

Industrials and Energy
Cole Reynolds
Kevin Dunn



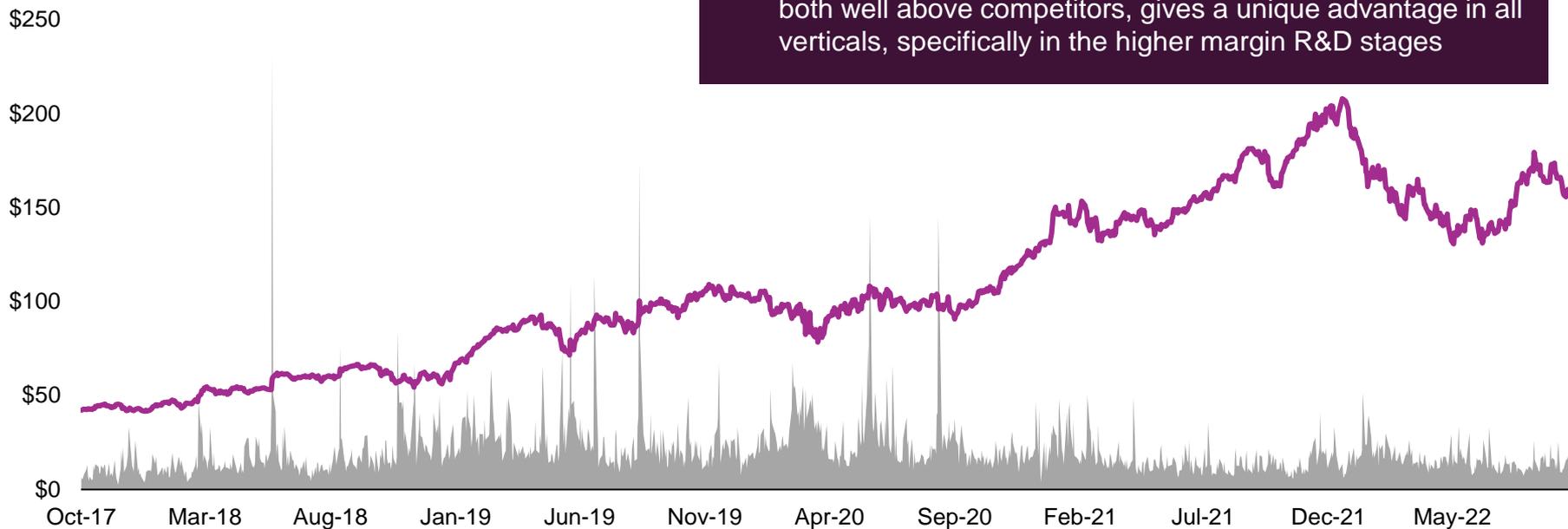
Keysight Technologies
NYSE: KEYS



- I. **Investment Narrative**
- II. **Company and Industry Overview**
- III. **Investment Thesis**
- IV. **Valuation**
- V. **Appendix**



Market Cap	\$27.5B
Last Close	\$153.78
52 Week Range	\$127.93 - \$209.08
NTM EV/EBIT	17.4x
Operating Margin	22%



- ❑ Keysight Technologies is a test and measurement company that helps develop and solve electrical engineering problems for leading-edge communications, semiconductor, automotive, and government entities
- ❑ Recommendation: **BUY** with a **PT of \$240.91**, representing an upside of **57%** from 10/12 close – **7.5% weight**

Investment Thesis Introduction

1. The rapidly increasing complexity of electrical engineering problems, specifically within wireless and wireline segments, is a long-term tailwind for Keysight
2. Moving further 'up the stack' allows for more software-centric solutions that are higher margin and stickier in nature
3. Keysight's R&D spend and strategic partnerships, which are both well above competitors, gives a unique advantage in all verticals, specifically in the higher margin R&D stages



Company and Industry Overview

Industrials and Energy Committee – Keysight pitch



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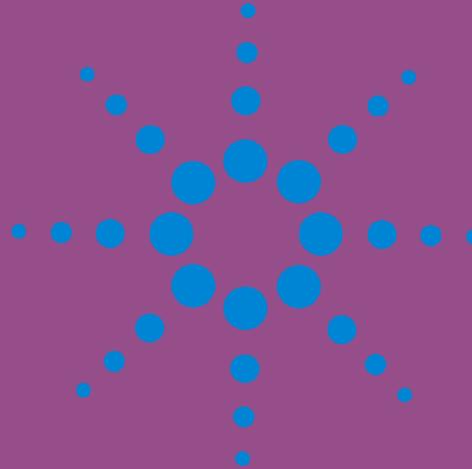
Keysight Has a Long History Dating Back to 1939



Hewlett-Packard

1939 - 1999

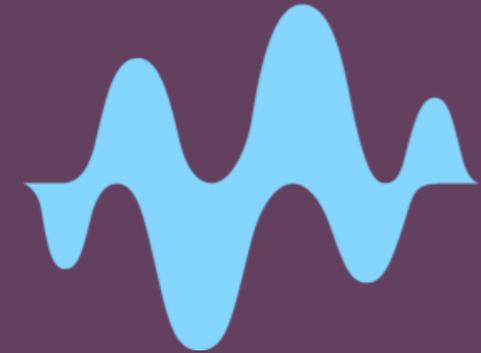
- Keysight was core business
- Spun off Agilent to focus on computers



Agilent Technologies

1999 - 2013

- Used for cash generation purposes
- R&D: ~12% of Revenue



Keysight

2013 - Present

- Focus on first to market
- Began to raise R&D to ~16% of Revenue

What Does Keysight Actually Do?



Keysight has Market Leading Hardware...

Oscilloscopes



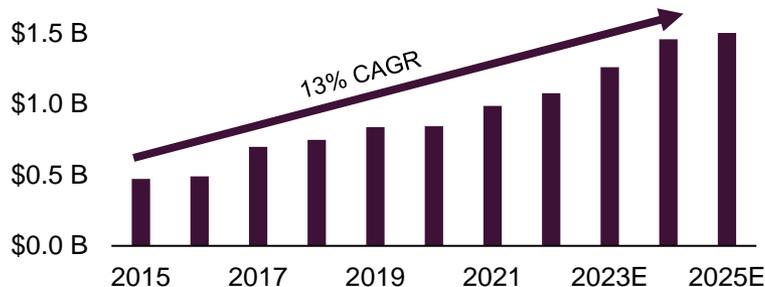
10 Tb/s Total Data Rate Across 4 Channels

“Oscilloscopes graphically display electrical signals and show how those signals change over time. It measures these signals by connecting with a sensor, which is a device that creates an electrical signal in response to physical stimuli”⁽¹⁾

Capability	Vs. Prior
110 GHz real-time bandwidth	+175%
Full bandwidth on all 4 channels	+200%
256 Gsa/s on all 4 channels	+160%
10-bit samples	+125%

With Software to Further Push the Boundaries and Keep Up with Innovation

PathWave Software Enabling Recurring Revenue^(2/3)



- **Platforms Released:**
 - ✓ VXG Embedded Edition
 - ✓ Desktop Edition
- **Components Released**
 - ✓ Uniform Licensing
 - ✓ Waveform Analytics
- **Updates to all platform editions**
 - Enable broader developer community
 - Proliferate solutions widely



- **Platform vision and architecture goals**
- **Components Released**
 - ✓ Manufacturing Analytics
 - ✓ Asset Advisor
 - ✓ PathWave FPGA
- **Platforms Released:**
 - ✓ Cloud Edition
- **Components Released**
 - ✓ Connect Expert
 - ✓ TestOps/Automation
 - ✓ Test Station Manager

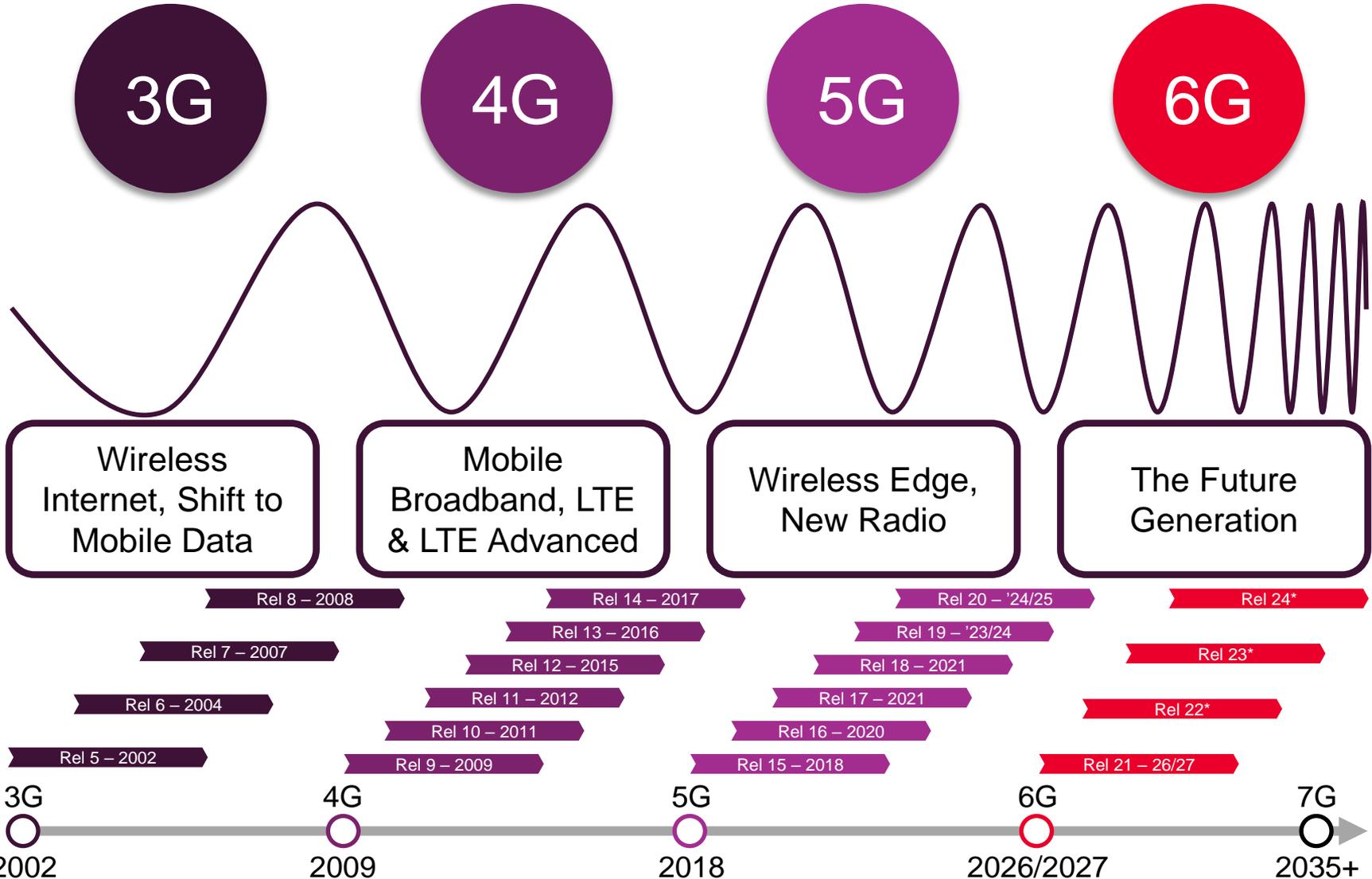
(1) Tektronix (2) Keysight Investor Relations (3) Earnings Call, Presentation, Visible Alpha, Model

Wireless Overview



The Wireless Evolution is Far More Complex than Just a Generation Switch

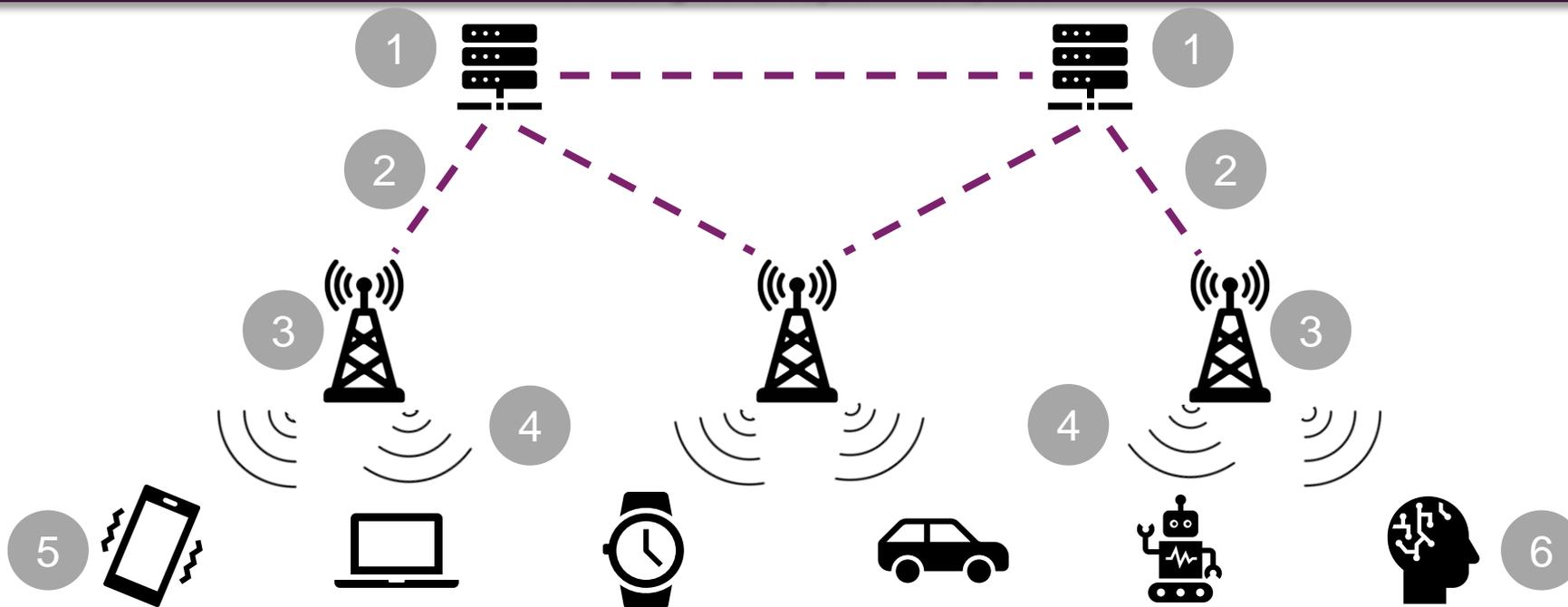
Mobile Has Made a Leap Every ~10 Years⁽¹⁾



(1) 5G Security by Marin Ivezic (*) Not announced but expected



Visualizing the Ecosystem: Simplified



1 Data Centers
End facility that stores, processes, and retrieves data for internet and cloud connectivity

2 Ethernet Links
Links base stations to data centers. Current migration from 100G to 400G. R&D for 800G+

3 Base Stations
Transmits and receives signals to and from end devices to communicate with data centers

4 Signals
Enables connection from base station to devices. For 5G, sub-6GHz and mmWave are the focus

5 Traditional End Device
Traditional 4G devices, like phones and laptops, will benefit from faster speeds and lower latency

6 New End Devices
New possibilities with mmWave 5G technology, such as auto, AI, IoT, Industry 4.0

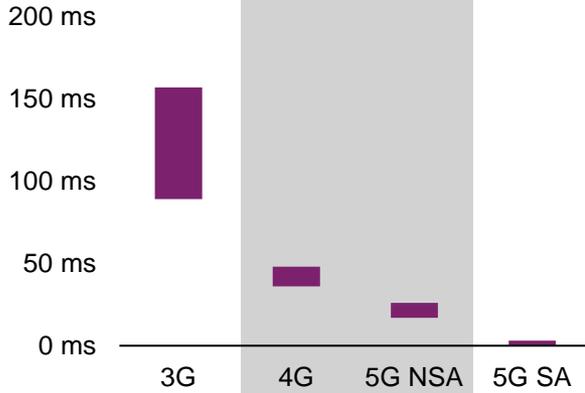


5G Overview: Why the Switch?

Key Advantages Over 4G

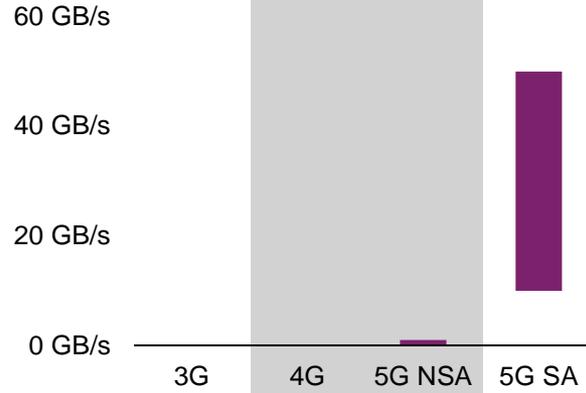
1 Lower Latency⁽¹⁾

Latency Range



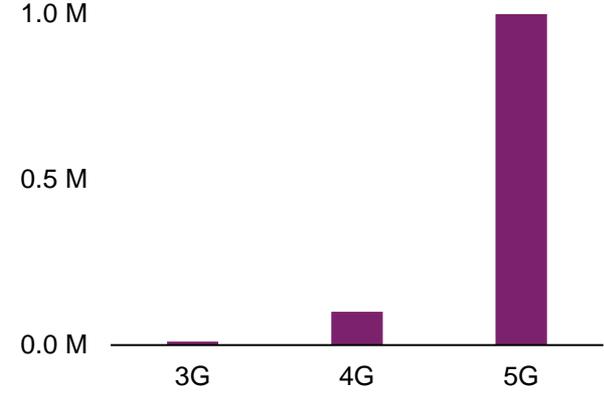
2 Faster Speeds⁽¹⁾

Download Speed Range



3 More Connections⁽¹⁾

Connections of Devices / km



Non-Standalone versus Standalone

Non-Standalone (NSA)⁽²⁾

Standalone (SA)⁽²⁾



4G Base Station



5G Base Station



5G Signal Emitter



Transitory platform to allow for 5G deployment through the utilization of the existing 4G infrastructure to fill in the gaps



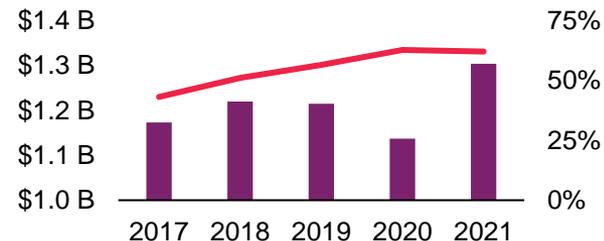
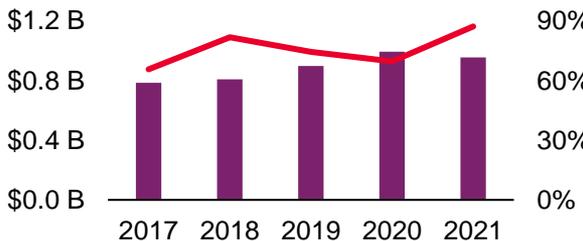
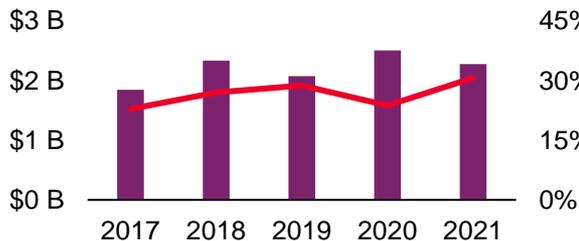
Not reliant on 4G infrastructure and pairs 5G radios with a 5G network, enabling full range of 5G features

(1) 5g.co.uk, Ookla, Vodafone, Ofcom (2) Ericsson, RCR Wireless

Industry Dynamics



Keysight Notable Competitors



— Competitor Revenue — Keysight R&D as a % of Competitor Revenue

- ▶ Dominated 3G and 4G Testing Cycles
- ▶ Active in Commercial Communications testing and Aerospace and Defense
- ▶ Tends to be Strong in APAC
- ▶ Along with Keysight, only other player to have a complete test box⁽¹⁾
- ▶ Pure play test and instrument company
- ▶ End markets more concentrated around auto and general electronics than comms

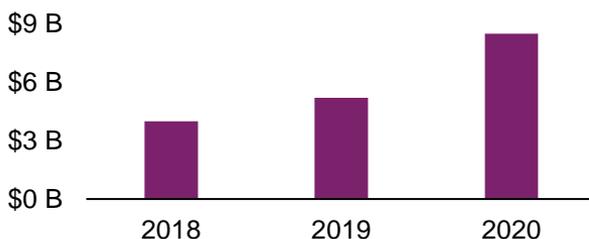
Keysight Industry Verticals

Commercial Solutions Group – 71% of Rev, 69% of EBIT

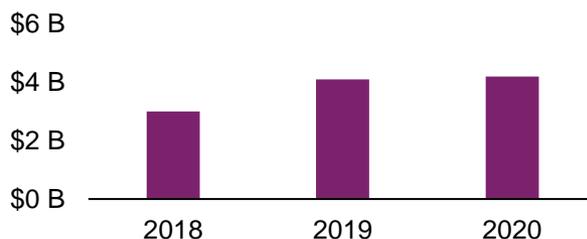
Electronic Industrial – 29% Rev, 31% EBIT



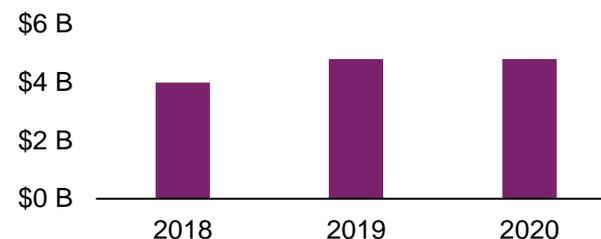
Commercial Communications TAM



Aerospace & Defense TAM



Electronic Industrials Group TAM



(1) Principal Engineer/Manager at Qualcomm, Tegus



Investment Thesis

Industrials and Energy Committee – Keysight pitch



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Strategic Partnerships



Keysight in the Field

Keysight has Gained a Market Leading Position⁽¹⁾...

#1 Software Revenue for Electronic Design & Test

#1 Hardware Revenue for Electronic Design & Test

#1 Commercial Comms, Aero & Defense, Electronic Industrial, Network Test

...From Partnering and Serving with Market Leaders in Every Vertical⁽¹⁾

10 / 10 Top Telecom Equipment Companies	25 / 25 Top Semiconductor Suppliers	25 / 25 Top Aero & Defense Contractors	25 / 25 Top Technology Companies	24 / 25 Top Telecom Operators	20 / 20 Top Engineering & Tech Universities
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Early Research

Partnerships to Stay Ahead



Early 6G Research⁽²⁾

*"For our largest customers, we have **engineers that are badged sent to their labs every day**, we're working hand-in-hand with them. And so, there's **great information flow** about what their R&D priorities are that we can use to inform our own product development engine going forward"⁽⁴⁾*



Standards Board⁽³⁾

"Essentially, we make tools and equipment for electrical engineers across a wide variety of end markets"⁽⁵⁾

(1) KEYS Presentation (2) Q3 2022 Earnings Call (3) Tegus, Former VP of Technology Solutions at Keysight (4) Baird 2022 Conference (5) Credit Suisse TMT Conference

The Future of the 5th Generation

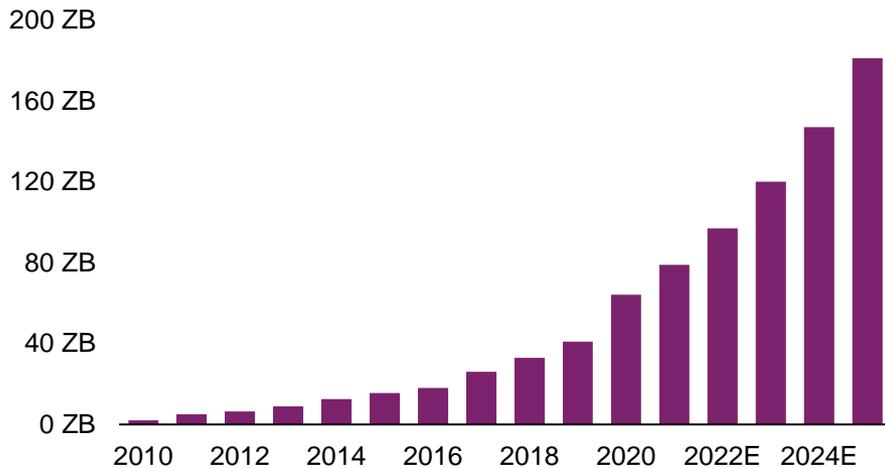


What Really Are All These 5G Releases About?

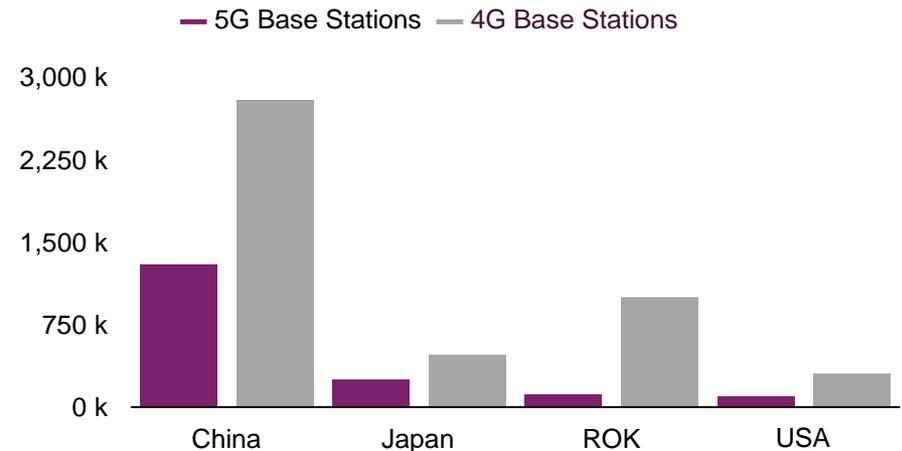


Why Do We Need All of This?

Volume of Data Created/Consumed is Rapidly Increasing⁽¹⁾



5G Sub-6GHz Base Stations by Country⁽²⁾



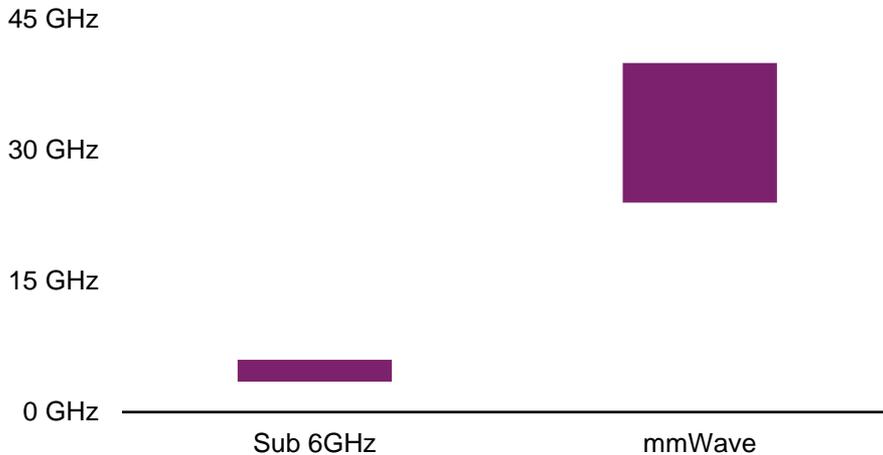
(1) IDC, Seagate, Statista (2) S&P Global Market Intelligence, Global Times (Chinese State Affiliated Media), Mobile World, Docomo, KDDI, Anritsu, Rakuten Mobile, Nikkei Asia, Softbank

How Keysight is Well Positioned for the Complexity of CSG Wireless



Sub 6GHz vs mmWave Frequency Challenges

Sub 6-GHz vs mmWave Frequency Ranges⁽¹⁾



Modular Designs Enable More

Oscilloscope



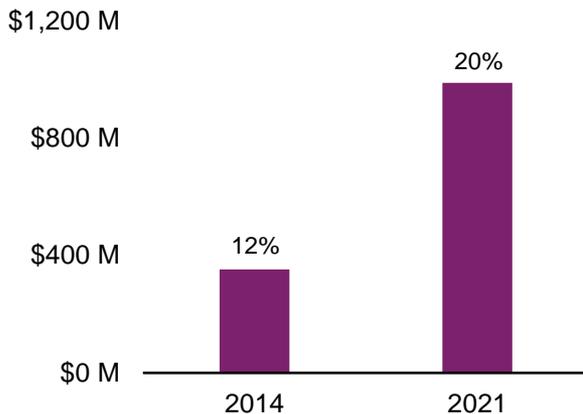
Modules



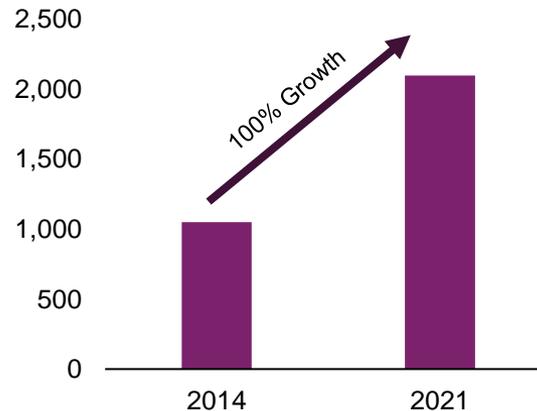
"Keysight has a modular structure, which makes it flexible... You don't have to buy the whole system at the time, you just have to buy the components separately"⁽²⁾

Software Enhances the Value Proposition

Software as a % of Revenue⁽³⁾



Total Software Engineers⁽⁴⁾



"Would have taken at least 8 hours if we had done it manually, but it takes about 10 to 12 minutes if we do it through Keysight software"⁽²⁾

6G R&D Already Begun

Industry Leaders Plan for 6G Rollout

SAMSUNG

Qualcomm

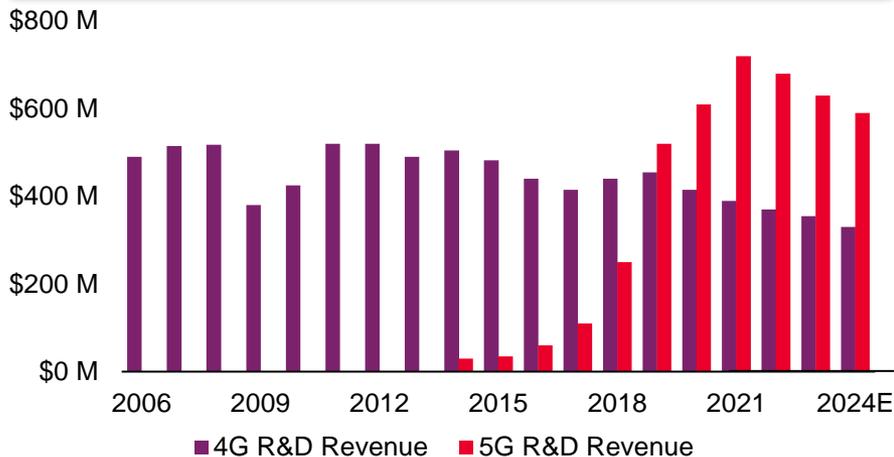
"We renewed our license agreement with Samsung all the way to 2030, at the same royalty terms including 6G products"⁽⁵⁾

(1) Qualcomm Deploying 5G deck, Wilson Pro Blog (4) Company Filings (5) KEYS Investor Day(3) Cristiano Renaldo, Qualcomm President/CEO

Wireless Business Presents a Compelling Opportunity

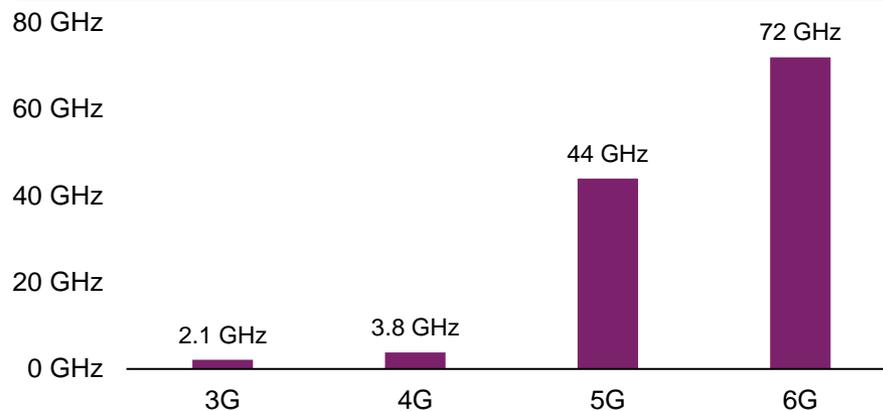


Crossover of Cycles⁽¹⁾...



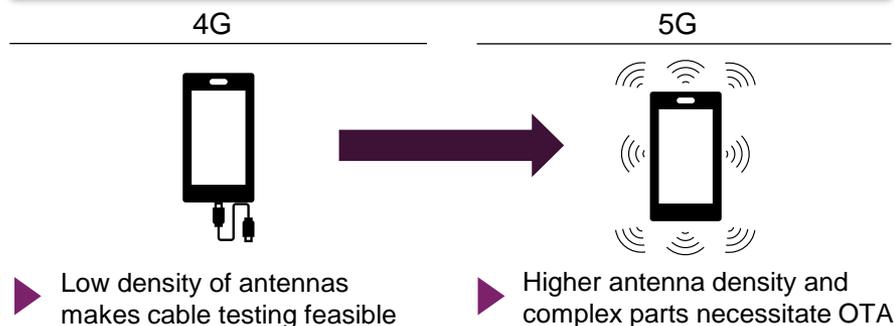
Early Commercial 6G R&D Expected in ~2026

With Exponential Complexity Increases...



"Keysight can even go to 63 GHz. For any measurement, the bandwidth should be five times what you are measuring"⁽²⁾

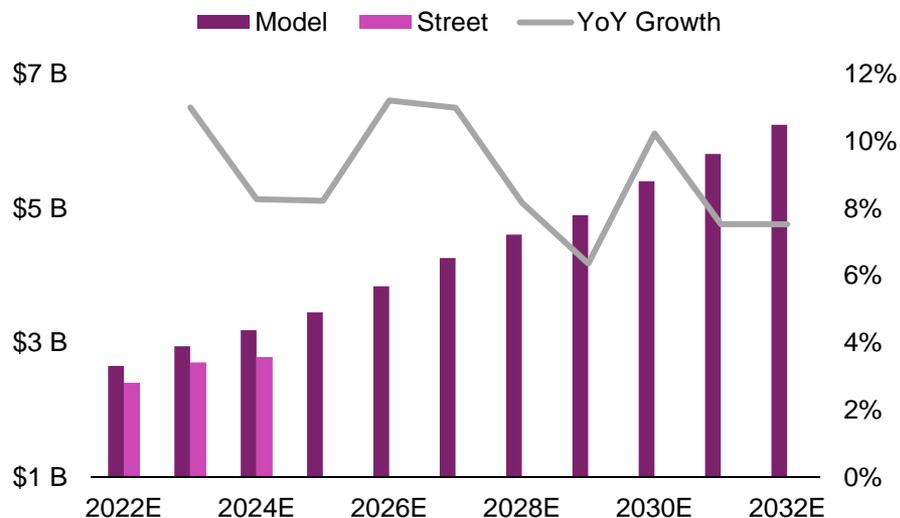
OTA is a Key Example of This⁽³⁾



Number of Antennas for Phones by Generation



Commercial Comms Revenue Will Sustain Growth⁽⁴⁾



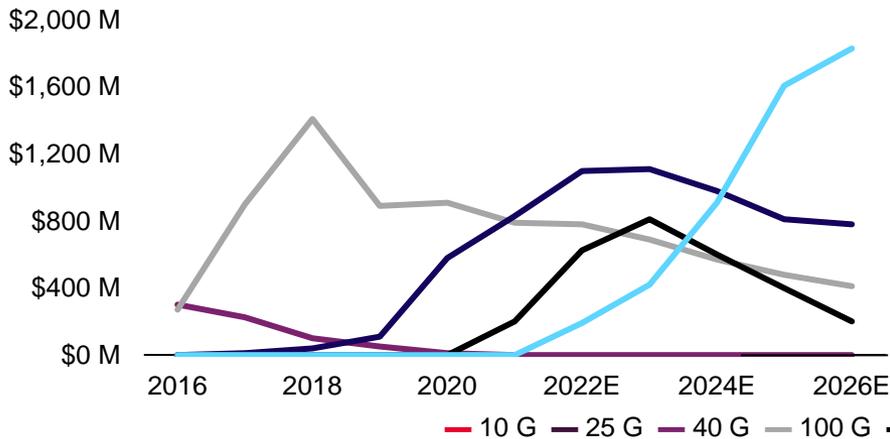
(1) Barclays ER (2) Staff Engineer at AMD, Tegus (3) Rhode & Schwartz, Asensa (4) CIMG Model, Visible Alpha

Wireline Infrastructure – Opportunity for Ecosystem-Wide Solutions

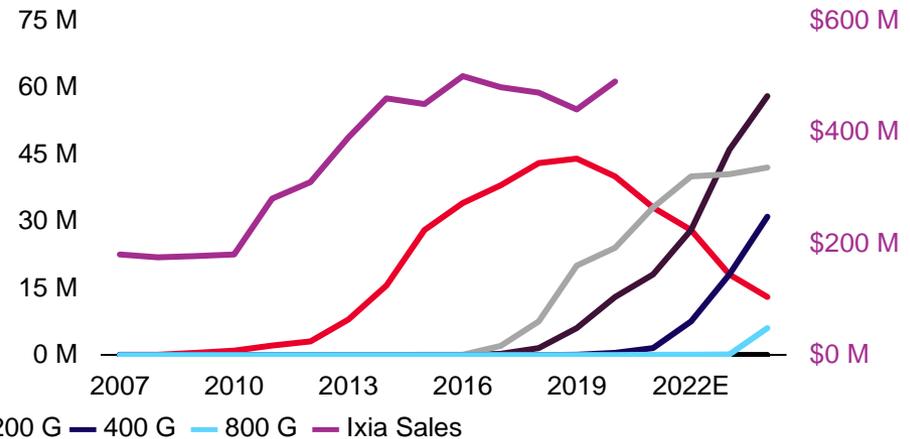


800G Cycle Has Presents a Large Opportunity

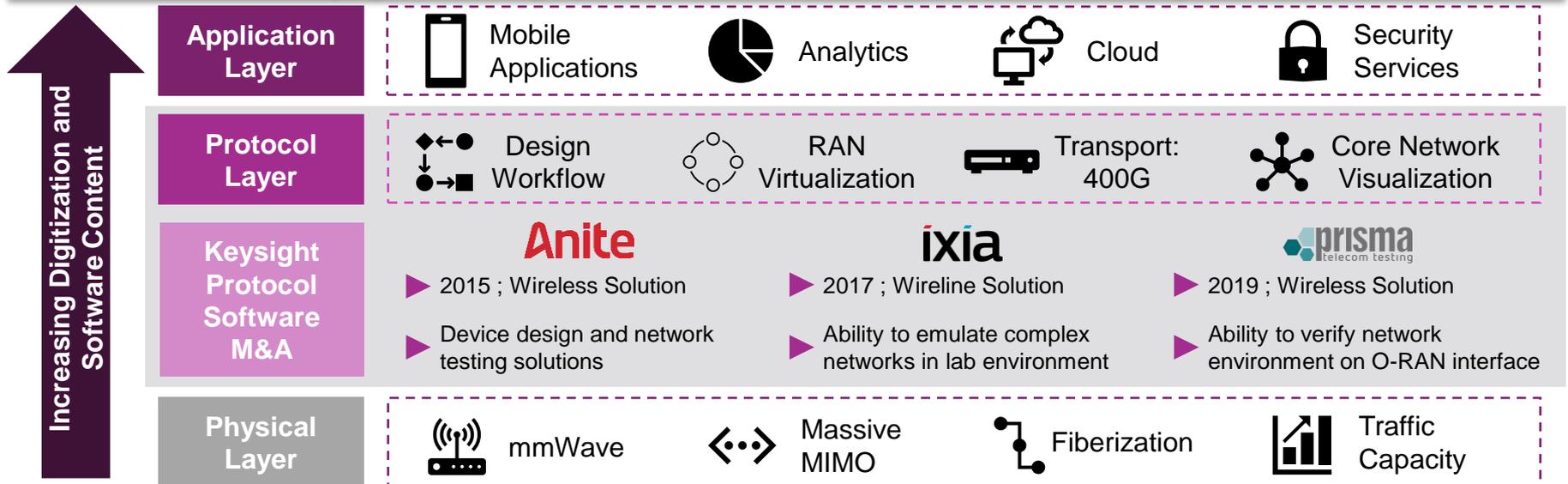
Ethernet Transceiver Sales⁽¹⁾



Ixia Sales Relative to Ethernet Upgrade Cycles⁽²⁾



Keysight is Moving Up the Stack Across the Communications Ecosystem⁽³⁾

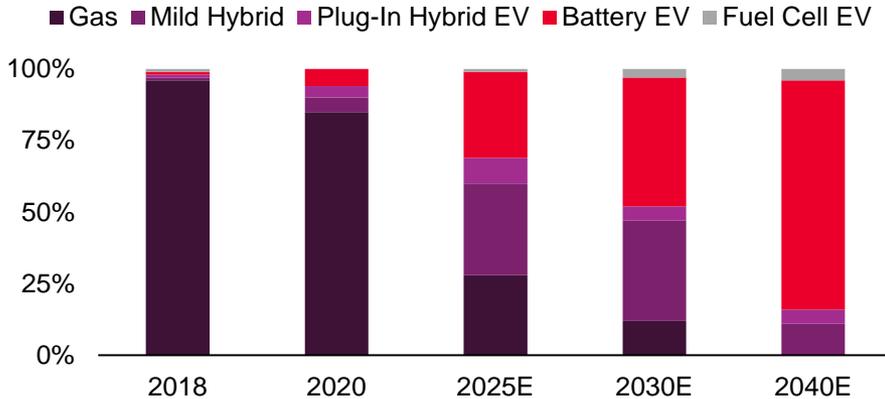


(1) Crehan Research (2) Barclays ER (3) KEYS Company Presentation, Company Filings



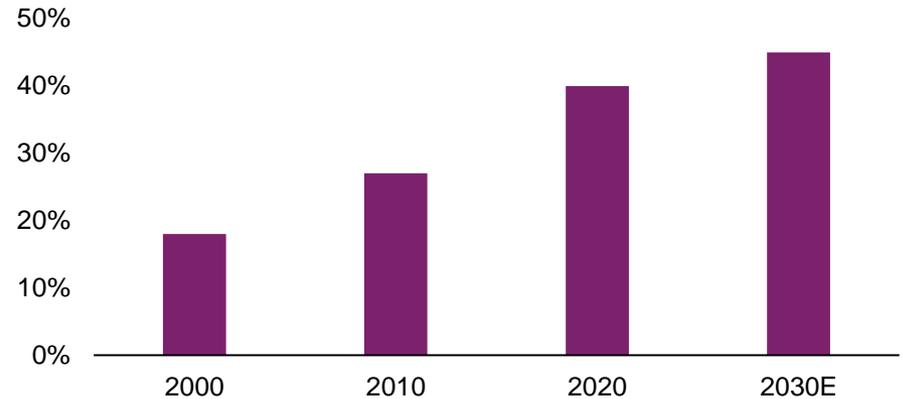
Electrical Components Increasing in New Vehicles

Electronics as a % of New Vehicle Costs⁽¹⁾



With Electrical Vehicles Growing Significantly

Global Electric Vehicle Forecast⁽²⁾

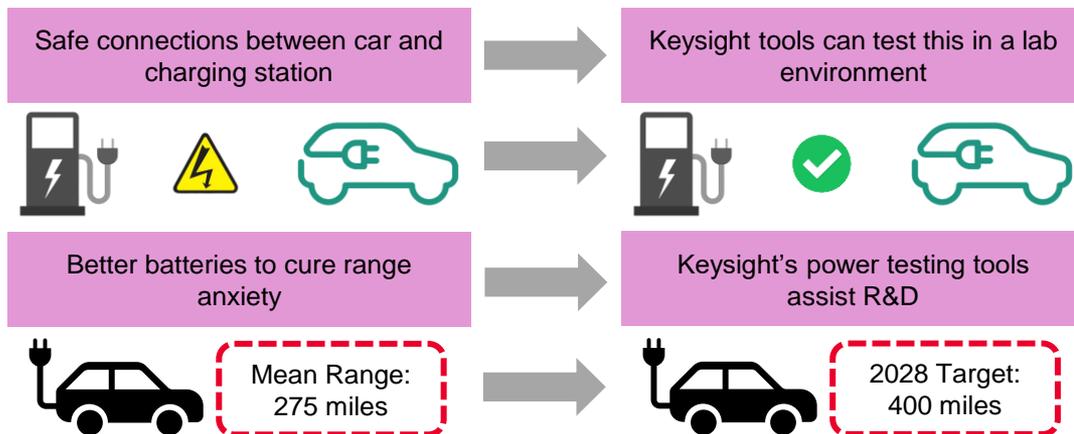


*“The internal combustion engine was a mechanical engineering device, so we’ve very much served the auto industry around the edges. But if you think about the **direction the industry is heading, it’s wholesale electrical engineering problems**”*

The Electric Vehicle Opportunity⁽³⁾

Problems

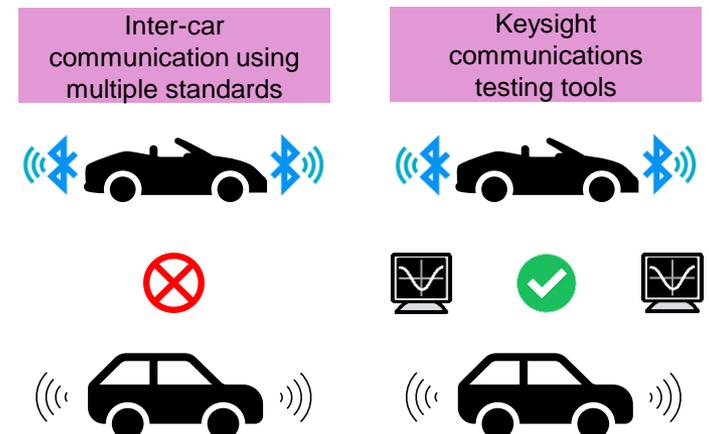
Solutions



The Autonomous Vehicle Opportunity⁽³⁾

Problem

Solution



(1) Car and Driver, Deloitte (2) Barclays Research Estimates (3) 9-13-21 Citi Global Technology Conference, Coltura



Valuation



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Industrials and Energy Committee – Keysight pitch



Walk Down and Sensitivity

Unlevered DCF	
Discount Rate	10.0%
LTGR	3.0%
PV of FCF	16,992
TV	26,023
Enterprise Value	43,014
Cash (+)	1,847
Debt (-)	1,792
NCI (-)	-
Equity Value	43,069
DSO	179
Value	\$240.91
Price	\$153.78
P/V	0.64
Upside	57%

Discount Rate vs LTGR					
	9.0%	9.5%	10.0%	10.5%	11.0%
4.0%	\$324	\$293	\$267	\$245	\$226
3.5%	\$303	\$276	\$253	\$233	\$216
3.0%	\$285	\$261	\$241	\$223	\$208
2.5%	\$270	\$249	\$231	\$215	\$201
2.0%	\$257	\$238	\$221	\$207	\$194

Revenue Drivers



Wireless revenue driven by an attach rate to Arista Networks and Juniper, with 6G accelerating growth in 2026



Wireline revenue driven by an attach rate to Nokia and Qualcomm. 400G deployment, 800G/1.6T R&D, and further visibility needs are major drivers



Semiconductors driven by attach rate to TSMC, Auto driven by light vehicle sales projections and increasing content per car



A&D driven by attach rate to RDT&E budget line projections and greater capture. General electronics grown at GDP+ rate

Margins

Gross Margins

Increases as shift to software and further differentiated products allow for pricing power

SGA

Expansion of 50-75 basis points per annum from operating leverage as Keysight's business continues to scale

R&D

Research and Development costs held constant at 16% of revenue as mandated by management to stay ahead of competitors

Incremental Margins

Model implies 40-42% incremental margins over projection period as a result from the shift to software and operating leverage



Appendix

Industrials and Energy Committee



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Appendix Table of Contents



Main Presentation

Appendix

Model Appendix

- I. **Title**
- II. **Main Table of Contents**
- III. **Investment Overview**
- IV. **The History of KEYS**
- V. **What do they do?**
- VI. **Wireless Overview**
- VII. **Infrastructure**
- VIII. **Why Switch to 5G**
- IX. **Industry Dynamics**
- X. **Strategic Partnerships**
- XI. **Future of 5G**
- XII. **Increasing Complexity**
- XIII. **Wireless Opportunity**
- XIV. **Wireline Opportunity**
- XV. **EISG – Automotive**
- XVI. **Valuation**

- I. **Variance From Street**
- II. **Variable Pay**
- III. **AD&G**
- IV. **5G Energy Efficiency**
- V. **ESG**
- VI. **Services**
- VII. **C-Suite Conservatism**
- VIII. **R&D Spending**
- IX. **Quantum Computing**

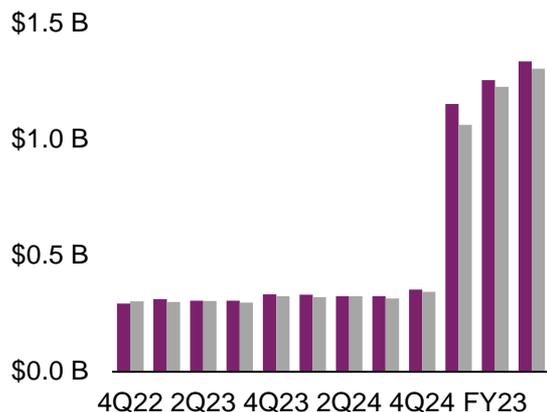
- I. **DCF**
- II. **Variance Top Line**
- III. **Variance Continued**
- IV. **Income Statement**
- V. **AD&G Build**
- VI. **Wireline Build**
- VII. **Wireless Build**
- VIII. **EISG Overview Build**
- IX. **Semiconductor Build**
- X. **Automotive Build**
- XI. **Share Repurchase**
- XII. **Balance Sheet**
- XIII. **Cash Flow**

Variance From Street

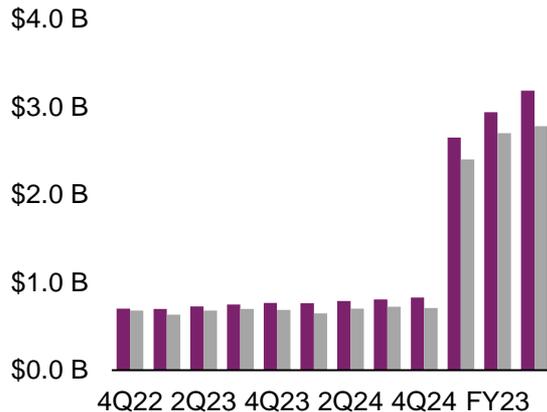


Top Line Variance by Segment

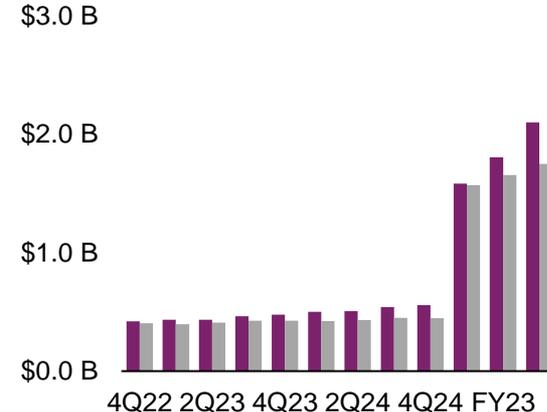
Aerospace, Defense, & Government⁽¹⁾



Commercial Communications Group⁽¹⁾



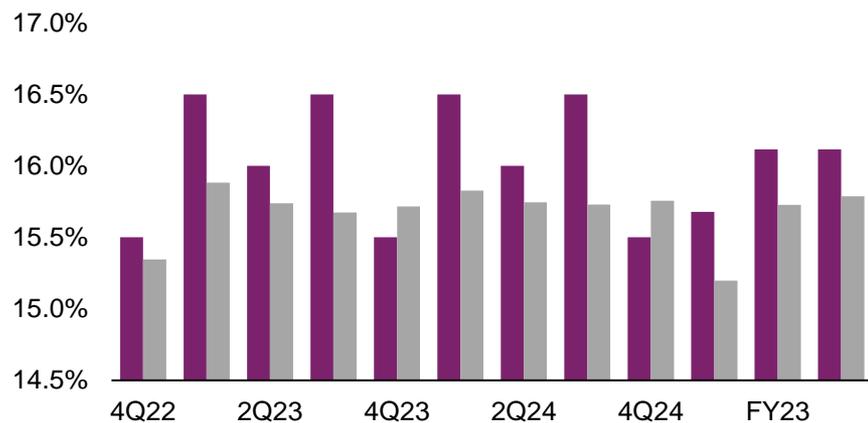
Electronic Solutions Group⁽¹⁾



■ Model ■ Street

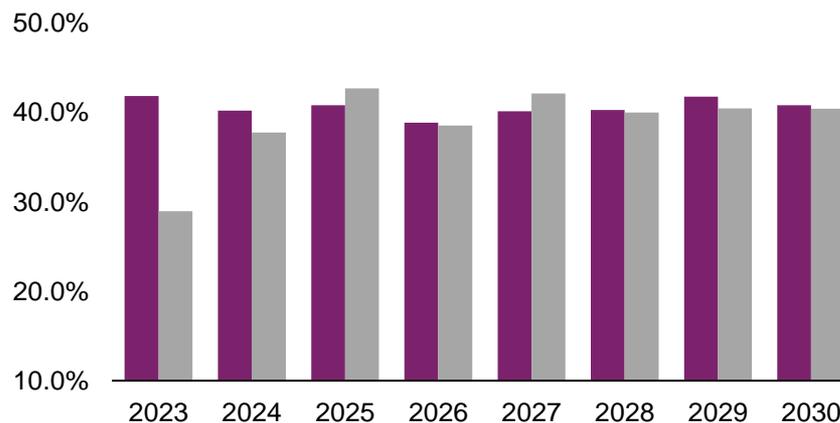
Margins

R&D as a % of Revenue⁽¹⁾



■ Model ■ Street

Incremental Margins⁽¹⁾



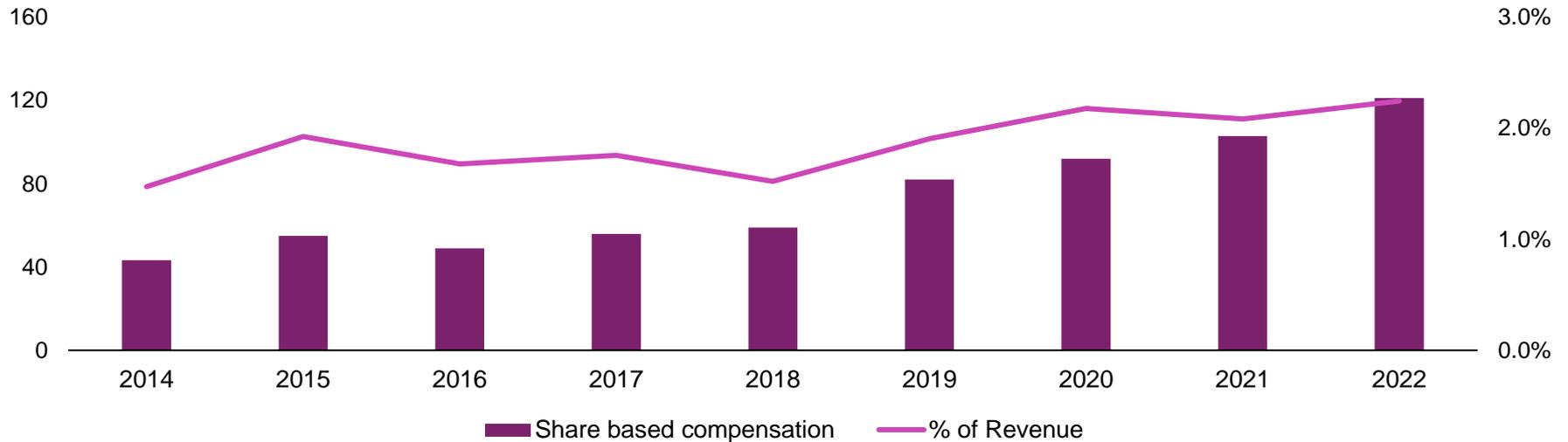
■ Model ■ Street

(1) InE Model, Visible Alpha Consensus

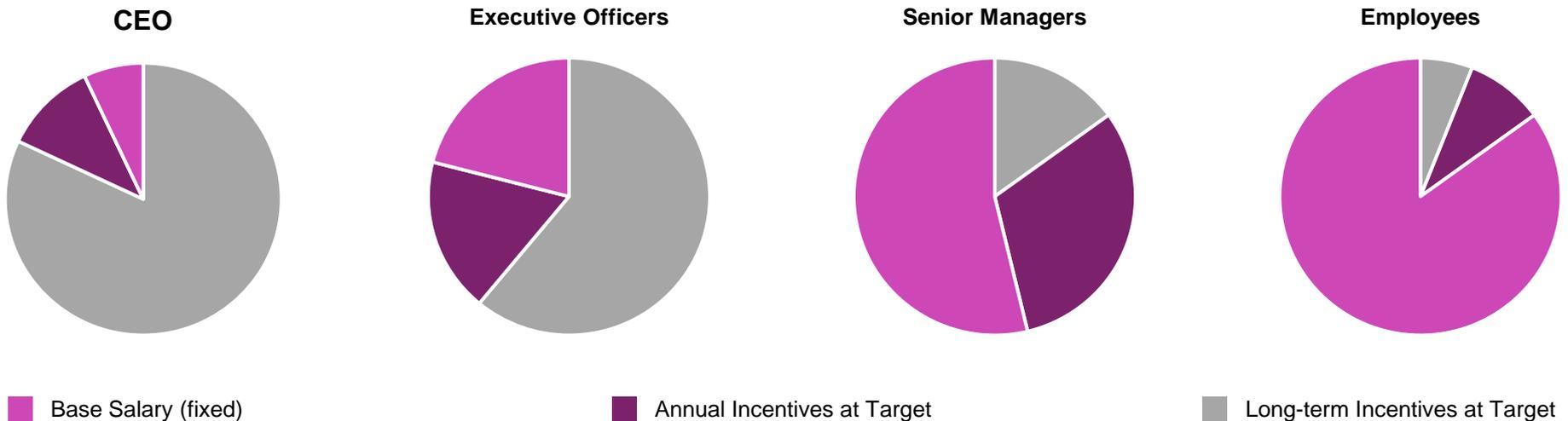


Variable Pay and Employees

Variable Pay Helps Protect Against Downturns⁽¹⁾



High Performance Culture at All Levels is a Competitive Advantage⁽²⁾

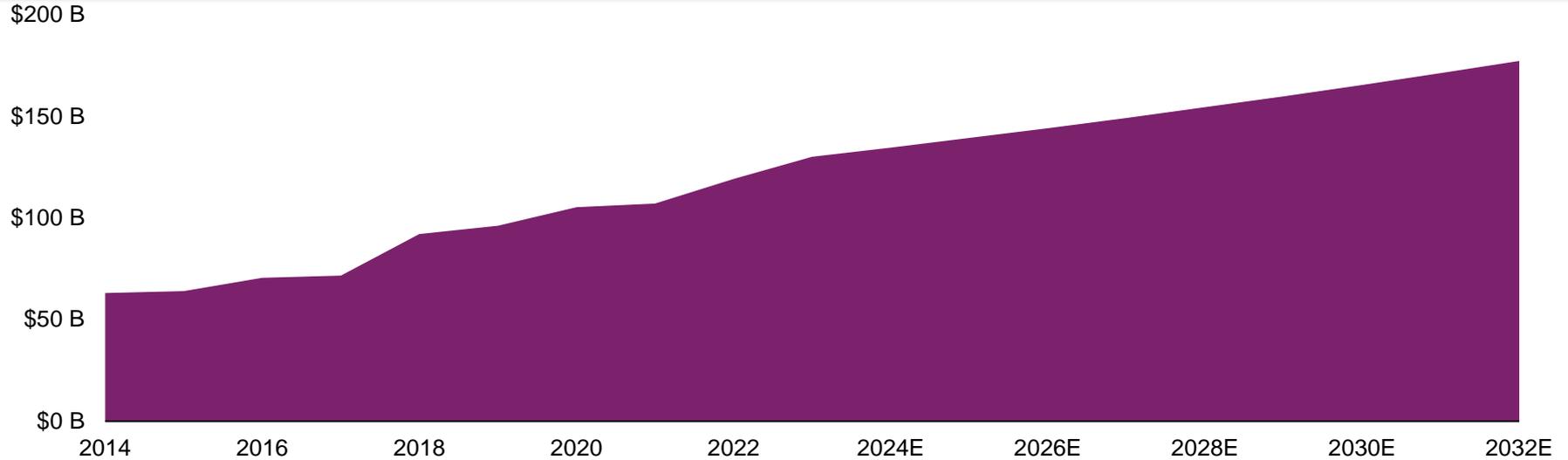


(1) Visible Alpha (2) 2020 Investor Day Keysight

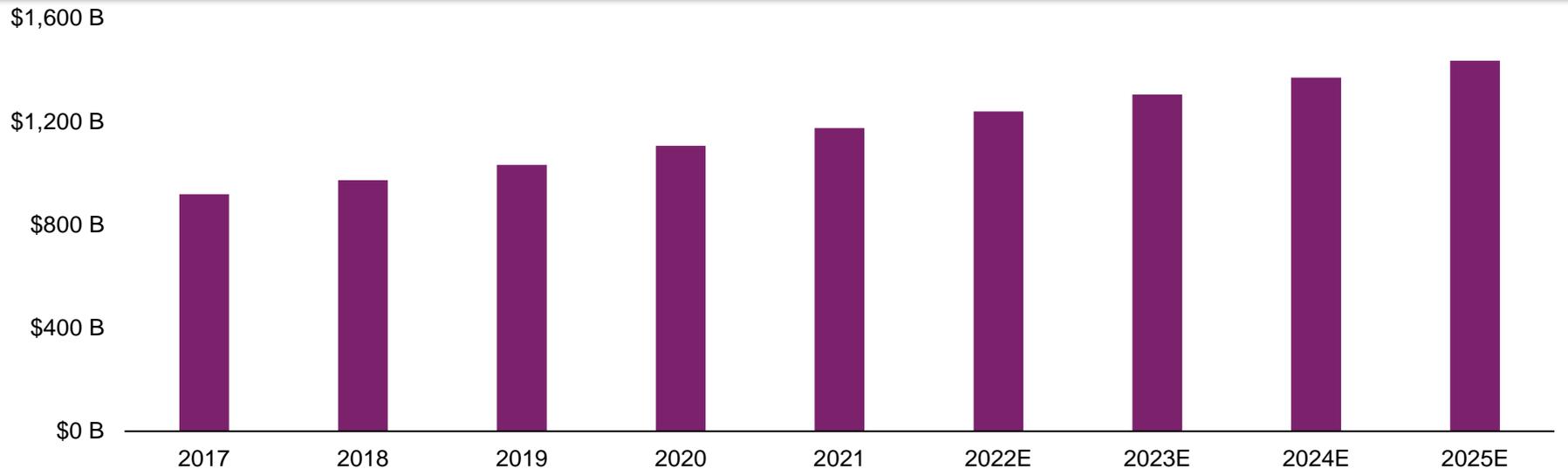
CSG – Aerospace, Defense, Government



RDT&E Budget⁽¹⁾



North Atlantic Treaty Organization Budgets



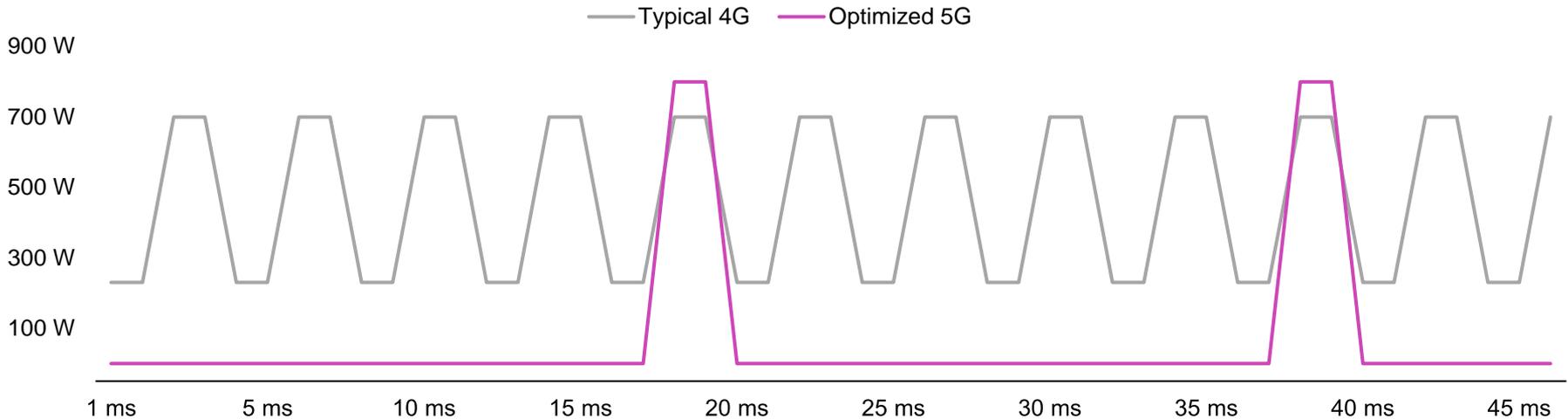
(1) DoD Reports by Year (2) Mordor Intelligence

5G Energy Efficiency



5G NR 3GPP Standards Introduces Efficiencies⁽¹⁾...

Extended Dormant Periods Allows 5G Antennas to Save Power



...That Were Not Possible Under the 4G Standard

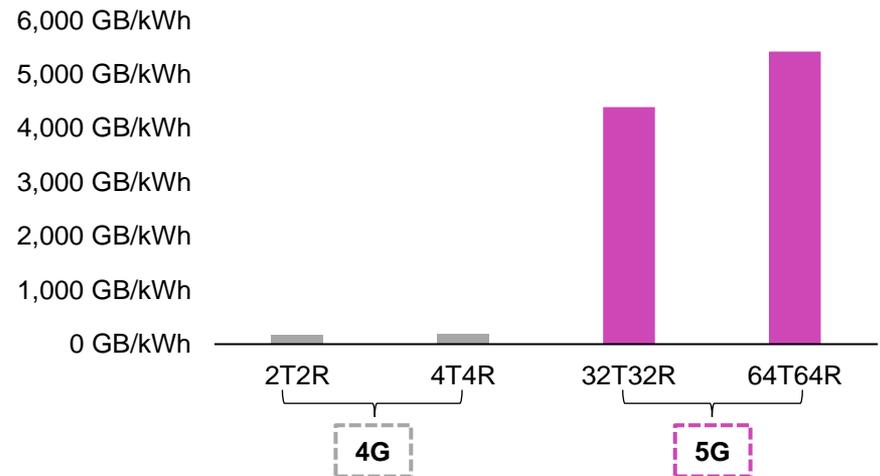
Antennas Can Remain Dormant During Slow Periods⁽³⁾

*“...the 4G LTE standard mandates that a large amount of synchronization signals, reference signals, and system information **should always be transmitted** over the entire bandwidth”⁽²⁾*

*“...energy-saving periods are **100-800 times longer** than they are under the 4G standard”⁽³⁾*

...Meaning 5G Base Stations Transmit Data Efficiently⁽²⁾

~30x Increase in GB Transmission per kWh in 5G Antennas⁽³⁾



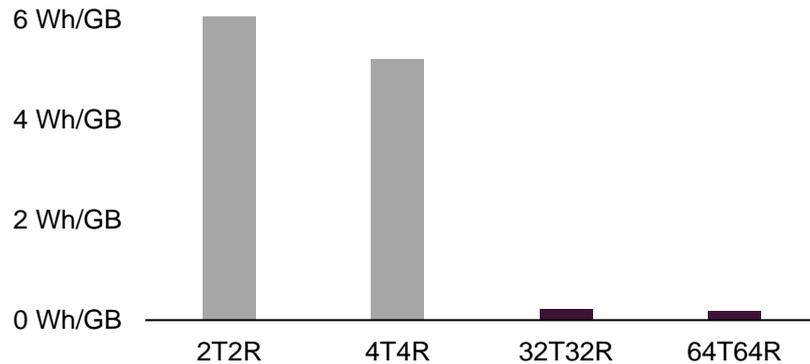
(1) Ericsson (2) Ericsson blog (3) Ericsson blog (4) Adapted from Ericsson data



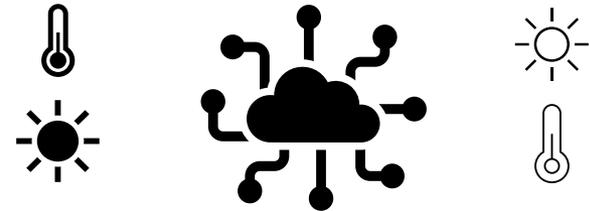
5G is ESG

5G is ESG

Energy Consumption by Antenna Type⁽¹⁾



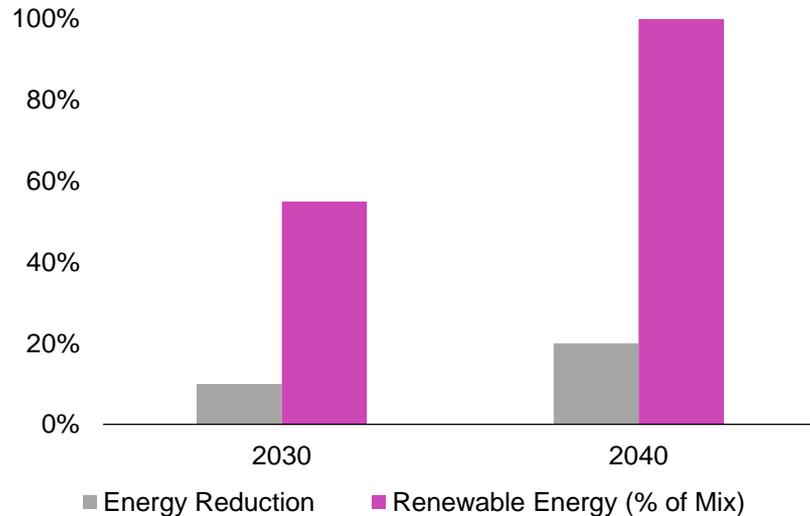
IoT Optimizes Energy Consumption in Factories of the Future



*“Because meeting ESG criteria is a priority, **gathered data is used to perfect existing processes** and devise new ones as requirements change”⁽²⁾*

Keysight’s Emission Commitments

100% Renewable Energy by 2040⁽³⁾



Industry Net-Zero Commitment

Telecom Operators Have Ambitious Emissions Goals



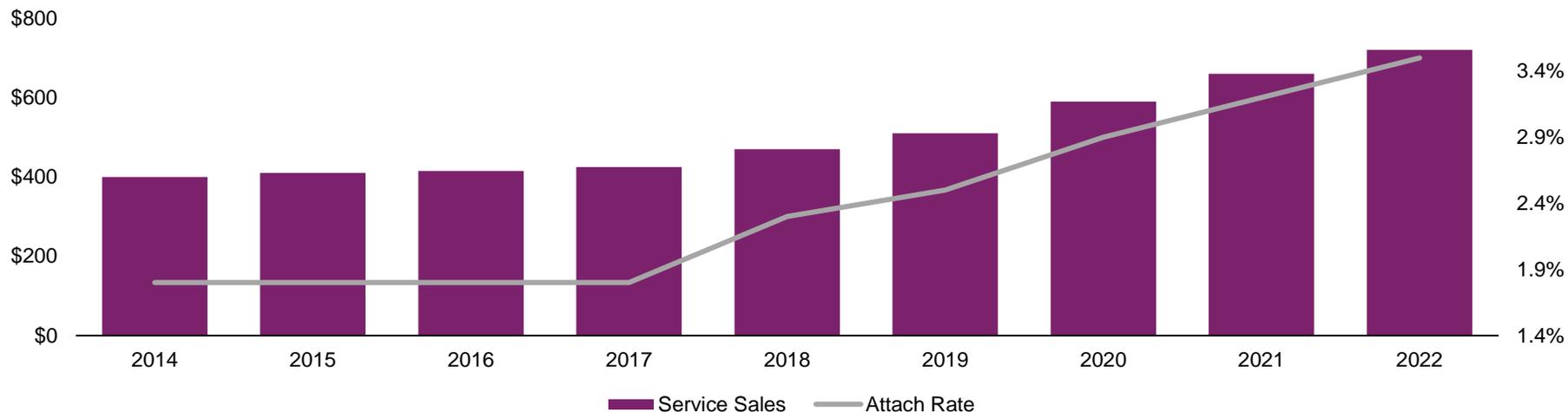
*“The industry has made a commitment to reach **net zero by 2050 at the latest**”⁽⁴⁾*

(1) Ericsson blog (2) Forbes Technology Council (3) Keysight Press Release [2021] (4) GSMA Press Release

Services Revenue



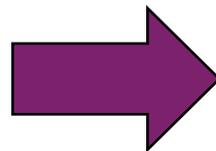
From Free Service to EBIT Contribution⁽¹⁾



Included Warranty Program

KeysightCare Model

- *Service Included*
- *Ran at Break Even*



- *Buy 1,3,5 Year Programs*
- *Similar margins to other segments*

(1) Barclays Equity Research

Management's Conservatism and their Ability to Meet Goals



Continued Raising of Expectations⁽¹⁾

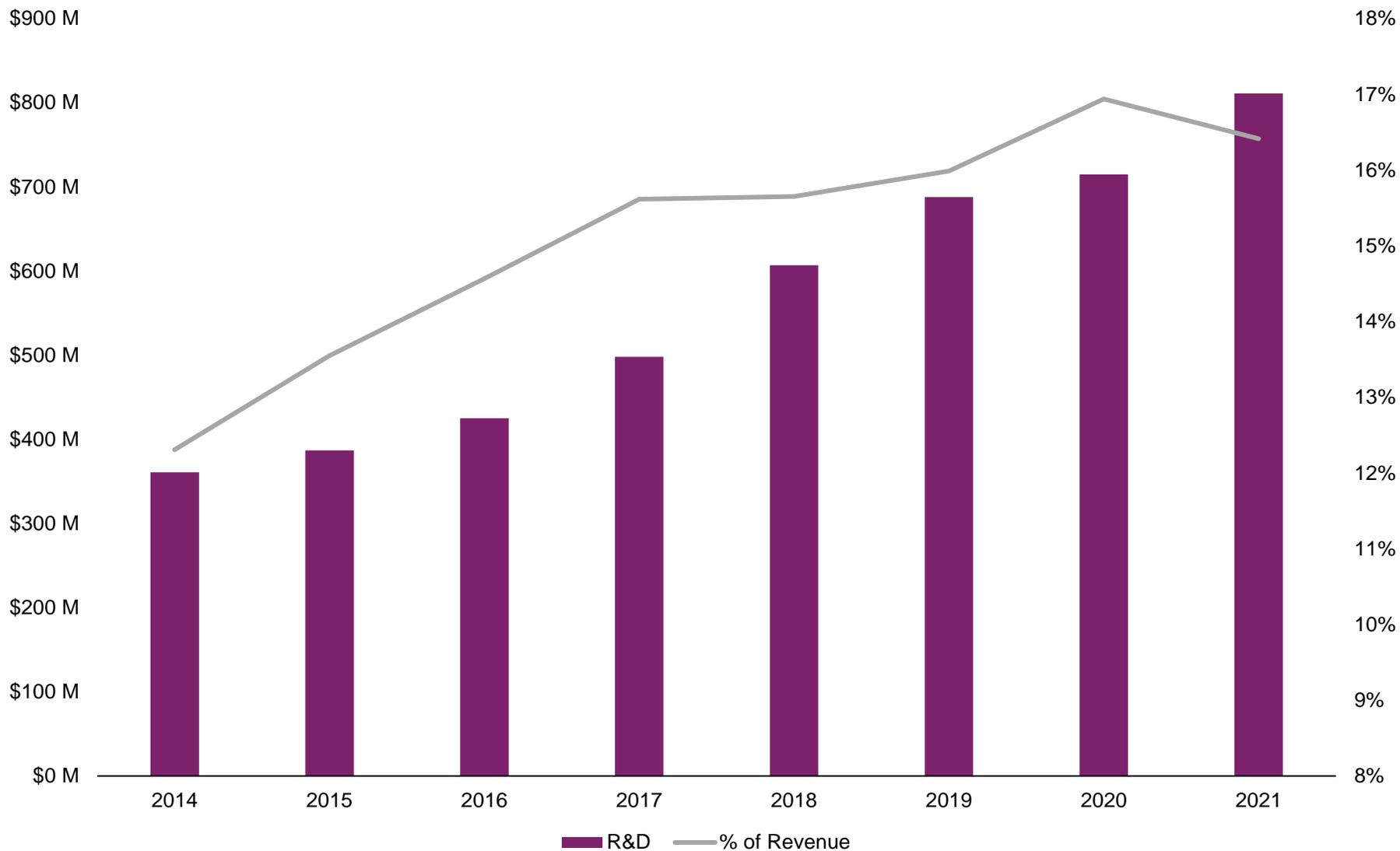
	2015 Investor Day	2018 Investor Day	2020 Investor Day	2022
Core Revenue Growth	Sustainable 4% CAGR	Sustainable 4 - 5% CAGR	Sustainable 4 - 6% CAGR	Growing MSD to LDD
Operating Margin	17-18%	21% - 22% (by 2021)	26% - 27% (by 2023)	25% ('22) 27% ('23)
EPS Growth	≥10%	≥10%	≥10%	Growing MSD to LDD

(1) 2020 Investor Presentation, Management Comments, InE Model

R&D Spending is How Keysight Remains Dominant



Nominal R&D Spend as a % of Revenue⁽¹⁾



(1) Company Filings, InE Model



“Quantum computing is an area that could represent a substantial opportunity for Keysight, and the technology does not need to become commercially viable for them to benefit as they will receive growth from the R&D stages. The manufacturing costs for quantum are negligible to the cost that has to be spent on testing, as this is over 80% of the cost. The VP of Engineering at SeeQC gives an example of how large this opportunity is by explaining that for a 4,000-qubit system, the overall construction cost would be ~\$14 million with ~\$11 million being testing costs. Although quantum may never reach commercial viability, if successful, the technology has the potential to upend entire industries through an exponential breakthrough in parallel computational power”⁽¹⁾

(1) Tegus



Model Information

Industrials and Energy Committee



CULVERHOUSE
INVESTMENT MANAGEMENT GROUP



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Jul-22	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32
Fiscal Year Ended	2014	2015	2016	2017	2018	2019	2020	2021	9M 2022	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
	A	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E
Revenue	2,933	2,856	2,918	3,189	3,878	4,303	4,221	4,941	3,977	5,392	6,007	6,627	7,257	8,015	8,817	9,635	10,461	11,570	12,671	13,935
Cost of Sales	1,313	1,264	1,297	1,487	1,756	1,769	1,688	1,872	1,437	1,939	2,095	2,244	2,395	2,625	2,866	3,119	3,374	3,717	4,055	4,442
Gross Profit	1,620	1,592	1,621	1,702	2,122	2,534	2,533	3,069	2,540	3,453	3,913	4,383	4,863	5,390	5,952	6,515	7,087	7,853	8,616	9,493
R&D	361	387	425	498	607	688	715	811	626	845	968	1,068	1,161	1,282	1,411	1,542	1,674	1,851	2,027	2,230
SGA	790	793	815	1,049	1,185	1,155	1,097	1,195	962	1,252	1,329	1,449	1,578	1,690	1,801	1,905	1,999	2,135	2,254	2,387
Other	-	(13)	(25)	(84)	676	(20)	(44)	(17)	(3)	(3)	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	1,151	1,167	1,215	1,463	2,468	1,823	1,768	1,989	1,585	2,094	2,297	2,517	2,740	2,973	3,212	3,446	3,673	3,986	4,282	4,617
EBIT	469	425	406	239	(346)	711	765	1,080	955	1,358	1,616	1,865	2,123	2,417	2,740	3,069	3,414	3,867	4,335	4,876
Taxes	83	(125)	31	77	(576)	94	134	116	92	139	220	277	269	306	348	390	434	491	551	620
NOPAT	386	550	375	162	230	617	631	964	863	1,219	1,396	1,589	1,854	2,111	2,392	2,680	2,981	3,376	3,784	4,256
D&A	-	99	134	234	310	308	326	293	168	216	219	220	219	220	220	219	216	218	221	230
Capex	-	(92)	(91)	(72)	(132)	(120)	(117)	(174)	(127)	(163)	(168)	(174)	(179)	(185)	(191)	(198)	(204)	(212)	(221)	(230)
(Increase) Decrease in NWC	-	(166)	(135)	27	80	(35)	(57)	36	(416)	54	60	66	73	80	88	96	105	116	127	139
UFCFF	386	391	283	351	488	770	783	1,119	488	1,325	1,506	1,701	1,966	2,226	2,509	2,797	3,097	3,497	3,910	4,395
Discount Period										0.1	0.6	1.6	2.6	3.6	4.6	5.6	6.6	7.6	8.6	9.6
Discounted UFCFF										833	1,428	1,466	1,541	1,586	1,625	1,647	1,658	1,702	1,730	1,768
EBITDA	469	524	540	473	(36)	1,019	1,091	1,373	1,123	1,574	1,835	2,085	2,342	2,637	2,960	3,288	3,631	4,085	4,555	5,106
Margin	16%	18%	19%	15%	-1%	24%	26%	28%	28%	29%	31%	31%	32%	33%	34%	34%	35%	35%	36%	37%
Drivers																				
D&A as % of Rev		3%	5%	7%	8%	7%	8%	6%	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
D&A as % of CapEx		108%	147%	325%	235%	257%	279%	168%	132%	132%	130%	126%	122%	119%	115%	111%	106%	102%	100%	100%
CapEx - Total		-3%	-3%	-2%	-3%	-3%	-3%	-4%	-3%	-3%	-3%	-3%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%
Maint. Capex Growth YoY											2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Other CapEx										-0.25%	-0.26%	-0.27%	-0.27%	-0.28%	-0.29%	-0.30%	-0.31%	-0.32%	-0.33%	-0.34%
NWC		-6%	-5%	1%	2%	-1%	-1%	1%	-10%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%

Variance From Street – Top Line



Calendar Ended	Oct-22	Jan-23	Apr-23	Jul-23	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Oct-22	Oct-23	Oct-24	NM	NM
Fiscal Year Ended	2022	2023				2024				2022	2023	2024	2022-2025	2022-2032
	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	FY22	FY23	FY24	FY22-FY25	FY22-FY32
	E	E	E	E	E	E	E	E	E	E	E	E	Average	Average
<i>Aerospace, Defense & Government</i>														
Model	293	312	306	305	333	332	325	325	354	1,153	1,256	1,336		
Street	302	301	304	298	325	321	325	315	343	1,063	1,227	1,304		
Variance	-3%	4%	0%	3%	3%	3%	0%	3%	3%	9%	2%	2%	2%	2%
<i>Commercial Communications Group</i>														
Model	702	699	729	749	768	764	788	808	829	2,653	2,945	3,189		
Street	682	635	681	700	687	649	702	723	711	2,404	2,703	2,785		
Variance	3%	10%	7%	7%	12%	18%	12%	12%	17%	10%	9%	14%	11%	11%
<i>Commercial Solutions Group</i>														
Model	995	1,011	1,035	1,055	1,100	1,096	1,113	1,132	1,183	3,806	4,201	4,524		
Street	990	939	1,008	1,012	1,049	981	1,055	1,058	1,086	3,801	4,006	4,180		
Variance	1%	8%	3%	4%	5%	12%	6%	7%	9%	0%	5%	8%	6%	6%
<i>Electronic Solutions Group</i>														
Model	419	435	433	462	477	500	506	541	557	1,585	1,807	2,103		
Street	405	397	411	425	425	422	431	448	448	1,571	1,657	1,751		
Variance	4%	9%	5%	9%	12%	18%	17%	21%	24%	1%	9%	20%	14%	15%
<i>Total Revenue</i>														
Model	1,415	1,446	1,467	1,517	1,577	1,596	1,618	1,673	1,739	5,392	6,007	6,627		
Street	1,395	1,337	1,418	1,439	1,476	1,397	1,479	1,503	1,542	5,372	5,668	5,938		
Variance	1%	8%	4%	5%	7%	14%	9%	11%	13%	0%	6%	12%	8%	21%
<i>Gross Profit</i>														
Model	913	936	954	990	1,033	1,049	1,068	1,109	1,157	3,453	3,913	4,383		
Street	916	873	929	948	975	916	972	993	1,020	3,510	3,721	3,912		
Variance	0%	7%	3%	4%	6%	15%	10%	12%	13%	-2%	5%	12%	8%	21%

Variance From Street Continued



Calendar Ended	Oct-22	Jan-23	Apr-23	Jul-23	Oct-23	Jan-24	Apr-24	Jul-24	Oct-24	Oct-22	Oct-23	Oct-24	NM	NM
Fiscal Year Ended	2022	2023				2024				2022	2023	2024	2022-2025	2022-2032
	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	FY22	FY23	FY24	FY22-FY25	FY22-FY32
	E	E	E	E	E	E	E	E	E	E	E	E	Average	Average
<i>R&D - % of Revenue</i>														
Model	15.5%	16.5%	16.0%	16.5%	15.5%	16.5%	16.0%	16.5%	15.5%	15.7%	16.1%	16.1%		
Street	15.3%	15.9%	15.7%	15.7%	15.7%	15.8%	15.7%	15.7%	15.8%	15.2%	15.7%	15.8%		
Variance	1%	4%	2%	5%	-1%	4%	2%	5%	-2%	3%	2%	2%	2%	3%
<i>SGA - % of Revenue</i>														
Model	21%	22%	23%	22%	22%	22%	23%	22%	22%	23%	22%	22%		
Street	20%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%		
Variance	0%	6%	10%	4%	6%	3%	8%	5%	3%	11%	7%	6%	6%	4%
<i>EBIT - Nominal</i>														
Model	403	379	382	413	442	443	445	464	513	1,358	1,616	1,865		
Street	416	380	410	424	441	407	434	448	462	1,572	1,657	1,759		
Variance	-3%	0%	-7%	-3%	0%	9%	3%	4%	11%	-14%	-2%	6%	1%	17%
<i>Incremental EBIT Margin</i>														
Model													42%	40%
Street													29%	38%
Variance													45%	6%
													16%	2%
<i>EBIT - Margin</i>														
Model	28.5%	26.3%	26.0%	27.3%	28.0%	27.8%	27.5%	27.8%	29.5%	25.2%	26.9%	28.1%		
Street	29.8%	28.4%	29.0%	29.5%	29.9%	29.1%	29.3%	29.8%	29.9%	29.3%	29.2%	29.6%		
Variance	-4%	-8%	-10%	-8%	-6%	-5%	-6%	-7%	-1%	-14%	-8%	-5%	-7%	-4%
<i>Diluted EPS</i>														
Model	\$1.91	\$1.76	\$1.78	\$1.95	\$2.09	\$2.06	\$2.11	\$2.22	\$2.47	\$6.42	\$7.58	\$8.86		
Street	\$1.71	\$1.82	\$1.97	\$2.05	\$2.13	\$1.96	\$2.09	\$2.18	\$2.26	\$6.22	\$7.98	\$8.62		
Variance	12%	-3%	-9%	-5%	-2%	5%	1%	2%	9%	3%	-5%	3%	2%	17%
<i>Shares Outstanding</i>														
Model	181	180	179	178	177	175	174	173	172	182	178	174		
Street	180	180	180	179	179	179	178	178	178	182	179	177		
Variance	0%	0%	0%	-1%	-1%	-2%	-2%	-3%	-3%	0%	-1%	-2%	-1%	-2%
<i>Tax Rate</i>														
Model	12%	14%	14%	14%	14%	16%	15%	15%	15%	11%	14%	15%		
Street	13%	15%	14%	14%	14%	16%	15%	15%	15%	11%	13%	13%		
Variance	10%	5%	0%	-1%	-2%	-1%	-1%	-1%	-3%	3%	-5%	-13%	0%	-3%

Income Statement



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32
Fiscal Year Ended	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E
Income Statement																			
Orders	2,963	2,853	2,953	3,406	4,082	4,441	4,528	5,356	4,414	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Net Revenue	2,933	2,856	2,918	3,189	3,878	4,303	4,221	4,941	5,392	6,007	6,627	7,257	8,015	8,817	9,635	10,461	11,570	12,671	13,935
Cost of products and services	1,313	1,264	1,297	1,487	1,756	1,769	1,688	1,872	1,939	2,095	2,244	2,395	2,625	2,866	3,119	3,374	3,717	4,055	4,442
Gross Profit	1,620	1,592	1,621	1,702	2,122	2,534	2,533	3,069	3,453	3,913	4,383	4,863	5,390	5,952	6,515	7,087	7,853	8,616	9,493
Research and development	361	387	425	498	607	688	715	811	845	968	1,068	1,161	1,282	1,411	1,542	1,674	1,851	2,027	2,230
Selling, general and administrative	790	793	815	1,049	1,185	1,155	1,097	1,195	1,252	1,329	1,449	1,578	1,690	1,801	1,905	1,999	2,135	2,254	2,387
Goodwill impairment	-	-	-	-	709	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Operating Expense (Income)	-	(13)	(25)	(84)	(33)	(20)	(44)	(17)	(3)	-	-	-	-	-	-	-	-	-	-
Total Operating Expenses	1,151	1,167	1,215	1,463	2,468	1,823	1,768	1,989	2,094	2,297	2,517	2,740	2,973	3,212	3,446	3,673	3,986	4,282	4,617
Operating Income	469	425	406	239	(346)	711	765	1,080	1,358	1,616	1,865	2,123	2,417	2,740	3,069	3,414	3,867	4,335	4,876
Other Income (Expense)	9	8	4	13	6	61	63	6	15	-	-	-	-	-	-	-	-	-	-
Interest Income	-	1	3	7	12	23	11	3	10	15	17	18	20	22	24	26	29	32	35
Interest Expense	(3)	(46)	(47)	(80)	(83)	(80)	(78)	(79)	(73)	(60)	(66)	(73)	(80)	(88)	(96)	(105)	(116)	(127)	(139)
Income Before Taxes	475	388	366	179	(411)	715	761	1,010	1,310	1,571	1,816	2,068	2,357	2,673	2,997	3,336	3,781	4,240	4,772
Provision for Income Taxes	83	(125)	31	77	(576)	94	134	116	139	220	277	269	306	348	390	434	491	551	620
Net Income	392	513	335	102	165	621	627	894	1,170	1,351	1,539	1,799	2,051	2,326	2,607	2,902	3,289	3,689	4,152
Basic Shares Out Wgt Avg	167	169	170	180	188	188	187	184	181	176	172	168	162	155	148	141	133	125	117
Diluted Shares Out Wgt Avg	167	171	172	181	189	191	189	187	182	178	174	170	164	157	150	143	135	127	119
Basic EPS - Reported																			
Diluted EPS - Reported																			
Calculated EPS - Basic Check	\$2.35	\$3.04	\$1.97	\$0.57	\$0.88	\$3.31	\$3.35	\$4.85	\$6.48	\$7.67	\$8.96	\$10.73	\$12.69	\$15.00	\$17.59	\$20.58	\$24.65	\$29.41	\$35.49
Calculated EPS - Diluted Check	\$2.35	\$3.00	\$1.95	\$0.56	\$0.87	\$3.26	\$3.31	\$4.79	\$6.42	\$7.58	\$8.86	\$10.60	\$12.54	\$14.81	\$17.36	\$20.29	\$24.29	\$28.95	\$34.90

Aerospace and Defense Build



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32
Fiscal Year Ended	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E
Aerospace, Defense, Government	906	927	887	848	972	972	927	1,142	1,153	1,258	1,336	1,421	1,511	1,608	1,711	1,821	1,938	2,064	2,197
1yr % Chg		2%	-4%	-4%	15%	0%	-5%	23%	1%	9%	6%	6%	6%	6%	6%	6%	6%	6%	6%
2yr Stack			-2%	-9%	10%	15%	-5%	19%	24%	10%	15%	13%	13%	13%	13%	13%	13%	13%	13%
3yr Stack				-6%	6%	10%	10%	19%	20%	33%	16%	22%	19%	19%	19%	19%	19%	19%	19%
4yr Stack					8%	6%	6%	33%	20%	28%	39%	23%	28%	26%	26%	26%	26%	26%	26%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
% of Overall Revenue																			
US Government																			
% of AD&G Revenue	50%	50%	50%	50%	50%	50%	50%	50%	49%	51%	52%	52%	53%	53%	54%	55%	55%	56%	57%
US Government Revenue	453	464	444	424	486	486	464	571	567	640	690	742	799	860	926	997	1,073	1,155	1,243
1yr % Chg		2%	-4%	-4%	15%	0%	-5%	23%	-1%	13%	8%	8%	8%	8%	8%	8%	8%	8%	8%
2yr Stack			-2%	-9%	10%	15%	-5%	19%	23%	12%	21%	15%	15%	15%	15%	15%	15%	15%	15%
3yr Stack				-6%	6%	10%	10%	19%	18%	35%	20%	28%	23%	23%	23%	23%	23%	23%	23%
4yr Stack					8%	6%	6%	33%	18%	31%	43%	28%	36%	31%	31%	31%	31%	31%	31%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Relevant Budget by Line Item																			
Basic Research	2,167	2,213	2,223	2,102	2,265	2,476	2,603	2,528	2,759	2,376									
Applied Research	4,641	4,578	4,322	4,815	5,547	5,342	6,071	6,323	6,306	5,791									
Advanced Technology Development	5,201	5,213	5,673	5,662	6,774	6,929	7,387	7,516	8,172	8,288									
Advanced Component Development & Prototypes	11,678	12,252	14,082	15,468	20,774	21,454	27,207	27,358	32,796	34,188									
System Development & Demonstration	11,524	10,857	12,801	13,296	14,735	15,447	16,778	15,315	15,080	23,427									
Management Support	4,309	5,419	5,579	4,646	8,323	8,074	7,217	8,384	8,078	8,253									
Operational Systems Support	23,623	23,539	25,391	27,491	33,782	34,315	38,132	38,132	43,463	45,860									
Software and Digital Pilot Programs	-	-	-	-	-	-	-	588	742	1,785									
UNDISTRIBUTED	-	-	-	(1,787)	-	-	-	-	-	-									
Total RTD&E Budget	63,100	64,088	70,633	71,669	92,159	96,206	105,396	107,133	119,294	130,097	134,651	139,364	144,241	149,290	154,515	159,923	165,520	171,313	177,309
1yr % Chg		2%	10%	1%	23%	4%	10%	2%	11%	9%	4%	4%	4%	4%	4%	4%	4%	4%	4%
2yr Stack			12%	12%	30%	33%	14%	11%	13%	20%	13%	7%	7%	7%	7%	7%	7%	7%	7%
3yr Stack				13%	40%	34%	43%	16%	23%	22%	24%	16%	11%	11%	11%	11%	11%	11%	11%
4yr Stack					42%	45%	44%	44%	27%	32%	26%	27%	20%	14%	14%	14%	14%	14%	14%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Keysight Capture																			
% of Overall RTD&E Budget	0.72%	0.72%	0.63%	0.59%	0.53%	0.51%	0.44%	0.53%	0.48%	0.49%	0.51%	0.53%	0.55%	0.58%	0.60%	0.62%	0.65%	0.67%	0.70%
1yr % Chg		1%	-13%	-6%	-11%	-4%	-13%	21%	-11%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
2yr Stack			-12%	-19%	-17%	-15%	-17%	8%	10%	-7%	8%	8%	8%	8%	8%	8%	8%	8%	8%
3yr Stack				-18%	-30%	-21%	-28%	4%	-3%	14%	-3%	12%	12%	12%	12%	12%	12%	12%	12%
4yr Stack					-29%	-34%	-34%	-7%	-7%	1%	18%	1%	16%	16%	16%	16%	16%	16%	16%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Aerospace, Defense & Government ex US military	453	464	444	424	486	486	464	571	586	615	646	678	712	748	785	824	866	909	954
1yr % Chg		2%	-4%	-4%	15%	0%	-5%	23%	3%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
2yr Stack			-2%	-9%	10%	15%	-5%	19%	26%	8%	10%	10%	10%	10%	10%	10%	10%	10%	10%
3yr Stack				-6%	6%	10%	10%	19%	21%	31%	13%	15%	15%	15%	15%	15%	15%	15%	15%
4yr Stack					8%	6%	6%	33%	21%	26%	36%	18%	20%	20%	20%	20%	20%	20%	20%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Wireline Build



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Fiscal Year Ended	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E
Isia Revenue - For Historicals	-	-	485	372	451	489	666	957	984										
1yr % Chg				-23%	21%	8%	36%	44%	3%										
2yr Stack					-2%	30%	45%	80%	47%										
3yr Stack						6%	66%	88%	83%										
4yr Stack							43%	110%	91%										
1q % Chg																			
Seasonality																			
% of CCG Revenue																			
Wireline Revenue	-	-	485	372	451	489	666	957	1,330	1,502	1,623	1,753	1,896	1,996	2,095	2,194	2,438	2,559	2,683
1yr % Chg				-23%	21%	8%	36%	44%	39%	13%	8%	8%	8%	5%	5%	5%	11%	5%	5%
2yr Stack					-2%	30%	45%	80%	83%	52%	21%	16%	16%	13%	10%	10%	16%	16%	10%
3yr Stack						6%	66%	88%	119%	96%	60%	29%	24%	21%	18%	15%	21%	21%	21%
4yr Stack							43%	110%	127%	132%	104%	68%	37%	30%	26%	23%	26%	26%	26%
1q % Chg																			
Seasonality																			
Capture of Revenue	0.0%	0.0%	8.1%	5.6%	6.7%	7.1%	10.0%	12.9%	14.9%	15.2%	15.3%	15.6%	15.3%	16.2%	16.6%	16.9%	17.2%	17.6%	17.9%
% Growth - Sequential												2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Capture of R&D		0.0%	0.0%	-47.4%	83.7%	55.9%	-393.1%	146.3%	83.2%	53.5%	54.8%	67.7%	66.4%	80.6%	84.5%	87.3%	61.8%	88.8%	91.2%
ANET																			
Revenue	525	766	1,047	1,506	2,024	2,454	2,222	2,772	3,814	4,482	4,965	5,275	5,693	5,942	6,187	6,438	7,525	7,872	8,212
1yr % Chg		46%	37%	44%	34%	21%	-9%	25%	38%	18%	11%	6%	8%	4%	4%	4%	17%	5%	4%
2yr Stack			82%	81%	78%	56%	12%	15%	62%	55%	28%	17%	14%	12%	9%	8%	21%	21%	9%
3yr Stack				126%	115%	100%	46%	37%	53%	80%	66%	35%	25%	19%	16%	13%	25%	26%	26%
4yr Stack					161%	136%	90%	71%	74%	70%	91%	72%	42%	29%	23%	20%	29%	30%	30%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
R&D	136	196	260	314	431	471	463	563	696	817	885	1,003	1,081	1,114	1,166	1,220	1,463	1,531	1,597
1yr % Chg		44%	32%	21%	37%	9%	-2%	22%	24%	17%	8%	13%	8%	3%	5%	5%	20%	5%	4%
2yr Stack			77%	53%	58%	47%	7%	20%	45%	41%	26%	22%	21%	11%	8%	9%	25%	25%	9%
3yr Stack				98%	90%	68%	45%	29%	44%	63%	49%	39%	29%	24%	15%	12%	29%	29%	29%
4yr Stack					135%	100%	66%	66%	53%	61%	71%	63%	47%	33%	29%	20%	32%	34%	34%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
% of Revenue	26%	26%	25%	21%	21%	18%	21%	20%	18%	18%	18%	19%	19%	19%	19%	19%	18%	18%	18%
Increase (Decrease) % of Revenue	0%	0%	-1%	-4%	0%	-2%	2%	-1%	-2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
JNFB																			
Revenue	4,799	4,640	4,924	5,173	4,706	4,418	4,431	4,658	5,088	5,425	5,636	5,952	6,210	6,348	6,457	6,546	6,617	6,684	6,750
1yr % Chg		-3%	6%	5%	-9%	-6%	0%	5%	9%	7%	4%	6%	4%	2%	2%	1%	1%	1%	1%
2yr Stack			3%	11%	-4%	-15%	-6%	5%	14%	16%	11%	9%	10%	7%	4%	3%	2%	2%	2%
3yr Stack				8%	2%	-10%	-15%	-1%	15%	21%	20%	16%	14%	12%	8%	5%	4%	3%	3%
4yr Stack					-1%	-4%	-10%	-10%	9%	21%	25%	25%	20%	16%	14%	10%	6%	5%	4%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
R&D	1,031	981	998	1,016	1,000	947	956	995	999	1,034	1,061	1,122	1,153	1,176	1,194	1,209	1,219	1,232	1,244
1yr % Chg		-5%	2%	2%	-2%	-5%	1%	4%	0%	3%	3%	6%	3%	2%	2%	1%	1%	1%	1%
2yr Stack			-3%	4%	0%	-7%	-4%	5%	5%	4%	6%	8%	9%	5%	4%	3%	2%	2%	2%
3yr Stack				-1%	2%	-5%	-6%	0%	5%	8%	7%	12%	11%	11%	6%	5%	4%	3%	3%
4yr Stack					-3%	-3%	-4%	-2%	0%	9%	11%	12%	15%	13%	7%	6%	5%	5%	4%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
% of Revenue	21%	21%	20%	20%	21%	21%	22%	21%	20%	19%	19%	19%	19%	19%	18%	18%	18%	18%	18%
Increase (Decrease) % of Revenue		0%	-1%	-1%	2%	0%	0%	0%	-2%	-1%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Wireless Build



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32
Fiscal Year Ended	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	FT14	FT15	FT16	FT17	FT18	FT19	FT20	FT21	FT22	FT23	FT24	FT25	FT26	FT27	FT28	FT29	FT30	FT31	FT32
	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E
Wireless Revenue	1,260	1,171	368	517	968	1,707	1,539	1,424	1,323	1,443	1,566	1,698	1,942	2,263	2,512	2,706	2,963	3,249	3,562
1yr % Chg		-7%	-69%	40%	87%	76%	-10%	-8%	-7%	9%	8%	8%	14%	17%	11%	8%	10%	10%	10%
2yr Stack			-74%	-28%	128%	164%	66%	-17%	-15%	2%	18%	17%	23%	31%	28%	19%	17%	19%	19%
3yr Stack				-35%	59%	204%	154%	59%	-24%	-6%	11%	26%	31%	39%	42%	35%	27%	27%	29%
4yr Stack					52%	135%	194%	146%	52%	-15%	3%	19%	40%	48%	50%	50%	45%	38%	36%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
NOI Revenue	11,566	12,399	20,593	28,736	29,226	29,967	23,315	21,852	22,202	24,386	25,102	25,311	25,540	26,134	26,726	27,435	28,153	28,998	29,867
1yr % Chg		7%	64%	40%	2%	3%	-22%	-6%	2%	10%	3%	1%	2%	2%	2%	3%	3%	3%	3%
2yr Stack			73%	106%	41%	4%	-20%	-28%	-5%	11%	13%	4%	2%	3%	5%	5%	5%	6%	6%
3yr Stack				113%	107%	44%	-18%	-26%	-27%	5%	14%	14%	5%	4%	5%	7%	8%	8%	9%
4yr Stack					115%	110%	22%	-24%	-24%	-17%	8%	15%	15%	7%	6%	8%	10%	11%	11%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
R&D	2,196	2,082	4,211	6,188	6,043	5,741	4,411	3,996	4,213	4,516	4,591	4,559.3	4,614.2	4,940.2	5,152.5	5,295.5	5,443.6	5,607	5,775
1yr % Chg		-5%	102%	47%	-2%	-5%	-23%	-9%	5%	7%	2%	-1%	7%	4%	3%	4%	3%	3%	3%
2yr Stack			97%	149%	45%	-7%	-28%	-33%	-4%	13%	9%	1%	1%	8%	11%	7%	6%	6%	6%
3yr Stack				144%	147%	40%	-31%	-38%	-27%	3%	14%	8%	2%	8%	13%	14%	10%	9%	9%
4yr Stack					142%	142%	16%	-40%	-32%	-20%	5%	14%	9%	9%	12%	15%	17%	13%	12%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OCOM Revenue	26,487	25,281	23,554	22,291	22,731	24,273	23,532	33,566	44,192	46,840	49,142	49,142	50,125	52,632	55,263	58,026	60,928	63,974	67,173
1yr % Chg		-5%	-7%	-5%	2%	7%	-3%	43%	5%	5%	5%	0%	2%	5%	5%	5%	5%	5%	5%
2yr Stack			-11%	-12%	-3%	9%	4%	40%	74%	38%	11%	5%	2%	7%	10%	10%	10%	10%	10%
3yr Stack				-17%	-10%	3%	6%	46%	71%	80%	43%	11%	7%	12%	15%	15%	15%	15%	15%
4yr Stack					-15%	-3%	0%	48%	78%	77%	85%	43%	13%	12%	12%	17%	20%	20%	20%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
R&D	5,477	5,491	5,150	5,485	5,626	5,348	5,977	7,175	8,127	8,877	9,386	10,276	11,674	13,158	13,263	13,346	14,012	14,714	15,450
1yr % Chg		0%	-6%	7%	3%	-4%	11%	20%	13%	9%	6%	9%	14%	13%	1%	1%	5%	5%	5%
2yr Stack			-6%	9%	-1%	7%	3%	23%	22%	15%	15%	23%	23%	19%	1%	1%	6%	6%	6%
3yr Stack				1%	3%	5%	9%	27%	44%	43%	23%	24%	29%	24%	27%	14%	6%	9%	11%
4yr Stack					3%	-1%	16%	29%	40%	53%	48%	38%	38%	42%	37%	28%	19%	9%	12%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
% of Revenue	21%	22%	22%	25%	25%	22%	25%	21%	18%	19%	19%	21%	23%	25%	24%	23%	23%	23%	23%
Increase (Decrease) % of Revenue		1%	0%	3%	0%	-3%	3%	-4%	3%	1%	0%	2%	2%	2%	-1%	-1%	0%	0%	0%
Total From Gross Revenue	38,052	37,680	44,147	51,027	51,957	54,240	46,347	55,418	66,394	71,226	74,244	74,452	75,655	78,765	81,989	85,461	89,081	92,972	97,400
1yr % Chg		-1%	17%	16%	2%	4%	-14%	18%	20%	7%	4%	0%	2%	4%	4%	4%	4%	4%	4%
2yr Stack			16%	33%	17%	6%	-9%	5%	38%	27%	12%	5%	2%	6%	8%	8%	8%	9%	9%
3yr Stack				32%	35%	22%	-7%	9%	24%	45%	31%	12%	6%	6%	10%	12%	13%	13%	13%
4yr Stack					34%	39%	8%	11%	29%	32%	50%	32%	13%	10%	10%	14%	17%	17%	17%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
R&D	7,673	7,572	9,361	11,673	11,669	11,139	10,388	11,171	12,340	13,393	13,977	14,836	16,291	18,098	18,416	18,642	19,457	20,321	21,225
1yr % Chg		-1%	24%	25%	0%	-5%	-7%	8%	10%	9%	4%	6%	10%	11%	2%	1%	4%	4%	4%
2yr Stack			22%	48%	25%	-5%	-11%	1%	18%	19%	13%	11%	16%	21%	13%	3%	6%	6%	6%
3yr Stack				47%	48%	20%	-11%	-4%	11%	27%	23%	19%	20%	27%	23%	14%	7%	10%	13%
4yr Stack					47%	44%	13%	-4%	7%	20%	31%	30%	29%	31%	29%	24%	18%	12%	14%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
KEYS	2,932	2,856	2,918	3,189	3,878	4,203	4,221	4,941	5,392	6,007	6,627	7,257	8,015	8,817	9,635	10,461	11,570	12,671	13,935
% of Revenue - Wireless	42%	41%	13%	16%	25%	40%	38%	29%	25%	24%	24%	23%	24%	24%	26%	26%	26%	26%	26%
Revenue - KEYS Wireless - Driven by Revenue	1,260	1,171	368	517	968	1,707	1,539	1,424	1,323	1,418	1,527	1,619	1,777	1,998	2,246	2,458	2,690	2,948	3,231
1yr % Chg		-7%	-64%	40%	87%	76%	-10%	-8%	-7%	9%	8%	8%	14%	17%	11%	8%	10%	10%	10%
Revenue - KEYS Wireless - Driven by R&D	1,260	1,171	368	517	968	1,707	1,539	1,424	1,323	1,468	1,594	1,777	2,107	2,528	2,793	3,237	3,549	3,893	4,303
1yr % Chg		-7%	-64%	40%	87%	76%	-10%	-8%	-7%	11%	11%	11%	14%	17%	11%	8%	10%	10%	10%
% Share of Revenue	3.3%	3.1%	0.8%	1.0%	1.9%	3.1%	3.1%	2.4%	2.0%	2.0%	2.0%	2.1%	2.3%	2.5%	2.7%	2.9%	3.0%	3.2%	3.6%
Growth Rate - Sequential	58%	-6%	-73%	21%	84%	69%	4%	-22%	-22%	0%	4%	5%	8%	8%	8%	5%	5%	5%	5%
% Share of R&D	16%	15%	4%	8%	8%	15%	13%	11%	11%	11.4%	12.0%	13%	14%	15%	16%	17%	17%	17%	18%
Growth Rate - Sequential	42%	-6%	-75%	13%	87%	85%	-3%	-14%	-16%	2%	4.1%	5%	8%	8%	8%	5%	5%	5%	5%
Blended Revenue - Wireless	1,260	1,171	368	517	968	1,707	1,539	1,424	1,323	1,443	1,566	1,698	1,942	2,263	2,512	2,706	2,963	3,249	3,562

EISG Overview Build



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32
Fiscal Year Ended	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E
EISG - Semi	136	200	204	255	310	387	380	494	553	640	758	886	984	1,055	1,172	1,302	1,448	1,611	1,824
1yr % Chg		47%	2%	25%	22%	25%	-2%	30%	12%	16%	18%	17%	11%	7%	11%	11%	11%	11%	13%
2yr Stack			49%	27%	47%	46%	23%	28%	42%	28%	34%	35%	28%	18%	18%	22%	22%	22%	24%
3yr Stack				74%	49%	71%	45%	53%	40%	58%	46%	51%	46%	35%	29%	29%	33%	34%	36%
4yr Stack					96%	74%	69%	75%	65%	56%	76%	63%	62%	54%	46%	41%	41%	45%	47%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
% of EISG	18%	26%	17%	18%	21%	34%	35%	35%	35%	35%	36%	37%	37%	36%	35%	35%	34%	34%	33%
EISG - Automotive	-	57	117	159	233	301	295	371	435	550	706	840	1,000	1,189	1,415	1,683	2,002	2,382	2,834
1yr % Chg			104%	37%	46%	29%	-2%	26%	17%	26%	29%	19%	19%	19%	19%	19%	19%	19%	19%
2yr Stack				141%	83%	75%	28%	24%	43%	44%	55%	47%	38%	38%	38%	38%	38%	38%	38%
3yr Stack					187%	112%	73%	53%	41%	69%	72%	74%	66%	57%	57%	57%	57%	57%	57%
4yr Stack						216%	110%	99%	70%	67%	98%	91%	93%	85%	76%	76%	76%	76%	76%
1q % Chg																			
Seasonality		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
% of EISG	0%	8%	10%	11%	16%	27%	27%	26%	27%	30%	34%	35%	37%	40%	43%	45%	47%	50%	52%
EISG - Rest	450	501	857	1,037	944	447	414	553	597	617	638	660	682	706	730	754	780	807	834
1yr % Chg		11%	71%	21%	-9%	-53%	-7%	34%	8%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
2yr Stack			82%	92%	12%	-62%	-60%	26%	42%	11%	7%	7%	7%	7%	7%	7%	7%	7%	7%
3yr Stack				103%	83%	-41%	-69%	-26%	34%	45%	15%	10%	10%	10%	10%	10%	10%	10%	10%
4yr Stack					94%	30%	-48%	-35%	-18%	38%	48%	18%	14%	14%	14%	14%	14%	14%	14%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
% of EISG	59%	66%	73%	71%	63%	39%	38%	39%	38%	34%	30%	28%	26%	24%	22%	20%	18%	17%	15%
Electronic Industrial Solutions Group - Total	767	758	1,178	1,452	1,487	1,135	1,089	1,418	1,585	1,807	2,103	2,386	2,666	2,950	3,316	3,740	4,231	4,800	5,492
1yr % Chg		-1%	55%	23%	2%	-24%	-4%	30%	12%	14%	16%	13%	12%	11%	12%	13%	13%	13%	14%
2yr Stack			54%	79%	26%	-21%	-28%	26%	42%	26%	30%	30%	25%	22%	23%	25%	26%	27%	28%
3yr Stack				77%	81%	2%	-25%	2%	38%	56%	42%	44%	42%	36%	35%	36%	38%	39%	41%
4yr Stack					80%	57%	-2%	5%	14%	52%	72%	56%	56%	52%	48%	48%	49%	52%	54%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
% of Revenue	26%	27%	40%	46%	38%	26%	26%	29%	29%	30%	32%	33%	33%	33%	34%	36%	37%	38%	39%
1q % Chg		1%	52%	13%	-16%	-31%	-2%	11%	2%	2%	5%	4%	1%	1%	3%	4%	2%	4%	4%
2yr Stack			54%	65%	-3%	-47%	-33%	9%	14%	5%	8%	9%	5%	2%	3%	7%	6%	6%	8%
3yr Stack				66%	49%	-34%	-49%	-22%	11%	16%	10%	11%	10%	5%	5%	7%	9%	10%	10%
4yr Stack					51%	18%	-36%	-38%	-20%	14%	21%	14%	13%	11%	8%	9%	10%	13%	14%

Semiconductor Build



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32
Fiscal Year Ended	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E
TSMC																			
Revenue	19,476	31,091	32,055	34,682	36,743	37,581	46,681	54,460	74,334	86,599	101,083	116,378	136,401	148,246	167,097	188,448	212,644	238,161	266,740
1yr % Chg		60%	3%	8%	6%	2%	24%	17%	36%	17%	17%	15%	17%	9%	13%	13%	13%	12%	12%
2yr Stack			63%	11%	14%	8%	26%	41%	53%	53%	33%	32%	32%	26%	21%	25%	26%	25%	24%
3yr Stack				71%	17%	16%	32%	43%	77%	70%	70%	48%	49%	41%	39%	34%	38%	38%	37%
4yr Stack					77%	20%	41%	49%	80%	94%	86%	85%	66%	58%	54%	51%	47%	50%	50%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
R&D	1,474	2,373	2,412	2,865	3,007	3,225	3,792	4,414	5,478	6,514	7,454	8,640	8,864	9,137	9,739	10,381	11,065	11,908	13,337
1yr % Chg		61%	2%	19%	5%	7%	18%	16%	24%	19%	14%	16%	3%	3%	7%	7%	7%	8%	12%
2yr Stack			63%	20%	24%	12%	25%	34%	41%	43%	33%	30%	19%	6%	10%	13%	13%	14%	20%
3yr Stack				81%	25%	31%	30%	41%	58%	59%	57%	49%	33%	22%	12%	16%	20%	21%	26%
4yr Stack					86%	33%	49%	46%	65%	77%	74%	73%	52%	36%	28%	19%	23%	27%	33%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
% of Revenue	8%	8%	8%	8%	8%	9%	8%	8%	7%	8%	7%	7%	6%	6%	6%	6%	5%	5%	5%
Increase (Decrease) % of Revenue	0%	0%	0%	1%	0%	0%	0%	0%	-1%	0%	0%	0%	-1%	0%	0%	0%	0%	0%	0%
KEYS																			
KEYS Revenue	2,933	2,856	2,918	3,189	3,878	4,303	4,221	4,941	5,392	6,007	6,627	7,257	8,015	8,817	9,635	10,461	11,570	12,671	13,935
% of Revenue - Semi	5%	7%	7%	8%	8%	9%	9%	10%	10%	11%	11%	12%	12%	12%	12%	12%	13%	13%	13%
Revenue - KEYS Semi - Driven by Revenue	136	200	204	255	310	387	380	494	553	633	757	872	1,022	1,110	1,252	1,412	1,593	1,784	1,998
Revenue - KEYS Semi - Driven by R&D	136	200	204	255	310	387	380	494	553	647	759	900	946	1,000	1,092	1,193	1,303	1,438	1,651
% Share of Revenue	0.7%	0.6%	0.6%	0.7%	0.8%	1.0%	0.8%	0.9%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Growth Rate - Sequential		-8%	-1%	15%	15%	22%	-21%	11%	-18%	-2%	3%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
% Share of R&D	9.2%	8.4%	8.5%	8.9%	10.3%	12.0%	10.0%	11.2%	10.1%	9.7%	10.2%	10.4%	10.7%	10.9%	11.2%	11.5%	11.8%	12.1%	12.4%
Semi Revenue Blended	136	200	204	255	310	387	380	494	553	640	758	886	984	1,055	1,172	1,302	1,448	1,611	1,824
1yr % Chg		47%	2%	25%	22%	25%	-2%	30%	12%	16%	18%	17%	11%	7%	11%	11%	11%	11%	13%
2yr Stack			49%	27%	47%	46%	23%	28%	42%	28%	34%	35%	28%	18%	18%	22%	22%	22%	24%
3yr Stack				74%	49%	71%	45%	53%	40%	58%	46%	51%	46%	35%	29%	33%	33%	34%	36%
4yr Stack					96%	74%	69%	75%	65%	86%	76%	63%	62%	54%	46%	41%	41%	45%	47%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Automotive Build



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32
Fiscal Year Ended	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E
Annual Light Vehicle Sales	14.4	17.0	14.6	17.5	17.8	17.5	18.0	17.4	16.4	16.4	17.3	17.9	18.5	19.2	19.8	20.5	21.2	22.0	22.7
1yr % Chg		18%	-14%	19%	1%	-1%	3%	-3%	-6%	0%	6%	3.4%	3%	3%	3%	3%	3%	3%	3%
2yr Stack			4%	6%	21%	0%	2%	0%	-10%	-6%	6%	9%	7%	7%	7%	7%	7%	7%	7%
3yr Stack				23%	7%	20%	3%	-2%	-7%	-9%	0%	9%	13%	10%	10%	10%	10%	10%	10%
4yr Stack					25%	6%	23%	0%	-8%	-6%	-4%	3%	13%	16%	14%	14%	14%	14%	14%
1q % Chg																			
Seasonality	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
% of Sales	0%	2%	4%	5%	6%	7%	7%	8%	8%	9%	11%	12%	12%	13%	15%	16%	17%	19%	20%
KEYS Automotive Sales	-	57	117	159	233	301	295	371	435	550	706	840	1,000	1,189	1,415	1,683	2,002	2,382	2,834
1yr % Chg			104%	37%	46%	23%	-2%	26%	17%	26%	29%	19%	19%	19%	19%	19%	19%	19%	19%
2yr Stack				141%	83%	75%	28%	24%	43%	44%	55%	47%	38%	38%	38%	38%	38%	38%	38%
3yr Stack					187%	112%	73%	53%	41%	69%	72%	74%	66%	57%	57%	57%	57%	57%	57%
4yr Stack						216%	110%	99%	70%	67%	98%	91%	93%	85%	76%	76%	76%	76%	76%
1q % Chg																			
Seasonality		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
KEYS Content per Vehicle	-	3.4	8.0	9.1	13.1	17.2	16.4	21.3	26.6	33.5	40.8	46.9	53.9	62.0	71.3	82.0	94.3	108.4	124.7
1yr % Chg			137%	14%	44%	31%	-5%	30%	25%	26%	22%	15%	15%	15%	15%	15%	15%	15%	15%
2yr Stack				152%	58%	75%	26%	25%	55%	51%	48%	37%	30%	30%	30%	30%	30%	30%	30%
3yr Stack					195%	89%	70%	57%	50%	81%	72%	63%	52%	45%	45%	45%	45%	45%	45%
4yr Stack						227%	85%	100%	81%	76%	102%	87%	78%	67%	60%	60%	60%	60%	60%
1q % Chg																			
Seasonality		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Share Repurchase Build



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32	
Fiscal Year Ended	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	
	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E	
Share Repurchase Buildout																				
Net Income	392	513	335	102	165	621	627	894	1,170	1,351	1,539	1,799	2,051	2,326	2,607	2,902	3,289	3,689	4,152	
<u>Share Repurchase</u>																				
Treasury Stock Beginning	-	-	-	(62)	(62)	(182)	(342)	(752)	(1,425)	(2,148)	(2,901)	(3,752)	(4,931)	(6,323)	(7,954)	(9,842)	(12,010)	(14,545)	(17,477)	
Share Repurchase	-	-	(62)	-	(120)	(160)	(410)	(673)	(723)	(753)	(850)	(1,180)	(1,391)	(1,631)	(1,888)	(2,168)	(2,535)	(2,933)	(3,406)	
Treasury Stock Ending	-	-	(62)	(62)	(182)	(342)	(752)	(1,425)	(2,148)	(2,901)	(3,752)	(4,931)	(6,323)	(7,954)	(9,842)	(12,010)	(14,545)	(17,477)	(20,884)	
Projected Share Price										\$170.31	\$187.99	\$206.78	\$227.46	\$250.21	\$275.23	\$302.75	\$333.03	\$366.33	\$402.97	
Share Repurchase																				
Cash Available										2,192	2,979	5,278	6,149	7,084	8,060	9,075	10,196	11,349	12,568	
Free Cash Flow	386	391	283	351	488	770	783	1,119	1,325	1,506	1,701	1,966	2,226	2,509	2,797	3,097	3,497	3,910	4,395	
Amount Repurchased	-	-	(62)	-	(120)	(160)	(410)	(673)	(723)	(829)	(978)	(1,180)	(1,391)	(1,631)	(1,888)	(2,168)	(2,535)	(2,933)	(3,406)	
# of Free Cash Flow	-	0%	22%	0%	25%	21%	52%	60%	55%	55%	58%	60%	63%	65%	68%	70%	73%	75%	78%	
Seasonality																				
Beginning Shares										181	178	175	170	164	157	150	143	135	127	
Shares Repurchased										(4)	(5)	(6)	(6)	(7)	(7)	(7)	(8)	(8)	(8)	
Ending Shares										177	175	170	164	157	150	143	135	127	119	
Ending Cash										2,790	3,479	4,099	4,758	5,453	6,172	6,907	7,661	8,416	9,162	

Balance Sheet



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22	Oct-23	Oct-24	Oct-25	Oct-26	Oct-27	Oct-28	Oct-29	Oct-30	Oct-31	Oct-32
Fiscal Year Ended	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
10-Q - Historical Balance Sheet	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Assets																			
Cash	810	483	783	818	913	1,598	1,756	2,052	2,192	2,790	3,479	4,099	4,758	5,453	6,172	6,907	7,661	8,416	9,162
Short-term Investments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accounts receivable, net	380	398	437	547	624	668	606	735	882	882	882	882	882	882	882	882	882	882	882
Inventory	498	487	474	588	619	705	757	777	837	837	837	837	837	837	837	837	837	837	837
Other current assets	162	211	160	224	222	244	255	270	395	395	395	395	395	395	395	395	395	395	395
Total Current Assets	1,850	1,579	1,854	2,177	2,378	3,215	3,374	3,834	4,306	4,904	5,593	6,213	6,872	7,567	8,286	9,021	9,775	10,530	11,276
Property, plant and equipment, net	470	518	512	530	555	576	595	650	668	668	668	668	668	668	668	668	668	668	668
Operating lease right-of-use assets	-	-	-	-	-	-	182	227	225	225	225	225	225	225	225	225	225	225	225
Goodwill	392	700	736	1,882	1,171	1,209	1,537	1,628	1,606	1,606	1,606	1,606	1,606	1,606	1,606	1,606	1,606	1,606	1,606
Other intangible assets, net	18	246	208	855	645	490	361	272	216	216	216	216	216	216	216	216	216	216	216
Long-term investments	63	70	55	63	46	46	61	70	73	73	73	73	73	73	73	73	73	73	73
Other assets	257	395	431	426	1,029	1,087	1,108	1,100	1,103	1,103	1,103	1,103	1,103	1,103	1,103	1,103	1,103	1,103	1,103
Total Non-Current Assets	1,200	1,929	1,942	3,756	3,446	3,408	3,844	3,947	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891	3,891
Total Assets	3,050	3,508	3,796	5,933	5,824	6,623	7,218	7,781	8,197	8,795	9,484	10,104	10,763	11,458	12,177	12,912	13,666	14,421	15,167
Liabilities																			
Current portion of long-term debt	-	-	-	10	499	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accounts payable	298	209	189	211	242	253	224	287	328	328	328	328	328	328	328	328	328	328	328
Operating lease liabilities	-	-	-	-	-	-	43	41	40	40	40	40	40	40	40	40	40	40	40
Employee Compensation and Benefits	167	168	183	217	276	278	289	355	275	275	275	275	275	275	275	275	275	275	275
Deferred Revenue	175	175	180	291	334	334	391	478	496	496	496	496	496	496	496	496	496	496	496
Income and Other Taxes Payable	72	50	41	28	42	55	64	74	63	63	63	63	63	63	63	63	63	63	63
Other Accrued Liabilities	57	84	51	62	69	83	70	74	110	110	110	110	110	110	110	110	110	110	110
Total Current Liabilities	769	686	644	819	1,462	1,003	1,081	1,309	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312	1,312
Operating Lease Liabilities	-	-	-	-	-	-	149	191	192	192	192	192	192	192	192	192	192	192	192
Deferred Revenue	69	61	72	101	127	176	175	187	200	200	200	200	200	200	200	200	200	200	200
Long-term Debt	1,099	1,099	1,093	2,038	1,291	1,788	1,789	1,791	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792	1,792
Retirement and Post-Retirement Benefits	213	280	405	309	224	357	362	167	131	131	131	131	131	131	131	131	131	131	131
Other Long-Term Liabilities	131	80	69	356	287	295	365	352	305	305	305	305	305	305	305	305	305	305	305
Total Non-Current Liabilities	1,512	1,520	1,639	2,804	1,929	2,616	2,840	2,688	2,620	2,620	2,620	2,620	2,620	2,620	2,620	2,620	2,620	2,620	2,620
Total Liabilities	2,281	2,206	2,283	3,623	3,391	3,619	3,921	3,997	3,932	3,932	3,932	3,932	3,932	3,932	3,932	3,932	3,932	3,932	3,932
Stockholders' Equity																			
Common Stock	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Treasury Stock	-	-	(62)	(62)	(182)	(342)	(752)	(1,425)	(2,148)	(2,901)	(3,752)	(4,931)	(6,323)	(7,954)	(9,842)	(12,010)	(14,545)	(17,477)	(20,884)
Additional paid-in-capital	1,002	1,165	1,242	1,786	1,889	2,013	2,110	2,219	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311
Retained earnings	101	614	949	1,041	1,212	1,909	2,536	3,430	4,600	5,952	7,491	9,290	11,341	13,667	16,274	19,176	22,465	26,154	30,306
Accumulated other comprehensive loss	(336)	(479)	(618)	(457)	(488)	(578)	(599)	(442)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)	(500)
Total Equity	769	1,302	1,513	2,310	2,433	3,004	3,297	3,784	4,285	4,863	5,552	6,172	6,831	7,526	8,245	8,980	9,734	10,489	11,235
Total Liabilities and Stockholders' Equity	3,050	3,508	3,796	5,933	5,824	6,623	7,218	7,781	8,197	8,795	9,484	10,104	10,763	11,458	12,177	12,912	13,666	14,421	15,167
Check	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Historical Cash Flow Statement



Calendar Ended	Oct-14	Oct-15	Oct-16	Oct-17	Oct-18	Oct-19	Oct-20	Oct-21	Oct-22
Fiscal Year Ended	2014	2015	2016	2017	2018	2019	2020	2021	2022
	FY14 A	FY15 A	FY16 A	FY17 A	FY18 A	FY19 A	FY20 A	FY21 A	FY22 E
10-Q - Historical Cash Flow Statement	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Operating Activities									
Net Income		513	335	102	165	621	627	894	1,170
Depreciation & Amortization		84	91	32	103	96	104	117	88
Other Amortization		15	43	142	207	212	222	176	80
(Gain) Loss on Sale		-	(10)	(8)	(20)	(1)	-	-	24
Stock Based Compensation		55	49	56	59	82	92	103	102
Other Operating		(125)	43	(83)	(39)	23	28	(4)	43
<i>Changes in:</i>									
Accounts Receivable		(20)	(42)	(11)	(89)	(26)	75	(122)	(166)
Inventory		(25)	(22)	(4)	(61)	(92)	(73)	(43)	(88)
Accounts Payable		18	(8)	15	22	13	(33)	53	41
Unearned Revenue		-	15	90	75	112	41	96	69
Income Taxes		2	(9)	3	181	(16)	5	34	(59)
Other		(141)	(69)	(66)	(48)	(26)	(72)	18	(213)
Cash Flow from Operations		376	416	328	555	998	1,016	1,322	746
Investing Activities									
Capital Expenditures		(92)	(91)	(72)	(132)	(120)	(117)	(174)	(127)
Cash Acquisition		(574)	(10)	(1,702)	(11)	(88)	(357)	(178)	(33)
Other		(5)	11	52	27	12	32	(1)	(30)
Cash (Used In) Provided By Investing Activities		(671)	(90)	(1,722)	(116)	(196)	(442)	(353)	(190)
Financing Activities									
Issuance of Debt		-	-	1,281	40	500	-	-	-
Debt Repaid		-	(1)	(323)	(300)	(500)	(7)	-	-
Issuance of Common Stock		26	43	495	64	67	58	59	63
Repurchase of Common Stock		(49)	(62)	(12)	(120)	(185)	(464)	(726)	(797)
Other		4	(5)	(16)	(19)	(4)	-	(4)	-
Cash (Used In) Provided By Financing Activities		(19)	(25)	1,425	(335)	(122)	(413)	(671)	(734)
Other									
Foreign Exchange Effect		(13)	(1)	4	(9)	3	6	3	(27)
Beginning Cash - Reported		810	887	894	1,000	483	572	620	664
Net Change in Cash		(327)	300	35	95	683	167	301	(205)
Net Change in Cash - Reported		(327)	300	35	95	683	167	301	(205)
Check		-	-	-	-	-	-	-	-
Ending Cash - Reported		483	572	620	664	783	896	983	873