

| [Clean Technologies](#) | [Communications](#) | [Consumer](#) | [Enterprise Infrastructure](#) | [Healthcare](#) |
| [Industrial & Diversified Growth](#) | [Semiconductors & Equipment](#) | [Software & Services](#) |

The Fourteenth Annual

Needham Growth Conference

January 10-12th, 2012, New York City

TowerJazz

Tower Semiconductor [Ticker:TSEM]

The Leading Growth Company Focused Investment Bank for 27 Years





Corporate Overview

Russell Ellwanger, CEO

January 10, 2012

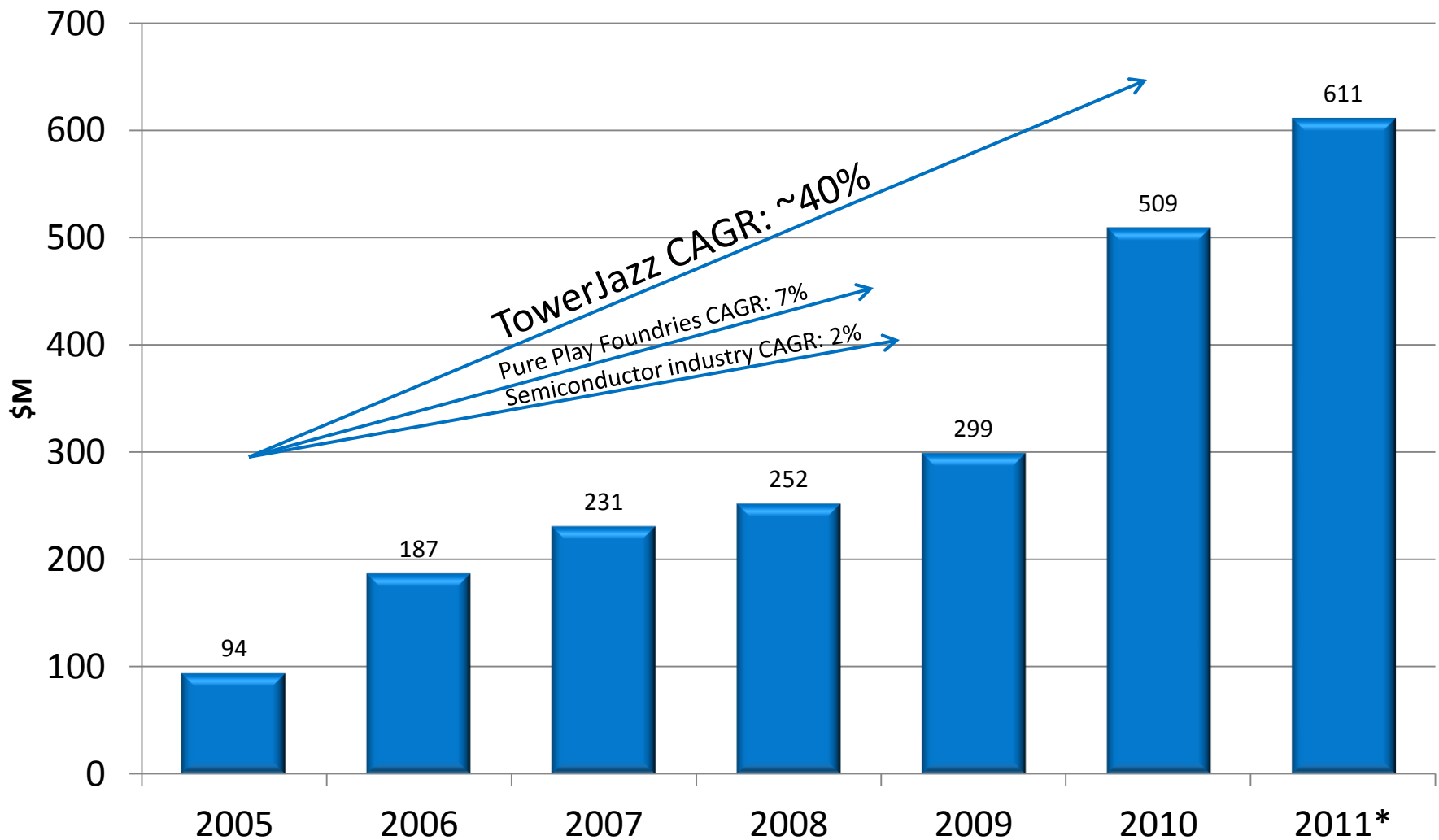
The Global Specialty Foundry Leader

Safe Harbor and Disclaimers

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 of expected synergies from Tower’s merger with Jazz or TowerJazz Japan, customer benefits, costs savings, financial guidance, industry ranking, execution of integration plans and management and organizational structure are all forward-looking statements. The potential risks and uncertainties include, among others, that expected customer benefits, synergies and costs savings will not be achieved or that the companies are unable to successfully execute their integration strategies, as well as other risks applicable to the companies’ business described in the reports filed by Tower and Jazz with the Securities and Exchange Commission (the “SEC”) and, in the case of Tower, the Israel Securities Authority. These filings identify and address other important factors that could cause the companies’ respective financial and operational results to differ materially from those contained in the forward-looking statements set forth in this document. Accordingly, 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 so, what impact they will have on the companies’ results of operations or financial condition. Tower is providing this information as of the date of this presentation and Tower does not undertake any obligation to update any forward-looking statements contained in this document as a result of new information, future events or otherwise.

A more complete discussion of risks and uncertainties that may affect the accuracy of forward-looking statements included in this presentation or which may otherwise affect the companies’ business is included under the heading “Risk Factors” in Tower’s most recent filings on Forms 20-F, F-4, F-3 and 6-K, as were filed with the SEC and the Israel Securities Authority and Jazz’s most recent filings on Forms 10-K and 10-Q, as were filed with the SEC. Actual results may differ materially from those projected or implied by such forward-looking statements. Tower and Jazz do not intend to update, and expressly disclaim any obligation to update, the information contained therein.

Annual Revenues 2005-2011



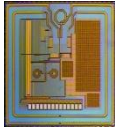
* 2011 revenue based on Q4'11 mid-range guidance

Emerging microelectronics : *Two Roads to Follow*

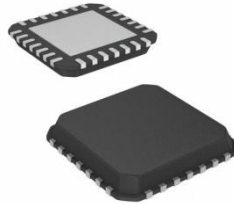
Specialty products : More than Moore



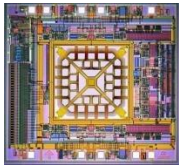
Specialized Image Sensors



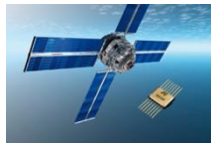
Specialty IC for mobile applications:



Power Management ICs (drivers, converters, etc.)



MEMS

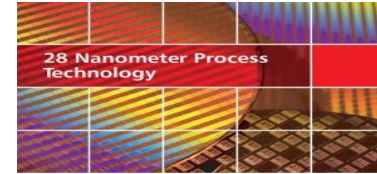


ICs for space applications

350nm-130nm (90nm as long term roadmap) technology nodes
Moderate (hundreds of millions US \$) investments + **lots of Innovation and Creative Thinking**



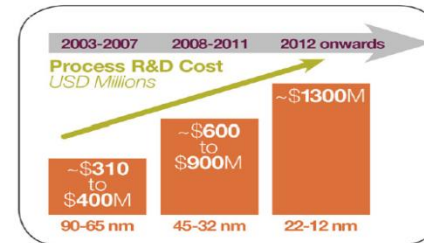
Plain vanilla CMOS; Moore's roadmap



Example: TSMC

High-performance microprocessors, CPUs, GPUs (graphic processing units), etc; High Volumes

45nm -22 nm technology nodes Multibillion US \$ investments
Only very large IDMs and huge foundries (TSMC , UMC, GF, SMIC) can follow this road

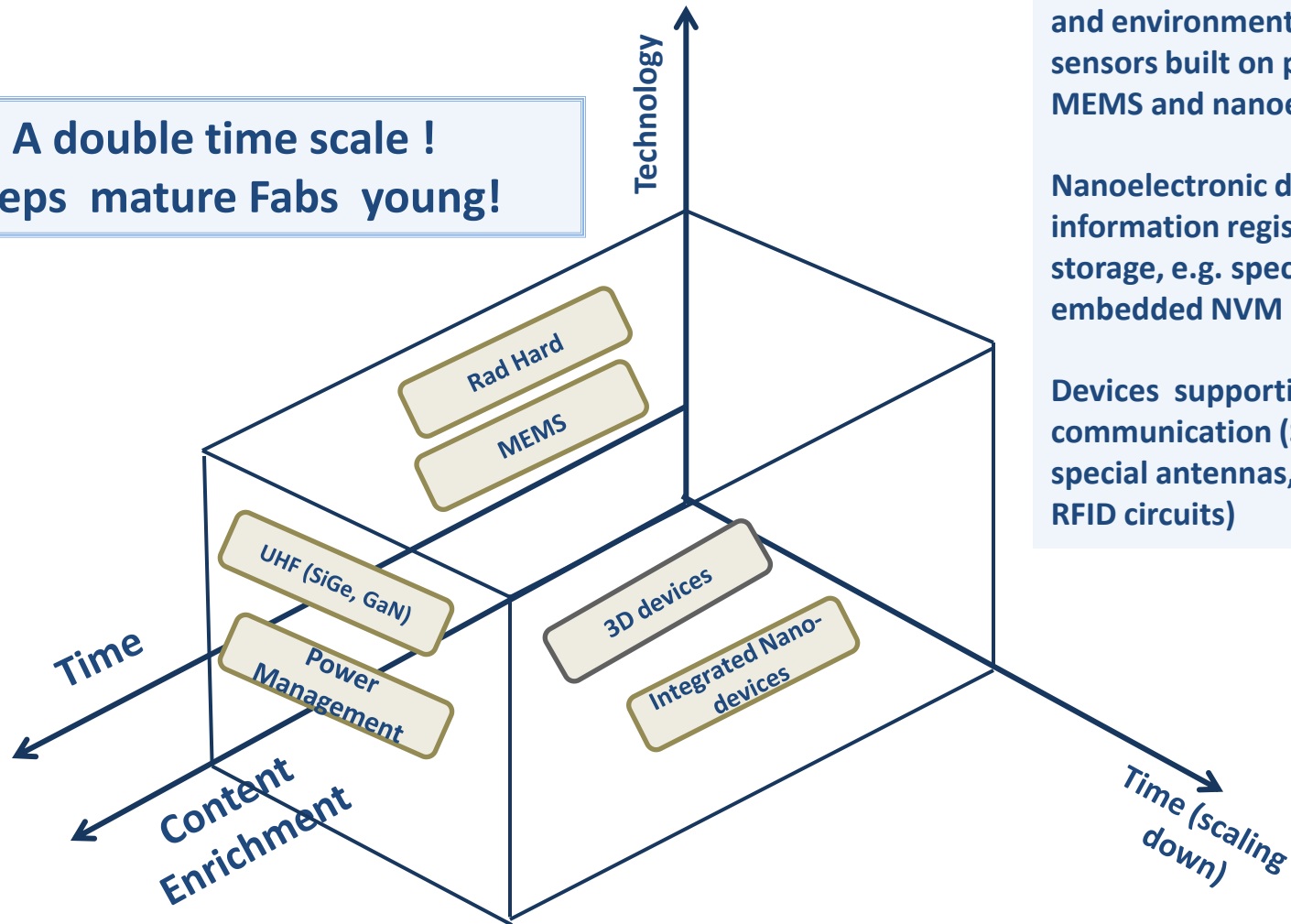


Source: Global Foundries



More than Moore... Special Device Enrichment

A double time scale !
Keeps mature Fabs young!



Specialty features:

Interacting with people and environment : embedded sensors built on principles of MEMS and nanoelectronics

Nanoelectronic devices for information registration and storage, e.g. special CIS and embedded NVM

Devices supporting HF communication (SiGe, SOI, special antennas, elements of RFID circuits)

Two Types of Foundries

Specialty Foundry Enjoys Several Advantages



| | <i>Digital Moore's Law Foundries</i> | <i>Specialty Analog Foundries</i> |
|----------------------------|--------------------------------------|-----------------------------------|
| Capacity Capex | High | Low |
| Technology Capex | High | Low |
| Product Lifetime | Short | Long |
| Customer Engagement | Typically multi-source | Sole or limited source |
| Technology Differentiation | At leading edge only | Across process technologies |
| Segment Sizes | Large | Many niches through mid-size |
| Process Technologies | CMOS | SiGe, BiCMOS, MEMS, CIS |
| Technology Nodes | 65nm-22nm | 350nm-130nm |

Foundry Revenue Landscape: Consistent superior performance

| (\$ MM) | 2005A | | 2006A | | 2007A | | 2008A | | 2009A | | 2010A | | 2011 ⁽¹⁾ | |
|---------|---------------|------------|---------------|------------|---------------|------------|------------------|------------|------------------|------------|------------------|------------|---------------------|------------|
| A | TSMC | 8,217 | TSMC | 9,748 | TSMC | 9,813 | TSMC | 10,253 | TSMC | 9,026 | TSMC | 13,307 | TSMC | 14,700 |
| B | UMC | 3,259 | UMC | 3,670 | UMC | 3,755 | UMC | 2,939 | UMC | 2,755 | UMC | 3,965 | UMC | 3,790 |
| C | SMIC | 1,171 | Chartered | 1,528 | SMIC | 1,560 | Chartered | 1,778 | Chartered | 1,448 | GlobalFoun | 3,510 | GlobalFoun | 3,690 |
| D | Chartered | 1,132 | SMIC | 1,465 | Chartered | 1,445 | SMIC | 1,148 | SMIC | 1,068 | SMIC | 1,555 | SMIC | 1,320 |
| 1 | Vanguard | 353 | Dongbu | 456 | Vanguard | 485 | Vanguard | 515 | Dongbu | 395 | TowerJazz | 509 | TowerJazz | 611 |
| 2 | Dongbu | 347 | Vanguard | 398 | X-Fab | 410 | Dongbu | 433 | Vanguard | 382 | Vanguard | 505 | Vanguard | 502 |
| 3 | HHNEC | 313 | SSMC | 325 | Dongbu | 405 | X-Fab | 370 | TowerJazz | 299 | Dongbu | 495 | Dongbu | 500 |
| 4 | SSMC | 280 | HHNEC | 315 | SSMC | 350 | HHNEC | 290 | X-Fab | 223 | SSMC | 330 | HHNEC | 350 |
| 5 | He Jian | 250 | X-Fab | 290 | HHNEC | 345 | TowerJazz | 252 | HHNEC | 220 | X-Fab | 320 | SSMC | 340 |
| 6 | X-Fab | 202 | He Jian | 290 | He Jian | 330 | He Jian | 222 | Grace | 203 | HHNEC | 295 | X-FAB | 290 |
| 7 | Jazz | 199 | Jazz | 213 | Tower | 231 | Grace | 219 | He Jian | 195 | Grace | 260 | Grace | 280 |
| 8 | Mosel-Vitelic | 140 | Grace | 191 | Grace | 214 | Silterra | 192 | Silterra | 160 | WIN | 221 | WIN | 260 |
| 9 | Silterra | 130 | Tower | 187 | Jazz | 207 | SSMC | 176 | SSMC | 144 | Altis | 215 | LFoundry | 220 |
| 10 | ASMC | 114 | ASMC | 170 | Silterra | 185 | CSMC | 139 | CSMC | NA | He Jian | 205 | Altis | 215 |
| 11 | Grace | 110 | Silterra | 155 | ASMC | 170 | ASMC | 137 | ASMC | NA | Silterra | 200 | He Jian | 210 |
| 12 | Tower | 102 | Mosel-Vitelic | 155 | Mosel-Vitelic | 157 | Episil | 103 | Episil | NA | ASMC | 150 | Silterra | 205 |
| 13 | Polar Semi. | 90 | CSMC Tech. | 114 | CSMC Tech. | 155 | 1st Silicon | 0 | 1st Silicon | 0 | Mosel-Vitelic | 80 | ASMC | 160 |
| 14 | CSMC Tech. | 78 | Polar Semi. | 95 | Polar Semi. | 105 | Mosel-Vitelic | 0 | Mosel-Vitelic | 0 | XinXin | 75 | XinXin | 89 |
| 15 | 1st Silicon | 71 | 1st Silicon | 0 | 1st Silicon | 0 | - | - | - | - | - | - | Mosel-Vitelic | 85 |
| 16+ | Others | 105 | Others | 139 | Others | 163 | Others | NA | Others | NA | Others | 204 | Others | 245 |

Digital Deep
Sub Micro

Specialty Analog

Sources: The McLean Report; iSupply; IC Insight; Company Reports

Note

1. 2011 Forecast based on companies mid-range guidance / reports figures

Foundry Revenue Landscape: Consistent superior performance

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| 16+ | Others | 105 | Others | 139 | Others | 163 | Others | NA | Others | NA | Others | 204 | Others | 245 |

Digital Deep Submicron

Specialty Analog

Digital Deep
Sub Micron

Specialty Analog

11 vs 05

TowerJazz

499%

Grace

155%

TSMC

79%

Silterra

58%

Dongbu

44%

X-Fab

44%

Vanguard

42%

ASMC

40%

SSMC

21%

UMC

16%

SMIC

13%

HHNEC

12%

He Jian

-16%

Mosel-Vitellic

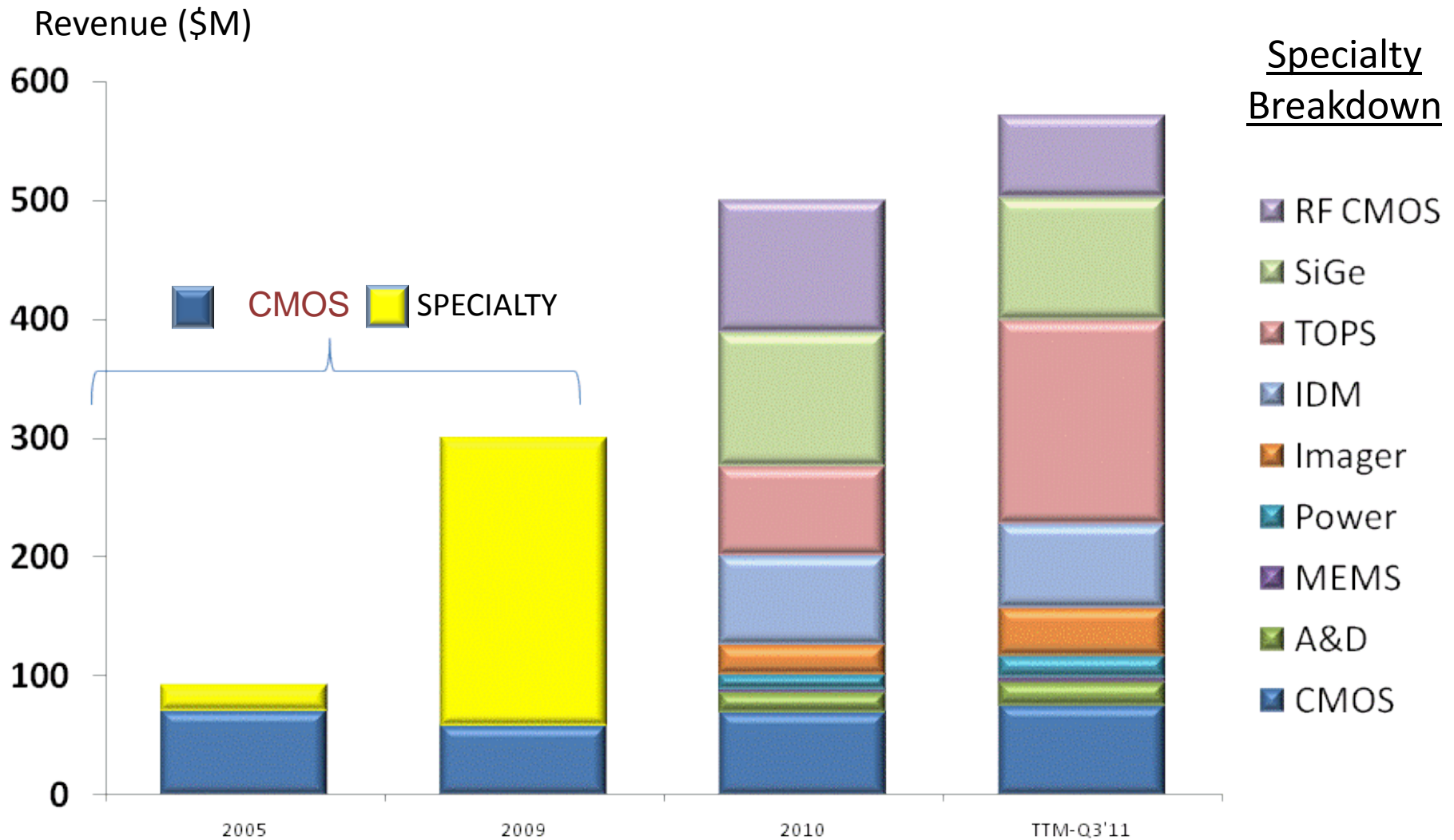
-39%

Sources: The McLean Report; iSupply; IC Insight; Company Reports

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1. 2011 Forecast based on companies mid-range guidance / reports figures

Specialty Technology



TowerJazz Global Footprint

Total 8" Equivalent Capacity of
~1.7M WPY

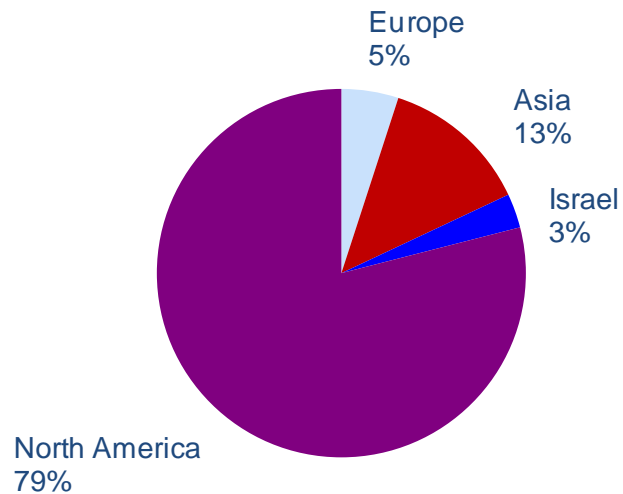


Revenue Breakdown By Region

Historical Data (\$ MM)

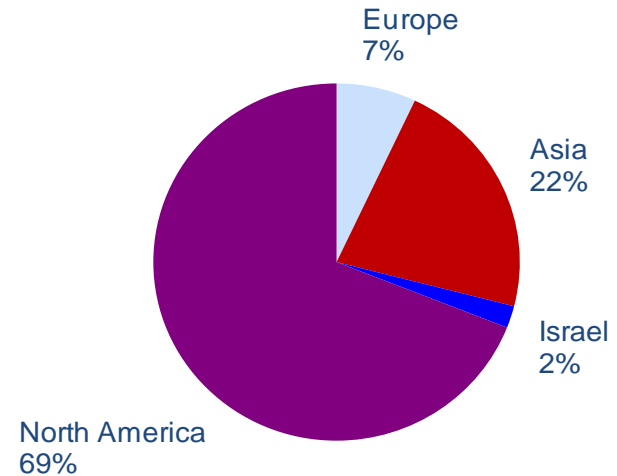
FY 2009

2009 Revenue: \$289.8MM



FY 2010

2010 Revenue: \$509.3MM



Facilities Overview

Fab 1 & Fab 2



World Headquarters
Migdal Haemek, Israel

- Fab 1 built in 1984 – running at full utilization with fundamentally same equipment set⁽¹⁾
- Fab 2 built in 2001 - became operational in 2003 – Expansion Capex through 2011

Geometries (Capacity):

- Fab 1 – 1um-0.35um (20K WPM ...)
- Fab 2 – 0.18um-0.13um (35K WPM)

Technologies:

CIS, PM, MS / RF, MEMS

Representative customers:

Vishay Linear
IR
Samsung
On Semi
Qualcomm
Ikanos
Nuvoton



Employees : 1,200

Fab 3



Jazz Semiconductor
Newport Beach, California, USA

- Converted to 200mm wafers in 1994
- Expanded to 25K WPM in 2010
- Running at full utilization⁽¹⁾

Geometries (Capacity):

- 0.5um-0.13um (24K WPM)

Technologies:

SiGe, BiCMOS, MS / RF

Representative customers:

Skyworks
RFMD
Entropic
Avago
Marvell
A&D US



Employees: 650

Fab 4



TowerJazz Japan
Nishiwaki City, Japan

- Built in 2 segments of 30K wafer capacity in 1992 and 1997

Geometries (Capacity):

- 0.18um-0.095um (60K WPM)

Technologies:

DRAM transfer into CMOS and PM

Representative customer:

Micron



Employees: 1,300

Corporate Business and Applications

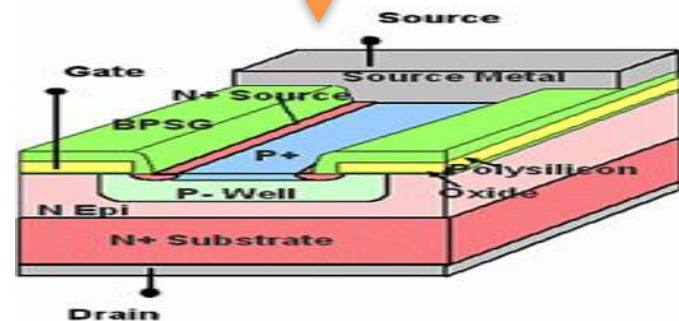
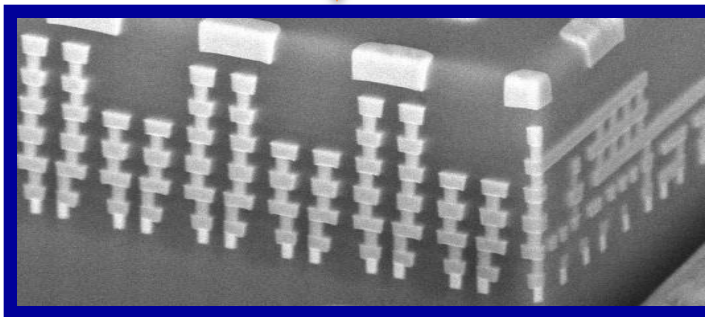
CIS

CMOS

Power

TOPS-IDM

HPA/RF



RF and HPA Applications and Technology

RF and Tuners

RF CMOS and SiGe BiCMOS

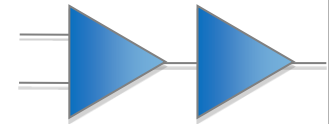
- Cell Phone, WiFi TxRx
- Basestation, Specialty Wireless
- TV, Satellite, STB Tuners



Front-End Modules

SOI Switch and SiGe Power Amplifiers

- Power Amplifiers
- Antenna Switch
- PA Controllers



mmWave

High Performance SiGe

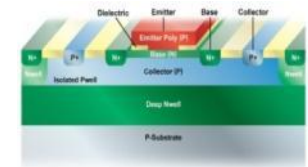
- Optical Fiber Networks
- Automotive Radar
- 60 GHz WiFi, 24GHz Backhaul
- Light Peak and Thunderbolt



High Performance Analog

Complementary BiCMOS

- Line Drivers DSL, HomePlug, ATE
- HDD PreAmp
- OpAmps, DAC, ADC



Best-in-Class SiGe, RF CMOS, RF Models and Design Enablement

Drivers of Demand : Front End Module



Smartphones Becoming Mainstream on a Global Basis

TowerJazz poised for large market share increase

Market Trend

- GaAs PM Switch => SOI technology
- GaAs PA => SiGe PA for several applications
- Silicon based IPD

TowerJazz advantages

- Strong relationship with FEM leaders
- Best of class SiGe technology
- Qualified SOI technologies
- IPD customer pool

Hence – Gen+2 market leader development engagements.

Power: Key Growth Markets

FPD DC/DC, LED Backlighting

- Voltage requirements vary by make and Model: Scalable 20 to 80V and low layer count are the primary advantage



Digital Controlled Power – PMIC

- 1.8V CMOS combined with the High voltage module provides the correct balance of performance and cost for medium currents



High Power/Motor Driver

- High Power with isolated buried layer Provides the noise Immunity required for >2 Amp applications



AC to DC up to 700V

- AC to DC conversion
- Industrial LED lighting
- High side driver for FETs

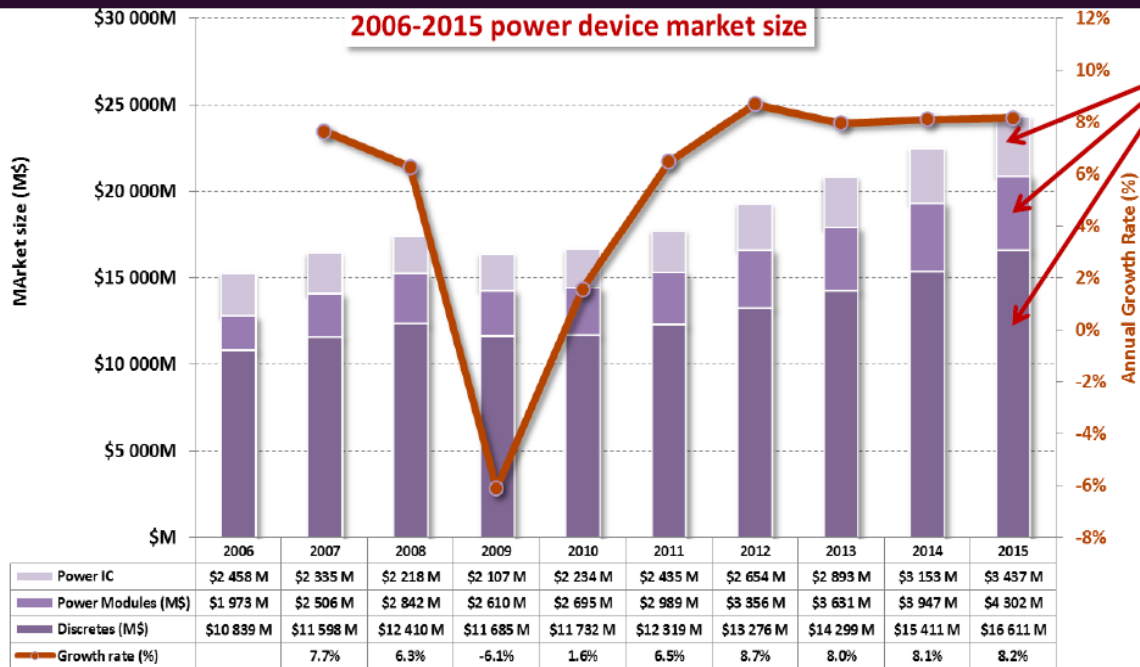


Enabling our customer base to compete with incumbent solutions with a Modular Platform optimized to cover large voltage range and power requirements

Drivers of Demand : Power Electronics Market

20 Billion US \$ today; stable ~ 8% growth rate

Power Electronics 2006-2015 market size, split by device type



Source: Yole Développement

TowerJazz can take market shares over all three segments

TowerJazz PM platforms advantages:

- 180nm technology (*most competitors are at older nodes*)
- Unique 700V devices
- Unique low-cost embedded NVM
- Original isolation technologies
- Flexible integrated solutions
- World-class modeling

It includes:

- Power discretes: MOSFET, rectifier, IGBT, Bipolar....
- Power modules: IGBT, diode or MOSFET modules, IPM
- Power IC: power management IC: mainly voltage regulators (POL) and drivers

Hence – Gen+2 market leader development engagements.



SAMSUNG
ELECTRO-MECHANICS



Samsung Selects TowerJazz's "unrivaled" 700V Power Technology Platform for its Next Generation High Voltage Products

Power Management IC Market Estimated at \$14.6B in 2013 according to iSuppli

MIGDAL HAEMEK, Israel and SEOUL, Korea, September 5, 2011 – TowerJazz, the global specialty foundry leader, and Samsung Electro-Mechanics, today announced they have signed a Memorandum of Understanding (MOU) to develop and volume produce a variety of product families based on TowerJazz's 700V (TS100PM) power management process.

"We chose to work with TowerJazz on our next-generation of high voltage products because of their **superior 700V technology** which is **unrivaled by other foundries**. We were looking for a **true partner** who would be committed to our success and provide excellent support and the required manufacturing capacity," **said Samsung Vice President Dr. Jae Shin Lee**. "TowerJazz is well-known in Korea, especially in the power management market, and we are looking forward to our collaboration on many high volume products."



Samsung Electro-Mechanics Vice President Dr. Jae Shin Lee and TowerJazz Chief Executive Officer, Mr. Russell Ellwanger

CIS Key Markets

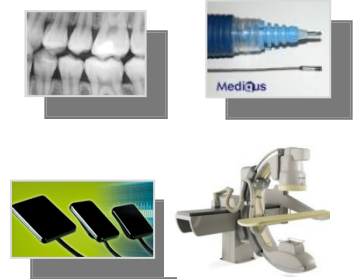
Professional Photography

- Highest requirements for image quality
- Large sensors, very high resolution, demanding frame rate
- Very low defect count allowed
- Very high sensitivity, dynamic range & low noise



Medical & X-Ray

- Market Leader for dental x-ray CMOS
- Supplying all Tier-1 vendors
- Smallest endoscopy solution



Industrial Cameras

- 2D and line sensors
- High speed and high accuracy
- “Intelligent” pixels



Automotive & Security

- High sensitivity and high dynamic range
- Linear HDR for color imagers
 - Reverse & parking assist
 - Airbag inflation control
 - Dimming mirrors
 - Night vision / Obstacle Detection

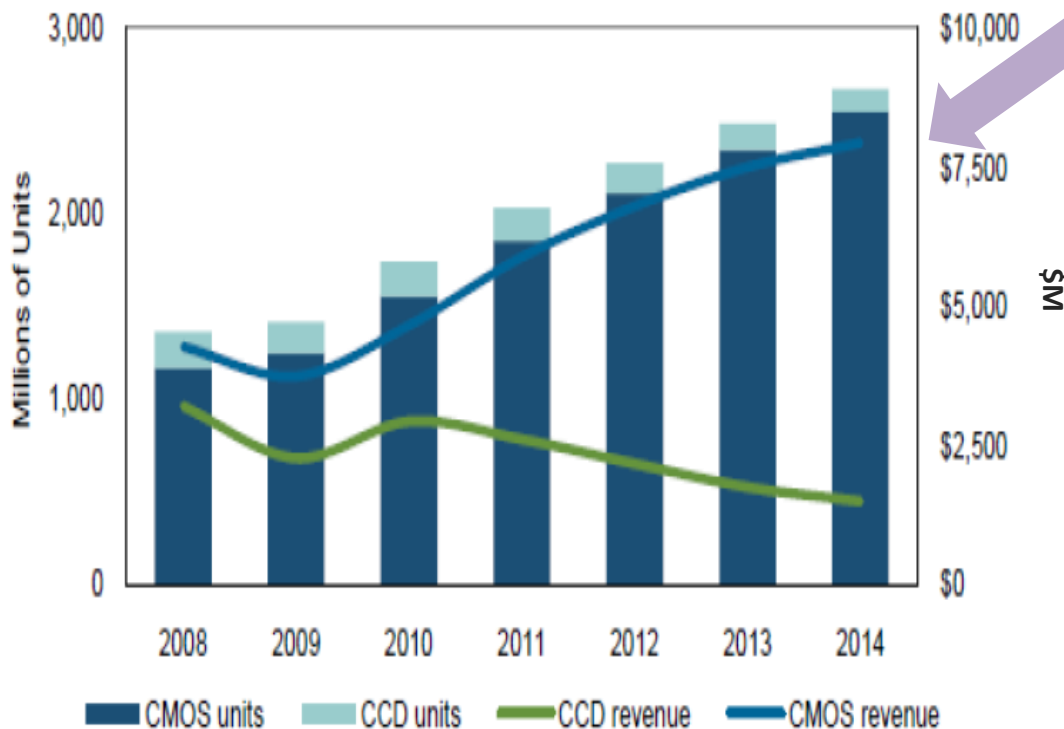


Technology, Flexibility, Experience and Commitment allows our customers to bring to the market the best in class products

Drivers of Demand : CMOS Image Sensor Market

6 Billion US \$ today; stable ~ 7-8% growth rate

Area Image Sensor Shipments and Revenue



Source: HIS iSuppli

TowerJazz market focus is specialty CIS

TowerJazz CIS advantages:

- Ultra-low noise and dark current
- Specialized solutions for high-end applications
- Large area images employing unique stitching technology
- The smallest in the world CIS camera (<1mm size)
- Flexible pixel development environment , extremely advantageous for foundry customers

Hence – Gen+2 market leader development engagements.

Q3 2011 Financial Results

Revenue

- **Q3 2011:** \$176M, up 26% Q/Q, 31% Y/Y
- **Q4 2011:** \$170-180M company's guidance, mid-range up 30% Y/Y
- **FY 2011:** \$606-616M, up 20% Y/Y

Profitability

- Non-GAAP Net Profit of \$46M, a 26% net profit margins
- GAAP **Net Profit** of \$1.8M
- Positive cash from operations of \$42M in Q3'2011

Balance Sheet

- **\$178M cash balance** as of September 30, 2011
- 2.1X Net debt/EBITDA ratio, based on 2010 EBITDA
- \$190M positive shareholders' equity Vs \$118M on Dec' 2010
- Strong & solid financial ratios

Pursuit of Excellence

Pursuit of Excellence

- We are going through every group in the company asking:
 1. Define excellence in your group in 4-5 bullets
 2. Present the top 3 initiatives to achieve it

Pursuit of Excellence

- We are going through every group in the company asking:
 1. Define excellence in your group in 4-5 bullets
 2. Present the top 3 initiatives to achieve it
- There is a common theme for excellence – which boils down to 3 things:
 - Personal capability
 - Adequate work tools
 - Passion.

Pursuit of Excellence

- We are going through every group in the company asking:
 1. Define excellence in your group in 4-5 bullets
 2. Present the top 3 initiatives to achieve it
 - There is a common theme for excellence – which boils down to 3 things:
 - Personal capability
 - Adequate work tools
 - ~~Passion.~~
- Mediocrity

Pursuit of Excellence

- We are going through every group in the company asking:
 1. Define excellence in your group in 4-5 bullets
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- There is a common theme for excellence – which boils down to 3 things:
 - ~~Personal capability~~
 - Adequate work tools
 - Passion.

Waste

Pursuit of Excellence

- We are going through every group in the company asking:
 1. Define excellence in your group in 4-5 bullets
 2. Present the top 3 initiatives to achieve it
 - There is a common theme for excellence – which boils down to 3 things:
 - Personal capability
 - ~~Adequate work tools~~
 - Passion.
- Frustration

Pursuit of Excellence

- We are going through every group in the company asking:
 1. Define excellence in your group in 4-5 bullets
 2. Present the top 3 initiatives to achieve it
- There is a common theme for excellence – which boils down to 3 things:
 - Personal capability
 - Adequate work tools
 - Passion.

“You Need to Give to Get”

Community Service Charter

***Educational and vocational development
with a focus on gender equality and
minority integration.***

*“Changing the world is good for those who want their names in books,
but being happy – that is for those who write their names in the lives
of others and hold the hearts of others as the treasure most dear.”*

Orson Scott Card

Initiative for Academically Outstanding Arab Youth



Recognition Ceremony

Three of the TowerJazz Interns at ceremony with parents, high school administrators and mentors.

"The internship has helped us in many ways. The knowledge and insights that I have gained could not have been had by solely studying electrical engineering as an undergraduate. Upon graduation, I will have direct experience and top references that should make me a valuable candidate for any high-tech job. Equally important, we have all made strong friends within, and gained an understanding of, a Jewish community that we otherwise would have had little contact with."

Christina Nseir, Almutran High School, 2009; Technion Class of 2014



Presenting the internship program to the 2011 round of incoming applicants.
Next steps will be parent accompanied tours at the Migdal Haemek facility.

Customer Feedback

Overall event & Keynote

| | Good | Very Good | Excellent |
|---------|------|-----------|-----------|
| Overall | 8% | 53% | 39% |
| Keynote | 4% | 34% | 62% |

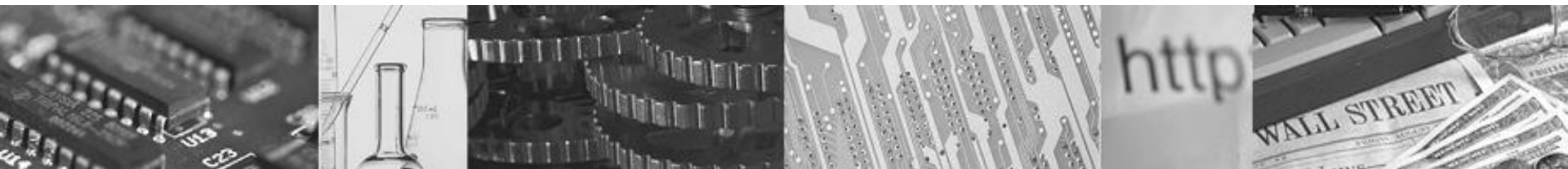


Summary

- We have been the #1 growth foundry over the past 5 years AND became the #1 specialty foundry by revenue in 2010.
- We target to expand that lead over the next years by
 1. Growing specialized capabilities in sync with our customers immediate to long term needs
 2. “Fast tracking” high potential talent
 3. Providing an environment enabling impassioned employees
 4. Contributing to our communities as global citizens.

Thank You!

www.towerjazz.com



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| [Industrial & Diversified Growth](#) | [Semiconductors & Equipment](#) | [Software & Services](#) |

The Fourteenth Annual

Needham Growth Conference

January 10-12th, 2012, New York City

TowerJazz

Tower Semiconductor [Ticker:TSEM]

The Leading Growth Company Focused Investment Bank for 27 Years

