

The logo for TowerJal, featuring the word "TOWERJAL" in a bold, white, stylized font. The letters are thick and blocky, with a small circle above the 'J'. The background is a dark blue space scene with a glowing blue sun or star in the center and a grid of white lines representing satellite orbits or data paths over a stylized Earth.

*The Global Specialty Foundry Leader*

# Needham Automotive Conference

June 2019

# 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.

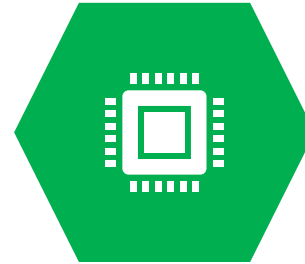
# TowerJazz: Full Circle Value Creation

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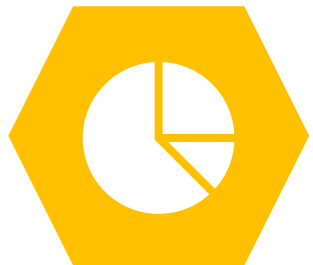
## Analog Business and Financial Model

Strong financial position; focus on **profitable growth** with **margins expansion** and **cash generation** by driving **silicon innovation** in proven technologies rather than solely by node shrinkage.



## Technology Leader

Provide wide range of **customized analog leading edge specialty process technologies** including in Radio Frequency (RF), High Performance Analog (HPA), Power Management, Sensors and MEMS.



## Strong Market Position

Aligned with **leading customers'** roadmaps in **growth markets** such as automotive, consumer, medical and industrial. Ensuring long-term business relationships.



## Global Operations

Seven worldwide manufacturing facilities, providing **capacity assurance** and **operational flexibility**.

# High Quality and Flexibility of Worldwide Manufacturing Capabilities



Migdal HaEmek, Israel

6", 150mm  
CIS, Power  
1 $\mu$ m to 0.35 $\mu$ m



Migdal HaEmek, Israel

8", 200mm  
CIS, Power, RF SOI  
0.18 $\mu$ m to 0.13 $\mu$ m



Newport Beach, USA

8", 200mm  
SiGe, MEMS, RF SOI  
0.5 $\mu$ m to 0.13 $\mu$ m



San Antonio, USA

8", 200mm  
RF SOI, Power  
0.18 $\mu$ m



Tonami, Japan

8", 200mm  
Power  
0.18 $\mu$ m



Arai, Japan

8", 200mm  
CIS  
0.13 $\mu$ m to 0.11 $\mu$ m



Uozu, Japan

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



# Financial Focus and Targets

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## Increase margins by:

- Improved mix and ASP increase
- Cross qualification and capacity flexibility



## Control operating expenses:

- Minimization of central group activities, driving business unit ownership and ROI per employee/ project
- Optimizing cost structure
- Worldwide synergies and efficiency mindset

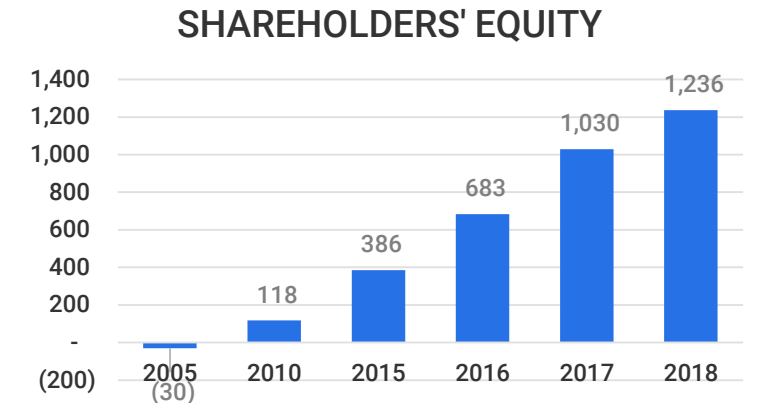
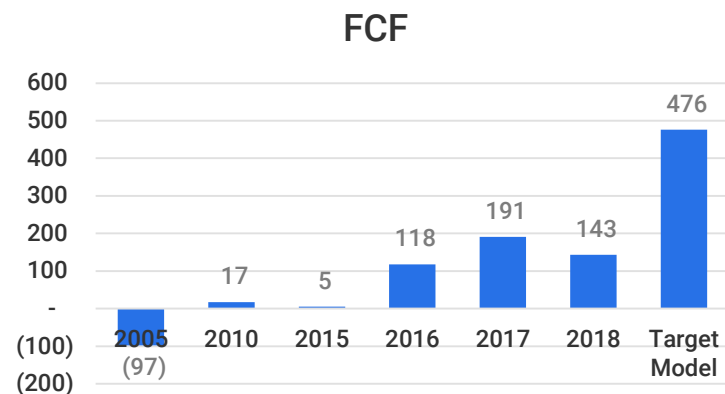
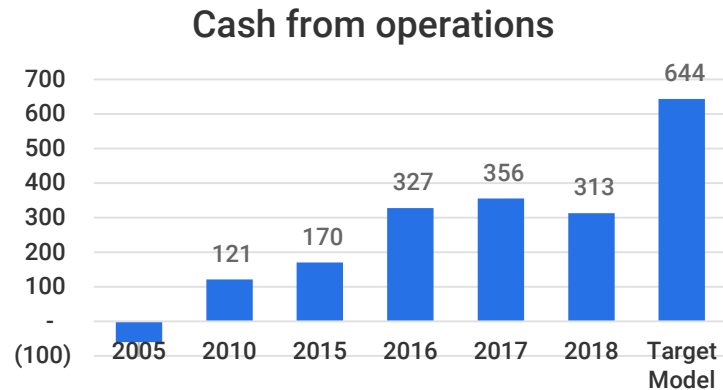
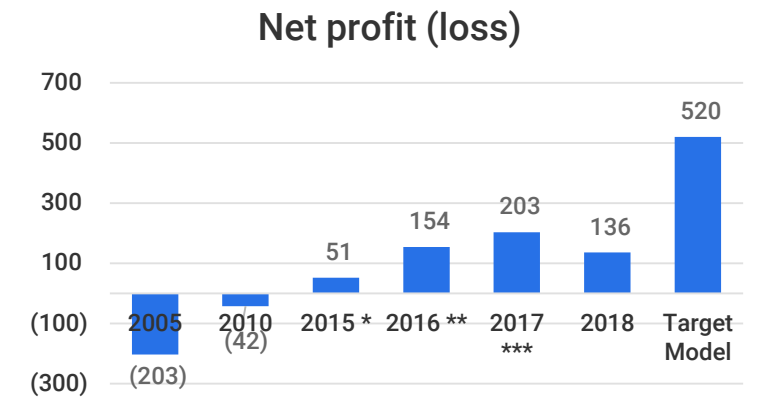
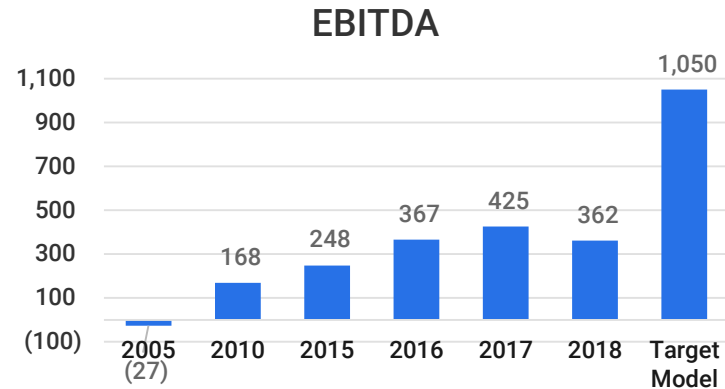
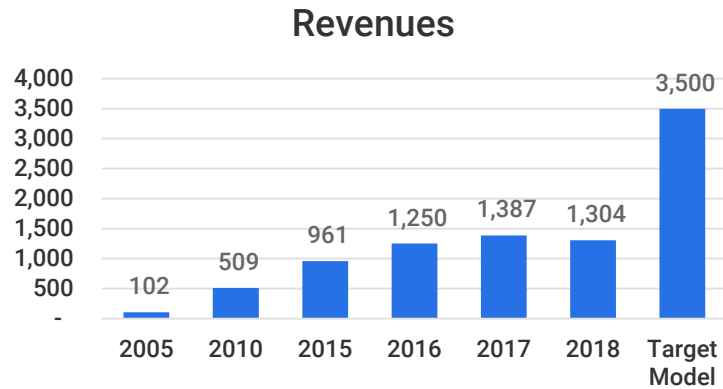


## Free cash flow growth:

- Analog predominant CapEx re-use model
- New capability Cap-Ex to support additional growth drivers often shared with lead customer partners

# Long Term Target Model | Financial Performance (\$M)

Profitable growth and cash generation



(\*) 2015 Net profit as presented above excludes \$81M non-cash financing expenses related with the accelerated conversion of CD series F

(\*\*) 2016 Net profit as presented above excludes \$50M Maxim acquisition gain.

(\*\*\*) 2017 Net profit as presented above excludes \$82M income tax benefit resulted from Israeli deferred tax asset realization following valuation allowance release and \$13M income tax benefit related to U.S. tax reform.

# Specialized Analog Solutions Answering Market Mega Trends

## Wireless Everything

Seamless Connectivity



**Radio Frequency and High Precision Analog**

**~27%**

of 2018 corporate revenues

## Green Everything

Energy Efficiency



**Power**

**~34%**

of 2018 corporate revenues

## Smart Everything

Interactive Smart Systems



**Sensors**

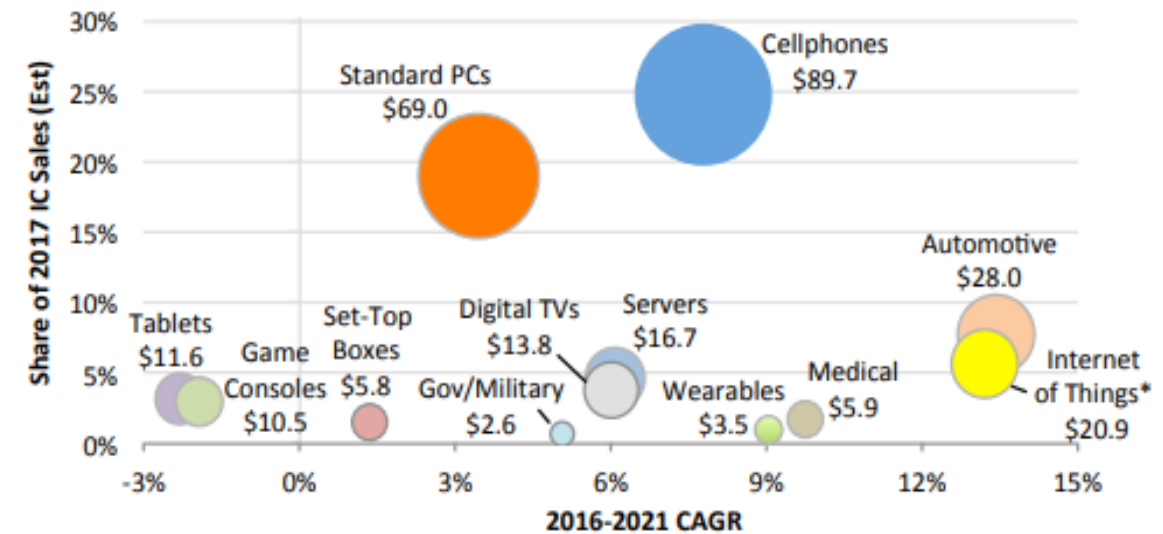
**~18%**

of 2018 corporate revenues

# Growth Driver: Automotive for Power, RF and Sensors

- Automotive is the **fastest growing** and the **third largest** end-use IC market
- Nearly **70%** of Automotive IC content is **Analog\***, well aligned to TowerJazz Specialty Analog technologies
  - ✓ **Power** for EV/Hybrid battery management
  - ✓ **RF** for connectivity and Radar
  - ✓ **Sensors** for ADAS
- **Accelerating** pace of innovation is increasing **outsourcing to Foundry**

## IC End-Use Markets (\$B) and Growth Rates



\*Covers only the Internet connection portion of systems.

Source: IC Insights

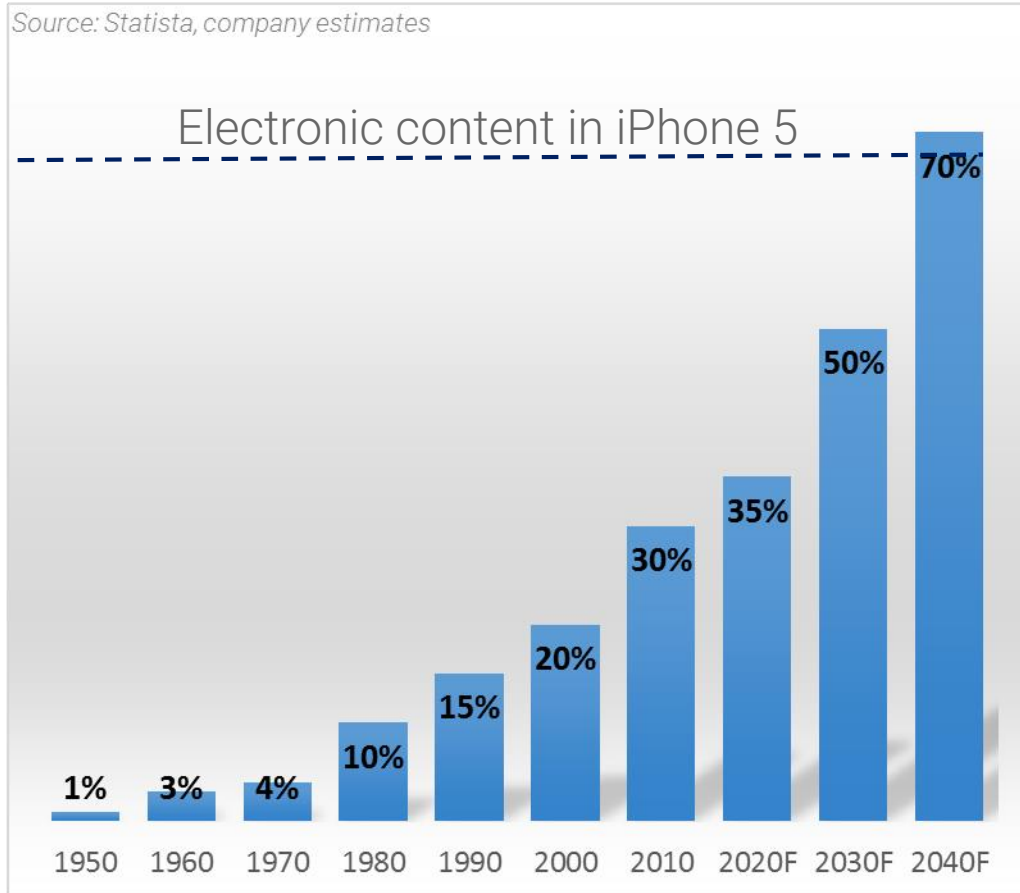


\* Markets and Markets – including in “Analog” Power, RF, Sensors, MCUs and other Analog (excluding Processors, Memory)

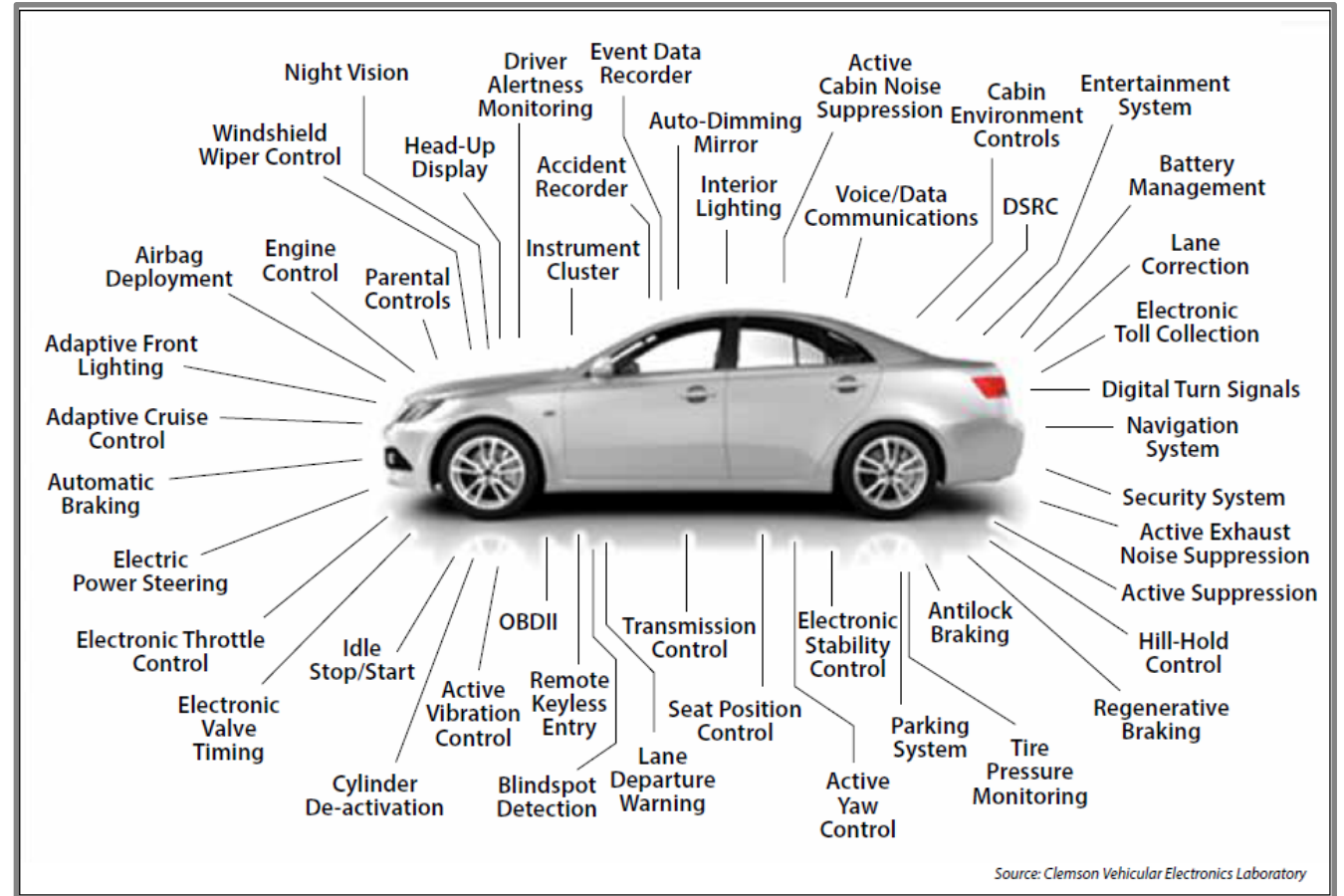


# Trend: Connectivity and Automation is Driving Rapid Growth in Electronic Content

Electronics as % of total cost of a car



Automotive Electronics Systems



By 2040, the percentage of electronics in a car will be comparable to iPhone 5

# TowerJazz Solution: Specialty Analog Technologies for Connected Automated Vehicles

## Served by TowerJazz

Application

ADAS: Radar, V2X  
Automotive Ethernet



ADAS: LiDAR, Camera  
& Night Vision IR



Diagnostic/Dynamics,  
Comfort & Convenience



EV Battery Management  
& Powertrain



Technology

### RF & HPA

- RF-SOI
- RF CMOS
- SiGe BiCMOS
- III-V
- MEMS
- Silicon Photonics

### Light Sensing

- CMOS image sensors
- CCDs
- PIN
- ToF: SPADs (LiDAR)
- SWIR image sensors
- Thermal (IR) imaging

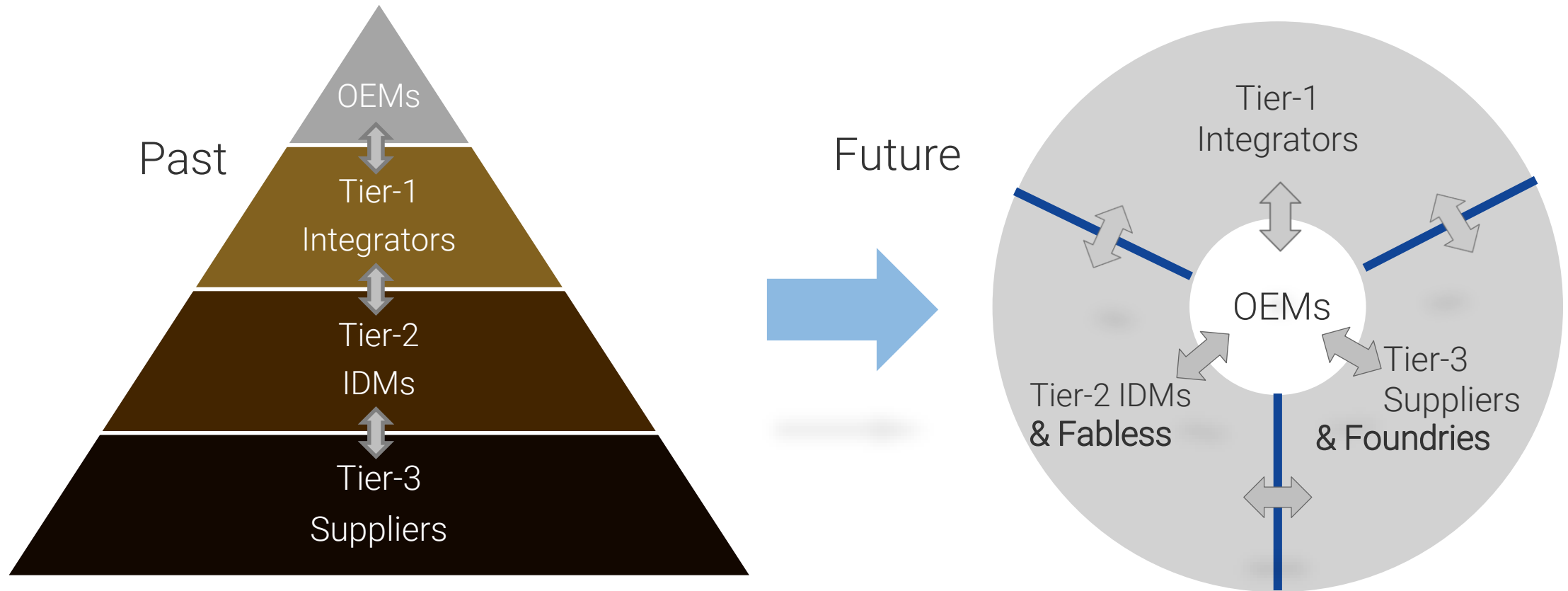
### Multi-Stimuli Sensing

- Magnetic TMR
- Biometric
- Inertial
- Temperature, Pressure
- Gas/Fluid
- Load, Torque, Speed

### HV Power

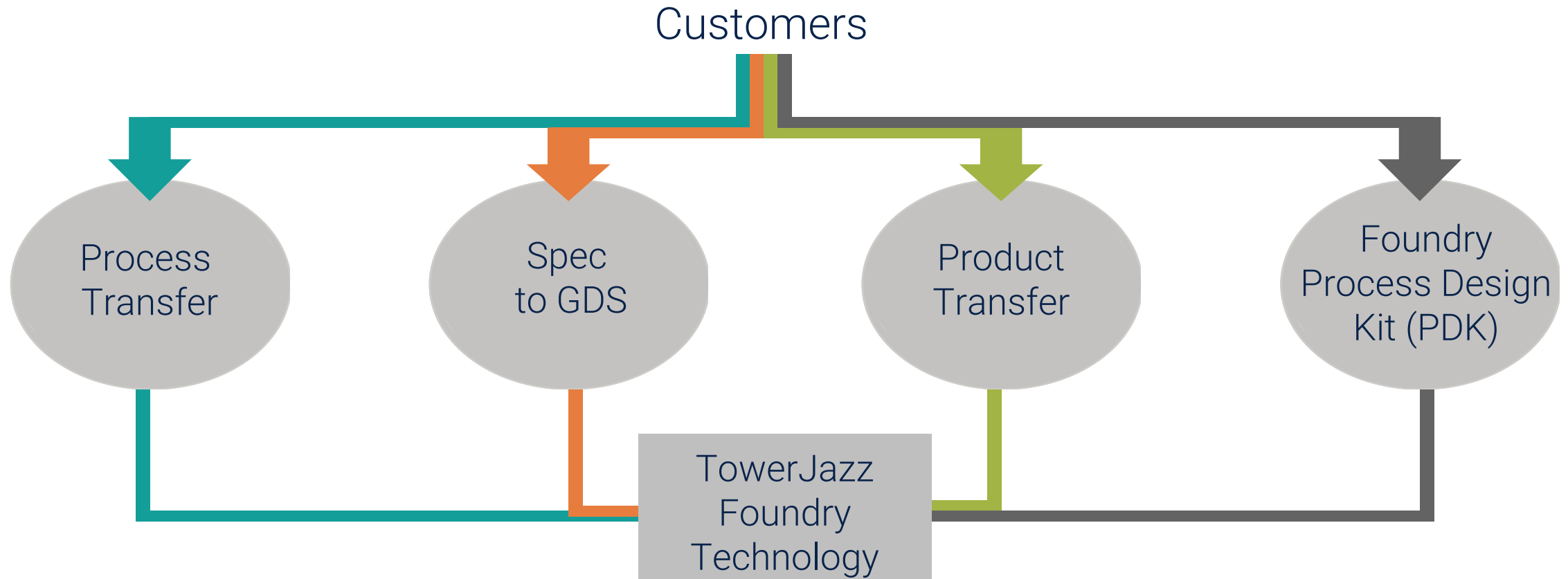
- BCD (bulk, SOI)
- NVM
- MOSFETs
- IGBT
- GaN
- SiC

# Trend: Accelerating Rate of Innovation is Transforming the Automotive Ecosystem



“Flattening” of Automotive Ecosystem is Creating Exciting New Opportunities for Fabless & Foundries

# TowerJazz Solution: Proven Flexible Engagement Models for Fast Time to Market



Customer IP is completely protected in ALL engagement models



# Win by Partnering with Market Leaders

## TowerJazz Announces DENSO Corporation utilized its Advanced 0.18um SiGe Technology to Develop a 24GHz Rear and Side Radar Sensor

Automotive radar market estimated to grow from \$1.4B in 2014 to \$5B by 2023



MIGDAL HAEMEK, Israel, August 14, 2017 — TowerJazz, the global specialty foundry leader, announced today that its 0.18um advanced SiGe technology was used to develop a 24GHz rear and side radar sensor for DENSO Corporation, a leading supplier of advanced automotive technology, systems and components for major automakers. This sensor, using TowerJazz's submillimeter-wave technology, is used in the Toyota Camry that was released in North America in July and it will help enhance the vehicle safety system.



DENSO's rear and side radar sensor system offers SRR (short range radar), enabled by TowerJazz's advanced SiGe process, which helps alert the driver of vehicles approaching from behind when changing lanes and when reversing. It also helps perform automatic braking when reversing. According to Global Market Insights, the global automotive radar market size is estimated to exceed \$5 billion by 2023. The advent of self-driven cars is anticipated to drive industry growth over the forecast period.

## TowerJazz and Crocus Expand Presence in Magnetic Sensors Market through Successful Licensing of Crocus' IP and Volume Manufacturing by TowerJazz

Crocus TMR sensors offer important advantages for multiple applications in IoT, consumer, automotive, industrial and medical sectors



MIGDAL HAEMEK, Israel and SANTA CLARA, Calif., September 27, 2017 — TowerJazz, the global specialty foundry leader, and Crocus, a leading developer of TMR magnetic sensor technology and embedded MRAM, today announce volume manufacturing of Crocus TMR (Tunnel MagnetoResistance) sensors, using TowerJazz's 0.13um CMOS process with a dedicated magnetic module in the Cu BEOL. With Crocus' magnetic process, know-how and IP, and TowerJazz's process technology and integration expertise, Crocus has successfully licensed the TMR technology to an automotive Tier 1 customer, bringing increased business to both companies.



According to a 2016 MarketsandMarkets report, the overall magnetic field sensors market was valued at USD \$2.25 billion in 2015 and is expected to reach \$4.16 billion by 2022, at a CAGR of 8.87% between 2016 and 2022. The growth of this market is driven by the rising demand for MEMS-based sensors across industry verticals, surge in the automotive industry, increasing demand for high-quality sensing devices, and continuous growth in consumer electronics applications.

## TowerJazz and Aisin Seiki Announce Mass Production of New Generation Automotive Body Products

Aisin chips produced for car manufacturers using TowerJazz advanced power management technology



MIGDAL HAEMEK, Israel, and KARIYA, Japan, April 12, 2017 — TowerJazz, the global specialty foundry leader, and Aisin Seiki, Co., Ltd., one of the largest worldwide automotive component suppliers, today announce volume production of Aisin's new generation automotive devices for automotive body products for car manufacturers using TowerJazz's power management technology platform.

TowerJazz's power management platform enables industry leading performance for automotive chips by providing: scalable LDMOS and ESD devices for area efficiency, its patented highly-reliable Y-Flash OTP/MTP solutions, as well as buried Zener diode, Schottky diode and other advanced features.



TowerJazz is expanding its power technology availability to its TowerJazz Panasonic Semiconductor Company's (TPSCO's) Japan fab. TowerJazz and Aisin plan to ramp products also in TPSCO's 200mm automotive grade Japan fab, gaining multi-fab manufacturing flexibility.

## BrightWay Vision Chooses TowerJazz for the production of its Gated Sensor for Automotive Imaging Applications



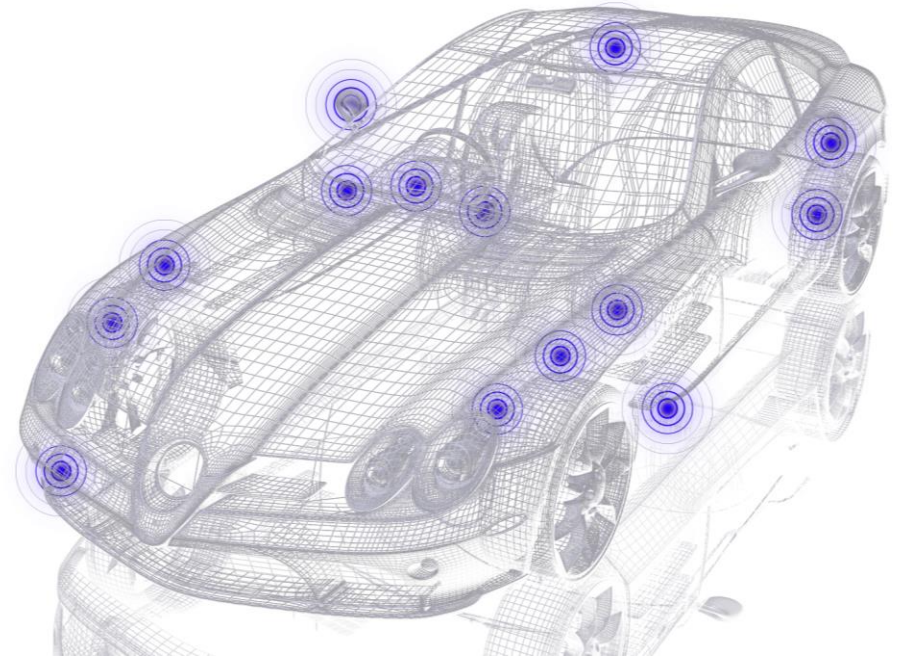
Rapidly growing vehicle cameras market expected to reach over US \$1B in 2020, expanding at a CAGR of 11.3% from 2014 to 2020

MIGDAL HAEMEK and HAIFA, Israel, June 22, 2015 — TowerJazz, the global specialty foundry leader, today announced that BrightWay Vision, a provider of groundbreaking vision technology for vehicles, has chosen its TS181S CMOS image sensor (CIS) technology to manufacture image sensors for its patented automotive cameras, specifically forward looking cameras in vehicles, to allow visibility in all weather conditions. BrightWay Vision has developed BrightEye™, an Advanced Driver Assistance Systems (ADAS) camera for day and night-time forward facing driver assistance functions based on patented gated imaging technology.

According to a new market report published by Transparency Market Research entitled, "Vehicle Cameras Market - Global Industry Analysis, Size, Share, Growth, Trends and Forecast 2014 - 2020," the market was valued at US\$ 595.3 million in 2013 and is expected to reach US\$1.2 billion by 2020, expanding at a CAGR of 11.3% from 2014 to 2020.

# Summary

- TowerJazz: strong financial base with continued good net profit and free cash flow, and growing net cash to support organic and in-organic growth initiative and long term financial model.
- Already strong within automotive and ready to benefit from increasing levels of **automation and connectivity** in future automobiles.
- Accelerated pace of innovation is transforming the Automotive **ecosystem** rapidly, creating exciting long term growth opportunities TowerJazz
- TowerJazz is well-positioned to serve analog needs of this growing automotive market through **best-in-class specialty analog technologies, flexible business model and world-class quality**





The image features a stylized globe of the Earth with a grid of latitude and longitude lines. Several bright, glowing satellite orbits are depicted as white arcs across the globe. The background is a deep blue space with scattered stars. The logo and website address are centered in the upper half of the image.

**TOWERjazz**

[www.towerjazz.com](http://www.towerjazz.com)