

A globe where the continents are represented by white circuit traces on a dark blue background. A bright white arrow curves from the bottom left, passing behind the globe, and points towards the text on the right.

TSEM Investor and Analyst Annual Conference

Nov. 29th, 2017

8:30 AM – 12:00 PM

Nasdaq MarketSite, 4 Times Square
New York, USA



Welcome

Mrs. Noit Levy-Karoubi, VP Investor Relations

Safe Harbor

This presentation contains forward-looking statements within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. These statements are based on management’s current expectations and beliefs and are subject to a number of risks, uncertainties and assumptions that could cause actual results to differ materially from those described in the forward-looking statements. All statements other than statements of historical fact are statements that could be deemed forward-looking statements. For example, statements regarding expected (i) customer demand, (ii) utilization and cross utilization of our Fabs, (iii) growth in our end markets, (iv) market and technology trends, and (v) growth in revenues, cash flow, margins and net profits are all forward-looking statements. Actual results may differ materially from those projected or implied by such forward-looking statements due to various risks and uncertainties applicable to TowerJazz’s business as described in the reports filed by Tower Semiconductor Ltd. (“Tower”) with the Securities and Exchange Commission (the “SEC”) and the Israel Securities Authority (“ISA”), including the risks identified under the heading "Risk Factors" in Tower’s most recent filings on Forms 20-F and 6-K. No assurances can be given that any of the events anticipated by the forward-looking statements will transpire or occur, or if any of them do, what impact they will have on the results of operations or financial condition of TowerJazz.

TowerJazz is providing this information as of the date of this presentation and expressly disclaims any obligation to update any of the forward-looking statements or other information contained in this document as a result of new information, future events or otherwise.

Outline and Speakers

Opening Remarks

Mr. Amir Elstein, Chairman

CEO Keynote: Driving Value Creation into Continued Growth

Mr. Russell Ellwanger, CEO

Markets and Technology: Innovative and Strategic Focus on Industry Megatrends and Growth Opportunities

Dr. Marco Racanelli, SVP, BU GM

Rising Markets, Innovative Partnerships and M&As

Dr. Itzhak Edrei, President

Manufacturing Excellence

Mr. Rafi Mor, COO

Financial fundamentals: Performance and Strategy

Mr. Oren Shirazi, CFO

Q&A

Summary

Mr. Russell Ellwanger, CEO



Mr. Amir Elstein
Chairman



Mr. Russell Ellwanger
CEO



Dr. Itzhak Edrei
President



Mr. Oren Shirazi
CFO



Mr. Rafi Mor
COO

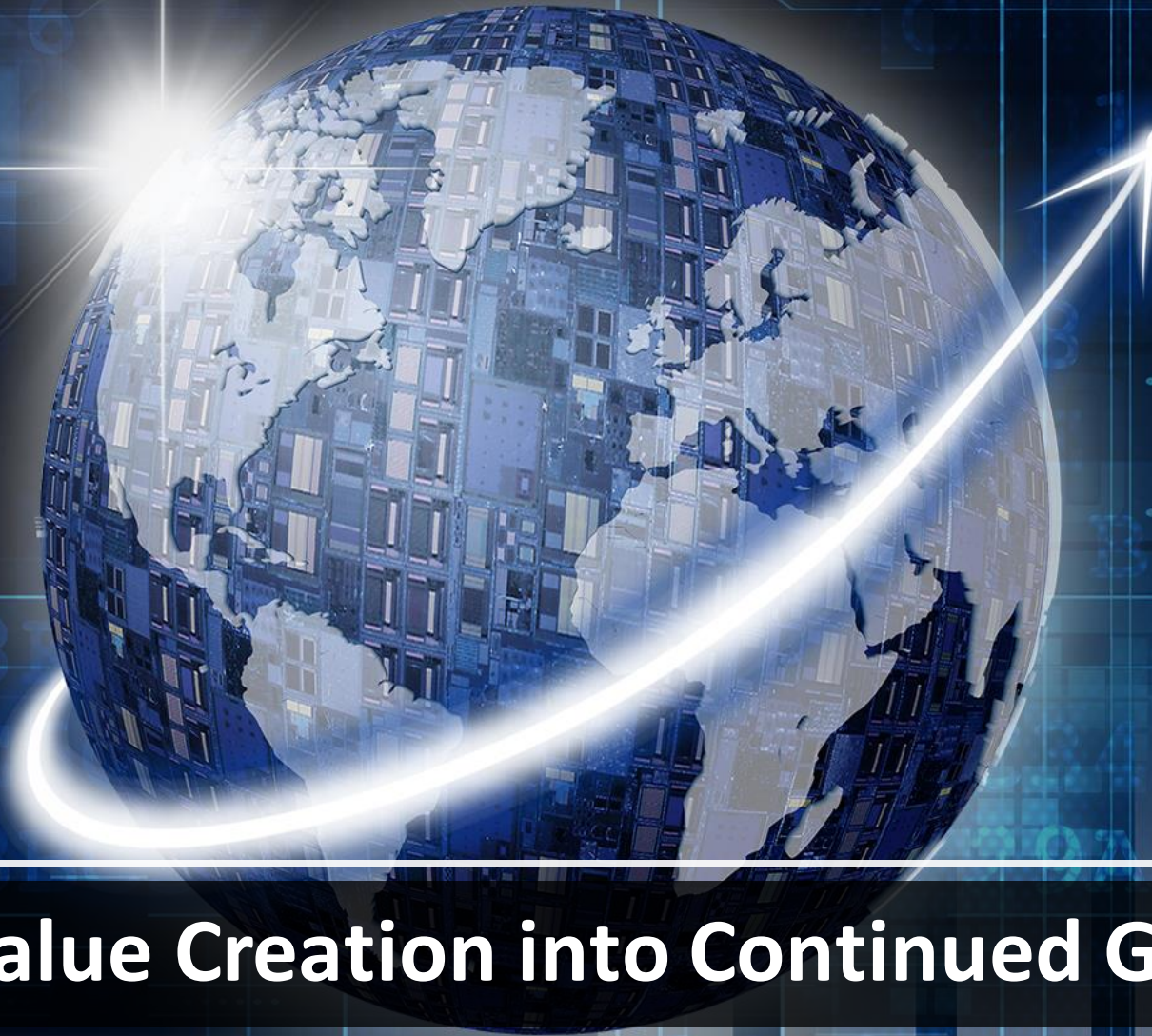


Dr. Marco Racanelli
SVP, BU GM



Opening Remarks

Mr. Amir Elstein, Chairman



Driving Value Creation into Continued Growth

Mr. Russell Ellwanger, CEO

2017 Theme

Value Creation

The Rolling Stones,
Satisfaction, Live
Concert 1969

<https://www.youtube.com/watch?v=znNM-uG9VQI>



The Stones “Satisfaction” was released in 1965, and was their first number one hit.

If I went to a Stones concert, and they did not play Satisfaction
I would feel ripped off

It is necessary

If the entire concert was just playing Satisfaction
I would feel ripped off

It is not sufficient

Necessary but Not Sufficient

- In many activities there are variety of things that are often necessary
- BUT – that which is necessary does not always fulfill what is sufficient.

Necessary and Sufficient

- For a human being, doing what is **necessary** (eat, drink, sleep) sustains life
- Doing what is **sufficient** fulfills purpose
- How to define this “sufficiency”?

Value Creation

Why?

Because value creation fulfills the purpose of our existence –

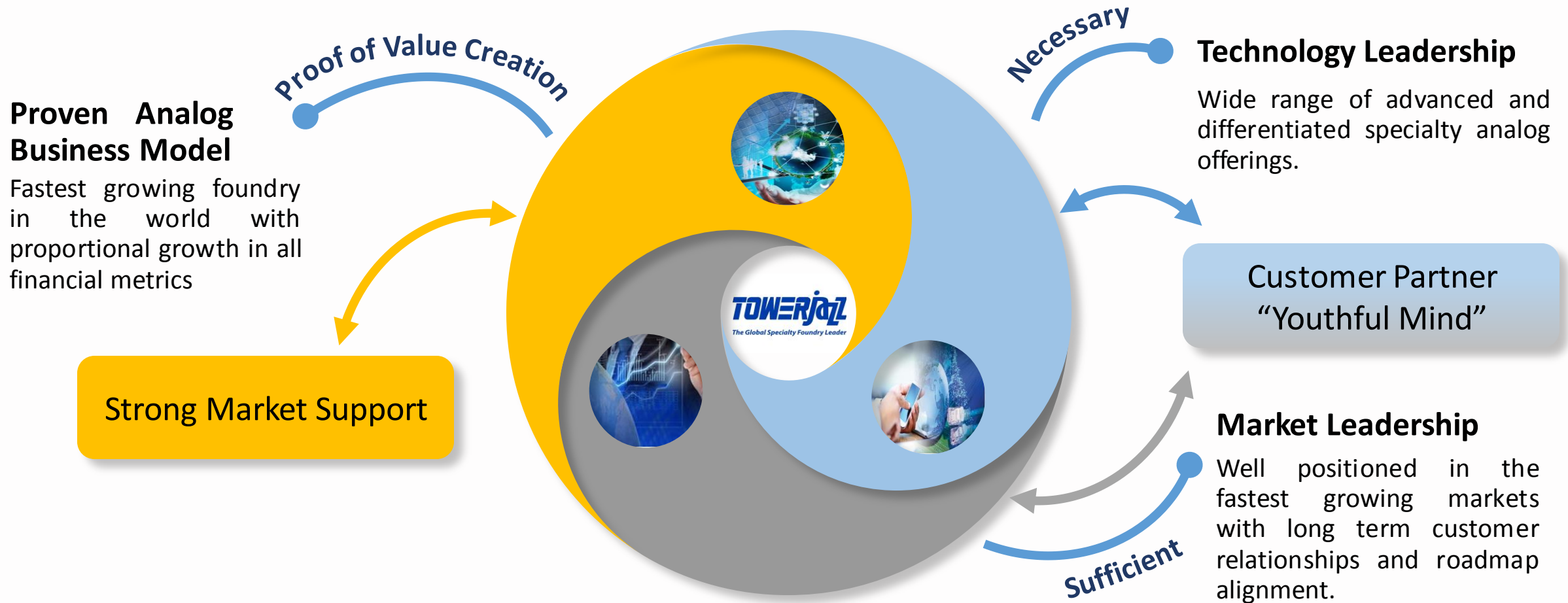
Development and Growth

Necessary and Sufficient

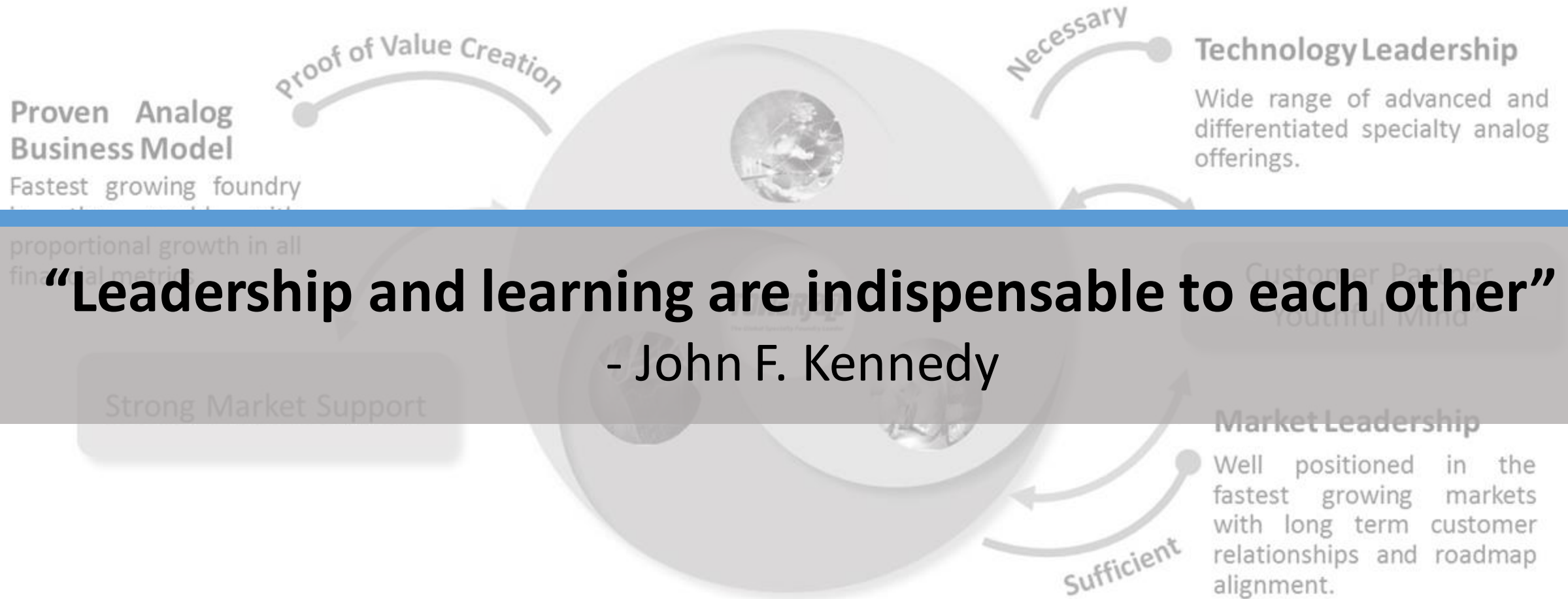
- The same is true for companies
- A company may exist by doing what is necessary for existence
- BUT – a company only flourishes when it **creates value**

TowerJazz and Value Creation

TowerJazz: The Global Specialty Foundry Leader | Full Circle Value Creation



TowerJazz: The Global Specialty Foundry Leader | Full Circle Value Creation



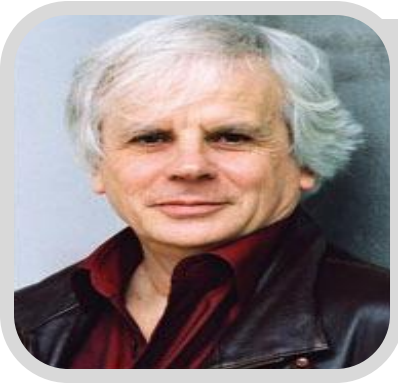
How to maintain value creation?

Is life predictable?



Eleanor Roosevelt

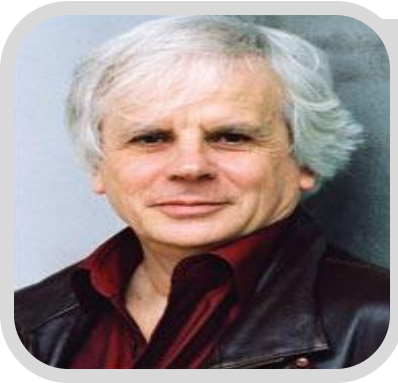
“If life were predictable, it would cease to be life and be without flavor.”



Pascal Mercier

Night train to Lisbon

“What should be done, with all the time that lies ahead of us? Open and unshaped, feather-light in its freedom and lead-heavy in its uncertainty?”



Pascal Mercier

Night train to Lisbon

“What should be done, with all the time that lies ahead of us? Open and unshaped, feather-light in its freedom and lead-heavy in its uncertainty?”

**How to address
this lack of predictability?**

Walk Among the People

External

Focus on Your Customers

Have Relationships at all levels

Be consistent with formal activity reviews

Focus on frequent informal updates

Internal

Focus on Your Employees

Best executive team
Identify and “develop” young stars

Regular reviews
w/ a x-section of presenters

“Manage” by walking the hallways

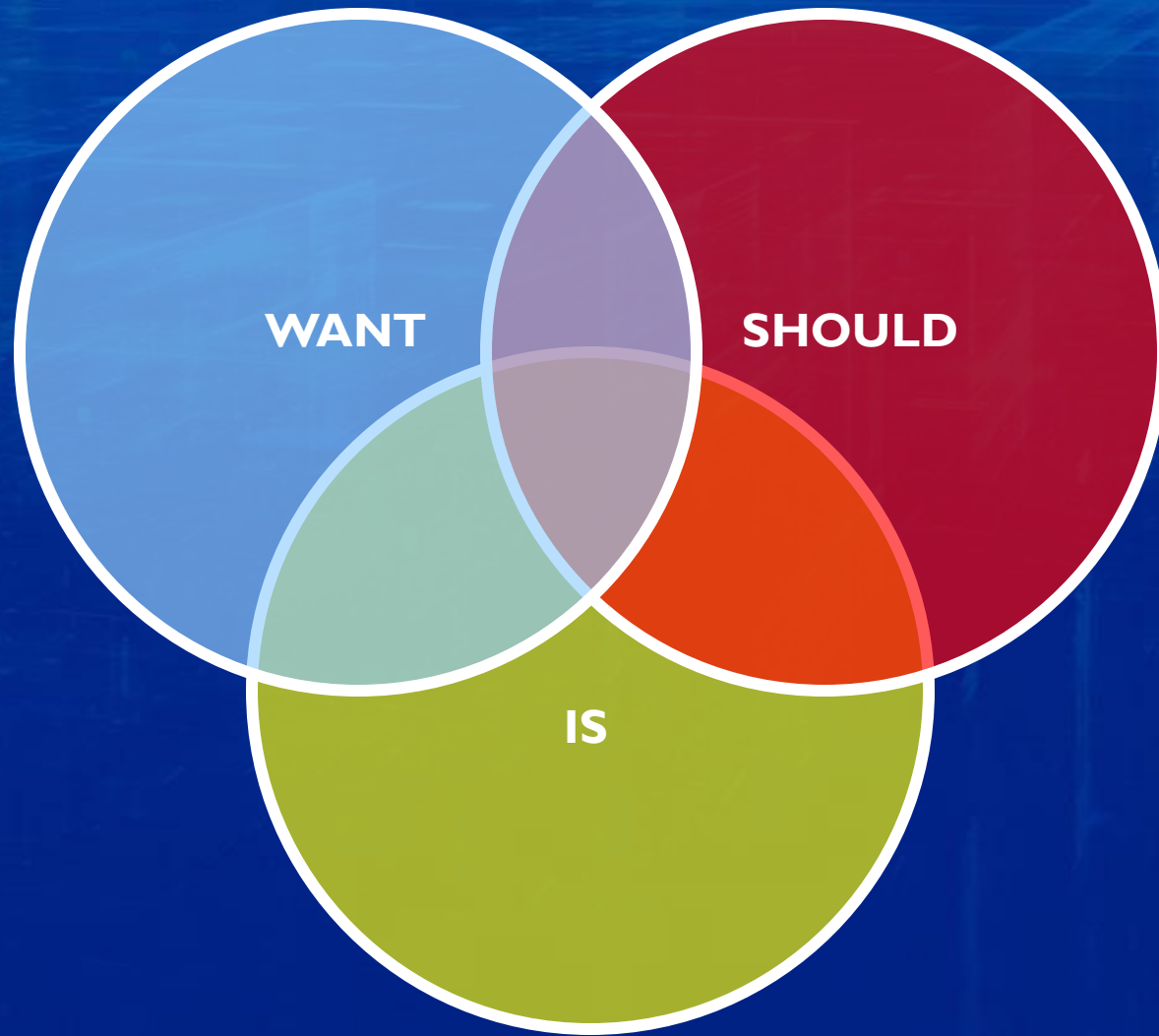
Listen, evaluate, **ACT**, and “close circle”

Accountable vs. Victim

Accountable	8	Get On with It
	7	Find Improvements, Solutions
	6	Own It – Take Responsibility
	5	Acknowledge Reality – Get the Data
	4	Wait and Hope Things Get Better
Victim	3	Make Personal Excuses
	2	Blame Others
	1	Unaware There's a Problem

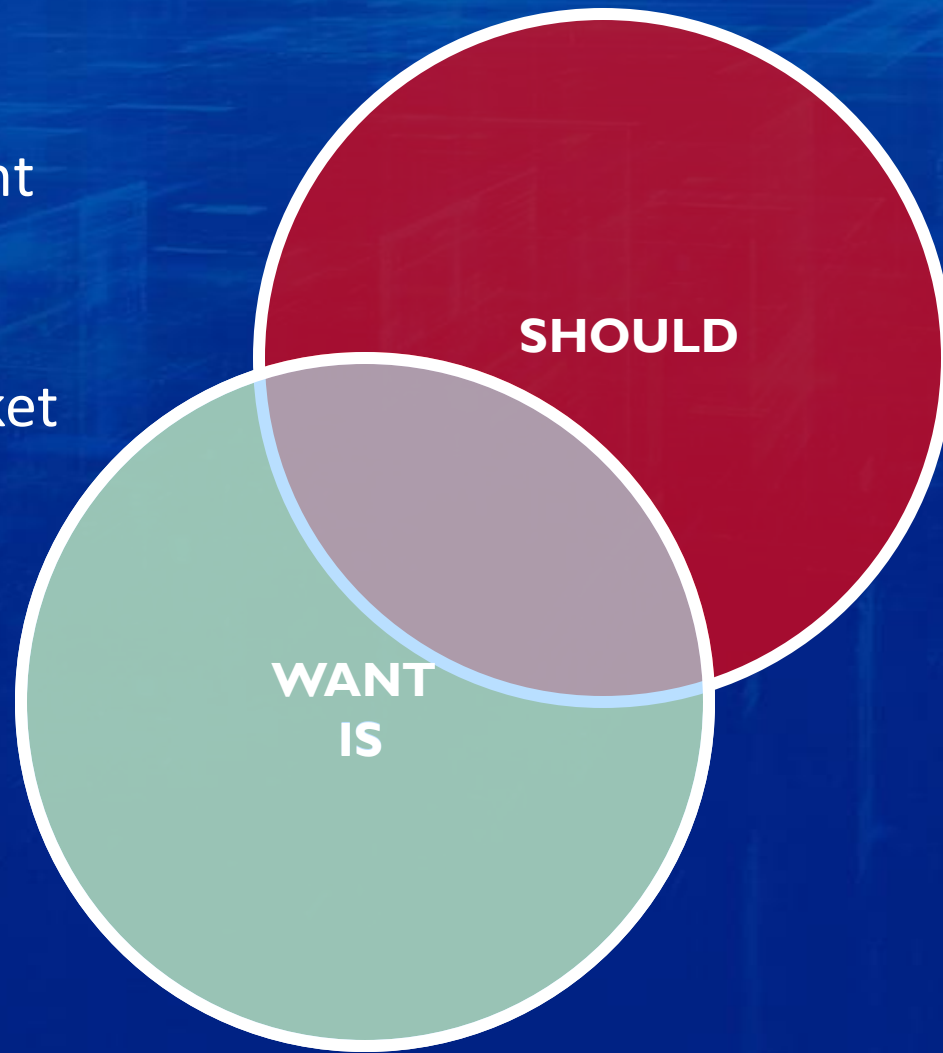
Change...

The Corporate World

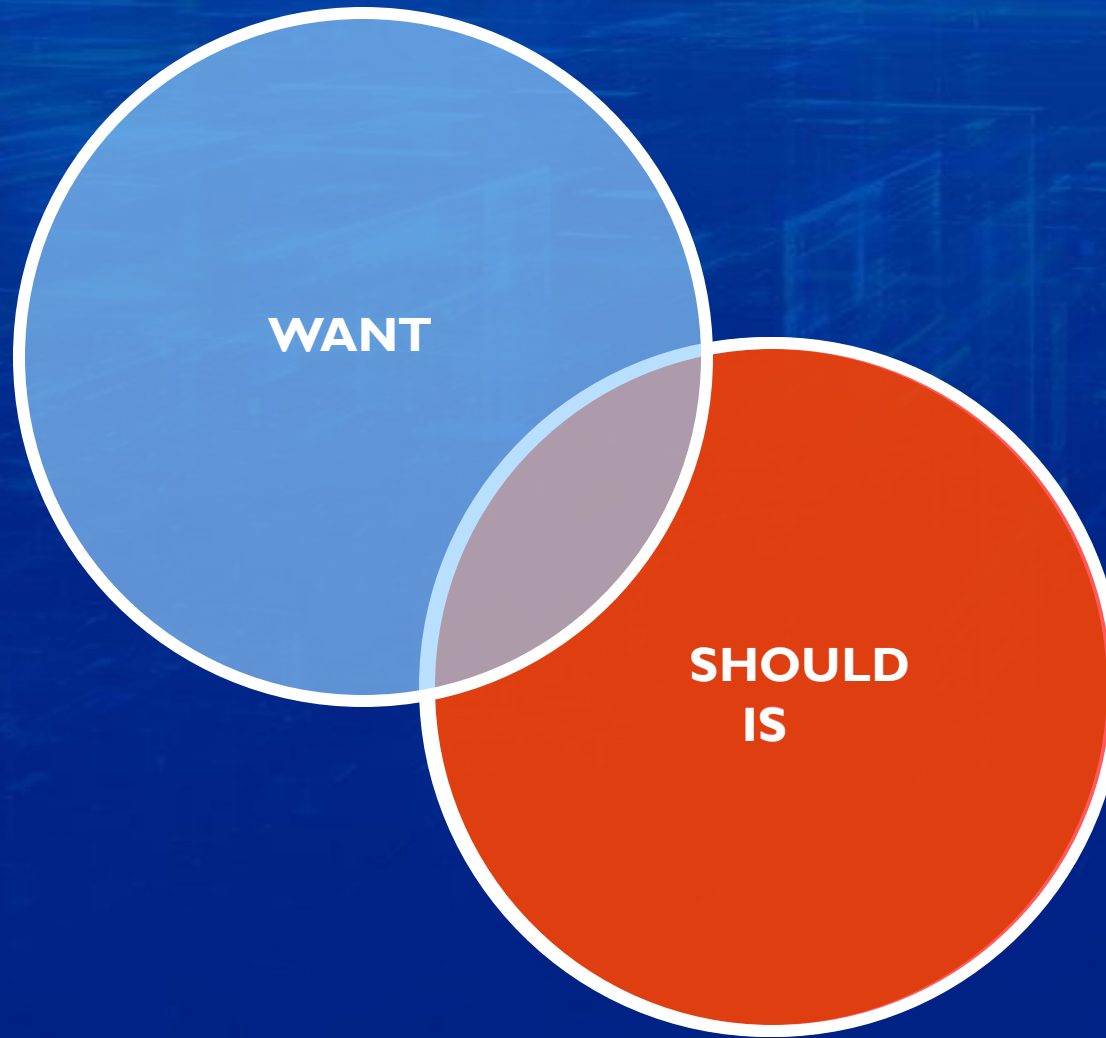


The Corporate World

- Go out of business scenario
- Self-aggrandizing management
- No corporate evolution
 - No sensitivity to the market
 - No ear to the customers



The Corporate World

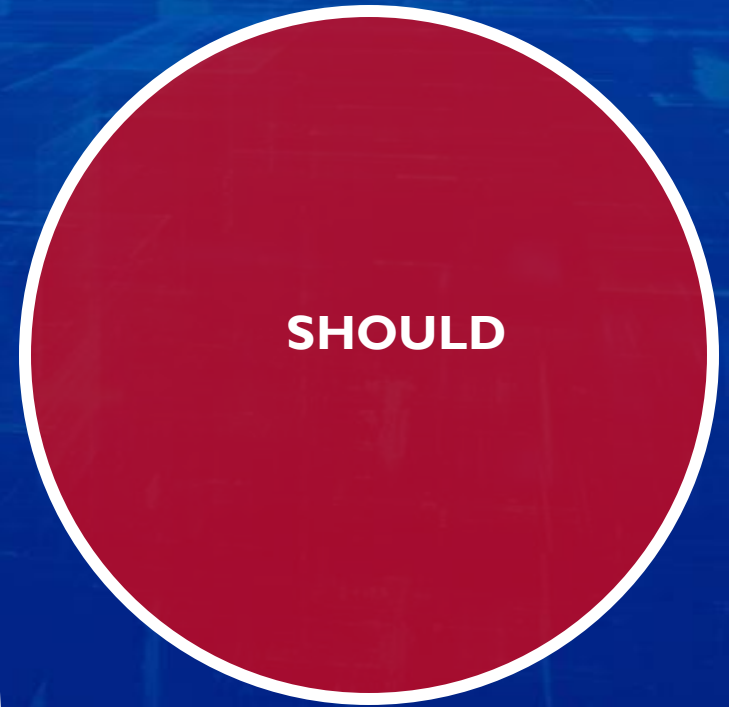
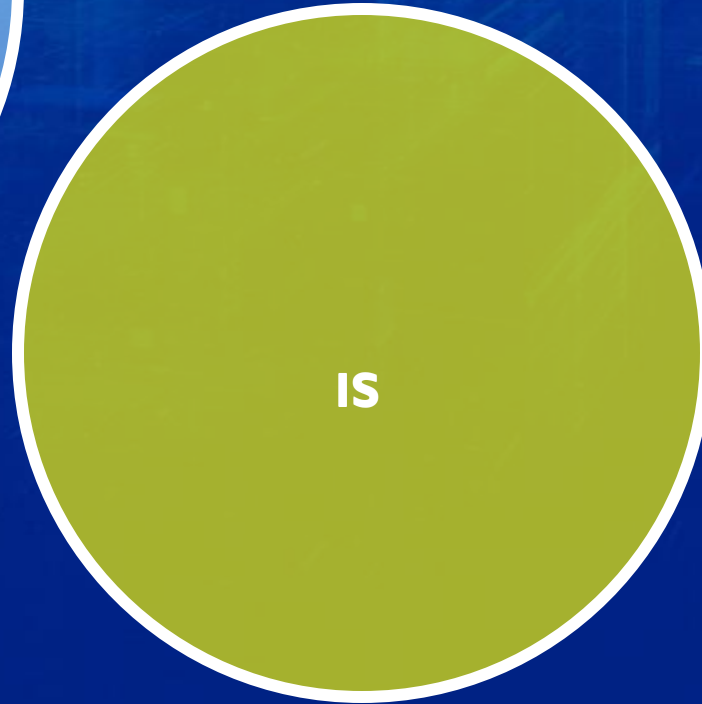


- No shared vision
- No motivation
- Little innovation
- Non-sustainable

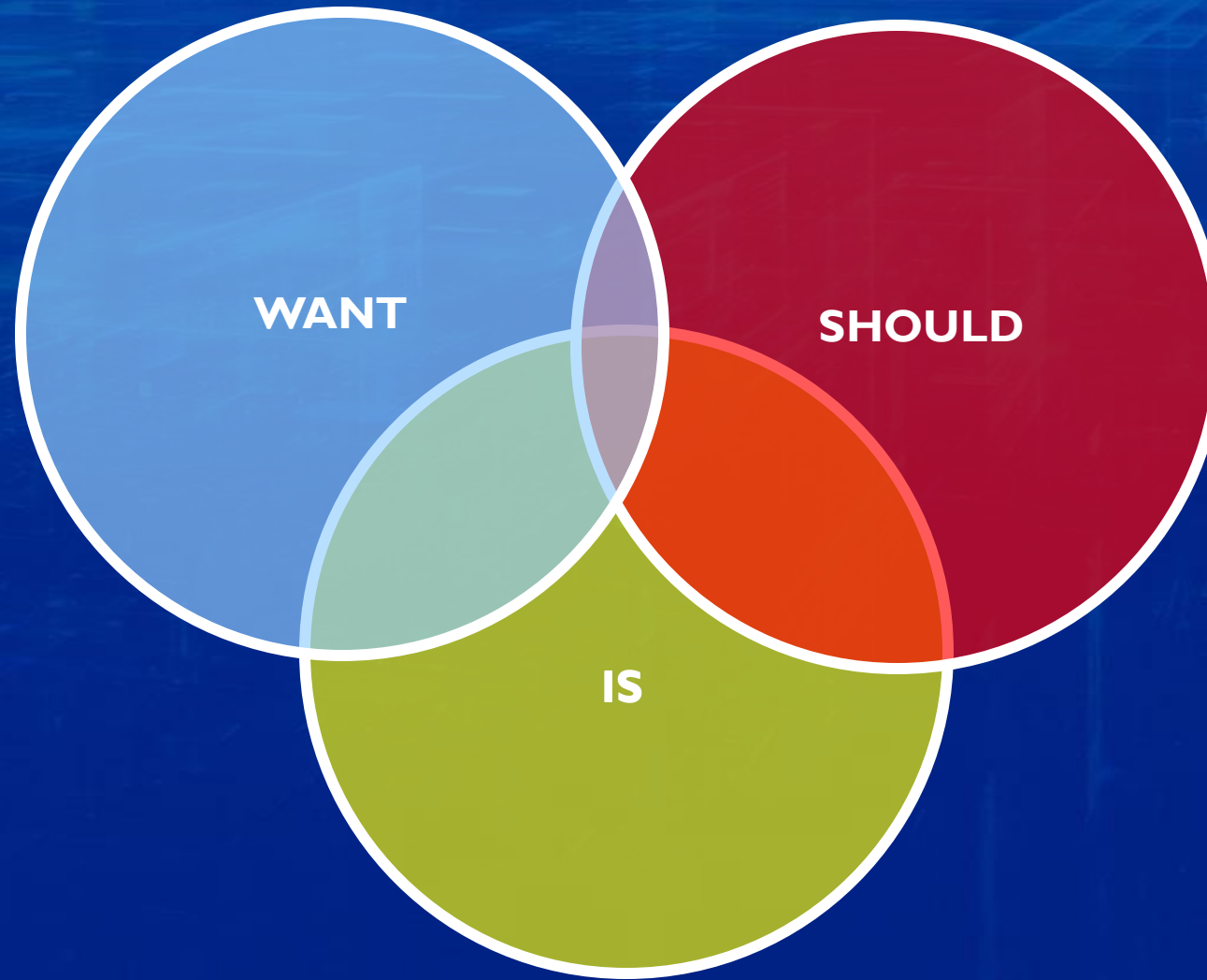
The Corporate World



Slave to the past
Lack courage to make
needed changes



The Corporate World

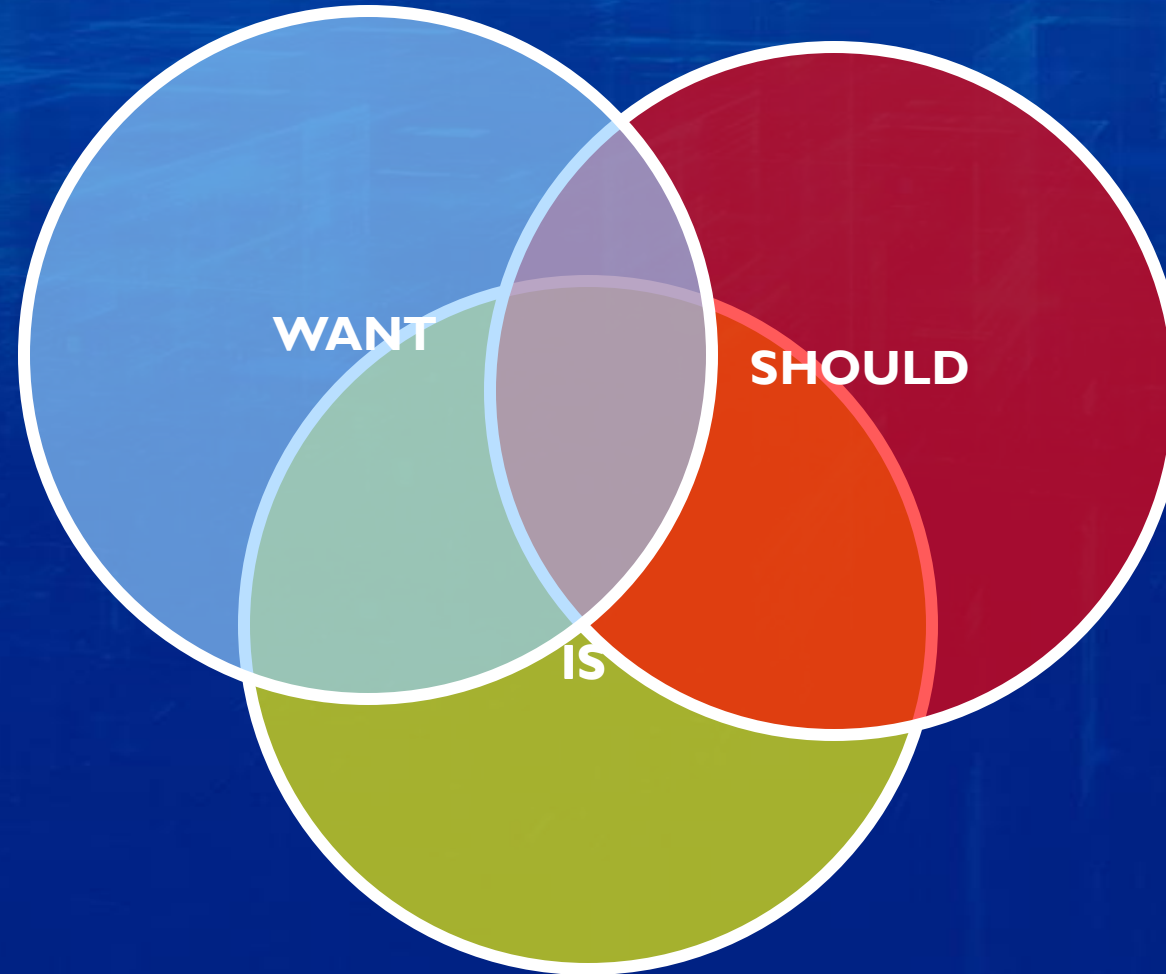


The beginning of a successful company

The Corporate World

Can increase degree of overlap by being:

- Customer centric
- Setting and evaluating realistic but stretch-goals with definitive metrics
- Requires continual rapid cycles of learning

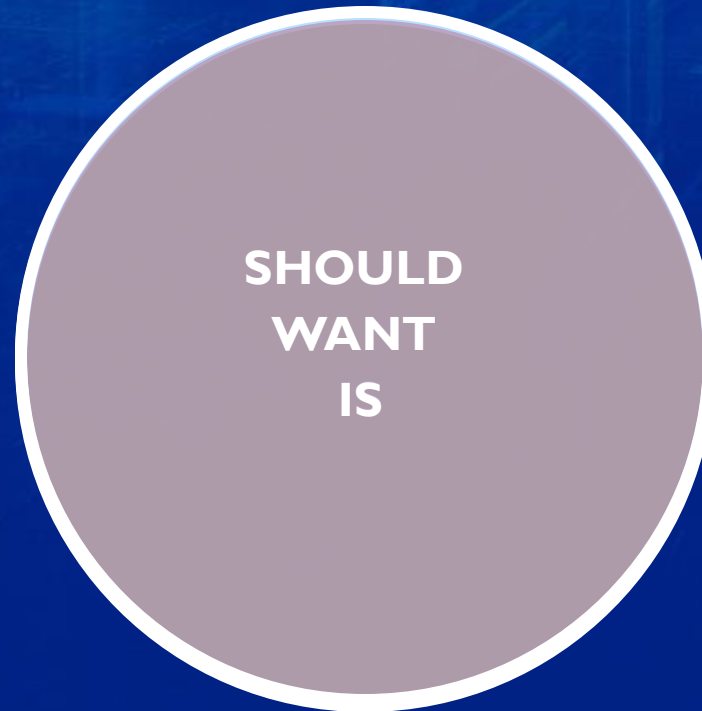


The Corporate World

Even once aligned, market/customer insensitivity can cause them to move apart.

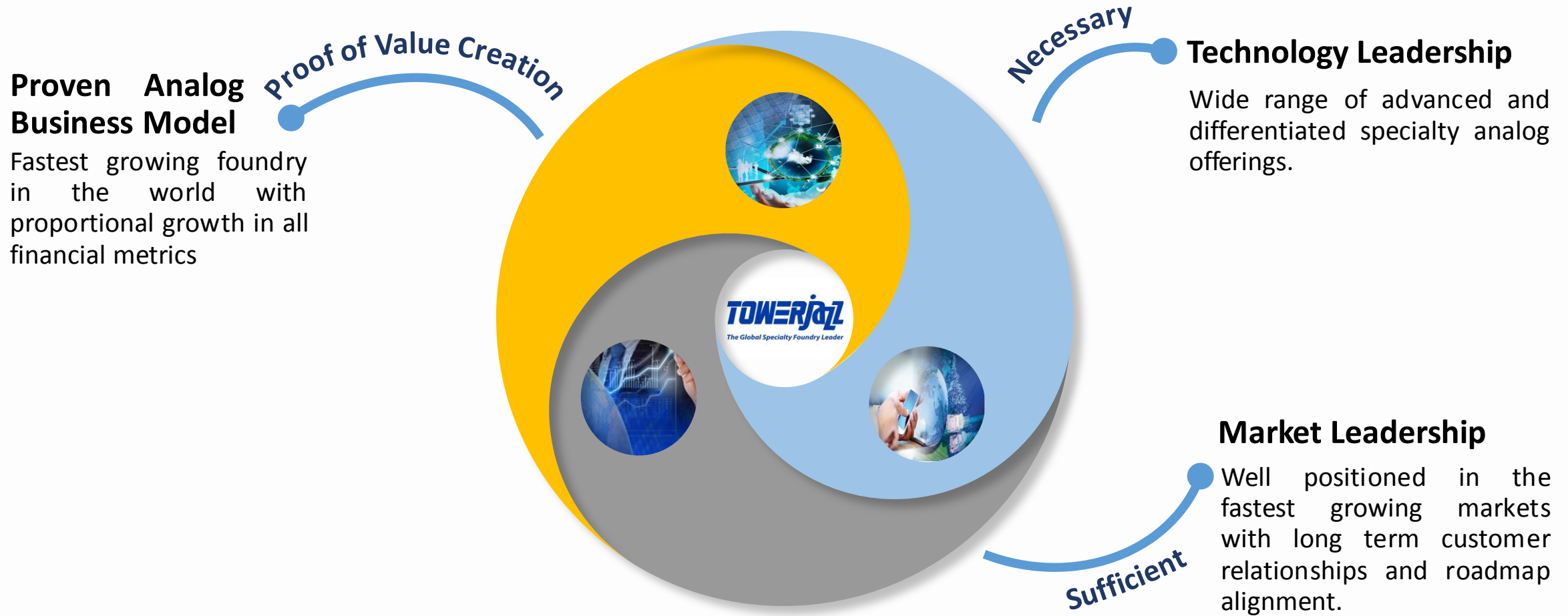
A company must continually have:

- (1) The honesty to introspect and
- (2) the courage to change



***Old age is when your memories
outweigh your dreams and
consequent actions.***

TowerJazz: The Global Specialty Foundry Leader | Full Circle Value Creation



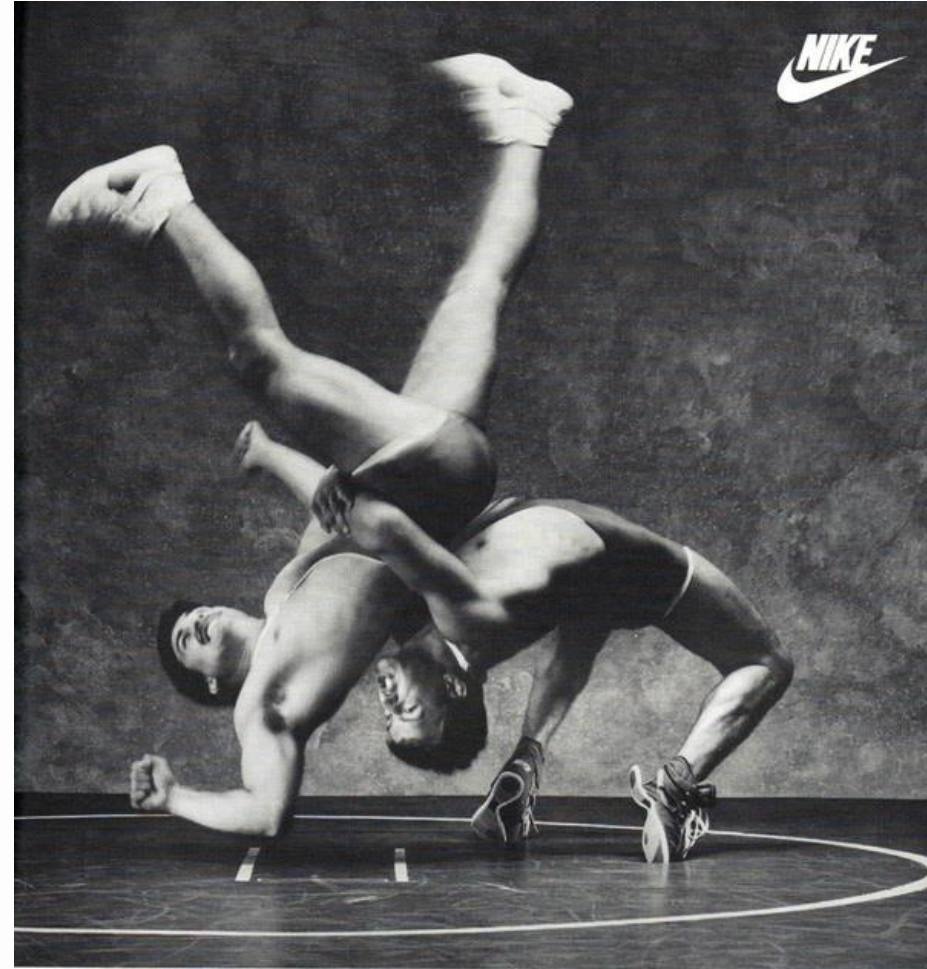
A continuous focus on value creation requires constant “change” and hence courage, shifting from offerings that are becoming commoditized into those with customer partnered value

With time, value creation becomes a 3D 1/X function with infinite surface area (value) and finite volume (investment)



Personal Reminder

My Personal
Mitzvah
(covenant)



WIMPS NEED NOT APPLY.

On Going Personal Reminders

- True leaders surround themselves with people more capable than themselves.
 - A real leader will never have the thought “he or she is undermining me”.
 - The only leader who does not need to be replaced is the one where most everyone in their staff is capable to replace them.
- To drive change you cannot be afraid of change
 - Must have people that challenge you and reward that behavior
 - A careful balance of knowing details and driving big picture – otherwise you will be a victim



What is coming?

- Dr. Racanelli – our differentiated business unit offerings and key customer alignment
- Dr. Edrei – market disruptive technologies and innovative partnerships/ M&As
- Mr. Mor – operational excellence
- Mr. Shirazi – financial performance and target financial model



Technology: Innovative and Strategic Focus on Industry Megatrends and Growth Opportunities

Dr. Marco Racanelli, SVP, BU GM

Market MEGATRENDS driven by Internet of Things

Resulting in rapid growth in Specialty Analog applications



GREEN EVERYTHING
Energy Efficiency

~30% of
Revenues



WIRELESS EVERYTHING
Seamless Connectivity

~30% of
Revenues



SMART EVERYTHING
Embedded Systems

~16% of
Revenues

Specialty Analog Technologies

Power

RF and HPA

Sensors

Market MEGATRENDS driven by Internet of Things

Resulting in rapid growth in Specialty Analog applications



GREEN EVERYTHING
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Specialty Analog Technologies

RF and HPA

RF HPA Enabled Markets and Technology

Wireless Front-Ends
SiGe and RF SOI



Wireline Optical and mmWave
HP SiGe and Si Photonics

RF HPA Enabled Markets and Technology

Wireless Front-Ends
SiGe and RF SOI



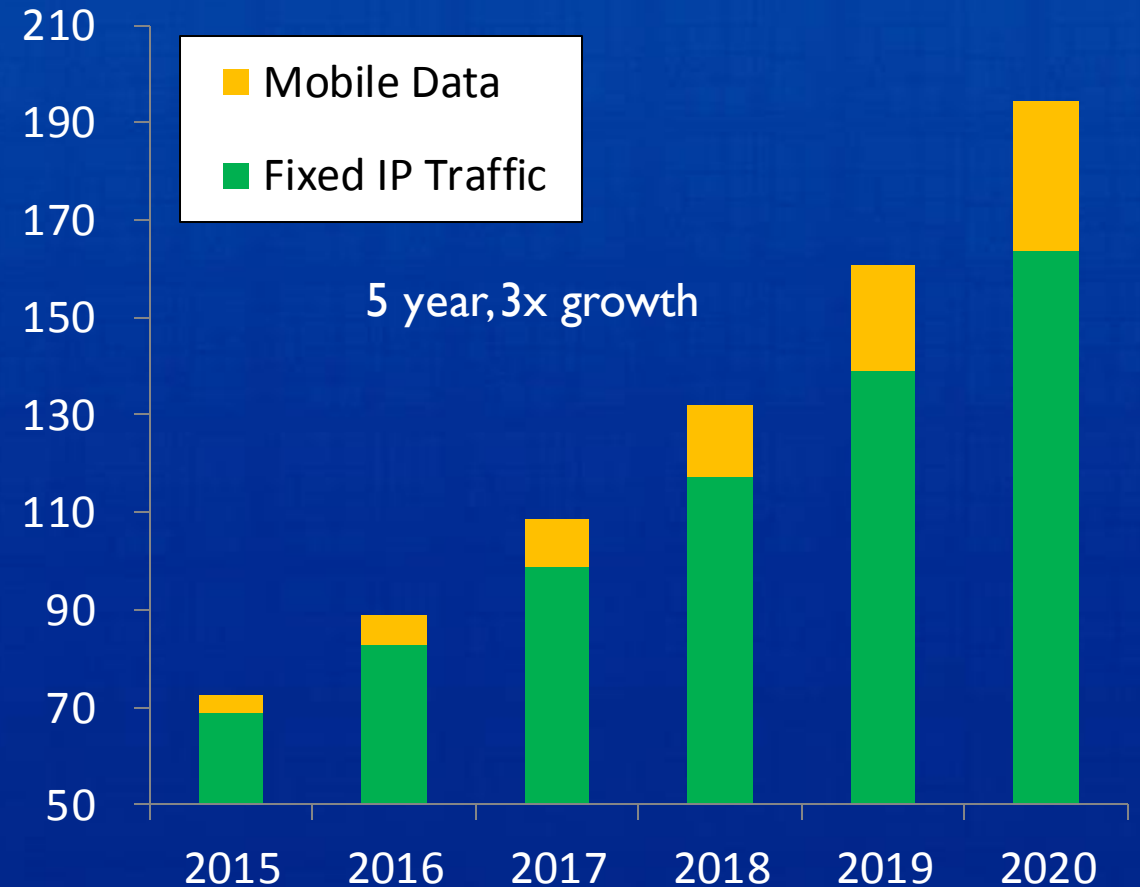
Wireline Optical and mmWave
HP SiGe and Si Photonics

Exploding Data Traffic Driving Analog Content in Infrastructure

- Data Traffic Growth* ('15 to '20)
 - Mobile 53% CAGR
 - Overall 22% CAGR
- Driving need for
 1. Higher data rates
 - High margin SiGe technology
 2. More connections
 - Higher volumes

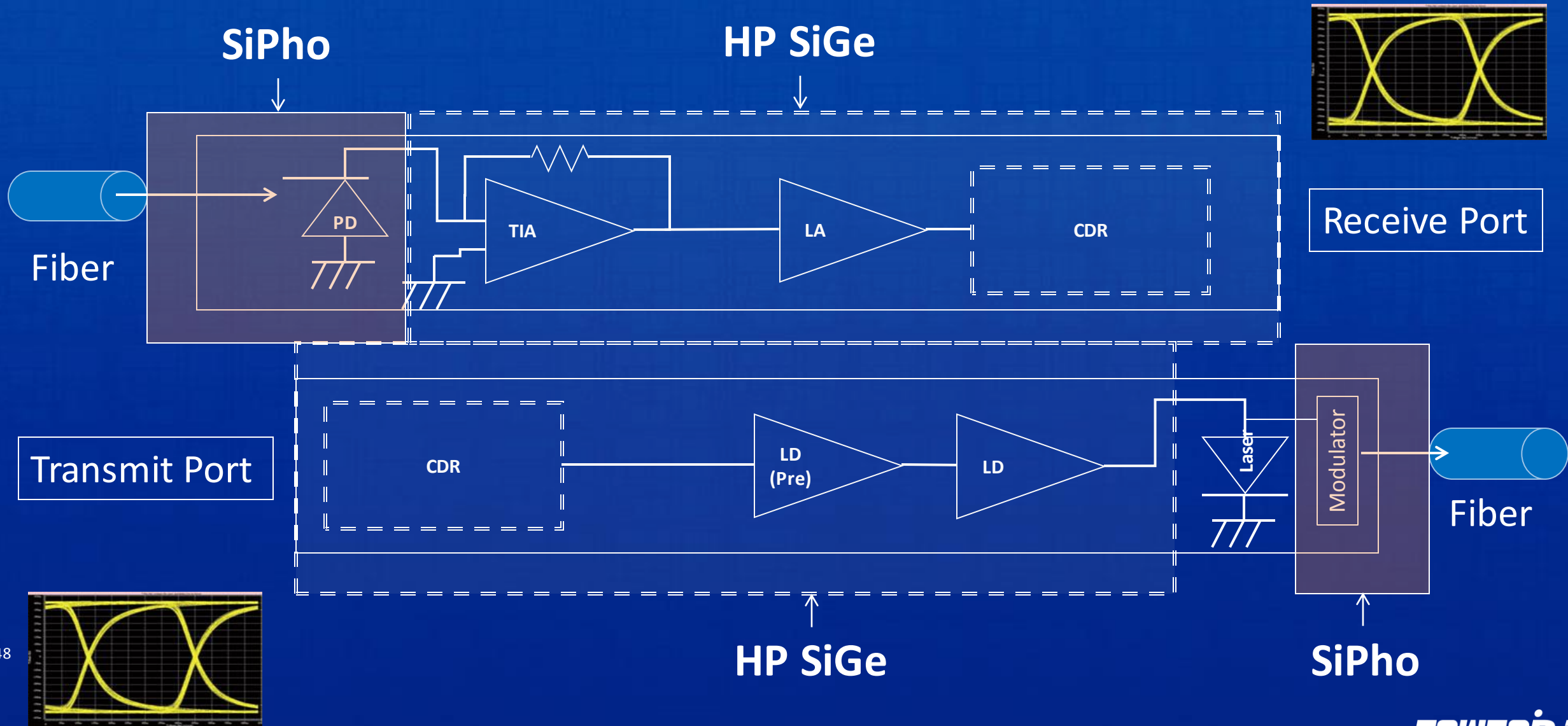
Volume and margin growth in a market where we enjoy > 60% share

Global Monthly Data Traffic in Billions of GBytes



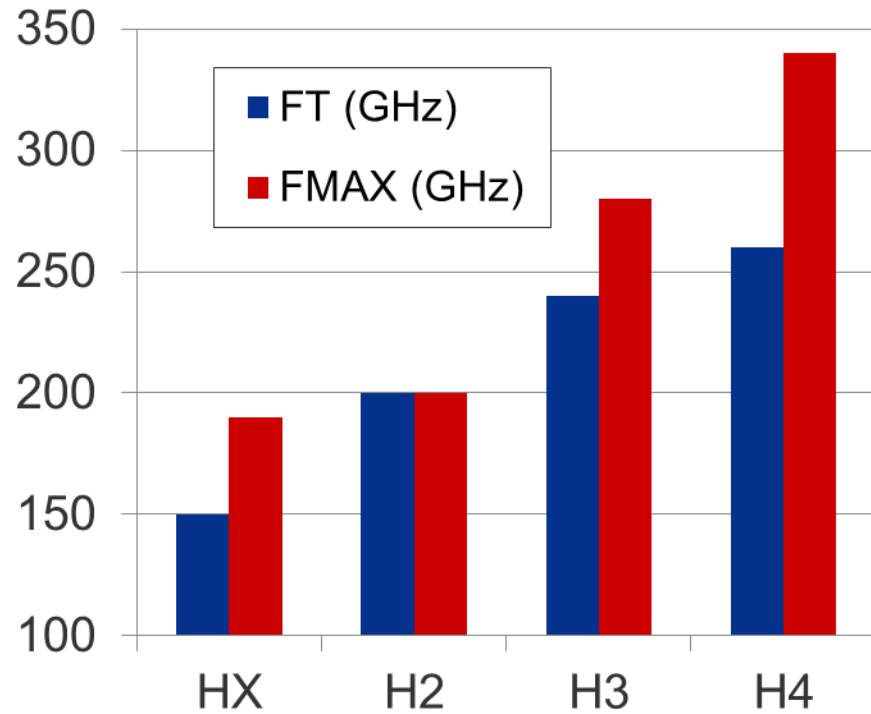
* Source: CISCO VNI, 2016

Optical Fiber Components Enabled by TowerJazz HP SiGe and Si Photonics

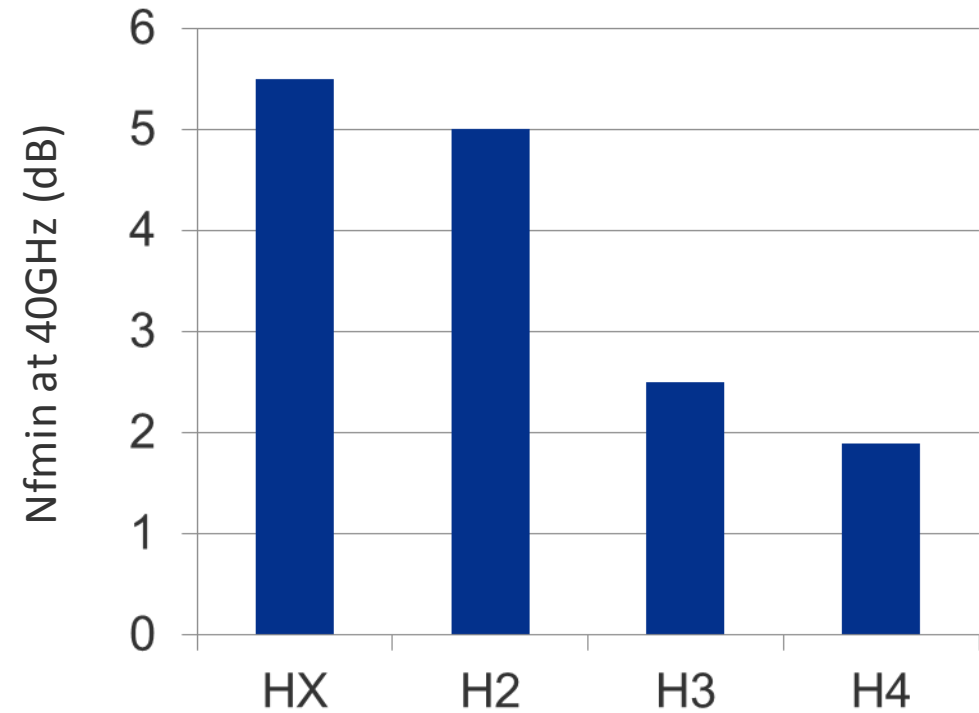


SiGe Terabit Platform

High Speed and Low Power



Low Noise



Several generations of leading SiGe technology and Tier 1 customer base

SiGe Terabit Platform

TowerJazz Announces its SiGe Terabit Platform Enabling High Speed Wireline Communications

MIGDAL HA'EMEK, Israel and NEWPORT BEACH, Calif., April 5, 2016— TowerJazz, the global specialty foundry leader, today announced its SiGe Terabit Platform targeting high-speed wireline communications for the terabit age. Wireline data traffic is increasing dramatically, with traffic at Google famously increasing by 50 times over the last six to seven years, or at 75 percent per year. Estimates vary, but experts agree on double digit CAGRs and a 2020 market for high speed optical components in excess of \$9 billion. TowerJazz addresses this market through a family of customized foundry silicon-germanium (SiGe) BiCMOS technologies and is today announcing availability of its highest performance process to date: S4.



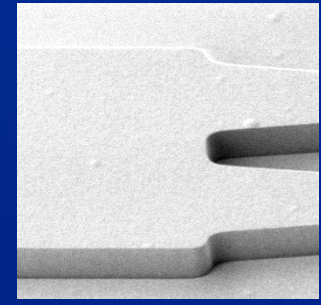
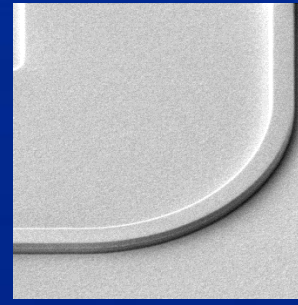
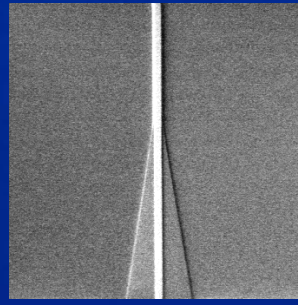
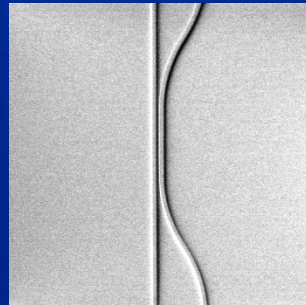
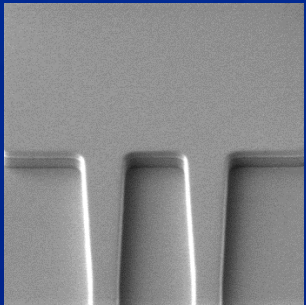
TowerJazz customers include the who's-who for components that carry the world's high-speed data traffic ...



New Silicon Photonics Process (PH18MA)

- Initial production with lead customer expected in early 2018
- Strong customer interest serving Data Center markets
- Increases our TAM beyond SiGe to include some optical component such as Ge detectors, waveguides, and modulators

Silicon and Silicon Nitride Waveguides



RF HPA Enabled Markets and Technology

Wireless Front-Ends

SiGe and RF SOI



Wireline Optical and mmWave

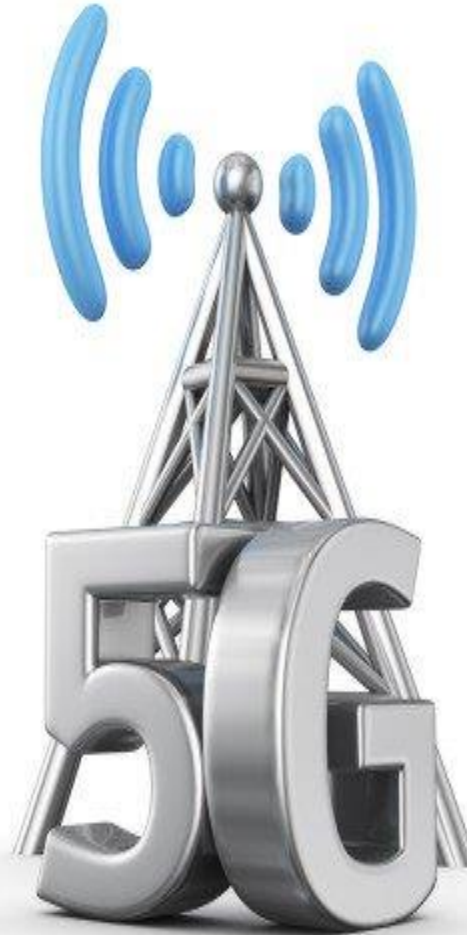
HP SiGe and Si Photonics

5G Wireless Likely Deployment

mmWave: 28GHz 5G



**HP SiGe Technology is
Well Positioned**



< 6GHz 5G

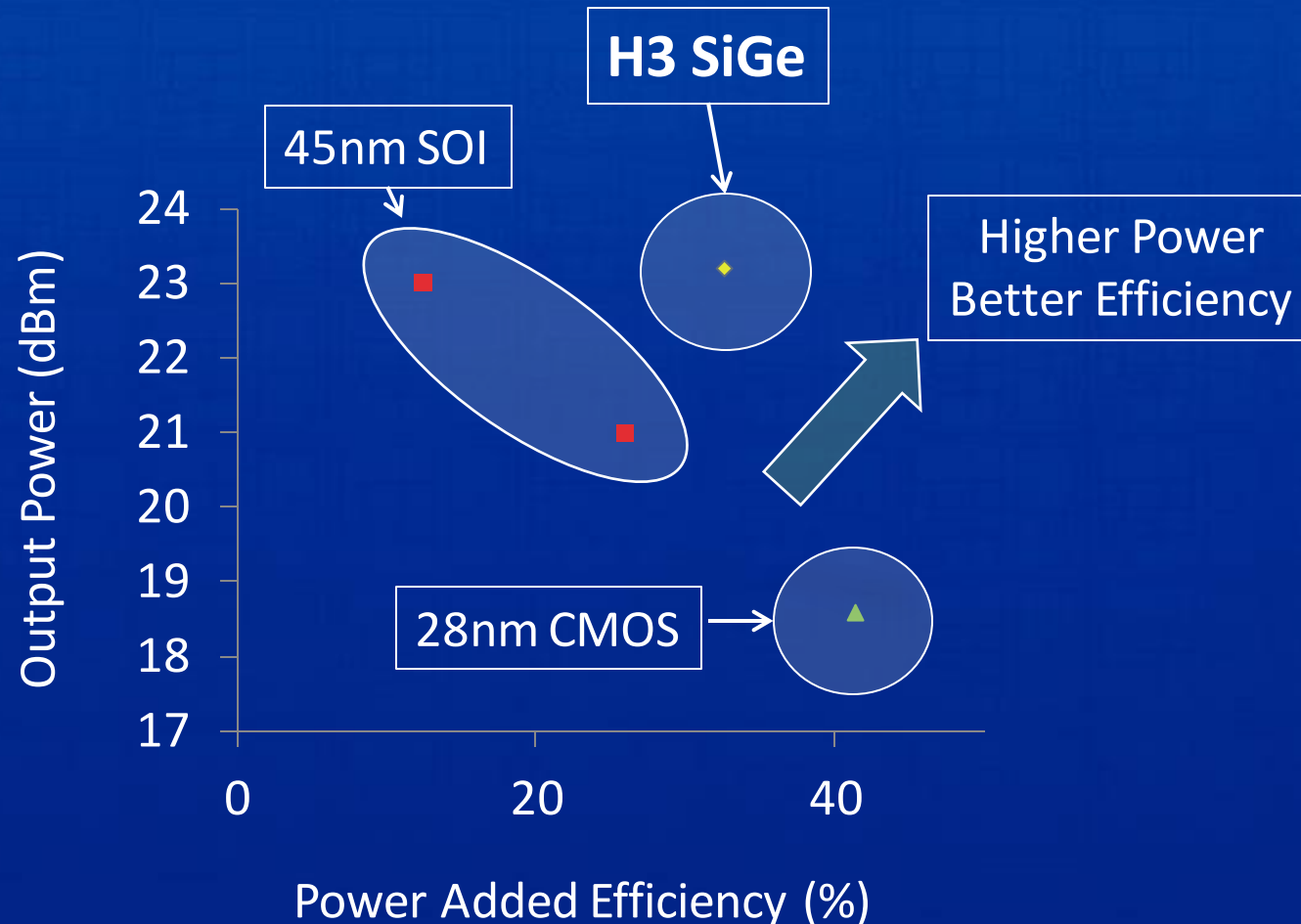


**Evolutionary Front-End in
SiGe and RF SOI**

TowerJazz SiGe Examples at 28GHz for Future 5G Wireless

Best in class 28GHz PA: Samsung and NCSU

Sarkar et al., IEEE Journal of Solid State Circuits, Vol 52, No. 6, Jun 2017
(Samsung and NCSU)



UCSD and TowerJazz Demonstrate Best in Class 5G Mobile Transmit-Receive Chips with Greater than 12 Gbps Data Rates

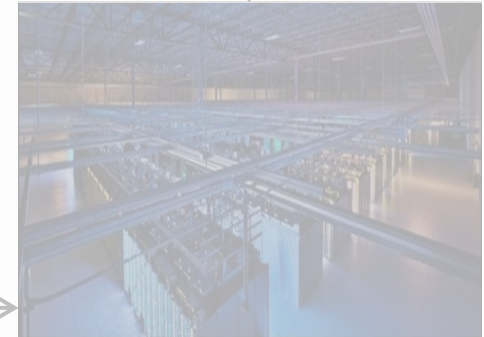
Design targets FCC plans for licensing 28GHz communications band

Phased array technology available now to meet emerging billion dollar 5G markets

NEWPORT BEACH and SAN DIEGO, Calif., Feb 23, 2017 — TowerJazz, the global specialty foundry leader, and The University of California, San Diego (UCSD), a recognized leader for microwave, millimeter-wave, mixed-signal RFICs, and phased arrays, demonstrate for the first time, a greater than 12 Gbps, 5G phased-array chipset. This chipset demonstrates that products can be fabricated today to meet the emerging 5G telecom standards for the next wave of worldwide mobile communications. The chipset operates at 28 to 31 GHz, a new communications band planned for release by the FCC. The chipset uses TowerJazz's high volume SiGe BiCMOS technology, with record performance at the 28GHz band, representing a more than 10-times improvement in data rate vs. 4G LTE, and today meets many other technical specification requirements of the emerging 5G standard.

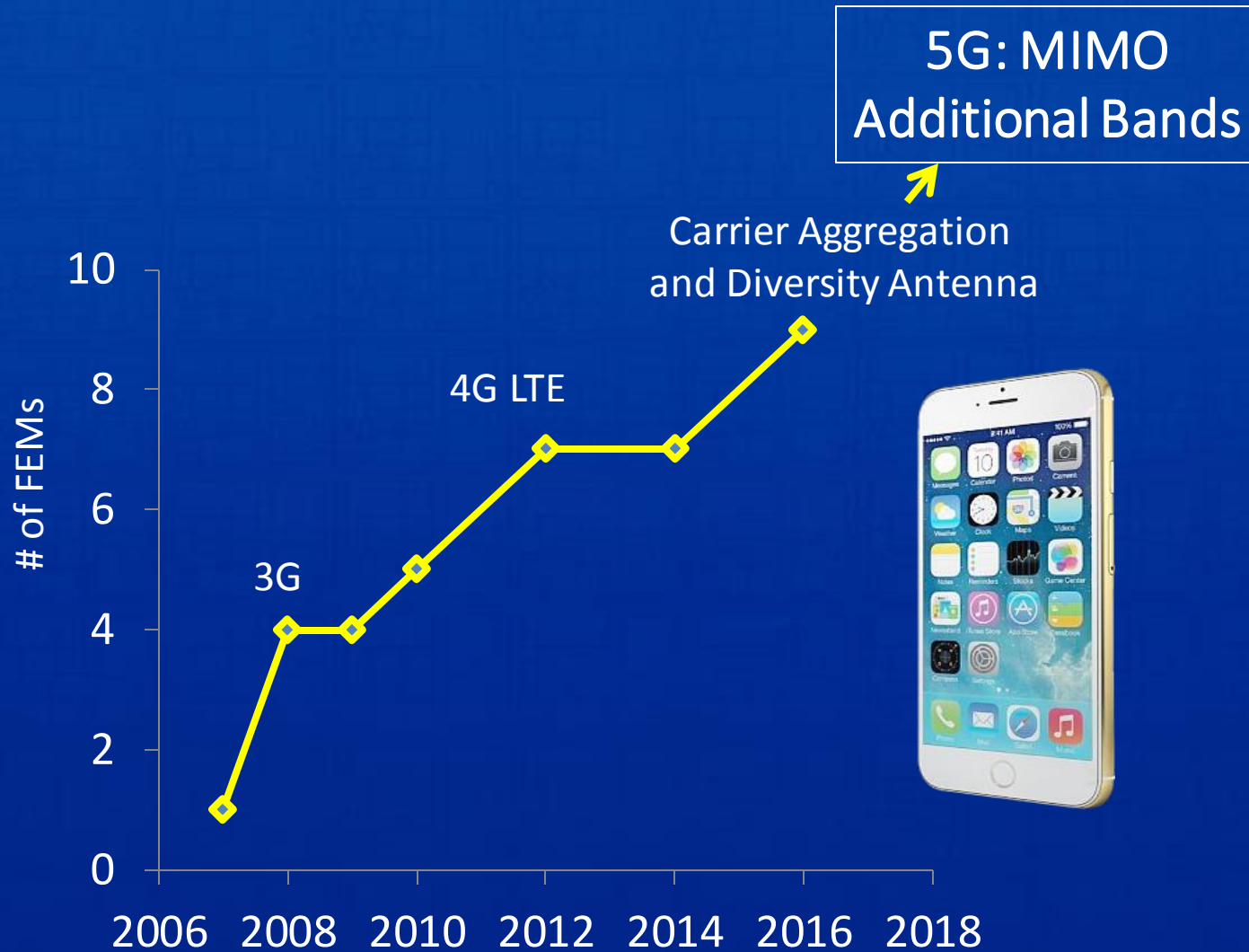
TowerJazz RF HPA Enabled Markets and Technology

Wireless Front-Ends
SiGe and RF SOI



Wireline Optical and mmWave
HP SiGe and Si Photonics

Wireless FEM Content Continues to Grow to Support Higher Data Rates

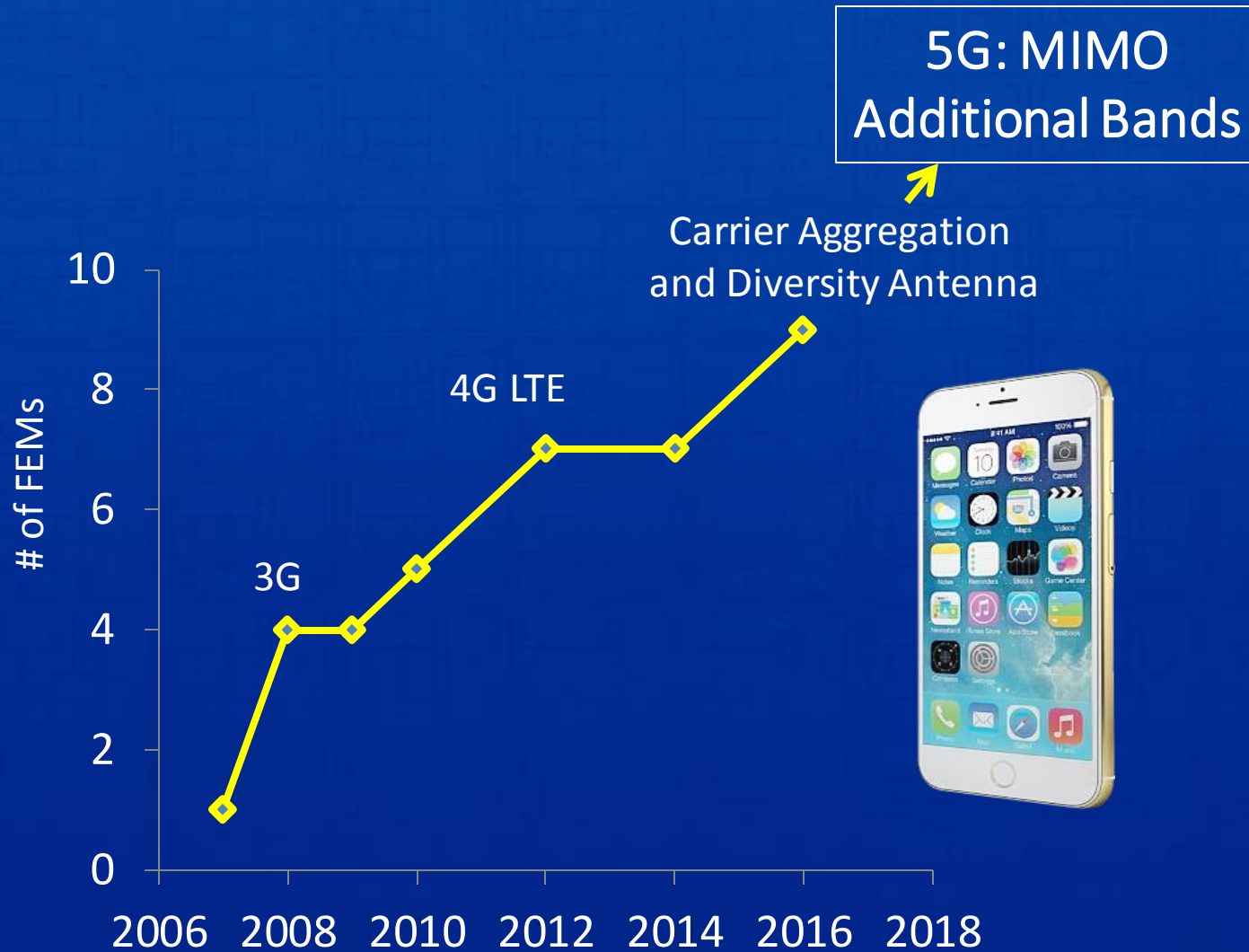


Source: count of FEMs identified by iFixit Teardown of iPhone

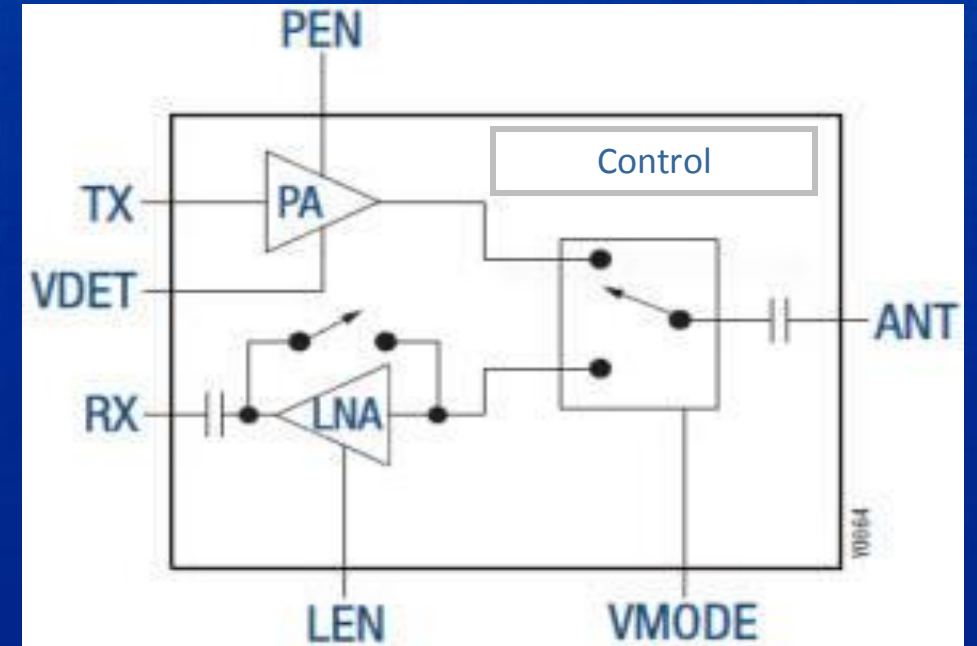
iPhone7 FEM content from ifixit:

Skyworks 78100-20
Skyworks 77363-1
Skyworks 13702-20 Diversity Receive
Skyworks 13703-21 Diversity Receive
Avago AFEM-8065 PAM
Avago AFEM-8055 PAM
Avago LF1622 200157
TDK EPCOS D5315
Murata 339S00199 WiFi/BT

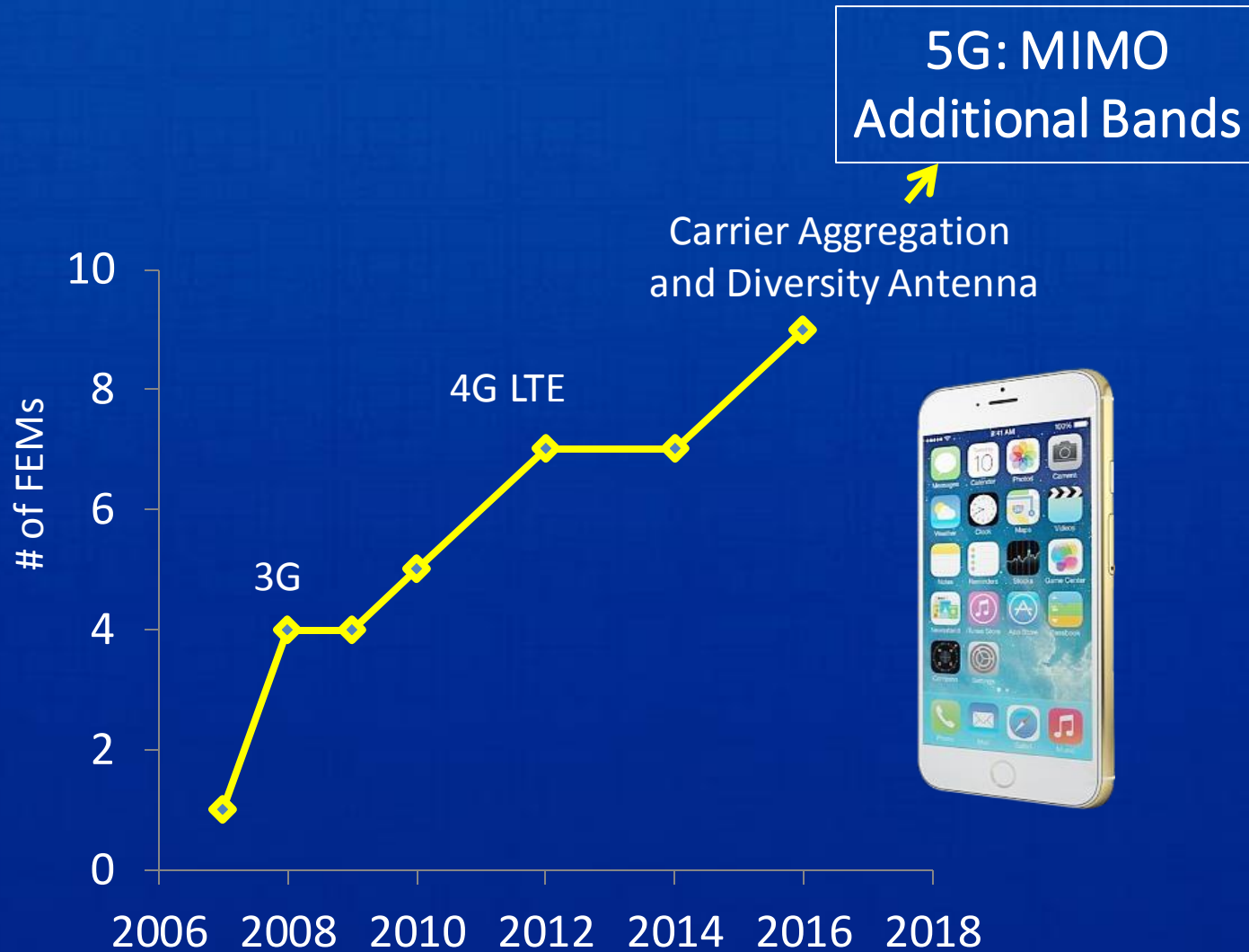
Wireless FEM Content Continues to Grow to Support Higher Data Rates



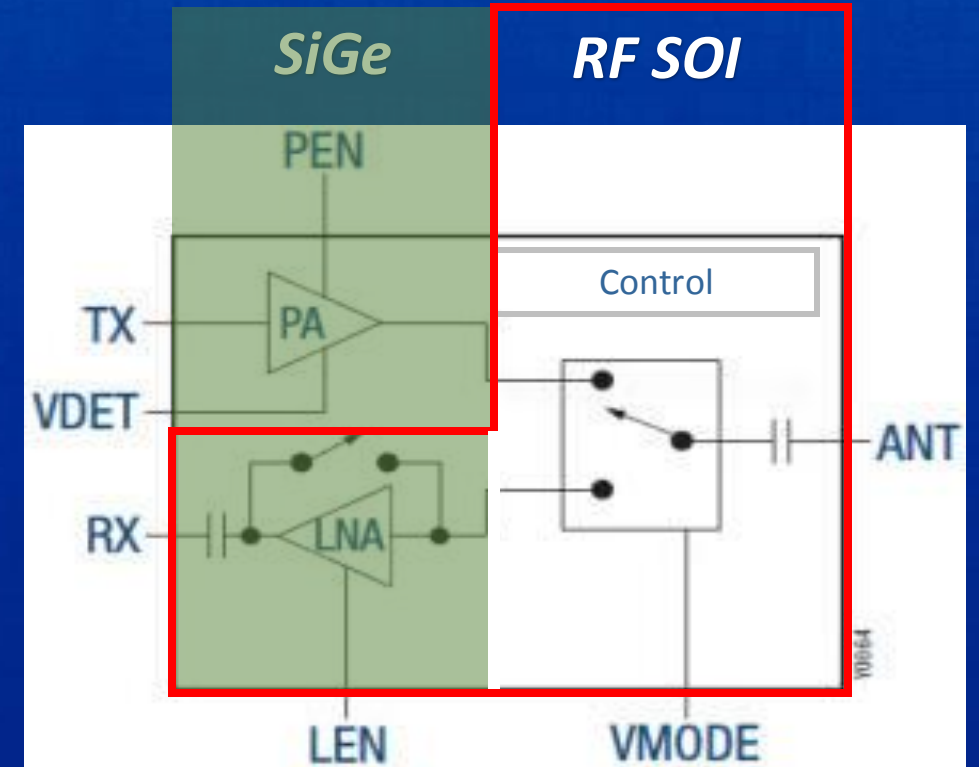
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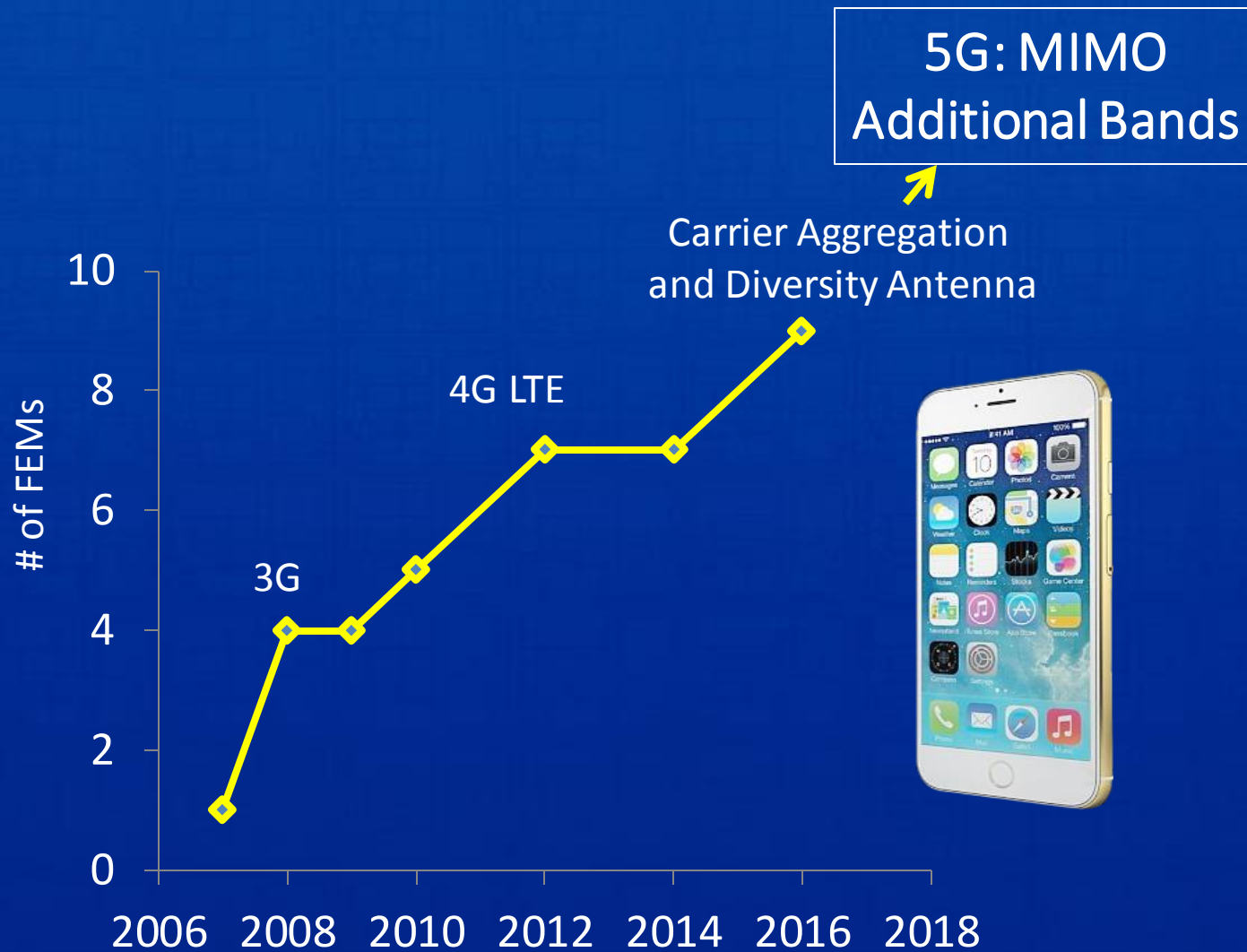
Wireless FEM Content Continues to Grow to Support Higher Data Rates



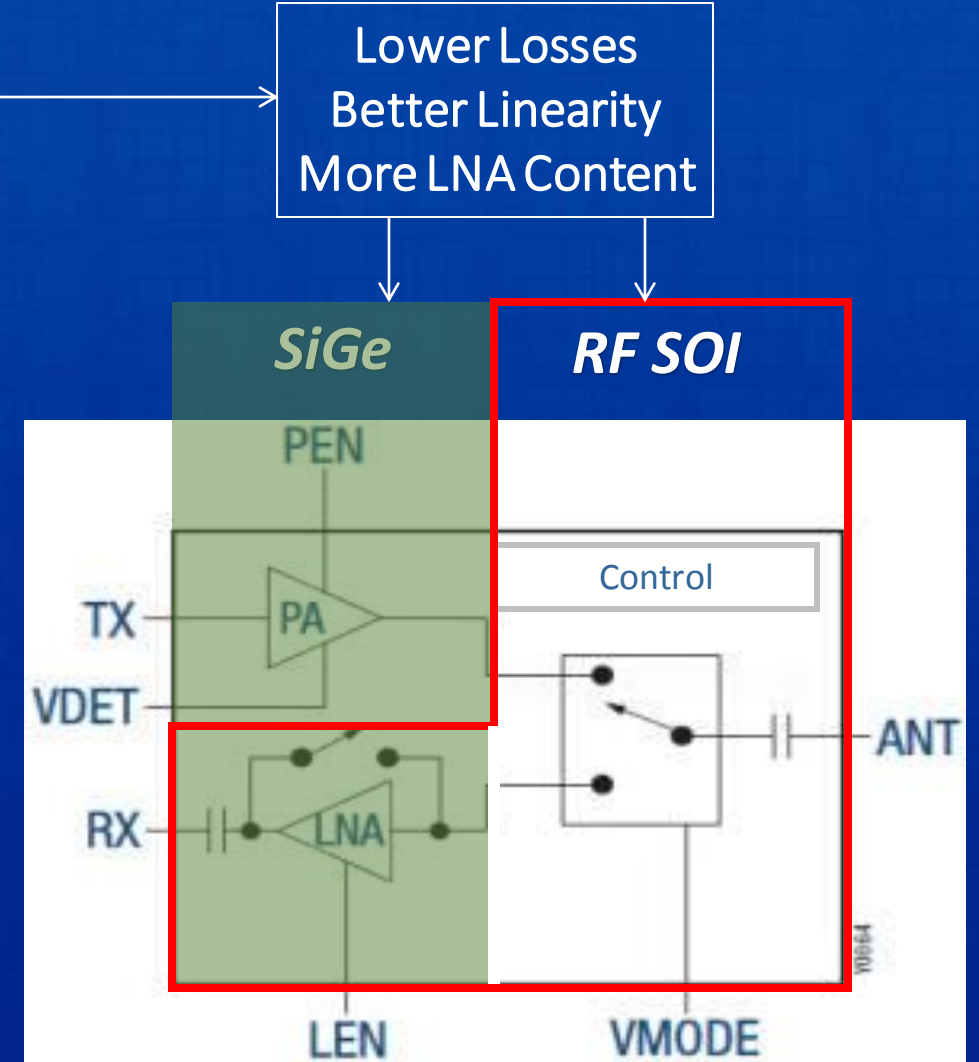
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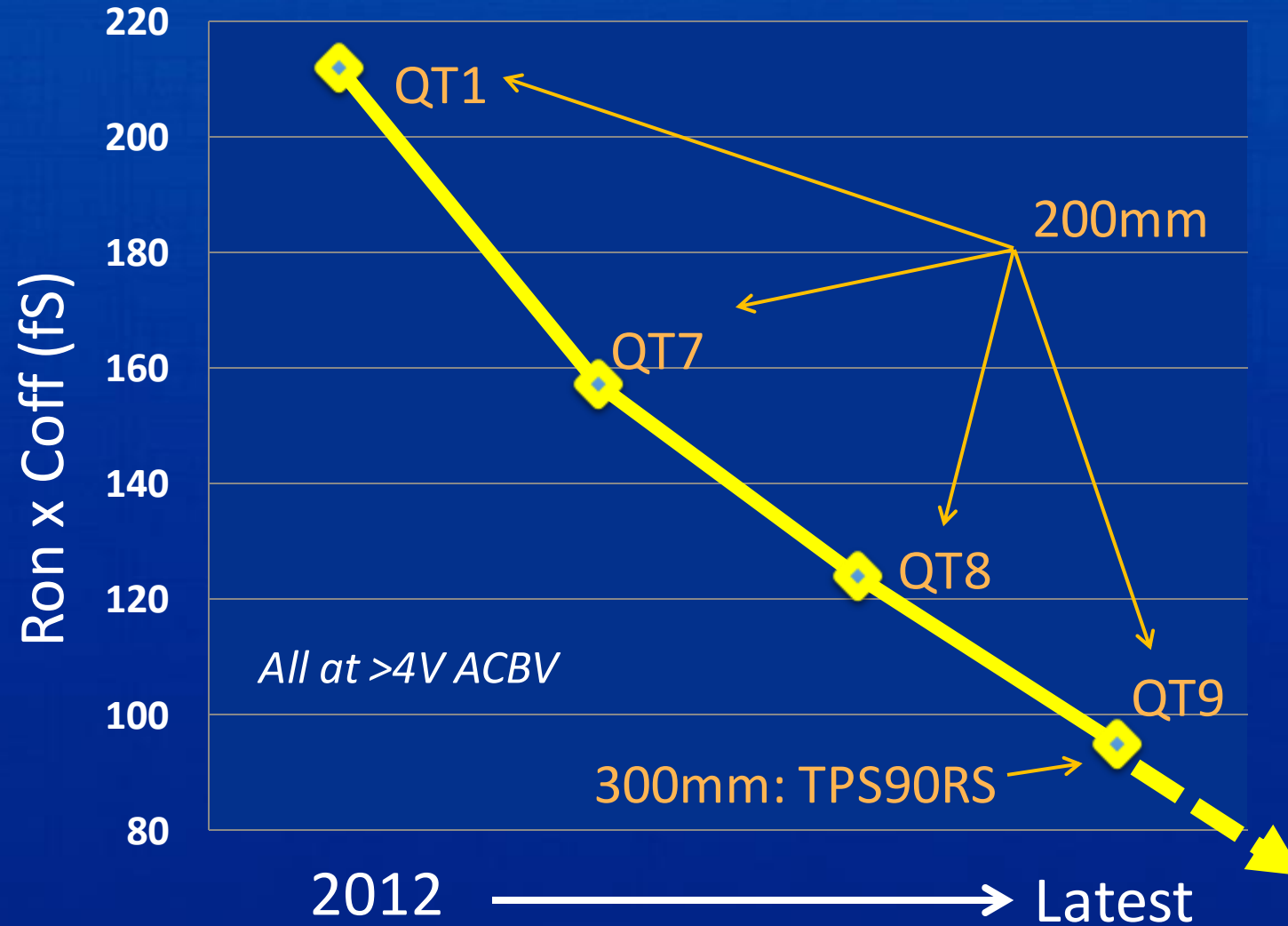
Wireless FEM Content Continues to Grow to Support Higher Data Rates



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Lower Losses: Leading Ron-Coff RF SOI Switch Performance



Beyond RF SOI: RF MEMS

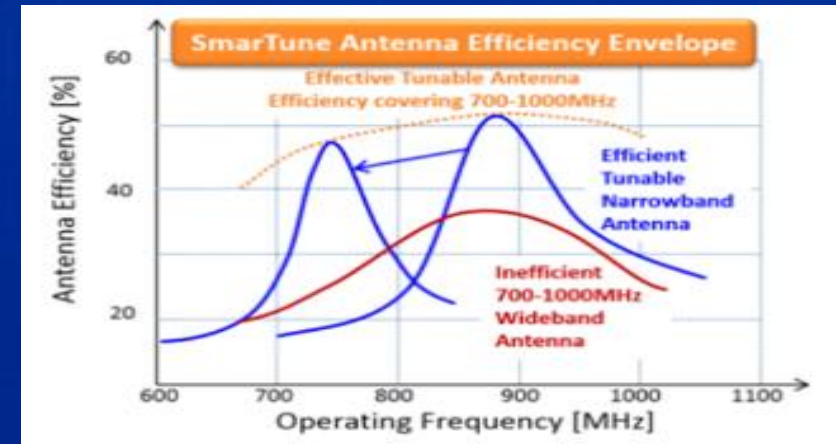
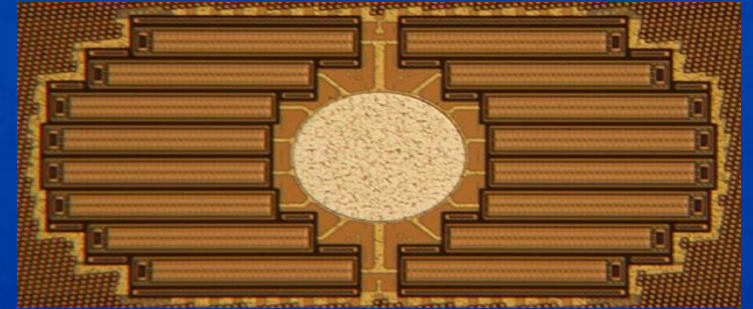
TowerJazz and Cavendish Kinetics Deliver High Volume RF MEMS with Unprecedented Reliability

40 smartphone handset design wins, including the 2016 Samsung Galaxy A8

Cavendish Kinetics and TowerJazz RF MEMS

NEWPORT BEACH and SAN JOSE, Calif., February 28, 2017 — TowerJazz, the global specialty foundry leader, announced today that it is the high volume technology manufacturer for Cavendish Kinetics, the leader in radio-frequency micro-electromechanical systems (RF MEMS). Together, the companies have demonstrated industry leading 100 billion cycle reliability. RF MEMS is becoming a key technology to improve smartphone antenna efficiency as LTE standards evolve and handset form factors get more aggressive.

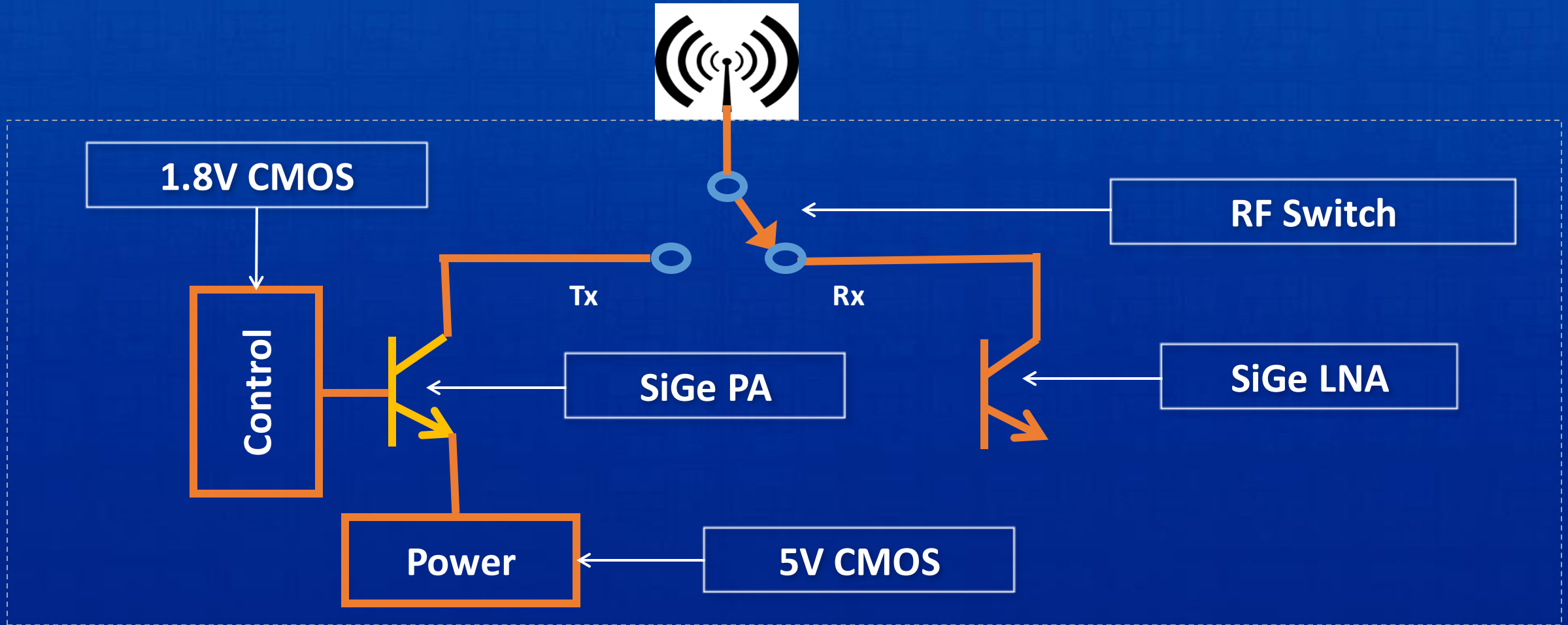
Cavendish Kinetics' SmarTune™ products are used to fine tune smartphone antennas across the ever-growing spectrum of LTE frequency bands, maximizing RF performance for better signal strength, faster data rates and longer battery life. Recently, Cavendish has received a wave of positive press for its RF MEMS based SmarTune mobile products, after announcements of 40 smartphone handset design wins, most notably the 2016 Samsung Galaxy A8. Cavendish also won The Linley Group award for "Best Mobile Chip" in January 2017.



<http://www.towerjazz.com/prs/2017/0228.html>

SiGe Power Amplifier Technology Platform

Wireless Front-End-Module on a Single Chip



TowerJazz SiGe Power Amplifier Leadership Example

TowerJazz Begins Mass Production of a new Integrated SiGe-Based “Front-End Module on a Chip”

RF Platform Tailored to Meet the Challenges of the Internet of Things Enables power amplifiers, low noise amplifiers and switches on a single chip

TowerJazz to participate at the International Microwave Symposium (IMS) in San Francisco, CA on May 22-27, 2016 MIGDAL HAEMEK, Israel, and NEWPORT BEACH, Calif., May 17, 2016 — TowerJazz, the global specialty foundry leader, today announced volume production of a new RF technology capable of integrating a wireless front-end module (FEM) on a single chip, tailored to meet the challenges of Internet of Things (IoT) applications. Analysts estimate that the number of IoT connected devices will grow at a 15-20% growth rate annually, reaching up to 30 billion units by 2020. McKinsey Global Institute recently estimated that IoT could generate up to \$11 trillion in global value by 2025. The TowerJazz process enables integration of power amplifiers (PAs), switches, and low noise amplifiers as well as CMOS digital and power control on a single die. TowerJazz is delivering this product today for smartphones, tablets and wearables, and this technology also meets the more universal requirements of IoT applications by providing cost, power, performance, and form factor benefits vs. competing solutions. As an example, TowerJazz has partnered with industry leader, Skyworks Solutions, Inc., an innovator of high performance analog semiconductors connecting people, places and things, to deliver a first of its kind integrated wireless FEM using this technology.



“We are pleased that our long partnership with TowerJazz on SiGe BiCMOS for PA based products is now in volume production for key customers of Skyworks Solutions,” said Bill Vaillancourt, GM/VP Skyworks Connectivity Solutions

Market MEGATRENDS driven by Internet of Things

Resulting in rapid growth in Specialty Analog applications



GREEN EVERYTHING
Energy Efficiency

~30% of
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WIRELESS EVERYTHING
Seamless Connectivity

~30% of
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SMART EVERYTHING
Embedded Systems

~16% of
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Specialty Analog Technologies

Sensors

TowerJazz Addressed CIS Markets

Automotive



ADAS and
Autonomous
driving

Industrial / Machine Vision



2D barcode reader
Traffic control
Industrial QA
Food automation

Medical



Intra-oral
Extra Oral
Mammography
Surgery
C-Arm and Flouro

High end photography and Cinematography



Cinematography
High end DSLR
Mirror less (ILC)

3D, Gesture control, AR/VR



Gesture control
Augmented Reality
Virtual Reality

Security



City safety
Borders camera
House safety

Automotive, Industrial, Security and Medical Total CIS Content
Expected to Double 2016 to 2020*

*Source: Yole 2015 Report

Machine Vision and 3D sensors technology: Global Shutter + NIR

Industrial / Machine Vision



2D barcode reader
Traffic control
Industrial QA
Food automation

3D, Gesture control, AR/VR



Gesture control
Augmented Reality
Virtual Reality

High Speed Global Shutter

High Resolution Sensors

Replacing Old CCD Technology



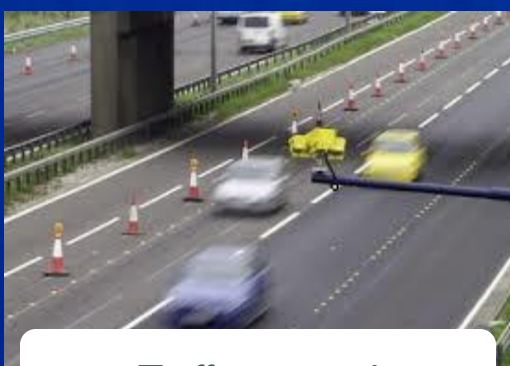
2D barcode scanner



3D sensors



Inspection and QA



Traffic control



Professional Photography – Video & Still

High end
photography and
Cinematography



Cinematography
High end DSLR
Mirror less (ILC)

- Supplying to THE market leaders
- Hundreds of cinema, award winning movies already shot using our technology
- Received several technology awards



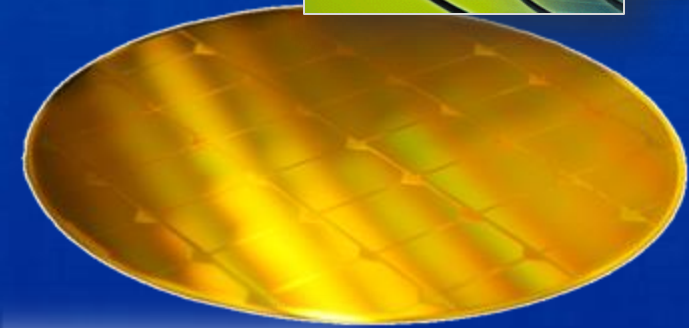
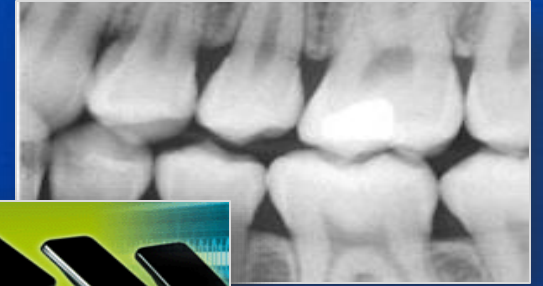
Medical X-Ray CMOS Sensors

Medical



Intra-oral
Extra Oral
Mammography
Surgery
C-Arm and Flouro

- Market leader for dental x-ray CMOS sensors
- Intra-Oral / Panoramic / Coned Beam CT (CBCT) / Cephalography
- Supplying all Tier-1 vendors
- Global customer base (US, Europe, and Asia)



Security

Security



City safety
Borders camera
House safety

- Camera at every street corner
- Major market in China – 45% of total WW market in revenue
- Face recognition required – hence high resolution
- VGA → HD → FHD → QHD → 4K video
- High sensitivity at low light conditions is required



Market MEGATRENDS driven by Internet of Things

Resulting in rapid growth in Specialty Analog applications



GREEN EVERYTHING
Energy Efficiency

~30% of
Revenues



WIRELESS EVERYTHING
Seamless Connectivity

~30% of
Revenues



SMART EVERYTHING
Embedded Systems

~16% of
Revenues

Specialty Analog Technologies

Power

Power Management Markets

Largest of all Specialty Markets (>\$28B in 2017 with 8% CAGR)*



* source: Yole Development 2017

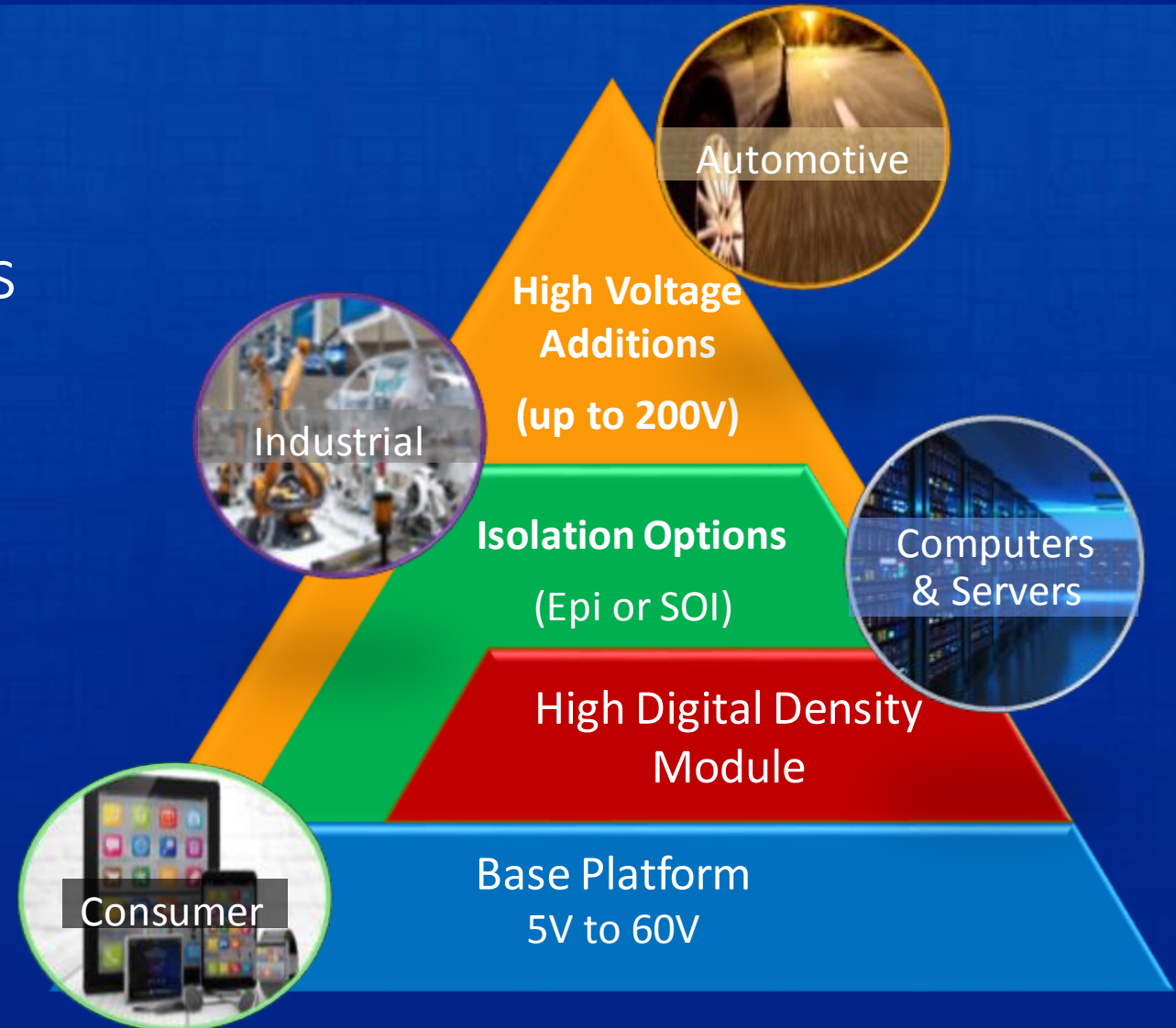
Power IC Market: TowerJazz Unique Modular, Low Rdson Platform

Modular platform provides:

- IP re-use across many products
- Time to market
- Low development cost

Low Rdson provides:

- Smaller dies size (lower cost)
- Longer battery life
- Less heat



Discrete Market: Most Trusted TOPS Business Model

Transfer Optimization and Development Process Services

Transferring customer process flows to and from TowerJazz fabs

Researching and developing new processes with our customers

Culture of IP Security

Highly experienced and professional transfer and development team

Established methodologies

Capabilities to run and manage different transfers in parallel

Discrete Power Market >\$13B in 2017

Today building devices for Tier 1 customers with several billions of units shipped in 2017



Our business helped by industry consolidation and fab closures

Top 20 semi manufacturers by revenue

2016 Rank	2015 Rank	Company	Headquarters /Ownership	2015 Tot IC	2015 Tot O-S-D	2015 Tot Semi	2016 Tot IC	2016 Tot O-S-D	2016 Tot Semi	2016/2015 % Change
1	1	Intel (3)	U.S.	52,144	0	52,144	56,313	0	56,313	8%
2	2	Samsung	South Korea	39,831	2,212	42,043	40,835	2,700	43,535	4%
3	3	TSMC (1)	Taiwan	26,574	0	26,574	29,488	0	29,488	11%
4	5	Qualcomm (2.3)	U.S.	16,541	0	16,541	15,436	0	15,436	-7%

Of the 16 that buy from foundries – we serve 14

11	11	MediaTek (2,3)	Taiwan	7,360	0	7,360	8,800	0	8,800	20%
12	12	Infineon (3)	Europe	4,156	2,760	6,916	4,369	2,914	7,283	5%
13	13	ST	Europe	5,078	1,786	6,864	5,204	1,740	6,944	1%
14	17	Apple* (2)	U.S.	5,531	0	5,531	6,493	0	6,493	17%
15	14	Sony	Japan	921	5,189	6,110	855	5,516	6,371	4%
16	19	Nvidia (2)	U.S.	4,696	0	4,696	6,340	0	6,340	35%
17	16	Renesas	Japan	4,413	1,269	5,682	4,434	1,245	5,679	0%
18	15	GlobalFoundries (1,3)	U.S.	5,729	0	5,729	5,545	0	5,545	-3%
19	20	SanDisk/WD	U.S.	4,620	0	4,620	5,310	0	5,310	15%
20	18	ON Semi (3)	U.S.	2,114	2,752	4,866	2,108	2,750	4,858	0%

Source: IC Insights

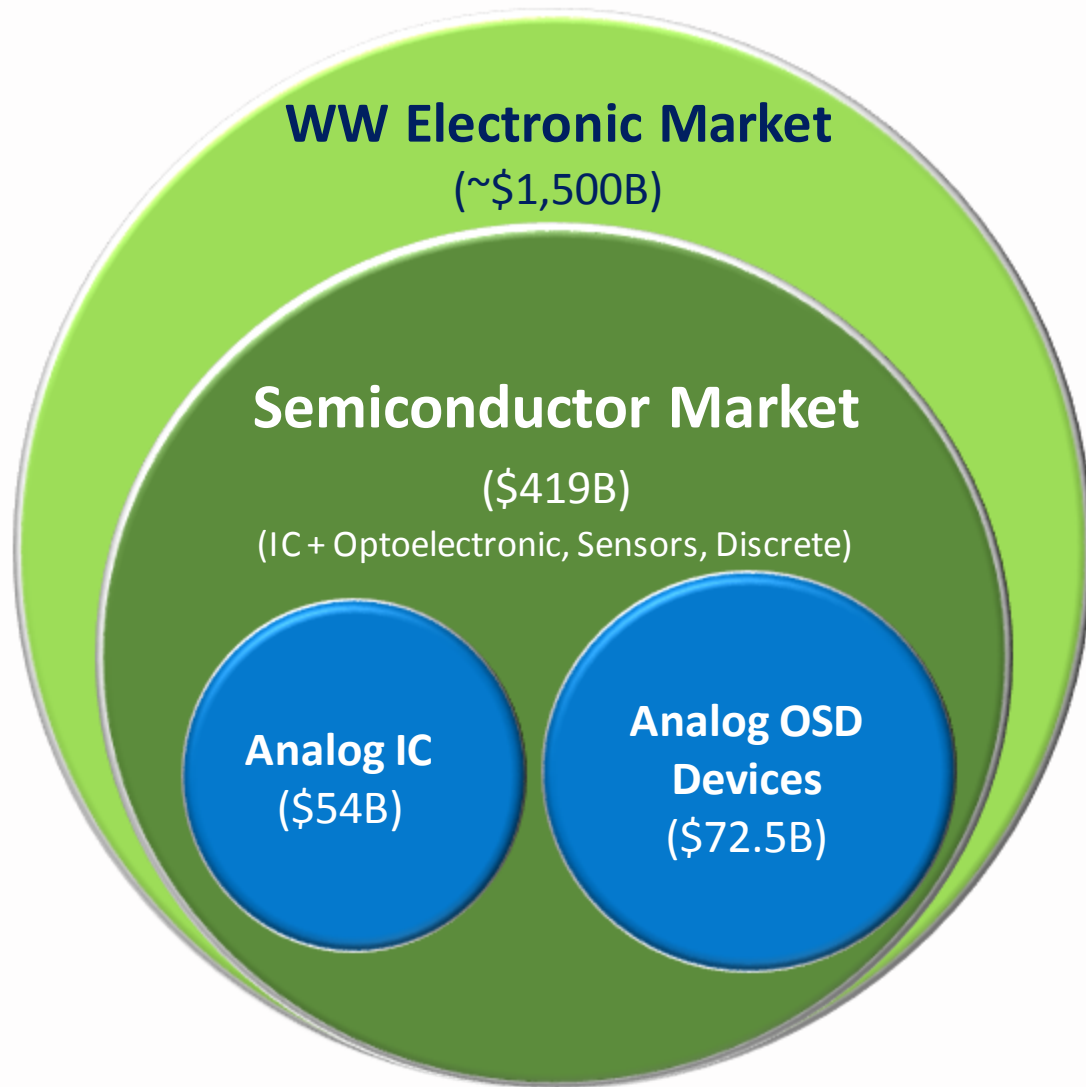


Rising Markets, Innovative Partnerships and M&As

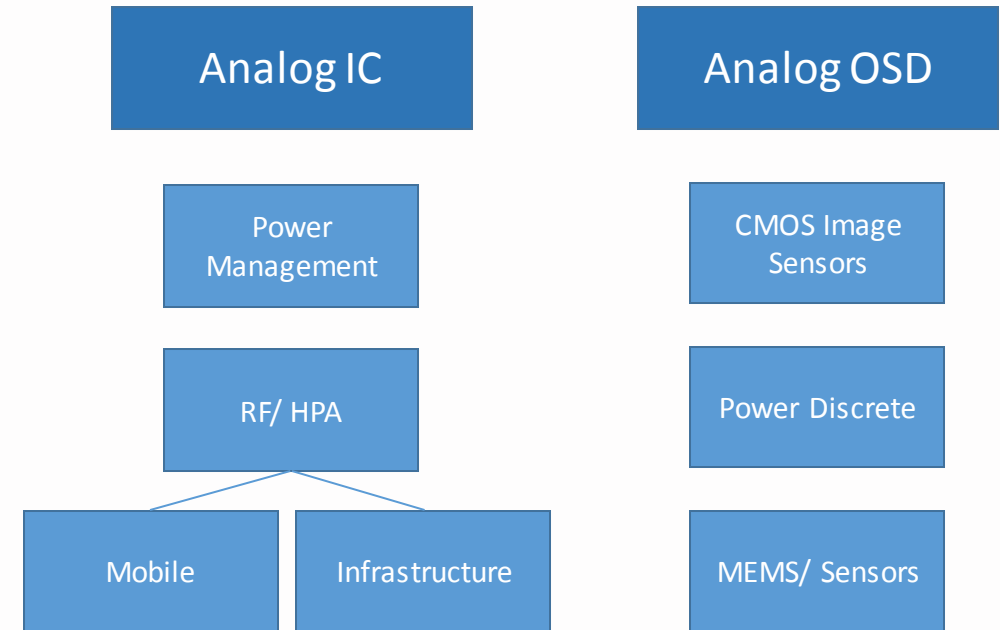
Dr. Itzhak Edrei, President

Bird's Eye View

The Big Picture & where we are playing

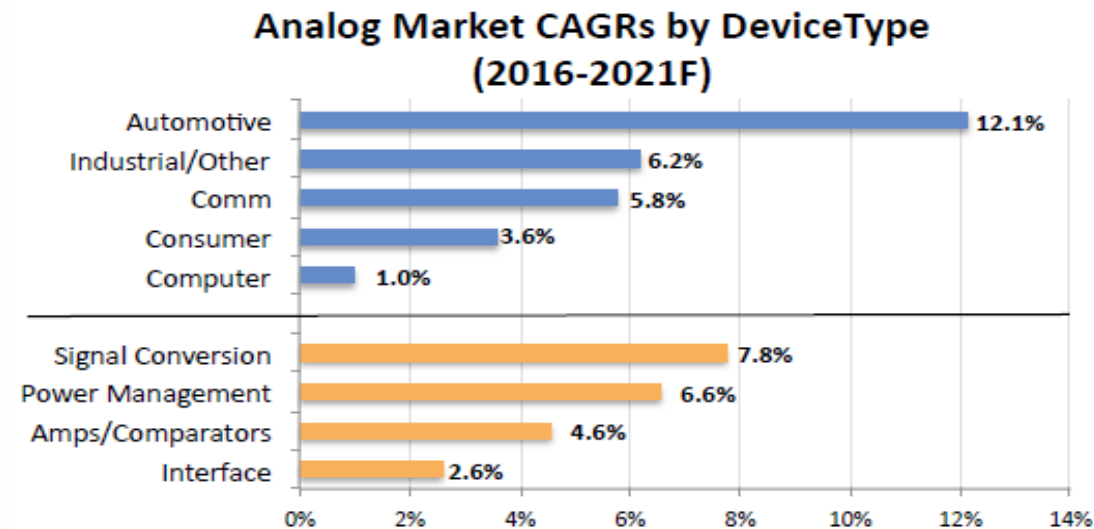


TowerJazz Offering



Market Growth

Market	2017/16	TJ Forecast	2018/17	16-21 CAGR
Communications	6%	Above 10%	7%	6%
Wireless	6%		7%	6%
Wired Comm.	8%		7%	5%
Power Management	11%	Above 25%	8%	7%
CMOS Image Sensors	8%	Above 25%	9%	9%



Product Category	16-21F CAGR
Total Actuators	8%
Total Sensors/Actuators	8%
Acceleration & Yaw Sensors	8%
Total Sensors	7%
Magnetic-Field Sensors	7%
Pressure Sensors*	7%
Other Sensors**	7%

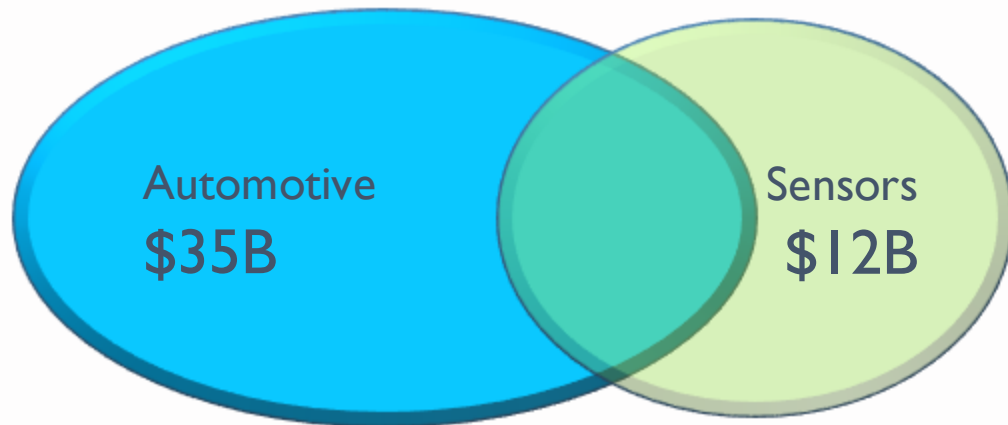
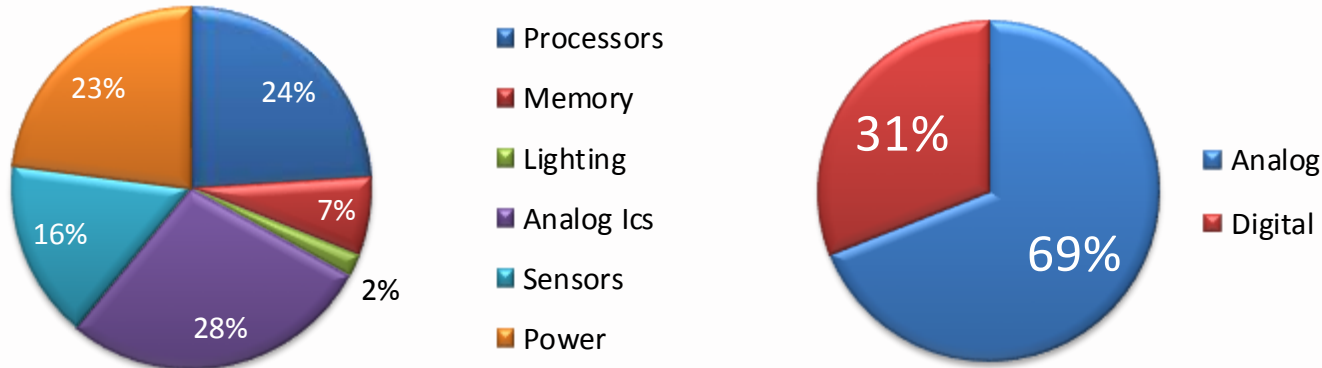
Source: McClean Report 2017, O-S-D Report 2017 by ICInsight

Focusing on Rising Markets

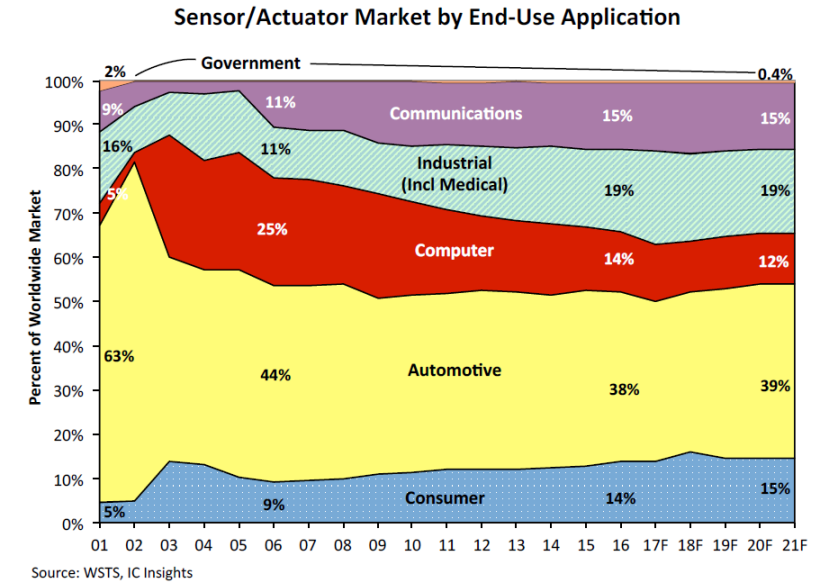
Automotive and Sensors

Rising Markets: Automotive and Sensors

Auto Semi content dominated by Analog



Sensor market dominated by automotive



Focused on advanced and comprehensive technology solutions for both automotive and sensors markets, across all business units

* Source: MarketsandMarkets, O-S-D Report 2017 IC Insights

Market MEGATRENDS driven by Automotive

Resulting in rapid growth in Specialty Analog applications



GREEN EVERYTHING
Energy Efficiency

EV and Hybrids



WIRELESS EVERYTHING
Seamless Connectivity

Connected
Vehicles



SMART EVERYTHING
Embedded Systems

ADAS and “Safety”

Specialty Analog Technologies

2x Semi content
5-6x Power Semi

4G, 5G Wireless, WiFi,
BT RF Content

Radar, CIS, LiDAR, Magnetic
Sensors

RF Automotive Specialty Foundry Market

Growth driven by

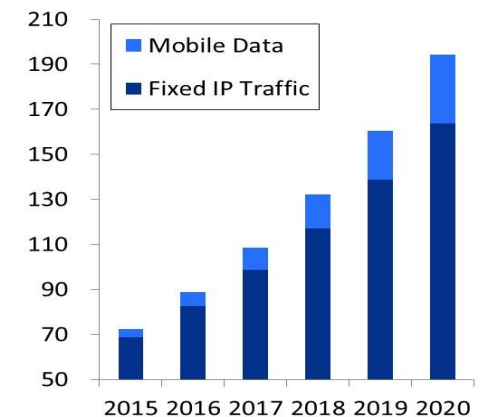
- Wireless connectivity
 - Built-in 4G->5G cellular, WiFi, GPS
 - Drives more infrastructure
- Wireline connectivity
 - In-car high-speed data communication
- Radar
 - Up to 7 sensors per car
 - Collision avoidance, blind spot

High volume and margin growth in a market where we enjoy > 60% share

Autonomous Vehicles will Drive Further Infrastructure Growth

- Data Traffic Growth* ('15 to '20)
 - Mobile 53% CAGR
 - Overall 22% CAGR
- Autonomous Vehicles will add to optical fiber data transport requirement
- SiGe is foundry technology of choice for optical fiber connections

Global Monthly Data Traffic in Billions of GBytes



Source: CISCO VNI, 2016

Example of Automotive Radar in TowerJazz SBC18

TowerJazz Announces DENSO Corporation utilized its Advanced 0.18um SiGe Technology to Develop a Rear and Side Radar Sensor

August 14, 2017

... used in the Toyota Camry that was released in North America in July ...

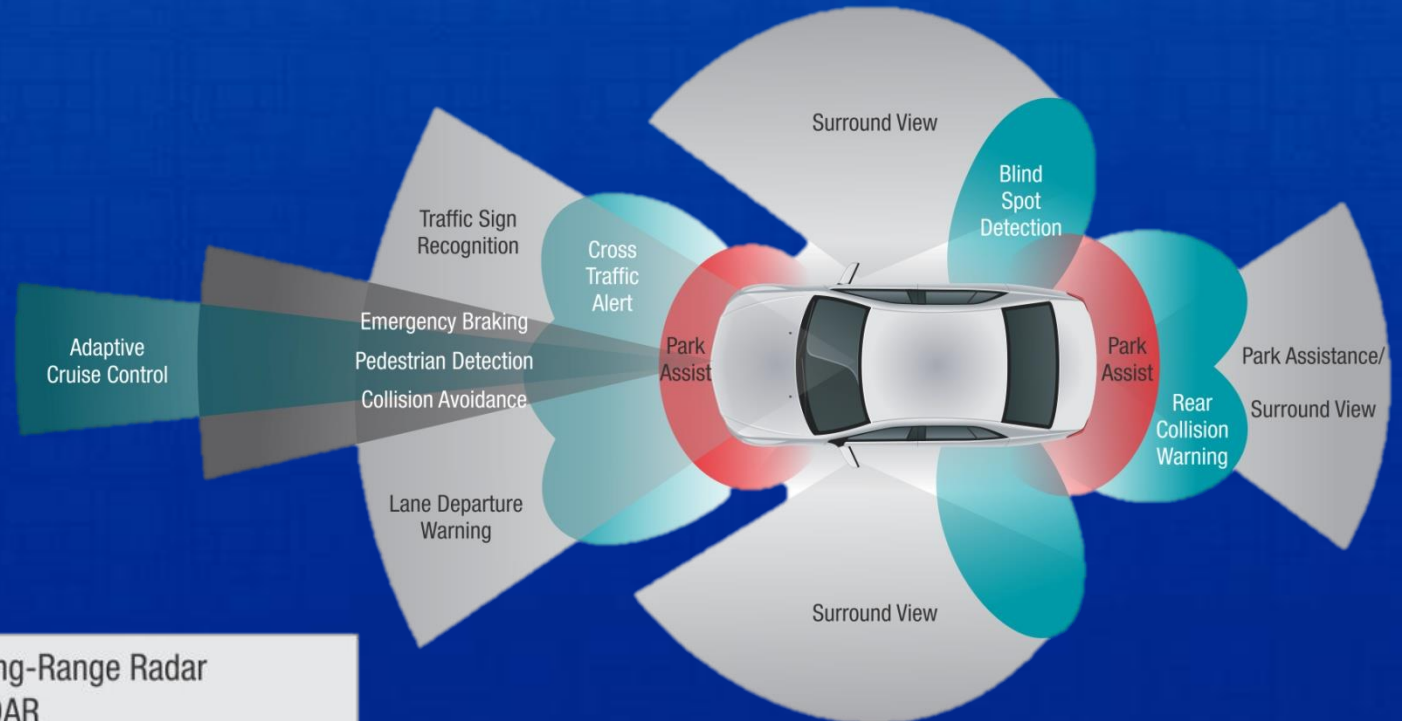


“TowerJazz’s leading SiGe technology enabled us to create the collision avoidance system which is our flagship offering,” said Mr. Kazuma Natsume, Director, Advanced Safety Engineering Division 2, DENSO Corporation. **“TowerJazz’s advanced process enabled the engineers to fully achieve the challenging specs required ... This solution allows DENSO to be a world leader in supplying collision avoidance systems for automotive safety.”**

Automotive market - high end image sensors for LIDAR 3D mapping

Advanced Driver Assistance Systems (ADAS) and Autonomous Driving

- 360° coverage required
- 6-8 cameras per car
- VGA moving to HD
- High Dynamic Range
- Near IR vision
- LIDAR for accurate ranging



- Long-Range Radar
- LIDAR
- Camera
- Short-/Medium Range Radar
- Ultrasound

CIS Automotive Specialty Foundry Market

Growth driven by

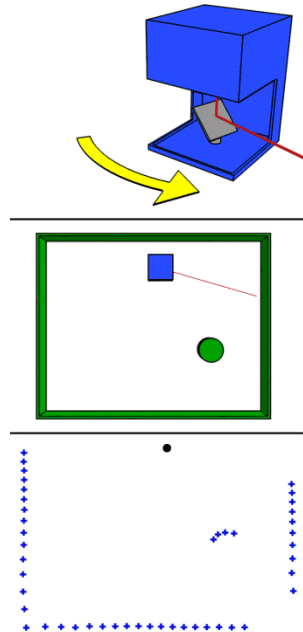
1. Camera proliferation
 - Today
 - Rear View, Lane Departure, Light Beam Control, Driver Monitoring
 - In the future
 - Road Sign Detection, Mirror Replacement, Full surround view
2. LiDAR (autonomous driving)
3. Night Vision (IR)



IR detection (room temperature bolometers) to see in complete darkness (thermal radiation is detected instead of visible light)

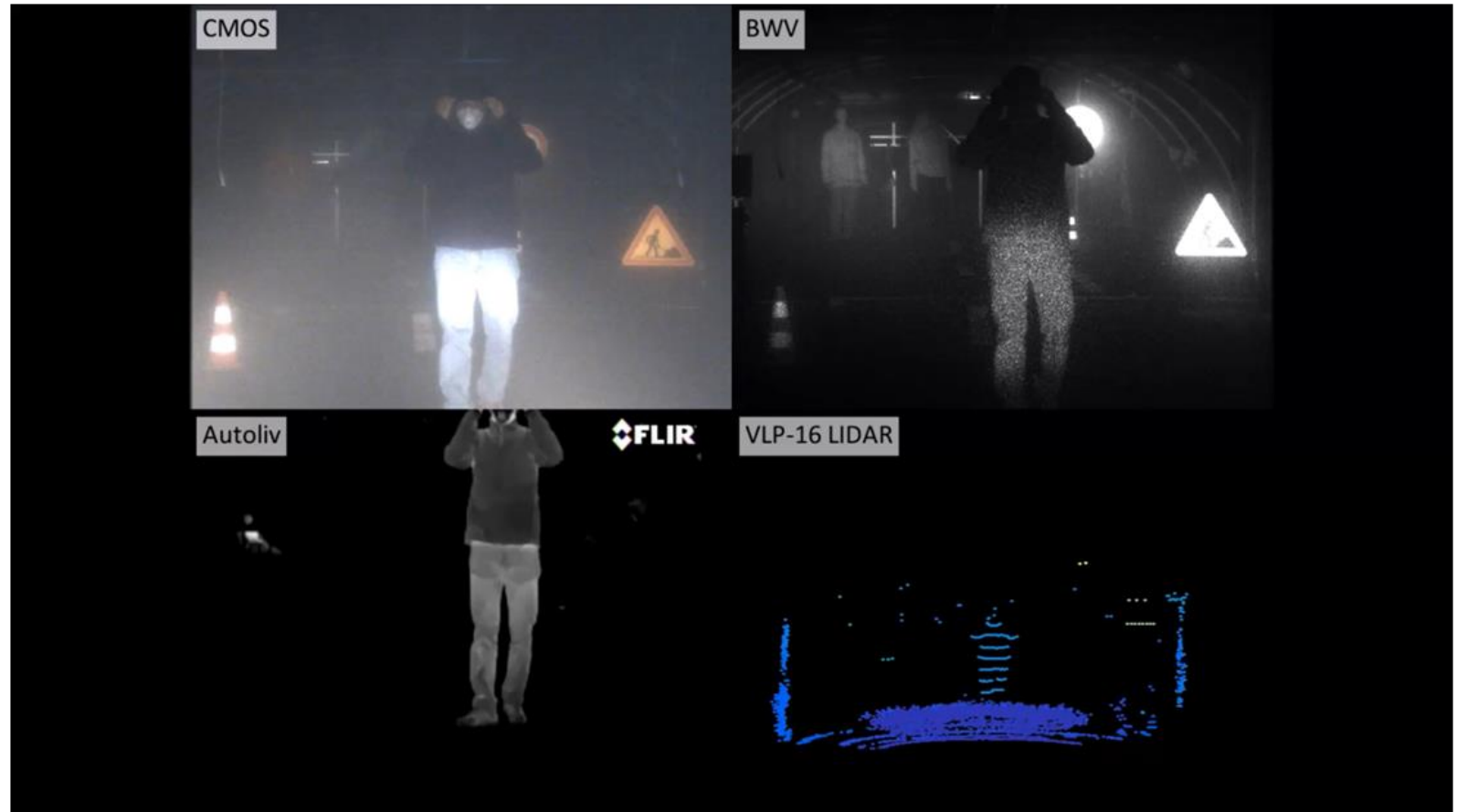
LiDAR – Light Detection and Ranging (Laser Based Radar)

- Originally, a laser rangefinder with a rotating mirror to scan the scene, used for 3D mapping – around \$80,000 per system (!)
- Today, a solid state based LiDAR, made of a solid state NIR laser, MEMs mirror array and a Silicon SPAD detector – target price of < 100 USD.
- Requirements
 - NIR operation (940nm is the preferred wavelength)
 - Single photon detection
 - Very fast reaction – 1nS represent 15cm depth resolution
 - High spatial resolution (below 0.1 degrees) – 15cm on 100m range
- Opportunity
 - 1 to 4 LiDARs per vehicle
 - ~100M new vehicles per year
 - 8,500 to 35,000 WPM (8”) when all cars will use LiDAR



Sensor Fusion – Radars, CIS, LiDAR, Thermal – all in TowerJazz's portfolio

- Gated sensor (BWV)
- LiDAR
- Thermal IR sensor (FLIR)
- High end CMOS sensor
- Radar – mid and long range



Top automotive suppliers and relationship with our customers

	Company	Annual Revenue	Country
1	Robert Bosch	\$46.5B	Germany
2	ZF Friedrichshafen	\$38.5B	Germany
3	Magna	\$36.5B	Canada
4	Denso	\$36B	Japan
5	Continental	\$32.5B	Germany

8 TowerJazz customers in the field of LiDAR are engaged with at least 3 out of the top 5 automotive tier-1s.

Automotive Power Management Market

1. Aggressive **CO2 emission reduction** targets, strongly regulated – Improved power efficiency drives EV/Hybrid cars

More Electric/Hybrid cars: 5.3M cars in 2017 to 14.5M in 2022.

(Total of 95M cars 2017 to 106M in 2021)

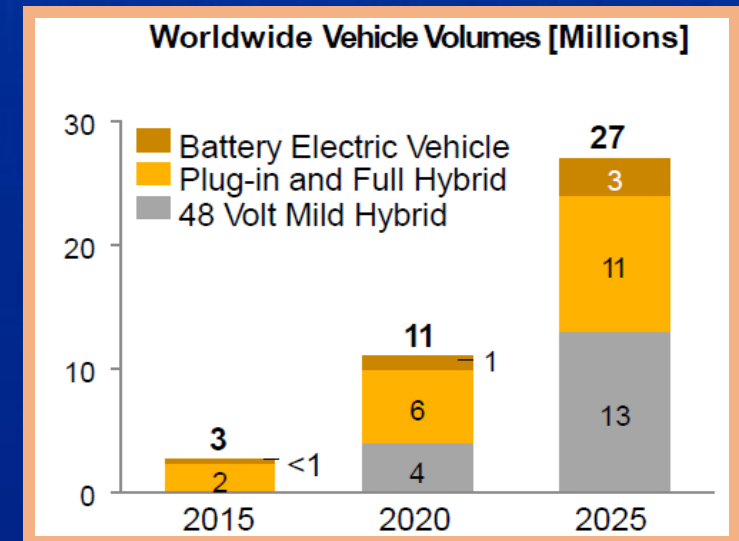
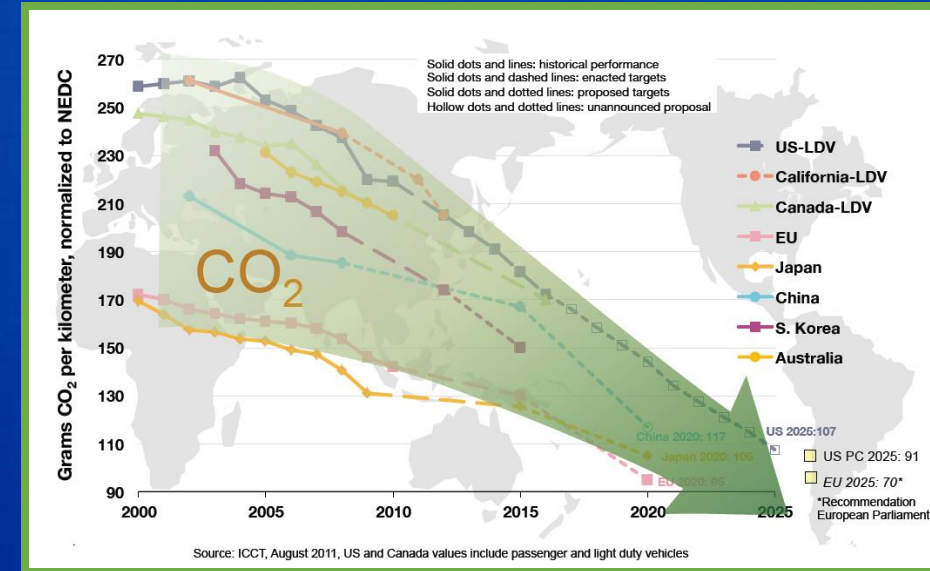
2. **More semiconductor in new cars, presently:**

- Gasoline/Diesel: \$348 total semiconductor
- Electric/Hybrid: \$740 total semiconductor

3. Automotive Power Management increase from \$5.8B in 2016 to more than \$8.5B in 2022, with big increase in EV

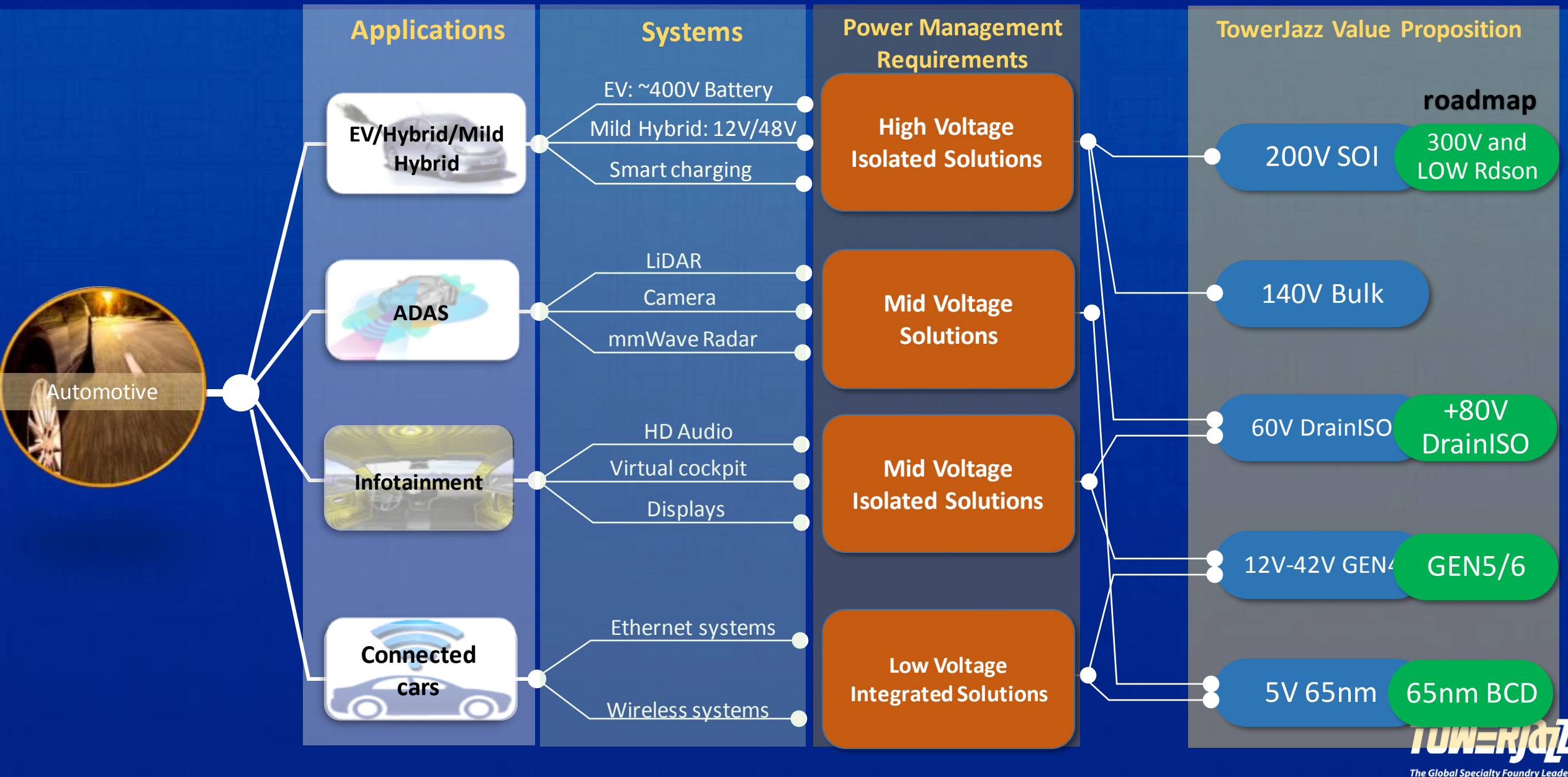
- We have a differentiated battery management platform.

<< Partnership with a leading IDM for differentiated stacked battery management, already having shipped thousands of wafers for a leading full EV. >>



(source: HIS Markit, Markets&Markets), Continental

Automotive Power Management: TowerJazz Value Proposition

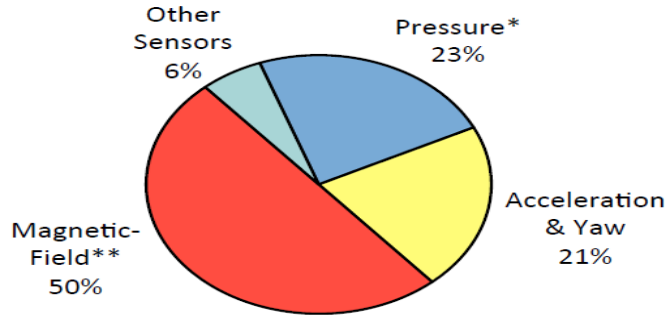


Other Sensors: TowerJazz Partnership with Crocus on TMR

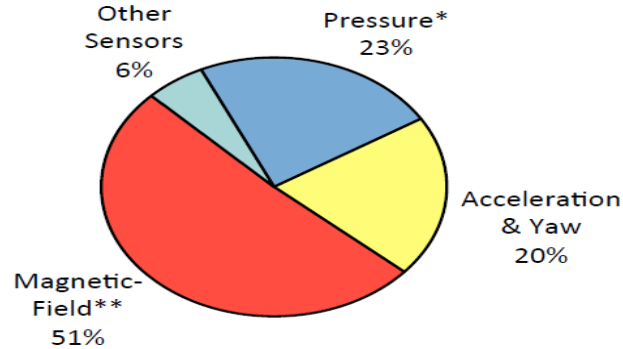


Sensor Unit Shipments by Product Category

2016 Units (18.8 Billion)



2021 Units (32.8 Billion, Fcst)



*Includes MEMS microphone chips.
**Includes electronic compass chips.
Source: IC Insights

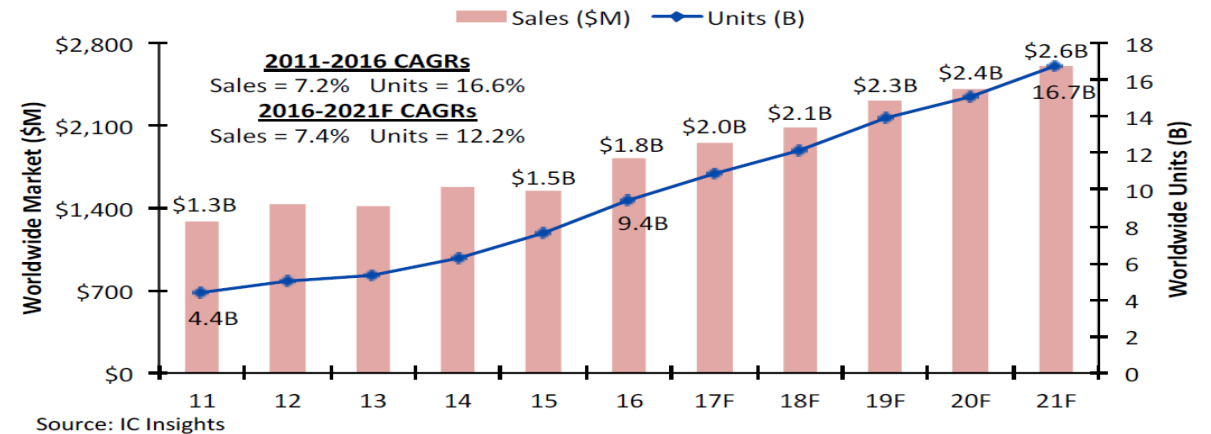
Sensor Market : Magnetic sensors dominate unit shipments

CROCUS TMR is the most disruptive technology for magnetic field sensing elements than any magnetoresistance technologies

CROCUS TMR performance best in class in terms of :

- Power efficiency (at least 100x better)
- Die size efficiency (at least 4x better)
- Field sensitivity (at least 30x better)
- Temperature performance (at least 1.3x better)

Magnetic-Field Sensor Market Forecast

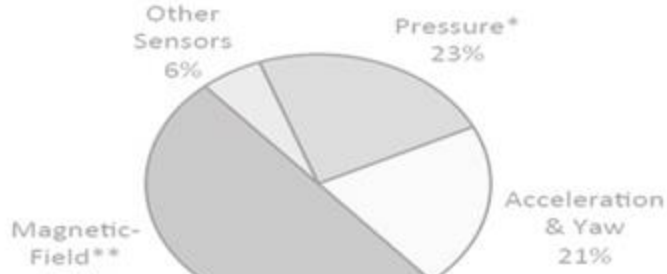


Other Sensors: TowerJazz Partnership with Crocus on TMR

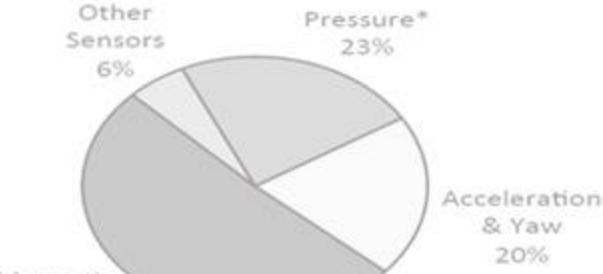


Sensor Unit Shipments by Product Category

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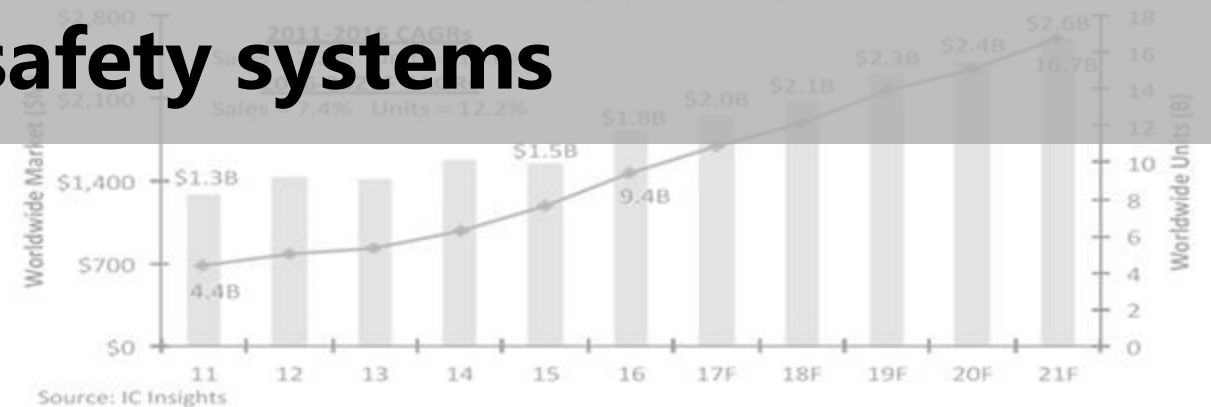


Sensor Market : Magnetic sensors dominate unit shipments

Based on Crocus technology, entered into strong long term supply agreement to replace hall effect sensor for automotive safety systems

CROCUS TMR performance best in class in terms of :

- Power efficiency (at least 100x better)
- Die size efficiency (at least 4x better)
- Field sensitivity (at least 30x better)
- Temperature performance (at least 1.3x better)



Sensors Hub

- The Israeli sensors market provides an extensive environment for recent developments in automotive and IoT applications
- Hosted dedicated Sensors conference in partnership with Tel Aviv University
- Over 40 companies attended, including fan fared startups and well established players
- TowerJazz value proposition: Eco system (Process IP, ASIC and Memory)



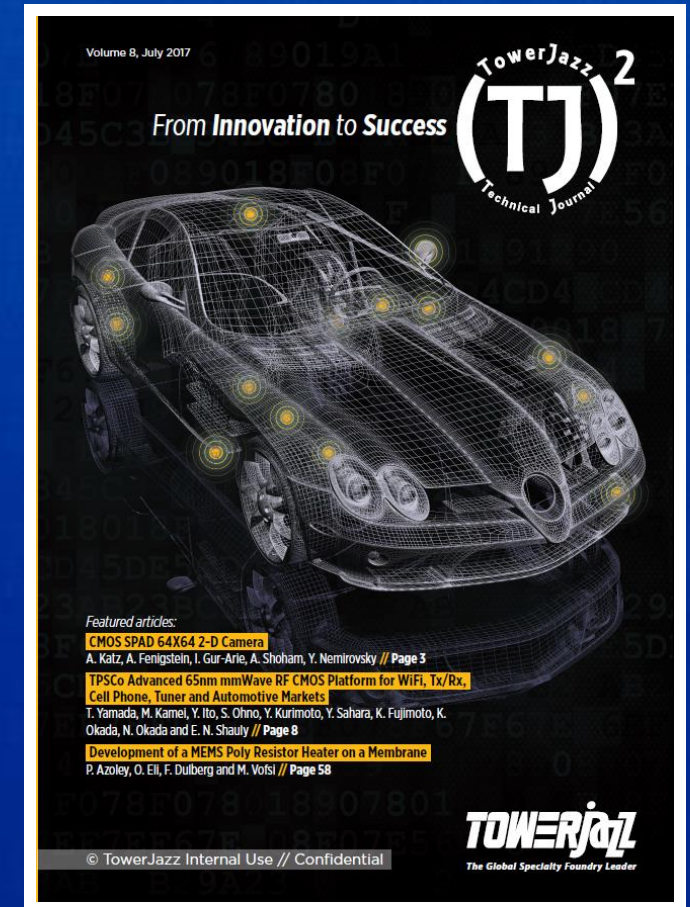
The Model to Make It Happen:

Innovative Developments, Partnerships and M&As

TowerJazz R&D activities tied to the rapidly expanding IoT and automotive markets

Disruptive Technologies aligned with lead customers for commercialization upon achievements of pre-defined metrics.

- Development of original sensors supporting IoT
 - Green environment, machine-human interaction and smart emerging automotive applications.
- Sensors and NVM coupled to specialized RF and PM devices to create wireless IoT motes.
- Specialized CMOS platforms for integrating sensor devices (e.g. low power SOI CMOS with RF enablement).

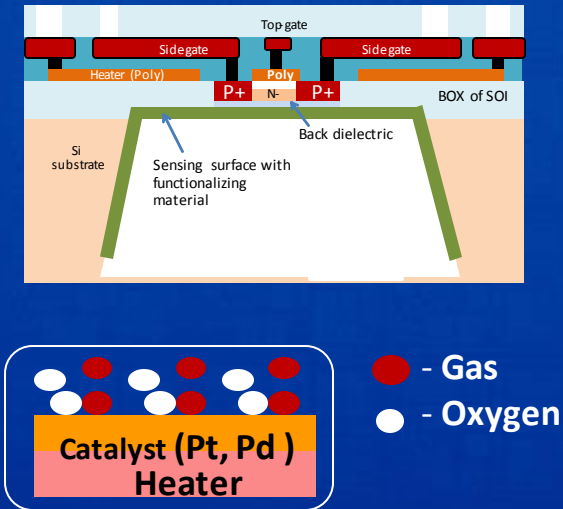
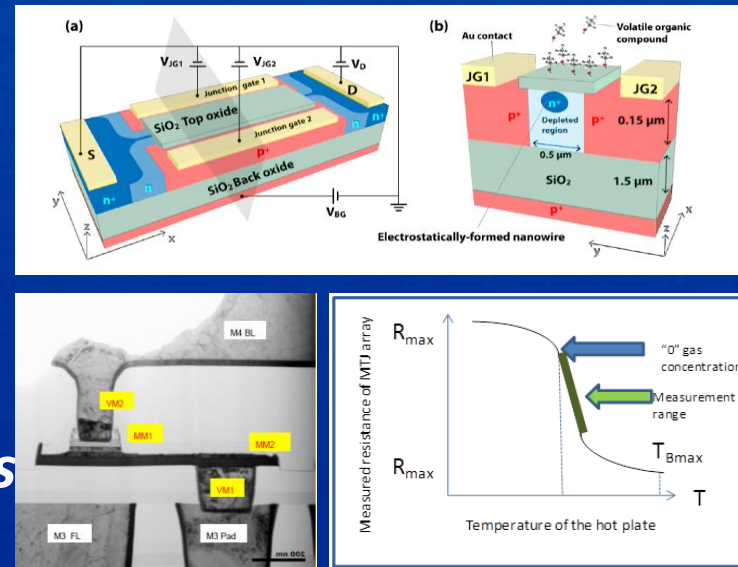


Most papers in the last issue of the internal TowerJazz Technical Journal are devoted to sensors, sensor platforms and enabling technologies for IoT and automotive

Novel gas sensor technologies

Nano-electronic sensors of different types (protected by issued or pending TowerJazz patents) :

- **Nanowire and nanogap sensors**
- **Sensors based on MTJ junctions**
(MTJ magnetic field sensors are already in mass production)
- **Gas sensors based on GaN nanostructures**



TowerJazz has won several prestigious R&D grants related to the listed technologies

Tight cooperation with Academia, government and start-ups

Sensing of Light and Ionizing Radiation

- Unique array-type FG sensors of ionizing radiation *(no need for power supply)*

Applications

Dosimetry in industry and medicine, sterilization, security, safety..

- Original UV sensors employing GaN structures *(fabricated on GAN HEMT platform)*

Applications

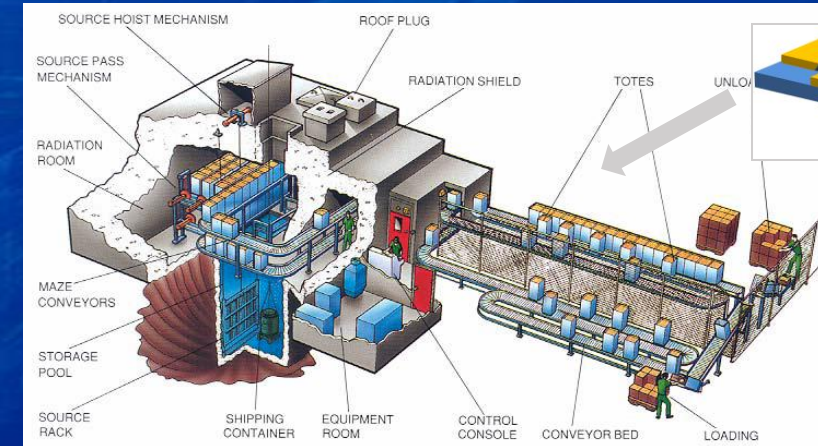
Wearables (control of adverse environments, e.g. protection against sun UV), solar blind UV detectors .

- HV photo detectors on SOI *(direct readout)*

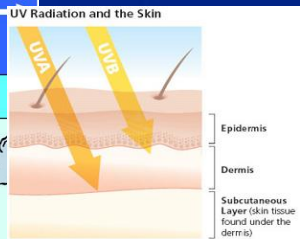
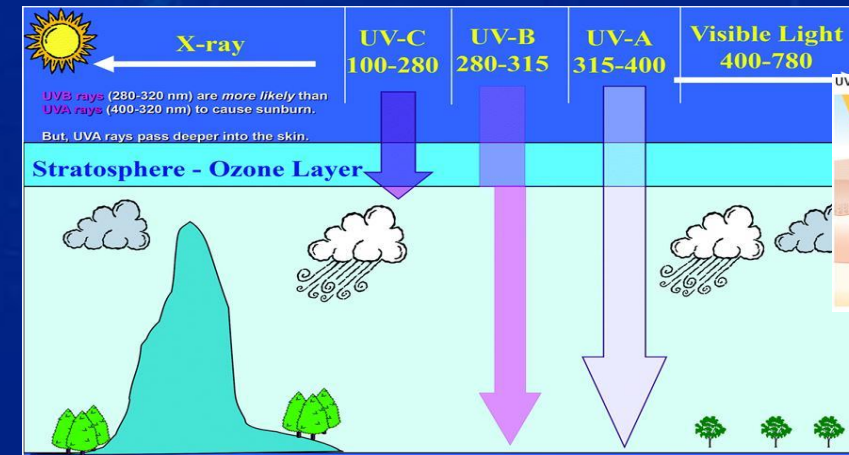
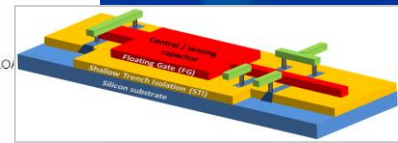
Applications

Ultra-low power consuming proximity sensors; photodiode HV sources for driving MEMS devices.

Industrial gamma-ray sterilization



Developed sensor (RFID)



Sensing UV-A+UV-B

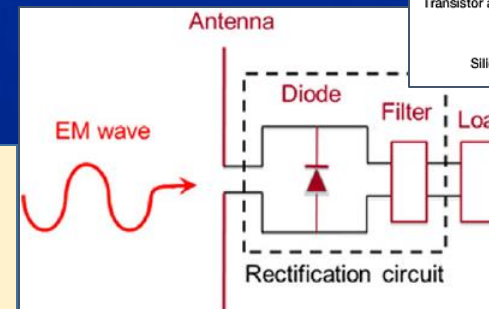
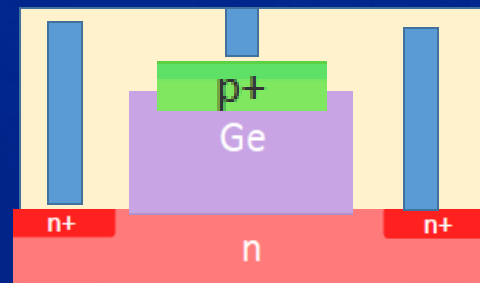
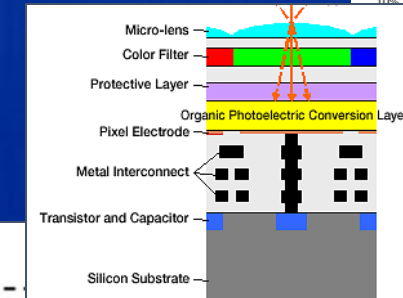
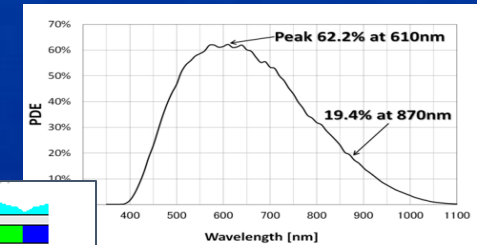
Infrared sensing devices for automotive (LIDARs)

Applications

Locating, ranging and vision in inclement weather; autonomous cars

Investigated device solutions:

- Silicon Avalanche Diodes with Enhanced NIR-Sensitivity
(Specially engineered deep profiles of dopants.
Optical trenches for cross-talk elimination.)
- Organic SWIR photodiodes in CIS imagers
- Optical rectennas
- Ge on Si SWIR



Partnerships and M&A Strategy

■ Increase Served Market and Technology Offering

- Acquire new technologies w/ established customer base
- Acquire new technologies which serves existing base
- Acquire existing foundry (manufacturing and business)
- Green field predominantly funded by partners

Increased technology offerings/ Geographic representation

■ Increase Operational Capacity and Flexibility

- Acquiring capacity at substantial lower cost than organic growth coupled with long-term supply agreement
- Green field predominantly funded by partners

Capacity

Innovative Partnerships

Technology Capability

Capacity

TowerJazz and FLIR Systems Partner to Deliver Next Generation Commercial Infrared Technology

Novel micro thermal pixels arrays enable increased resolution, performance, and scalable manufacturing to address broad commercial markets, as demonstrated at CES

February 12, 2015

Technology Capability

TowerJazz Announces H5: a Leading 300GHz SiGe Technology Optimized for 400GbE Communications

TowerJazz augments its Advanced SiGe Terabit Platform and announces initial 400GbE design wins with **Broadcom** addressing next-generation data communications in networks and data centers

March 20, 2017

Technology Capability

TowerJazz and Cavendish Kinetics Deliver High Volume RF MEMS with Unprecedented Reliability

40 smartphone handset design wins, including the 2016 Samsung Galaxy A8

February 28, 2017

Technology Capability

Capacity

TowerJazz and Vishay Enhance Business Relationship to Include Planar MOSFET Technologies and Super Junction MOSFET Devices

Expanding their business relationship to include planar MOSFETs and Super Junction MOSFETs.

June 29, 2010

Innovative Partnerships (Cont.)

Technology Capability

TowerJazz Begins Mass Production of a new Integrated SiGe-Based “Front-End Module on a Chip for Skyworks

RF Platform Tailored to Meet the Challenges of the Internet of Things Enables power amplifiers, low noise amplifiers and switches on a single chip

May 17, 2016

Technology Capability

TowerJazz and Crocus Expand Presence in Magnetic Sensors Market

Successful Licensing of Crocus’ IP and Volume Manufacturing by TowerJazz for Crocus TMR sensors

September 27, 2017

Capacity

TowerJazz and Tacoma Announce a Partnership for a New 8-inch Fabrication Facility in Nanjing, China

TowerJazz to Gain Up to 50% of the Planned Fab Loading Capacity; TowerJazz Received \$18 Million First Milestone Payment

August 21, 2017

Technology Capability

Capacity

TowerJazz and YCM Announce Partnership for Backside Illumination (BSI) Manufacturing in Changchun, China

Partnership enables TowerJazz to offer state of the art BSI flow in mass production for CMOS image sensor high-end markets

October 30, 2017

Innovative M&A and Capacity Expansion Business Model

Technology Capability

Capacity

Tower Semiconductor Completes Merger with Jazz Technologies

Merger Creates: Leading specialty foundry with increased capacity and scale offering a comprehensive process portfolio; Cross-selling opportunities among diverse customer bases of both companies

September 19, 2008

Technology Capability

Capacity

TowerJazz Announces Completion and Kick-off of its Joint Venture with Panasonic Corporation

Joint Venture to include three Semiconductor Factories in Japan, Manufacturing of Panasonic and Additional Products

April 1, 2014

Capacity

TowerJazz Completes Acquisition of Maxim's Fabrication Facility in San Antonio, Texas

Acquisition to expand TowerJazz's worldwide manufacturing capacity and capabilities; Supporting Company's excess customer demand

February 2, 2016

Partnerships and M&A Strategy

■ Increase Served Market and Technology Offering

- Acquire new technologies w/ established customer base
- Acquire new technologies which serves existing base
- Acquire existing foundry (manufacturing and business)
- Green field predominantly funded by partners

Increased technology offerings/ Geographic representation

■ Increase Operational Capacity and Flexibility

- Acquiring capacity at substantial lower cost than organic growth coupled with long-term supply agreement
- Green field predominantly funded by partners

Capacity

Target acquisitions

High end technology outside of present portfolio

Low cost, regional focused capacity expansion

Under valued high revenue asset acquisition



Manufacturing Excellence

Mr. Rafi Mor, COO

High Quality and Flexibility of Worldwide Manufacturing Capabilities

Over 2.3 million wafers per year!



Migdal HaEmek, Israel

- 6", 150mm
- CMOS, CIS, Power, Discrete
- 1 μ m to 0.35 μ m



Migdal HaEmek, Israel

- 8", 200mm
- CMOS, CIS, Power, Discrete, MEMS, RF SOI
- 0.18 μ m to 0.13 μ m Cu



Newport Beach, USA

- 8", 200mm
- SiGe, MEMS, RF SOI
- 0.5 μ m to 0.13 μ m
- Al and Cu



San Antonio, USA

- 8" (200mm)
- Power, RF SOI
- 0.18 μ m
- Al BEOL



Tonami, Japan

- 8", 200mm
- Power, Discrete, NVM, CCD
- 0.35 μ m to 0.15 μ m



Arai, Japan

- 8", 200mm
- Analog, CIS
- 0.13 μ m to 0.11 μ m
- Thick Cu RDL



Uozu, Japan

- 12", 300mm
- CMOS, CIS, RF SOI
- 65nm to 45nm

CMOS, PMIC and RF flows are cross qualified at multiple TowerJazz sites for redundancy, flexibility & BCP

High Quality and Flexibility of Worldwide Manufacturing Capabilities

Over 2.3 million wafers per year!



Migdal HaEmek, Israel

- 6", 150mm
- CMOS, CIS, Power, Discrete
- 1 μ m to 0.35 μ m



Migdal HaEmek, Israel

- 8", 200mm
- CMOS, CIS, Power, Discrete, MEMS, RF SOI
- 0.18 μ m to 0.13 μ m Cu



Newport Beach, USA

- 8", 200mm
- SiGe, MEMS, RF SOI
- 0.5 μ m to 0.13 μ m
- Al and Cu



San Antonio, USA

- 8" (200mm)
- Power, RF SOI
- 0.18 μ m
- Al BEOL



Tonami, Japan

- 8", 200mm
- Power, Discrete, NVM, CCD
- 0.35 μ m to 0.15 μ m



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- 8", 200mm
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Uozu, Japan

- 12", 300mm
- CMOS, CIS, RF SOI
- 65nm to 45nm



Nanjing, China

**Announced agreement
with Tacoma
20K wpm future capacity**

CMOS, PMIC and RF flows are cross qualified at multiple TowerJazz sites for redundancy, flexibility & BCP

Operational Excellence - Leveraging Operations to Meet Customer Demands

Capacity & Utilization

Target High Asset utilization of $\geq 85\%$, with minimal affect on fab performance

Duplicate major process flows between Fabs to increase operational flexibility.

OSD & Cycle Time

Strive for Best in benchmark OSD and Cycle time

OSD $> 98\%$ and Cycle time < 2.2 DPL at 0.18um Technology.

Cost Savings

Must produce parts at the lowest possible cost

OEE improvement projects on Bottleneck Tools, qualify alternative materials and parts, reduce material usage, lower price on same materials.

Quality: Plant Yield Die Yield & RMA

Cpk > 1.67 , Plant Yield $> 98\%$, RMA $< 0.2\%$, typical Die Yield $> 95\%$.

Support automotive customers. ISO Certified for : Quality- ISO9001 ; Environmental- ISO14001; IP Security- BS/ISO27001; Safety- OHSAS18001; Automotive – ISO/TS16949

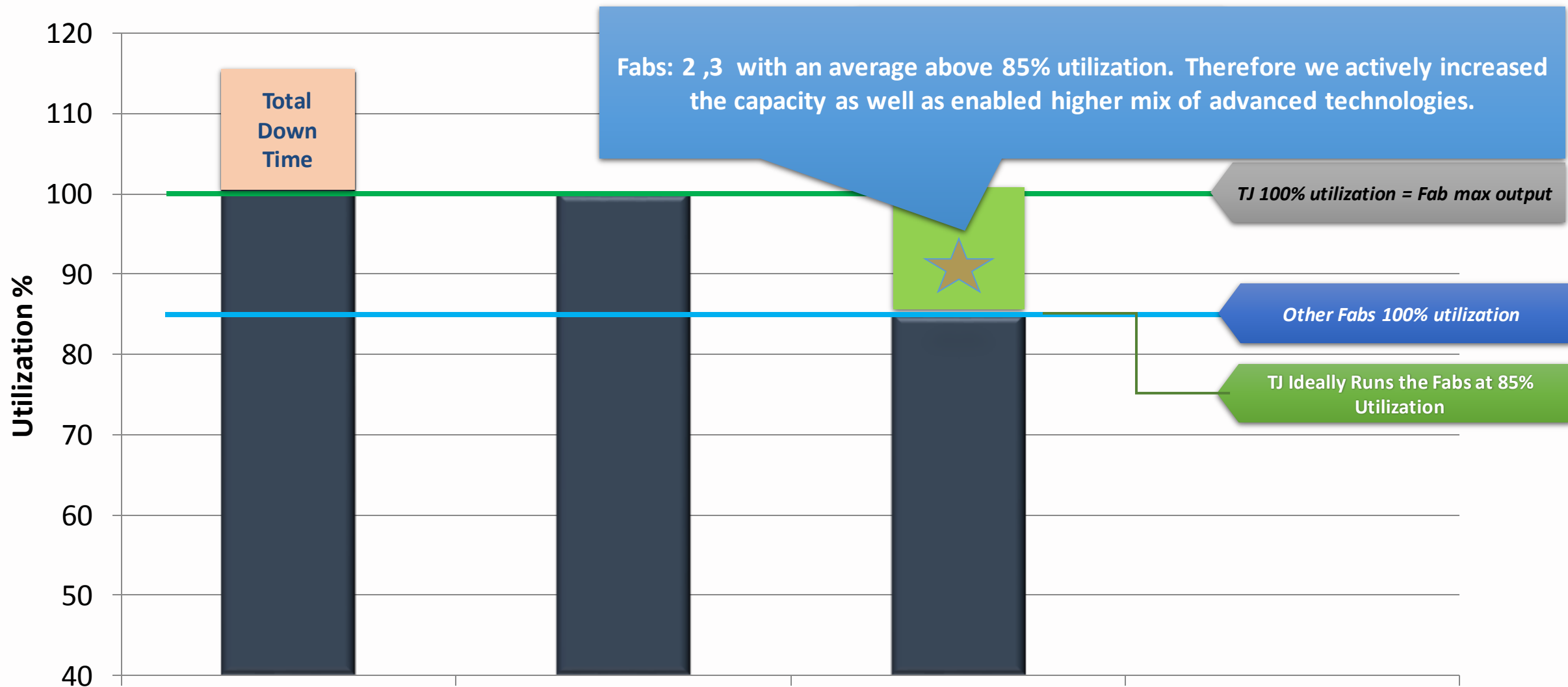
New Technologies Ramp to Mass Production

Align capacity and manufacturing capability to business needs

Transfer new technologies from the R&D to the Fabs and ramp into mass production with the quality mentioned above.

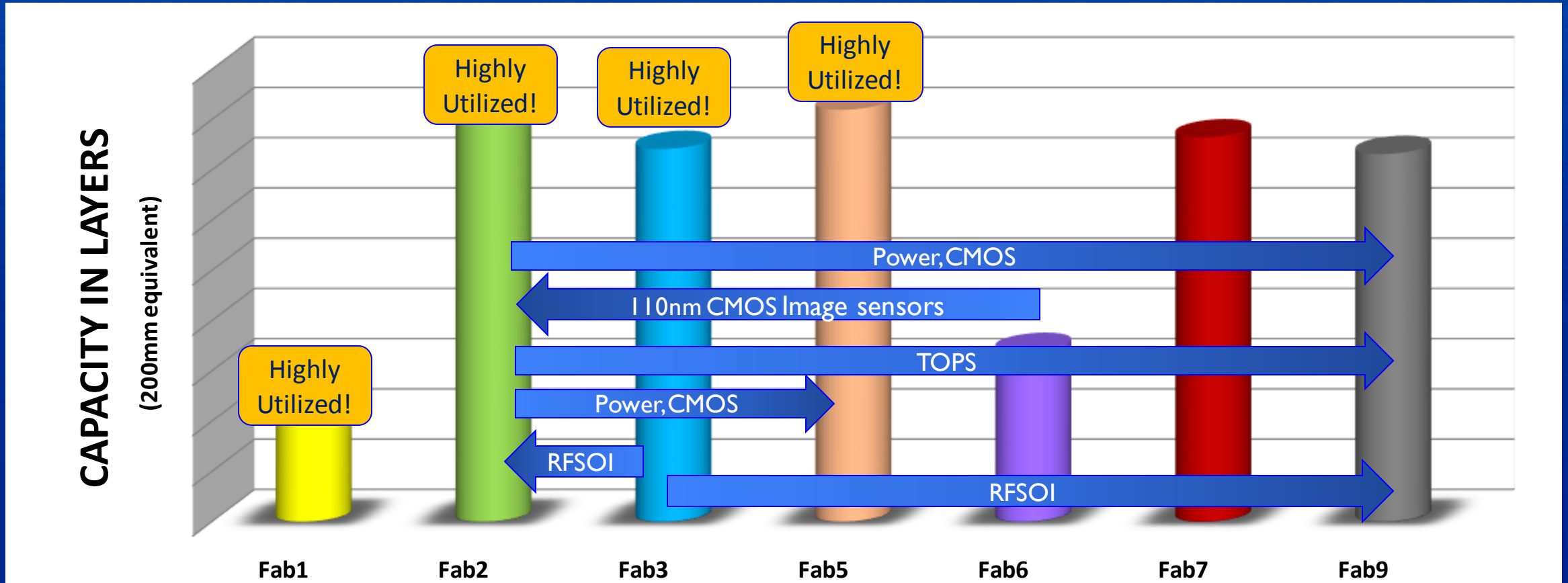
Utilization Model:

TJ Utilizing the Equipment X% above others - TJ 85% utilization = Others 100%

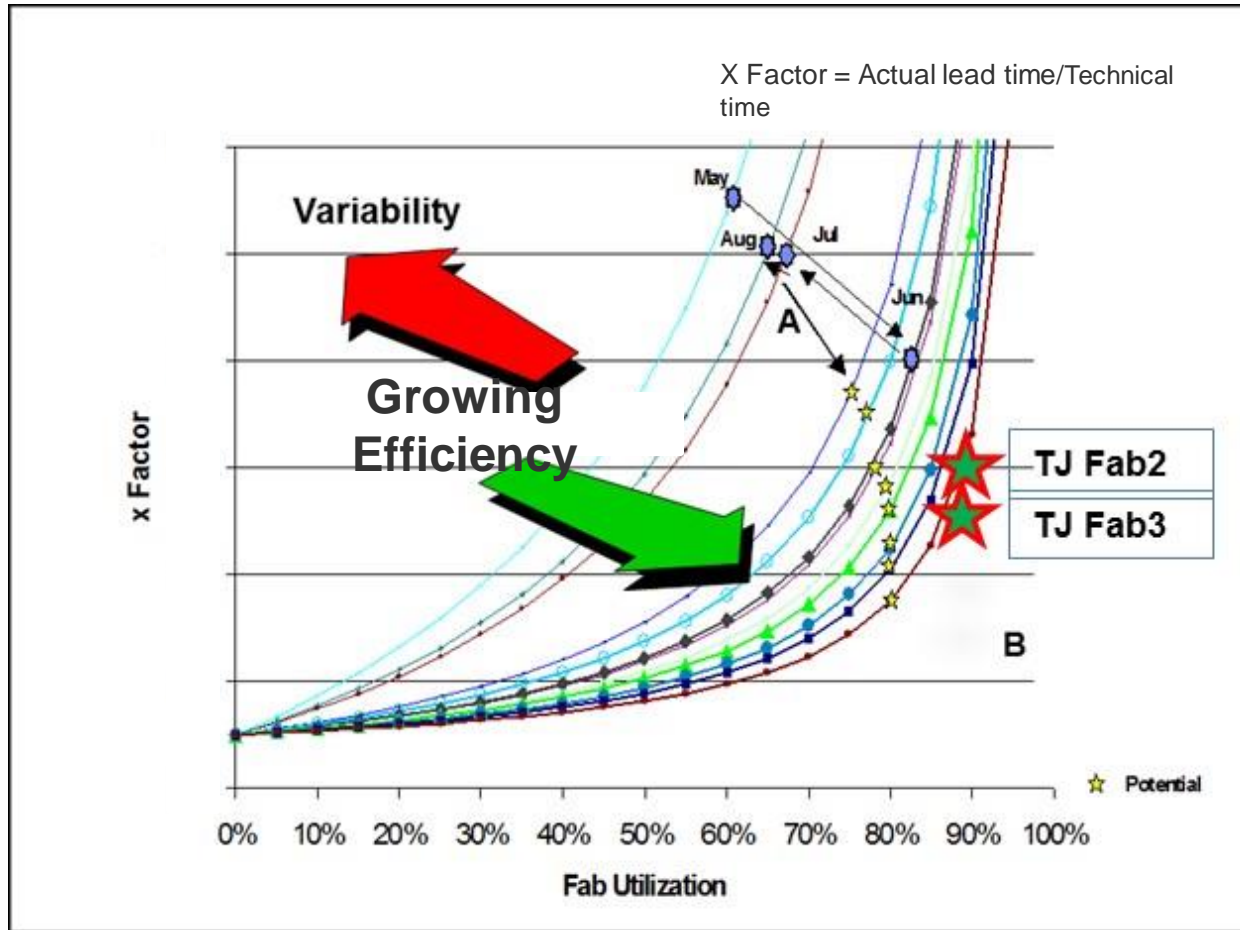


Global Capacity – 2.3M Wafers / Year (200mm equivalent)

Cross Qualification to utilize all Fabs at >85% , Serve the increasing customer demand and BCP

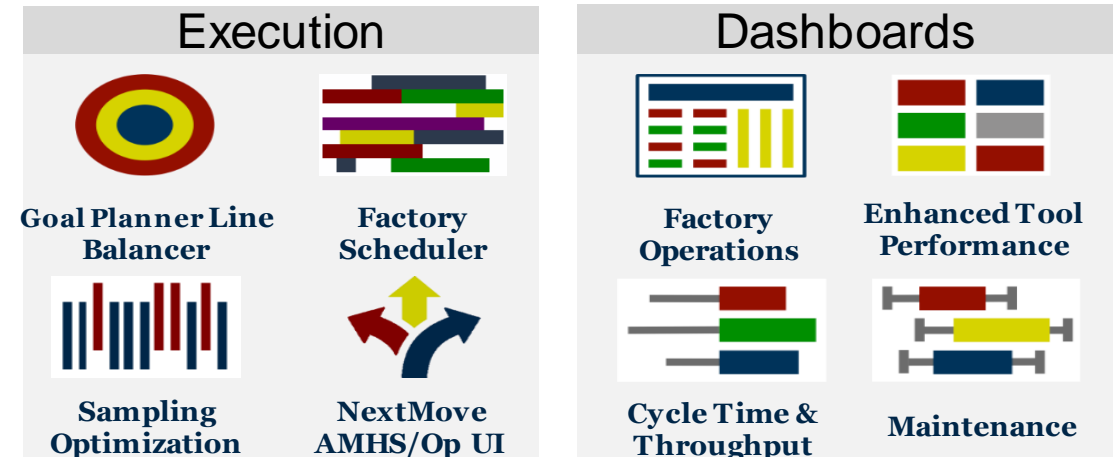


Increasing Fabs Loading with Minimal Impact on CT & OSD



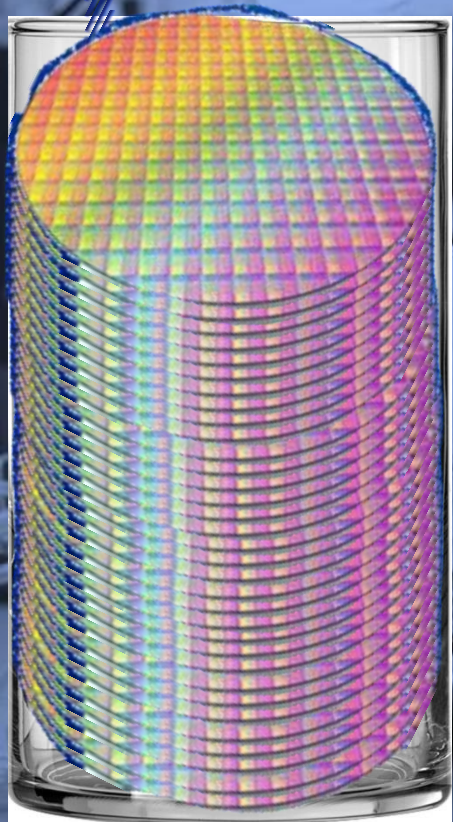
Reducing Fab variability

- Higher Tools Redundancy
- Controlled Priority Lots/Hot Lots
- Operators and Technicians better Skills
- Better Tools Reliability- Higher MTBF.
- Improved Wip management- Factory scheduler; Next Move , Line balancer.
- Better Factory visibility- Dashboard.



Operational Excellence - Improve Manufacturing Efficiency

\$3.1M (28%) savings / \$11M budget on Test wafers spend



Global Contracts

Leverage Company Size to get discounts.

Long Term Contracts

Alternative Power & Bulk Gases suppliers.

Centralized Capex

Package deals with OEM and 2nd source vendors.

Shared Resources

Move the best experts from site to site.

Reengineering

- Eliminate process steps.
- Reassign to the fastest capable tools.
- Eliminate Metrology Steps

Repair & Recycle

- Test wafers, Water, etc.
- Local Repair Lab in every site

Reduce Scrap and Waste

Solve systematic problems, reduce Material consumption

Automation-Dashboard

Improve Visibility & Standardization.

Automation-Scheduler

Optimize wip management increase Fab Throughput

Shared Best Practices

Global Teams-share Best Practices and

Shared Equipment

- Move Tools from site to site
- Sales non utilized tools.

OEE Improvement

- Tool Availability.
- Redundancy
- Process throughput.

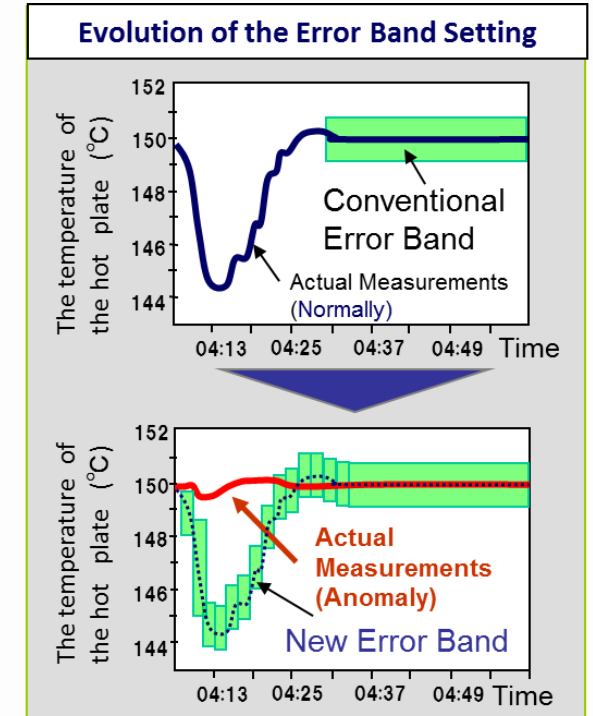
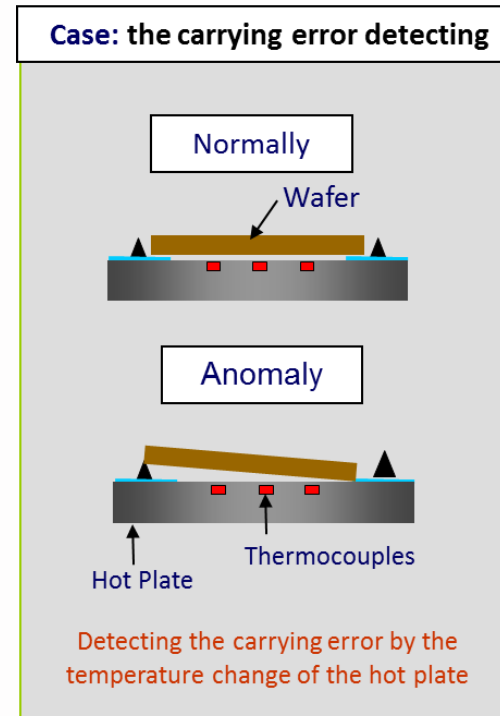
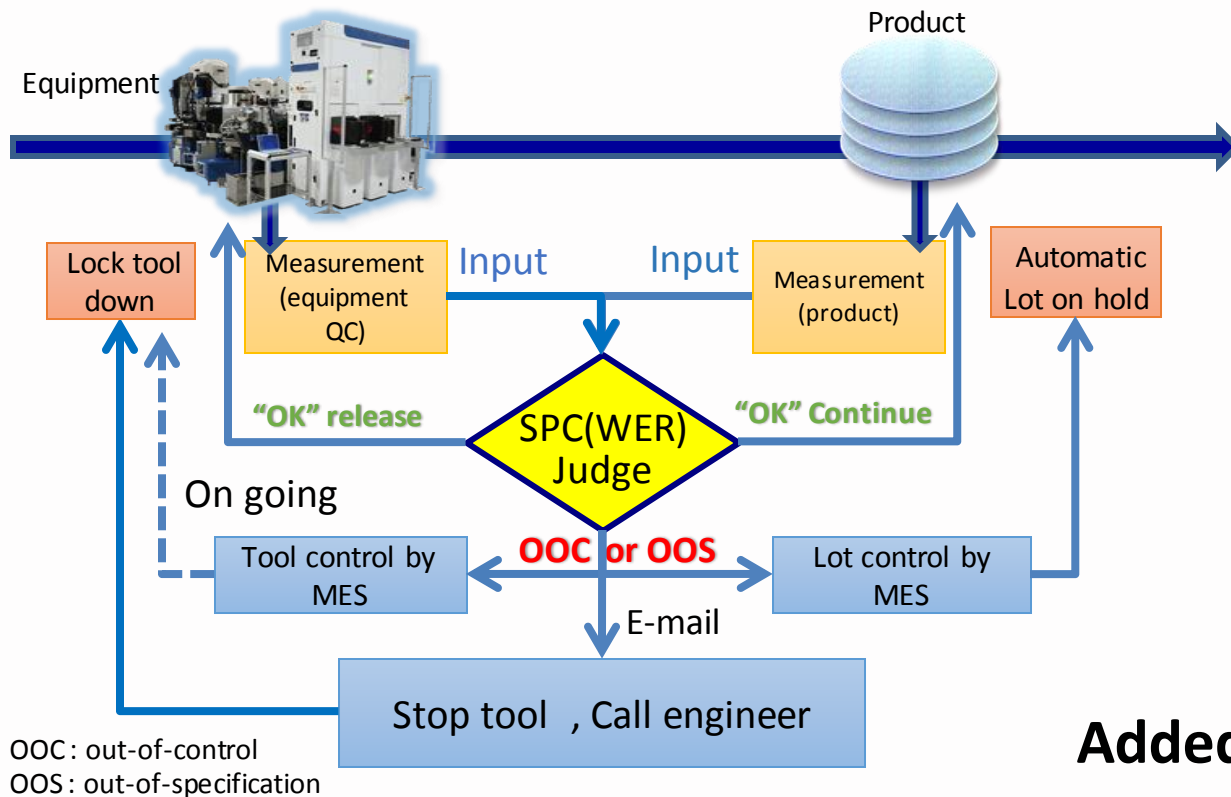


Drive Excellent Manufacturing Quality

Using sophisticated systems for Process-Control: FDC, SPC and APC

SPC: Real-time Statistical Process Control for the equipment and product. Stops the tool if trending out of control – fully implemented.

■ **FDC:** Real-time monitoring for equipment's input parameters. Automatically stop the equipment in case of failure.



Added Value for our customers: higher product yield

TowerJazz Going Green

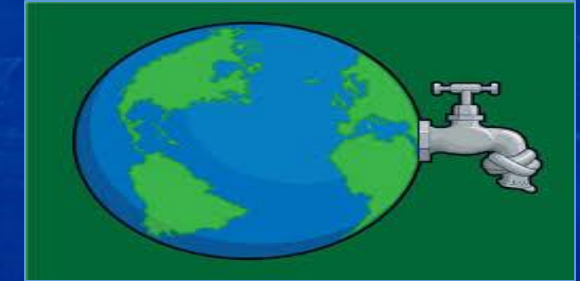
TowerJazz broadened its presence into renewable energy and green initiatives. More than \$5.3M were invested in key projects which enables improvement in water and electricity usage.



Reduction in power usage by installing **solar panels** in a nearly **100,000** square feet with estimated **1700MWh** yearly production.



Global initiatives to reduce electricity consumption of **18,000 MWh/year** such as installing smart devices that regulate power consumption, upgrading the chillers, replacing the cooling tower and replacing neon light bulbs with LED bulbs

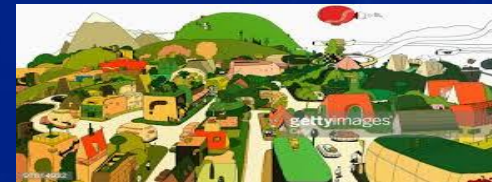


Total of **74,500 m3/year** were reduced through implementing recycling projects.

- The total electricity savings per year is equivalent to yearly electricity consumption of about **1,600 private households** or **16 million pounds of coal burned**



- The total water saving is equal to the annual water consumption of a town with a population of 2,100 people



TJ Global Social Responsibilities

English and Math Classes Volunteering

Giving the youth in Israel an opportunity to learn English & Math at a high school in Migdal Haemek, Israel.



Good Deeds Day

TowerJazz participated in “Good Deeds Day” activities around the world. Employees collaborated with environmental organizations renovated buildings, prepared food packages for families in need and participated in blood drives.



Youth Clubs

Adopting three youth clubs - assist with homework, fun activities, field trips, celebrate holidays and more



GAIA

As part of TowerJazz's community outreach, we donate funds to the Global Awareness Investigation and Action (GAIA) project, an international environmental research project involving middle and high school students as "scientific researchers and policy developers" working on environmental projects.



The Best Confidence Builder is High Yielding Wafers Shipped on Time

- **High Assets Utilization:**

Quality technologies at multiple TowerJazz Sites to utilize all Fabs at >85%, allowing us to better serve increasing customer demand.

- **Reduced Lead Time:**

To shorten Time to Market for new products
→ Fuel our customer's future growth!

- **Cost Reduction:**

OEE Improvement to reduce Capex investment.
COGS Savings maintain competitive pricing.

- **Exceptional Quality:**

PPB level Field Failures & High Yields - to gain business from existing customers, Automotive customers and win new products.





Financial fundamentals: Performance and Strategy

Mr. Oren Shirazi, CFO

Financial Performance – Current Run Rate and Year over Year Comparison

	2017 Annual Run Rate	2016 Actual	2015 Actual
Revenues	\$1.42 billion	\$1.25 billion	\$0.96 billion
EBITDA	\$435 million	\$367 million	\$248 million
Net Profit	\$221 million	\$153 million**	\$51 million**
Free Cash Flow	\$177 million	\$118 million	\$30 million

* Based on Q3'2017, excluding \$18 million cash receipt from Tacoma

** 2016 excluding \$50 million San Antonio acquisition gain; 2015 excluding \$81 million accelerated conversion of bonds non-cash financing expenses

Financial Performance – Current Run Rate and Year over Year Comparison

	2017 Annual Run Rate	2016 Actual	2015 Actual
Revenues	\$1.42 billion	\$460M	\$0.96 billion
EBITDA	\$435 million	\$367 million	\$248 million
Net Profit	\$221 million	\$170M	\$51 million**
Free Cash Flow	\$177 million	\$147M	\$30 million

37% incremental net profit with 32% incremental free cash flow

* Based on Q3'2017, excluding \$18 million cash receipt from Tacoma

** 2016 excluding \$50 million San Antonio acquisition gain; 2015 excluding \$81 million accelerated conversion of bonds non-cash financing expenses

Financial Performance – Current Run Rate and Year over Year Comparison

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Net Profit	\$221 million	\$153 million**	\$51 million**
Free Cash Flow	\$177 million	\$118 million	\$30 million

40% YoY incremental net profit with 35% incremental free cash flow

* Based on Q3'2017, excluding \$18 million cash receipt from Tacoma

** 2016 excluding \$50 million San Antonio acquisition gain; 2015 excluding \$81 million accelerated conversion of bonds non-cash financing expenses

Financial Performance – Current Run Rate and Year over Year Comparison

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Value creation: Focus on Net Profit and Cash Generation

* Based on Q3'2017, excluding \$18 million cash receipt from Tacoma

** 2016 excluding \$50 million San Antonio acquisition gain; 2015 excluding \$81 million accelerated conversion of bonds non-cash financing expenses

Financial Focuses

Base

Strong Operating Model

Focuses

Margin Expansion

Free Cash Flow
Generation

Strategy

Mix Enhancement

Capacity Expansion
(organic, M&A)

Partnerships and M&A Strategy

■ Increase Served Market and Technology Offering

- Acquire new technologies w/ established customer base
- Acquire new technologies which serves existing base
- Acquire existing foundry (manufacturing and business)
- Green field predominantly funded by partners

Increased technology offerings/ Geographic representation

■ Increase Operational Capacity and Flexibility

- Acquiring capacity at substantial lower cost than organic growth coupled with long-term supply agreement
- Green field predominantly funded by partners

Capacity

Target acquisitions

High end technology outside of present portfolio

Low cost, regional focused capacity expansion

Under valued high revenue asset acquisition

Target Model

	Target Model	2017 Annual Run Rate
Revenues	\$3.5 billion	\$1.42 billion
EBITDA	\$1.05 billion	\$435 million
Net Profit	\$520 million	\$221 million
Free Cash Flow	\$476 million	\$177 million*

* Based on Q3'2017, excluding \$18 million cash receipt from Tacoma

Summary

- Past

- From \$100 million to \$1.4 billion revenue and \$120 million to \$3.5 billion market cap
- **Based upon personal capability and passion.**

- Present

- Net cash, strong free cash flow and freedom from restrictive bank covenants
- Flexibility to engage in full spectrum of opportunities

- Future

- From \$1.4 billion to \$3.5 billion revenue and beyond, to fulfill our mission to continue to increase shareholder value
- **Based upon an even increased personal capability and passion but now with financial metrics.**



Q&A



Summary

Mr. Russell Ellwanger, CEO



Thank You!