Senior Notes due 2024	\$600
4.60% Senior Notes due 2027	\$700
3.00% Senior Notes due 2029	\$500
Gross Debt¹	\$1,800
Net Cash¹	\$444
Total Capital¹	\$6,204
LTM Adjusted EBITDA	\$1,805
Gross Debt-to-Capital	29%
Gross Debt-to-Adjusted EBITDA	1.0X

~\$3B available liquidity

- **\$2.2B** cash, cash equivalents, and restricted cash
- **\$750M** revolving credit facility

Committed to investment grade rating

- Moody's **Baa2**
- S&P **BBB**
- Fitch **BBB**

Long-term gross debt-to-EBITDA target of ~2X

Enables strategic flexibility in current macro environment

Remain Committed to Our Operating Model

40%

**Operating Leverage
at 5% or Greater Core
Revenue Growth¹**

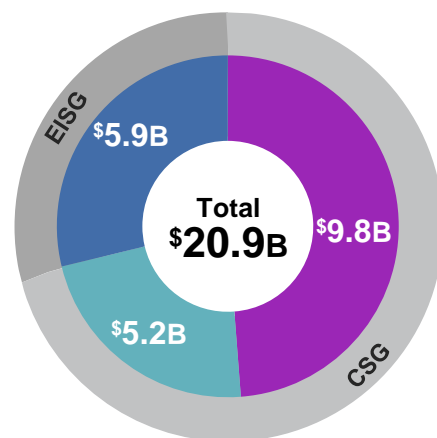
- 1** Long-term secular growth drivers
- 2** Continued gross margin expansion
- 3** Sustained growth investment while leveraging infrastructure
- 4** Strong FCF conversion
- 5** Disciplined capital deployment to further drive value

Continue to compound earnings

Increasing Keysight's Core Growth Expectation to 5-7%

In an attractive and growing \$21B market with \$5B+ adjacent opportunities

FY22 Market Size



Core CAGR Since FY19¹

Market 5%	KEYS 8%
--------------	------------

	CSG		EISG	
	Commercial Comms	Aero, Defense & Gov't	Electronic Industrial	Total
LT Market Growth Rate	4-6%	3-4%	4-6%	4-6%
FY22 Revenue	\$2.6B	\$1.2B	\$1.6B	\$5.4B
Position ²	#1	#1	#1	#1
Share ²	~27%	~23%	~27%	~26%

Long-Term Secular Growth Trends

Commercial Comms

Wireless: 5G / 6G
Wired – Optical:
400G / 800G / 1.6Tb

Aero, Defense and Government

Increasing Defense Spending
New Space & Satellite

Electronic Industrial

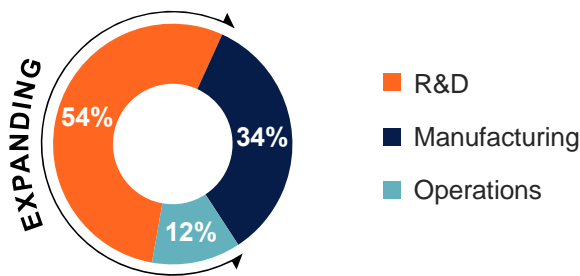
New Mobility (EV/AV)
Semi Assurance of Supply
Digitization

Expect Keysight to continue to outperform the market by 100-200 bps

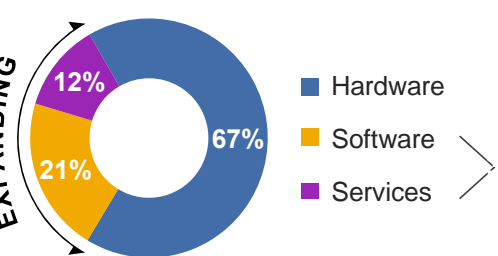
Driving Continued Margin Improvement

Favorable Mix Shift

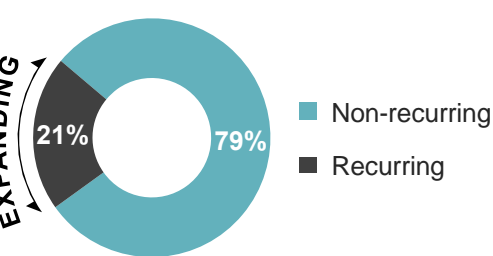
Expanding R&D Mix¹



Growing Software and Services¹



Increasing Recurring Revenue¹



Strategy Impact



First-to-market



Solution differentiation monetization



Selective vertical integration

Execution



Drive salesforce productivity



Leverage scalable low-cost infrastructure



Supply chain management

Culture of continuous improvement

Consistent and Disciplined Capital Allocation Priorities

1 Sustained Investment to Drive Organic Growth



- R&D: Sustained investment at ~16% of revenue
- Sales: Channel capacity, strengthen SW and e-commerce capabilities
- Capex: Increase capacity and enable ongoing technology differentiation; FY22 (\$185M), FY23E (\$250M), and FY24E (\$225M); \$200M/yr. thereafter

2 Disciplined M&A



- Accelerate value creation through M&A aligned to strategic and financial criteria
- Robust funnel in adjacent markets aligned with targeted growth opportunities

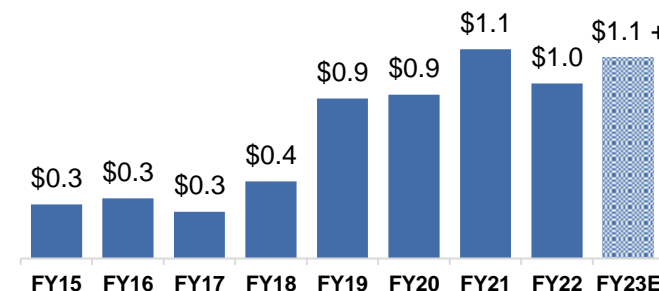
3 Return of Capital



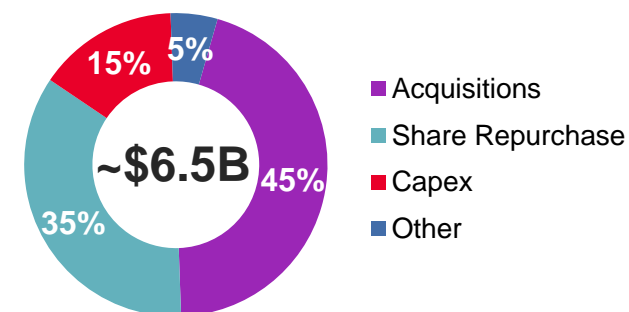
NEW \$1.5B share repurchase authorization

- Offset dilution from equity-based compensation
- Opportunistic repurchases as a function of liquidity, valuation, and M&A outlook

Free Cash Flow (\$B)



Cash Utilization (FY15 – FY22)



Enabling value creation and compounding returns

Disciplined M&A Strategy



Strategic Filters

- Increases addressable market
- Offers high software content and/or high recurring revenue
- Expands portfolio of high-value solutions
- Augments talent and solutions capability



Financial Criteria

- ROIC above cost of capital
- Accretive to growth and gross margin
- Revenue and cost synergy opportunities

Anite



ixia



Swiss-Micron

PSNA



Enhancing software and solutions capabilities

Continuing to Raise the Bar

Increasing long-term financial targets¹

	2015 Investor Day	2018 Investor Day	2020 Investor Day	2023 Investor Day	Increase vs. Prior Target
Core Revenue Growth²	Sustainable 4%	Sustainable 4-5%	Sustainable 4-6%	NEW Sustainable 5-7%	+100 bps
Gross Margin		61-63%	64-66%	NEW 66-67%	+100-200 bps
Operating Margin	17-18%	21-22% (by FY21)	26-27% (by FY23)	NEW 31-32% (by FY26)	+500 bps
Core Operating Leverage²	40%	40%	40%	40%	Maintained
EPS Growth	8-10%	≥10%	≥10%	≥10%	Maintained

Key Takeaways

1

Compounding Returns

17% EPS¹ CAGR since company spin with runway ahead

2

Increasing Financial Resilience

Well-positioned for a variety of macro environments

3

Disciplined Capital Allocation

Balancing organic growth, M&A, and return of capital

4

Continuing to Raise the Bar

Increasing long-term growth expectations and financial targets

Q&A Session

Closing Remarks

Satish Dhanasekaran

PRESIDENT & CHIEF EXECUTIVE OFFICER

Key Takeaways

1

Market Leader

Strong track record of value creation enabled by high-performance culture centered on innovation

2

Consistent Software-Centric Solutions Strategy

First-to-market solutions to address customers' most complex design and test challenges

3

Attractive and Growing Market

Investing to accelerate innovation across diverse end markets with SAM expansion opportunities

4

Compounding and Resilient Business

Raising long-term expectations with continued focus on value creation and market outperformance



Appendix

Reconciliation of GAAP to Non-GAAP Revenue

(\$M)	FY22	FY21	FY20	FY19	FY18	FY17	FY16	FY15
GAAP revenue	\$ 5,420	\$ 4,941	\$ 4,221	\$ 4,303	\$ 3,878	\$ 3,189	\$ 2,918	\$ 2,856
Amortization of acquisition-related balances	—	—	—	9	36	60	12	6
Non-GAAP Revenue	<u>\$ 5,420</u>	<u>\$ 4,941</u>	<u>\$ 4,221</u>	<u>\$ 4,312</u>	<u>\$ 3,914</u>	<u>\$ 3,249</u>	<u>\$ 2,930</u>	<u>\$ 2,862</u>

Reconciliation of Income from Operations to Non-GAAP Income from Operations

(\$M)	FY22	FY21	FY20	FY19	FY18	FY17	FY16	FY15
Income (loss) from operations, as reported	\$ 1,334	\$ 1,080	\$ 765	\$ 711	\$ (394)	\$ 148	\$ 375	\$ 390
Goodwill impairment	-	-	-	-	709	-	-	-
Amortization of acquisition-related balances	103	174	224	224	265	256	56	23
Share-based compensation	126	104	93	82	59	56	49	55
Acquisition and integration costs	9	9	13	9	49	57	18	16
Separation and related costs	-	-	-	-	2	20	24	20
Acquisition-related compensation expense	-	-	-	-	-	28	-	-
Northern California wildfire-related impacts	-	-	(32)	-	7	16	-	-
Restructuring and others	14	9	6	11	38	17	(7)	14
Non-GAAP income from operations	\$ 1,586	\$ 1,376	\$ 1,069	\$ 1,037	\$ 735	\$ 598	\$ 515	\$ 518
GAAP Operating Margin	24.6%	21.9%	18.1%	16.5%	(10.2)%	4.6%	12.9%	13.7%
Non-GAAP Operating Margin	29.3%	27.9%	25.3%	24.0%	18.8%	18.4%	17.6%	18.1%

Reconciliation of Gross Profit to Non-GAAP Gross Profit

(\$M)	FY22	FY21	FY20	FY19	FY18	FY17	FY16	FY15
Gross Profit, as reported	\$ 3,450	\$ 3,069	\$ 2,533	\$ 2,534	\$ 2,111	\$ 1,697	\$ 1,616	\$ 1,576
Amortization of acquisition-related balances	48	118	175	177	219	217	50	21
Share-based compensation expense	23	19	16	14	12	11	11	12
Acquisition and integration costs	1	1	1	-	6	4	2	1
Acquisition-related compensation expense	-	-	-	-	-	1	-	-
Northern California wildfire-related impacts	-	-	-	-	5	5	-	-
Separation and related costs	-	-	-	-	-	-	-	2
Restruturing & others	-	3	-	1	12	8	2	5
Non-GAAP Gross Profit	\$ 3,522	\$ 3,210	\$ 2,725	\$ 2,726	\$ 2,365	\$ 1,943	\$ 1,681	\$ 1,617
GAAP Gross Margin	63.7%	62.1%	60.0%	58.9%	54.4%	53.2%	55.4%	55.2%
Non-GAAP Gross Margin	65.0%	65.0%	64.6%	63.2%	60.4%	59.8%	57.4%	56.5%

Reconciliation of Non-GAAP Net Income and Diluted EPS

(\$M, except per share amounts)

	FY22	FY21	FY20	FY19	FY18	FY17	FY16	FY15
GAAP Net income (loss)	\$ 1,124	\$ 894	\$ 627	\$ 621	\$ 165	\$ 102	\$ 335	\$ 513
Non-GAAP adjustments:								
Goodwill impairment	-	-	-	-	709	-	-	-
Amortization of acquisition-related balances	103	174	224	224	265	256	56	23
Share-based compensation	126	104	93	82	59	56	49	55
Acquisition and integration costs	9	9	12	11	49	67	17	15
Acquisition-related compensation expense	-	-	-	-	-	28	-	-
Separation and related costs	-	-	-	-	2	20	24	20
Northern California wildfire-related impacts	-	-	(32)	-	7	16	-	-
Restructuring and others	54	26	(14)	(7)	39	(62)	(7)	19
Adjustment for taxes	(28)	(43)	9	(29)	(677)	(21)	(55)	(213)
Non-GAAP Net income	\$ 1,388	\$ 1,164	\$ 919	\$ 902	\$ 618	\$ 462	\$ 419	\$ 432
Weighted average shares outstanding - diluted	182	187	189	191	191	182	172	171
GAAP Diluted EPS	\$ 6.18	\$ 4.78	\$ 3.31	\$ 3.25	\$ 0.86	\$ 0.56	\$ 1.95	\$ 3.00
Non-GAAP Diluted EPS	\$ 7.63	\$ 6.23	\$ 4.85	\$ 4.72	\$ 3.24	\$ 2.53	\$ 2.43	\$ 2.52

Free Cash Flow

(\$M)	FY22	FY21	FY20	FY19	FY18	FY17	FY16	FY15
Net Cash Provided by Operating Activities	\$ 1,144	\$ 1,322	\$ 1,016	\$ 998	\$ 555	\$ 328	\$ 420	\$ 388
Less : Investments in PP&E	(185)	(174)	(117)	(120)	(132)	(72)	(91)	(92)
Free Cash Flow	<u>\$ 959</u>	<u>\$ 1,148</u>	<u>\$ 899</u>	<u>\$ 878</u>	<u>\$ 423</u>	<u>\$ 256</u>	<u>\$ 329</u>	<u>\$ 296</u>

Reconciliation of Gross Debt, Net Cash, and Total Capital

(\$M)	As at January 31, 2023	
Senior notes, par value	\$	(1,800)
Gross Debt	\$	(1,800)
Less:		
Cash and cash equivalents	\$	2,228
Restricted cash		16
Net Cash	\$	444
Gross Debt, as above	\$	1,800
Add: Shareholders' equity		4,404
Total Capital	\$	6,204

Reconciliation of Operating Leverage

(\$M)	Year-over-year			Year-over-year		
	FY22	FY21	Percent Inc/(Dec)	FY21	FY20	Percent Inc/(Dec)
Revenue	\$ 5,420	\$ 4,941	10%	\$ 4,941	\$ 4,221	17%
Adjustments:						
Revenue from acquisitions or divestitures	(11)	—		(39)	—	
Currency impacts	116	—		(43)	—	
Core Revenue	<u>\$ 5,525</u>	<u>\$ 4,941</u>	12%	<u>\$ 4,859</u>	<u>\$ 4,221</u>	15%
Income from Operations	\$ 1,586	\$ 1,376	15%	\$ 1,376	\$ 1,069	29%
Adjustments:						
Income from acquisitions or divestitures	5	—		(4)	—	
Currency impacts	29	—		11	—	
Core Income from Operations	<u>\$ 1,620</u>	<u>\$ 1,376</u>	18%	<u>\$ 1,383</u>	<u>\$ 1,069</u>	29%
Operating Leverage	42%			49%		

Reconciliation of Net Income to LTM adjusted EBITDA

(\$M)	LTM January 31, 2023
Net Income	\$ 1,155
Add: Provision for income taxes	197
Income before taxes	<u>\$ 1,352</u>
<u>Add:</u>	
Interest Income	(34)
Interest Expense	78
Depreciation and amortization	219
EBITDA	<u>\$ 1,615</u>
<u>Add back: Non-GAAP adjustments</u>	
Share-based compensation expense	130
Acquisition and integration costs	8
Restructuring and other	52
Adjusted EBITDA	<u>\$ 1,805</u>

Non-GAAP Financial Measures

Management uses both GAAP and non-GAAP financial measures to analyze and assess the overall performance of the business, to make operating decisions and to forecast and plan for future periods. We believe that our investors benefit from seeing our results “through the eyes of management” in addition to seeing our GAAP results. This information enhances investors’ understanding of the continuing performance of our business and facilitates comparison of performance to our historical and future periods.

Our non-GAAP financial measures may not be comparable to similarly titled measures used by other companies, including industry peer companies, limiting the usefulness of these measures for comparative purposes.

These non-GAAP measures should be considered supplemental to and not a substitute for financial information prepared in accordance with GAAP. The discussion below presents information about each of the non-GAAP financial measures and the company’s reasons for including or excluding certain categories of income or expenses from our non-GAAP results. In future periods, we may exclude such items and may incur income and expenses similar to these excluded items. Accordingly, adjustments for these items and other similar items in our non-GAAP presentation should not be interpreted as implying that these items are non-recurring, infrequent or unusual.

Non-GAAP Revenue generally relates to an acquisition and includes recognition of acquired deferred revenue that was written down to fair value in purchase accounting. Management believes that excluding fair value purchase accounting adjustments more closely correlates with the ordinary and ongoing course of the acquired company’s operations and facilitates analysis of revenue growth and business trends. We may not have non-GAAP revenue in all periods.

Core Revenue is GAAP/non-GAAP revenue (as applicable) excluding the impact of foreign currency changes and revenue associated with material acquisitions or divestitures completed within the last twelve months. We exclude the impact of foreign currency changes as currency rates can fluctuate based on factors that are not within our control and can obscure revenue growth trends. As the nature, size and number of acquisitions can vary significantly from period to period and as compared to our peers, we exclude revenue associated with recently acquired businesses to facilitate comparisons of revenue growth and analysis of underlying business trends.

Free cash flow includes net cash provided by operating activities adjusted for investments in property, plant & equipment.

Non-GAAP Income from Operations, Non-GAAP Net Income and Non-GAAP Diluted EPS may include the following types of adjustments:

Acquisition-related Items: We exclude the impact of certain items recorded in connection with business combinations from our non-GAAP financial measures that are either non-cash or not normal, recurring operating expenses due to their nature, variability of amounts and lack of predictability as to occurrence or timing. These amounts may include non-cash items such as the amortization of acquired intangible assets and amortization of items associated with fair value purchase accounting adjustments, including recognition of acquired deferred revenue (see Non-GAAP Revenue above). We also exclude other acquisition and integration costs associated with business acquisitions that are not normal recurring operating expenses, including amortization of amounts paid to redeem acquiree’s unvested stock-based compensation awards, and legal, accounting and due diligence costs. We exclude these charges to facilitate a more meaningful evaluation of our current operating performance and comparisons to our past operating performance.

Share-based Compensation Expense: We exclude share-based compensation expense from our non-GAAP financial measures because share-based compensation expense can vary significantly from period to period based on the company’s share price, as well as the timing, size and nature of equity awards granted. Management believes the exclusion of this expense facilitates the ability of investors to compare the company’s operating results with those of other companies, many of which also exclude share-based compensation expense in determining their non-GAAP financial measures.

Restructuring and others: We exclude incremental expenses associated with restructuring initiatives, usually aimed at material changes in the business or cost structure. Such costs may include employee separation costs, asset impairments, facility-related costs, contract termination fees, and costs to move operations from one location to another. These activities can vary significantly from period to period based on the timing, size and nature of restructuring plans; therefore, we do not consider such costs to be normal, recurring operating expenses.

We also exclude “others”, not normal, recurring, cash operating income/expenses from our non-GAAP financial measures. Such items are evaluated on an individual basis, based on both quantitative and qualitative factors and generally represent items that we do not anticipate occurring as part of our normal business. While not all-inclusive, examples of such items would include net unrealized gains on equity investments still held, significant non-recurring events like realized gains or losses associated with our employee benefit plans, costs and recoveries related to unusual events, gain on sale of assets/divestitures, etc. We believe that these costs do not reflect expected future operating expenses and do not contribute to a meaningful evaluation of the company’s current operating performance or comparisons to our operating performance in other periods.

Estimated Tax Rate: We utilize a consistent methodology for long-term projected non-GAAP tax rate. When projecting this long-term rate, we exclude any tax benefits or expenses that are not directly related to ongoing operations and which are either isolated or cannot be expected to occur again with any regularity or predictability. Additionally, we evaluate our current long-term projections, current tax structure and other factors, such as existing tax positions in various jurisdictions and key tax holidays in major jurisdictions where Keysight operates. This tax rate could change in the future for a variety of reasons, including but not limited to significant changes in geographic earnings mix including acquisition activity, or fundamental tax law changes in major jurisdictions where Keysight operates. The above reasons also limit our ability to reasonably estimate the future GAAP tax rate and provide a reconciliation of the expected non-GAAP earnings per share for the second quarter of fiscal 2023 to the GAAP equivalent.

Management recognizes these items can have a material impact on our cash flows and/or our net income. Our GAAP financial statements, including our Condensed Consolidated Statement of Cash Flows, portray those effects. Although we believe it is useful for investors to see core performance free of special items, investors should understand that the excluded costs are actual expenses that may impact the cash available to us for other uses. To gain a complete picture of all effects on the company’s profit and loss from any and all events, management does (and investors should) rely upon the Condensed Consolidated Statement of Operations prepared in accordance with GAAP. The non-GAAP measures focus instead upon the core business of the company, which is only a subset, albeit a critical one, of the company’s performance.

Glossary

Glossary of Terms

Industry Terms

3GPP	3rd Generation Partnership Project; standards organization that develop protocols for mobile telecommunications
5G, 6G	5th and 6th Generations of wireless communications
5G-AD	5G-Advanced
5G SA	5G StandAlone; uses the 5G new radio access network on a new 5G network core
400G/800G	400 and 800 Gigabits (billion bits) per second data rates
AI/ML	Artificial Intelligence/Machine Learning; the use of a system that perceive its environment and takes actions to maximize the chance of achieving its goals
ADAS	Advanced Driver Assistance Systems
ADE	Autonomous Drive Emulation
ARR	Annualized Recurring Revenue
AV	Autonomous Vehicle
AWG	Arbitrary Waveform Generator
BMS	Battery Management System
CAGR	Compound Annual Growth Rate
CAN(-FD):	Controller Area Network (-Flexible Data-rate); a high-integrity serial bus system for networking intelligent devices; (-FD) data-communication protocol used for broadcasting sensor data and control information on 2 wire interconnections between different parts of electronic instrumentation and control system
CCS	Combined Charging System
CFET	Complementary Field Effect Transistor
CPOD	Cost Per Order Dollar
CSP	Communications Service Provider
CU	Centralized Unit; a centralized unit connected between the 5G core network and the DUs

Glossary of Terms

Industry Terms

C-V2X	Cellular Vehicle-to-Everything
D2D	Device-to-Device
DC	Direct Current
DEI	Diversity, Equity, and Inclusion
Digital Twin	A computer model designed to accurately reflect the behavior and performance of a physical object or system
DoD	Department of Defense
DSRC	Dedicated Short-Range Communications
DRAM	Dynamic Random Access Memory
DU	Distributed unit; includes both baseband processing and RF functions. Each DU is able to support one or more cells, while each cell is able to support one more beams. DU can support a range of mobility scenarios
ECU	Electric Control Unit
EDA	Electronic Design Automation; software tools for circuit design and realization
Emulation	A simulation that also accounts for all the interactions and processes of how a system is implemented, such as seeking to operate in the same way as the system it is mimicking
E-O	Electro-Optic
ESG	Environmental, Social, and Governance; a set of metrics to track progress in CSR
EV	Electric Vehicle
FinFET	Fin Field Effect Transistor
FOV	Field of View
FWA	Fixed Wireless Access; technology that uses radio waves to send high-speed signals that offer data transfer to and from consumer devices

Glossary of Terms

Industry Terms

GAA	Gate-All-Around
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GPU	Graphics Processing Unit
HAPS	High-Altitude Platform Station; network of aerial stations that operate in the stratosphere at an altitude of around 17-20 km
HBCU	Historically Black Colleges and Universities
HDMI	High-Definition Multimedia Interface
HPC	High Performance Computing
IC	Integrated Circuit
ICE	Internal Combustion Engine
ICT	Information and Communications Technology
IEEE	Institute of Electrical and Electronics Engineers
IGBT	Insulated-gate Bipolar Translator; three-terminal power semiconductor device primarily forming an electronic switch
IIoT	Industrial Internet of Things
IoT	Internet of Things
IOWN	Innovative Optical and Wireless Network; initiative for future communications infrastructure to create a smarter world by using cutting-edge technologies like photonics and computing technologies
IP	Intellectual Property
LEO	Low Earth Orbit
LIN	Local Interconnect Network; serial network protocol used for communication between components in vehicle
MCU	Motor Control Unit

Glossary of Terms

Industry Terms

MIPI A-PHY	Long-reach Serializer-Deserializer Physical Layer Interface; physical layer interface for automotive applications, including ADAS, ADS and other surround-sensor applications, including cameras and in-vehicle infotainment (IVI) displays
mmWave	Millimeter Wave; radio frequency signals above 30 GHz
MOST	Media Oriented Systems Transport
NATO	North Atlantic Treaty Organization
NCSLI	National Conference of Standards Laboratories
NEVI	National Electric Vehicle Infrastructure
NIC	Network Interface Card
NIST	National Institutes of Standards and Technology
NSF	National Science Foundation
NTN	Non-Terrestrial Networks; primarily satellite-based communications, such as Starlink or Viasat
O-E	Optic-Electro
OEM	Original Equipment Manufacturers
Open RAN	Open Ratio Access Network; a standards-based, interoperable radio architecture
OT	Operational Technology
PCIe	Peripheral Component Interconnect express; a serial expansion bus standard for connecting a computer to one or more peripheral devices
POC	Point-of-Care
QED-C	Quantum Economic Development Consortium
QoS	Quality of Service
Q-STAR	Quantum Strategic Industry Alliance for Revolution
RAN	Radio Access Network
RedCap	Reduced Capability 5G

Glossary of Terms

Industry Terms

Rel-17/18/19:	Releases for 5G standards evolution
RF	Radio Frequency; the oscillation rate of communication signals at frequencies 20 kHz to 300 GHz
RIC	RAN Intelligent Controller; a software-defined component of the Open RAN architecture that's responsible for controlling and optimizing RAN functions
RU	Resource Unit; a unit in OFDMA terminology used in 802.11ax WLAN to denote a group of 78.125 kHz bandwidth subcarriers used in both DownLink and UpLink transmissions
SAM	Served Addressable Market; Keysight's chosen segments to serve
SENT	Single Edge Nibble Transmission; a point-to-point scheme for transmitting signal values from a sensor to a controller
RU	Resource Unit; a unit in OFDMA terminology used in 802.11ax WLAN to denote a group of 78.125 kHz bandwidth subcarriers used in both DownLink and UpLink transmissions
SerDes	Serializer/Deserializer; a pair of functional blocks commonly used in high-speed communications to compensate for limited input/output
SiC	Silicon Carbide
Simulation	A model that mimics some aspect of the real world, usually implemented in software, enabling different scenarios or process variables to be explored without impacting the real system
SmartNIC	Smart Network Interface Card; type of NIC card and programmable accelerator that makes data center networking, security, and storage efficient and flexible
Software test	Software tools used to ensure compliance of software applications to design
STEM	Science, Technology, Engineering, and Mathematics
SW	Software
TPMS	Tire Pressure Monitoring System
UL	UpLink
USB	Universal Serial Bus
V2G	Vehicle to Grid
VCU	Vehicle Control Unit
VNA	Vector Network Analyzer; instrument that measures the frequency response of a component or a network composed of many components

Glossary of Terms

Industry Terms

VoNR	Voice Over New Radio
WBG	Wide Band Gap; semiconductor materials which have a larger band gap than conventional semiconductors
ZEV	Zero-Emissions Vehicle

Keysight Specific Terms

CSG	Communications Solutions Group
EISG	Electronic Industrial Solutions Group
KLM	Keysight Leadership Model; the company's operating framework for value creation
PathWave	Keysight's proprietary software platform

Speaker Bios

Speaker Bios



Satish Dhanasekaran

PRESIDENT AND CHIEF EXECUTIVE OFFICER

Satish Dhanasekaran is the president and chief executive officer of Keysight Technologies, a leading technology company that delivers advanced design, validation, and test solutions to help accelerate innovation to connect and secure the world.

Since joining Agilent, Keysight's predecessor company, in 2006, Satish has held multiple leadership roles and helped shape the company's strategy. Most recently, Satish served as Keysight's senior vice president and chief operating officer with responsibility for market and technology research, the development of new technologies and solutions through the company's centralized technology organization and customer-facing solutions groups, as well as go-to-market functions. Before that, he led Keysight's Communications Solutions Group, a multi-billion-dollar global business that serves the communications ecosystem and aerospace defense industry. Satish and his team established Keysight's leadership in 5G and made significant contributions to accelerate technology adoptions in other critical areas, including 400G, quantum, and electromagnetic spectrum operations.

Satish is passionate about advancing technology adoption rapidly through active industry body participation. He sponsors Keysight's participation on the United States Federal Communications Commission Technological Advisory Committee, is a member of the NextG Alliance, and participates in other industry standards bodies and consortiums.

He holds a master's degree in electrical engineering from Florida State University and an executive education certification from The Wharton School of the University of Pennsylvania.

Speaker Bios



Neil Dougherty CHIEF FINANCIAL OFFICER

Neil Dougherty is the executive vice president and chief financial officer of Keysight Technologies. He is responsible for Keysight's global finance operations, including tax, treasury, and investor relations.

Before Keysight's separation from Agilent Technologies in 2014, Neil served in several roles at Agilent, including assistant treasurer, vice president, and treasurer. He also served as senior director of corporate development, the team responsible for domestic and international acquisitions and divestitures.

Neil's experience includes business unit controllership positions at Agilent's predecessor company, Hewlett-Packard, as a financial analyst and held various management roles.

Neil holds a master's degree in business administration from the University of Chicago Booth School of Business, and a bachelor's degree in economics from the University of California, San Diego.

Speaker Bios



Ee Huei Sin

PRESIDENT, ELECTRONIC INDUSTRIAL SOLUTIONS GROUP

Ee Huei Sin is senior vice president of Keysight Technologies and president of the Electronic Industrial Solutions Group. She oversees a \$2 billion global business that addresses the automotive, energy, general electronics, manufacturing, education, and semiconductor industries.

Huei Sin has more than 30 years of experience managing a broad portfolio of businesses in the general purpose, electronic measurement, and semiconductor industries.

Previously, Huei Sin served as the vice president and general manager of Keysight's General Electronics Measurement Solutions business. During her tenure in this role, she drove the company's portfolio across the broad-based general electronics and education markets and expanded emerging Internet of Things applications across the ecosystems, while simultaneously working as the vice president of Keysight Education. Huei Sin's achievements include a proven track record of P&L growth, value creation strategies, portfolio development, leading company-wide efforts to establish strong relationships with universities and laying the groundwork to secure long-term preference for the Keysight brand from future customers and employees.

Before Keysight separated from Agilent, Huei Sin served as vice president and general manager of the General-Purpose Electronic Measurement Division, leading its general-purpose electronic instruments and test tools area.

Speaker Bios



Ingrid Estrada

CHIEF PEOPLE AND ADMINISTRATIVE OFFICER

Ingrid Estrada is senior vice president and chief people and administrative officer of Keysight Technologies, as well as chief of staff. She ensures effective and efficient internal company operations and directs Keysight's global policies and programs which include employee development, compensation, benefits, staffing, workforce planning, HR systems, workplace strategies, global sourcing, and indirect procurement.

Previously, Ingrid served as senior vice president of Human Resources for Keysight. Before Keysight split from Agilent in 2014, she served as vice president and general manager of Global Sourcing and vice president and general manager of the Remarketing Solutions Division. Ingrid also served as senior manager of manufacturing for Agilent's Wireless business unit and launched the Electronic Measurement Group supply chain transformation.

Ingrid also worked for Agilent's predecessor company, Hewlett-Packard, where she held several procurement, order management, and order fulfillment positions, and various senior management roles in manufacturing, materials, and supply chain management.

She holds a master's degree in business administration from Santa Clara University and an executive master's degree from Stanford University.

Speaker Bios



Kailash Narayanan

PRESIDENT, COMMUNICATIONS SOLUTIONS GROUP

Kailash Narayanan is senior vice president of Keysight Technologies and president of Keysight's Communications Solutions Group. He leads the multibillion-dollar global business that addresses the end-to-end communications industry, including wireless and wireline segments, and aerospace and defense. His team significantly contributes to accelerating technology adoptions of 5G, 400G/800G, electromagnetic spectrum operations, and space and satellite modernization.

Previously, Kailash served as president of Keysight's Commercial Communications business, leading the company's wireless and wireline test programs, and driving substantial expansion in the 5G program. Kailash championed Keysight's outside-in approach and commitment to customer-centricity, emphasizing external partnerships and enabling customer innovation.

Kailash's tenure with Keysight and its predecessors, Agilent, and Hewlett-Packard, spans more than 20 years. He has held different leadership positions and has been part of multiple business areas, including wireline backhaul, base stations, signal sources, wireless handsets, and fiber optics.

He holds a master's degree in electrical engineering and computer science from the University of Illinois Chicago, and a master's degree in business administration from Walden University, Minneapolis, MN.

Speaker Bios



Mark Wallace

CHIEF CUSTOMER OFFICER

Mark Wallace is Keysight Technologies' senior vice president of global sales and chief customer officer, overseeing the company's sales, solution engineering, and channel partner operations. He holds responsibility for customer strategy and value capture for Keysight. Mark accelerates Keysight's customer-centric vision by enhancing the end-to-end customer experience; enabling customer success through the seamless delivery of first-to-market solutions to a diverse, global customer base; and expanding the company's go-to-market strategies across all regions and ecosystems.

Mark has been with Keysight and its predecessor companies, Hewlett-Packard, and Agilent, for more than 35 years and has held multiple leadership positions spanning sales, marketing, and channel management.

In 2016, Mark became senior vice president of global sales; his position expanded to include a new role as chief customer officer in 2022. From 2011-2016, he was vice president and general manager of the Americas field operations for Agilent and Keysight. Before that, he was Agilent's national sales manager for testing and measurement across portions of North America.

After Agilent split from HP in 1999, Mark joined its wireless business, leading global marketing, and channel management functions. At HP, he served as a global business development manager in 1995. Mark started at HP in 1985 as an intern before joining the company as a field engineer and district sales manager.

Mark received a bachelor's degree in electrical engineering from the Illinois Institute of Technology. He completed his executive studies at the University of Chicago. He is also a member of the Armour College of Engineering, Illinois Institute of Technology Advisory Board.