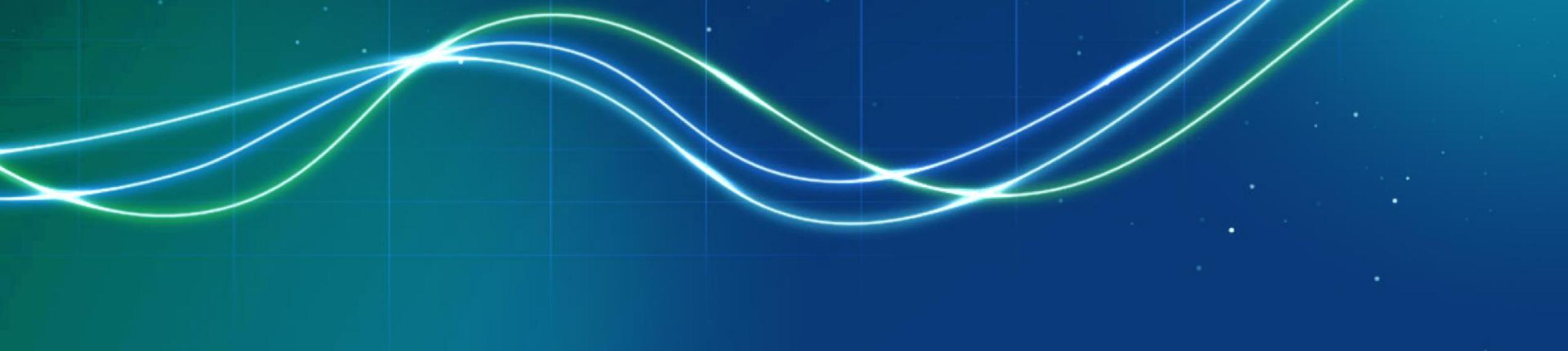


Oppenheimer Annual Israeli Conference

Russell Ellwanger, CEO

May 26, 2024



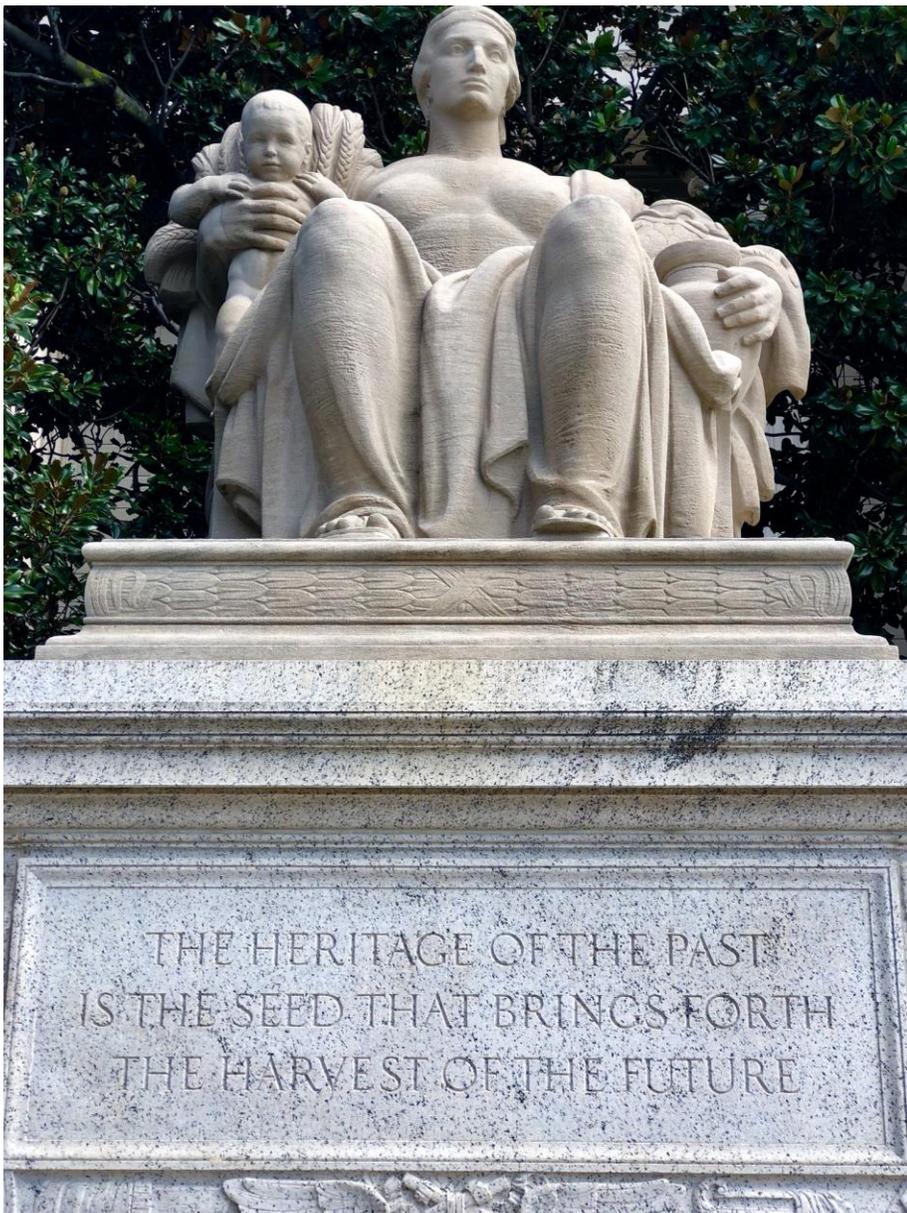
Safe Harbor

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) demand from our end markets, (iv) market and technology trends, and (v) results regarding 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 Tower Semiconductor’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 Tower Semiconductor.

In addition, some of the financial information in this presentation, is non-GAAP financial measures, including, but not limited to, EBITDA, Cash, debt and Net Cash. These non-GAAP financial measures have the same definition as appear in our previously filed quarterly financial results related announcements and/ or other public filings.

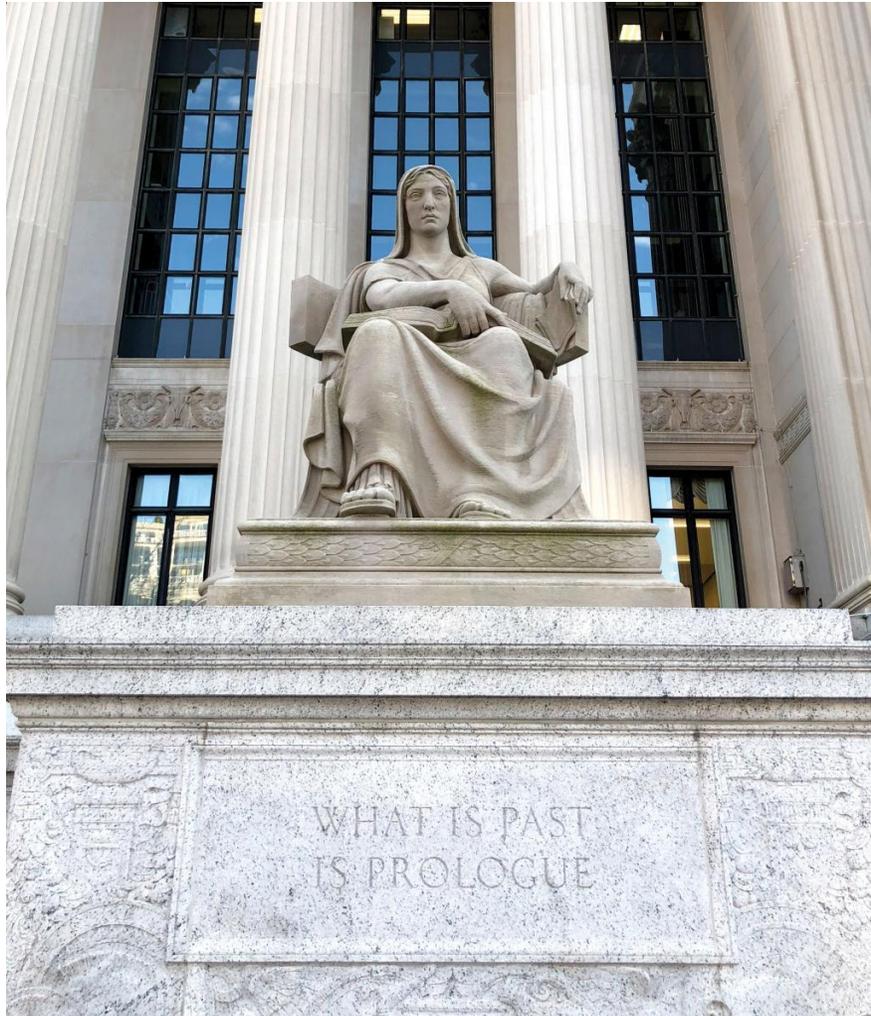
Tower Semiconductor is providing this information as of the date of this presentation and expressly disclaims any obligation to update any of the forward-looking statements or other information contained in this presentation as a result of new information, future events or otherwise.



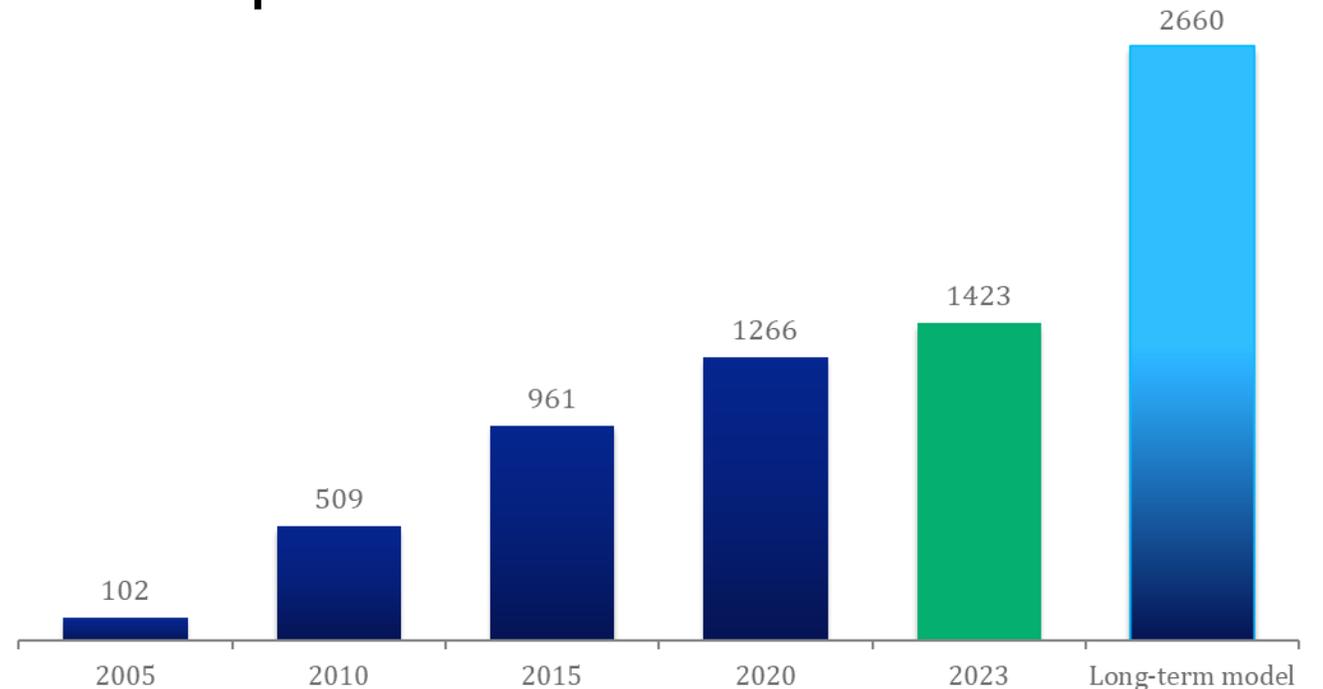
Washington, D.C. Statue on the left of the main entrance to the National Archives of the United States bears the inscription:

**"The heritage of the past
is the seed that brings
forth the harvest of the
future"**

“What is past is prologue”



We have a rich past, an introduction for each of us to write the most amazing new chapter in Tower's book.



Financial Model (\$M)

| | 2023 | Built-out capacity @85% utilization* | Incremental | | |
|------------------|--------|---|-------------|--------------------------------|-----|
| | | | \$M | % of Incremental Revenue | |
| Revenue | 1,423 | 1.9X | 2,660 | 1,237 | |
| Gross Profit | 354 | 2.1X | 740 | 386 | 31% |
| Operating Profit | 234 ** | 2.4X | 560 | 326 | 26% |
| Net Profit | 229 ** | 2.2X | 500 | 271 | 22% |

* Including New Mexico capacity corridor and Agrate capacity based on previously announced Cap-Ex investments

** Excluding Intel merger contract termination fees received in Q3'2023, net of associated cost and taxes

Adding significant 300mm capacity to grow scale

- Six factories in high-volume production
- Two additional 300mm factories being qualified to meet forecasted growing demand with biz models minimizing time to volume and cost.

Migdal Haemek, Israel



6", 150mm
Sensors, Power
1 μ m to 0.35 μ m

Migdal Haemek, Israel



8", 200mm
RF SOI, Sensors, Power
0.18 μ m to 0.13 μ m

Newport Beach, USA



8", 200mm
SiGe, SiPho, RF SOI
0.5 μ m to 0.13 μ m

San Antonio, USA



8", 200mm
RF SOI, Power, SiGe
0.18 μ m

Tonami, Japan



8", 200mm
Power
0.18 μ m

Uozu, Japan



12", 300mm
RF SOI, Power, Sensors
65nm & 45nm

New 12" Capacity

Agrate, Italy



12", 300mm
RF SOI, Displays, Power
65nm

Albuquerque, USA



12", 300mm
Power, RF SOI
65nm

Ranking of Top 10 Transceiver Suppliers

| 2010 | 2016 | | 2018 | 2022 |
|------------------|------------------|----|-----------------|----------------------|
| Finisar | Finisar | 1 | Finisar | Innolight & Coherent |
| Opnext | Hisense | 2 | Innolight | (tie) |
| Sumitomo | Accelink | 3 | Hisense | Cisco (Acacia) |
| Avago | Acacia | 4 | Accelink | Huawei (HiSilicon) |
| Source Photonics | FOIT (Avago) | 5 | FOIT (Avago) | Accelink |
| Fujitsu | Oclaro | 6 | Lumentum/Oclaro | Hisense |
| JDSU | Innolight | 7 | Acacia | Eoptolink |
| Emcore | Sumitomo | 8 | Intel | HGG |
| WTD | Lumentum | 9 | AOi | Intel |
| NeoPhotonics | Source Photonics | 10 | Sumitomo | Source Photonics |

6 of the top 10 are our customers (not Huawei).

Source: LightCounting

To note: Coherent is a result of an acquisition of Finisar.

Tower Semiconductor and InnoLight Partner to Develop Multi-Generation Silicon Photonics Based Optical Transceivers

400G/800G Transceivers built on Tower's production PH18M Silicon Photonics platform

Partnership to deliver solutions for the growing markets of Artificial Intelligence (AI), Datacenter Interconnects and Next-Gen Telecom

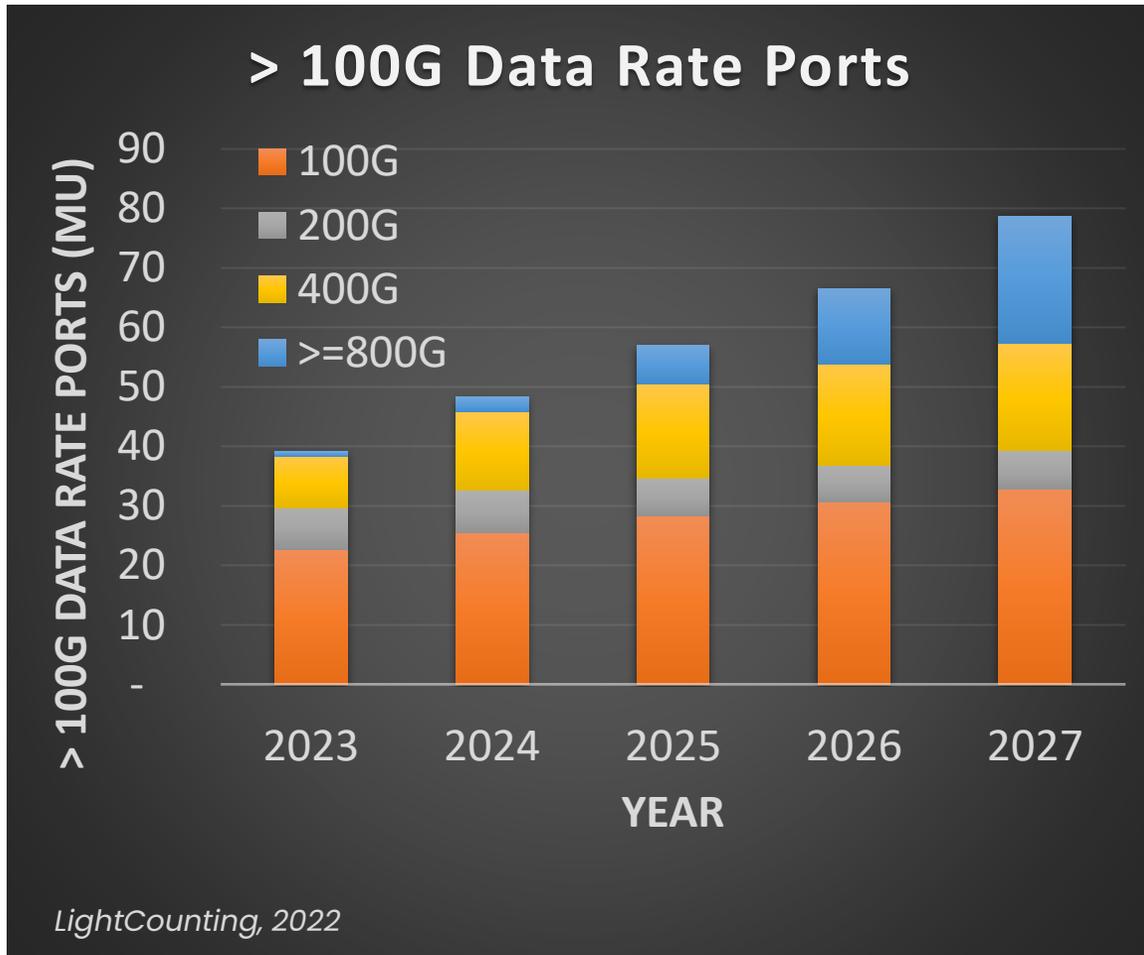
MIGDAL HAEMEK, Israel, and SUZHOU, China, Sept. 7, 2023 – Tower Semiconductor (NASDAQ/TASE: TSEM), a leader in high-value analog semiconductor foundry solutions, and InnoLight Technology, the leader in data center optics, today announced their collaboration to develop multi-generation high-speed optical transceivers based on Tower's Silicon Photonics process platform (PH18). With production already underway, this strategic partnership is expected to enable cutting-edge solutions to support the growing demands of AI, datacenters, and next-generation telecom networks. According to Yole, a market research firm, the silicon photonic die market is expected to grow at 22% CAGR reaching nearly half-a-billion dollars by 2027.

Coherent Awards Tower Semiconductor as an Outstanding Innovation and Technology Supplier for Silicon Photonics based Products

Tower's silicon photonics technology to be deployed by Coherent across multiple data rates for high-speed optical transceivers needs Technology for Micro Displays

PITTSBURGH, PA, and MIGDAL HAEMEK, Israel, March 18, 2024 – Coherent Corp. (NYSE: COHR), a global leader in materials, networking, and lasers, and Tower Semiconductor (NASDAQ/TASE: TSEM), the leading foundry of high-value analog semiconductor solutions, today announced that Coherent has recognized Tower Semiconductor as an Outstanding Innovation and Technology Supplier for its silicon photonics based optical transceiver products. This prestigious award recognizes Tower's unwavering long-term commitment to providing the most advanced technology solutions, enabling the development of Coherent's market-leading multiple data rate nodes for high-speed optical transceivers based on Tower's PH18 silicon photonics process technology. According to the Yole Group, the silicon photonics market is expected to grow at 44% CAGR from 2022 to 2028, supporting growth of AI, Data Center, and Network infrastructure.

Growth of Optical Transceivers



- Historically our market has been exclusively of **SiGe** optical transceiver components (drivers, TIAs, CDRs)
- Today, we are adding **Silicon Photonics** components at higher data-rates (400/800 G)
- Working with >50 active Silicon Photonics customers, announced production and partnerships with **Innolight** and **Coherent** (#1, #2 optical module providers) and **Marvell** (Tier 1 optical transceiver IC provider)

Tower SiPho Serving a Gamut of Applications



Pluggable transceivers
DR/FR/LR



Pluggable transceivers
ZR/ZR+



Quantum Applications



Artificial Intelligence



Gyroscopes



FMCW LiDAR



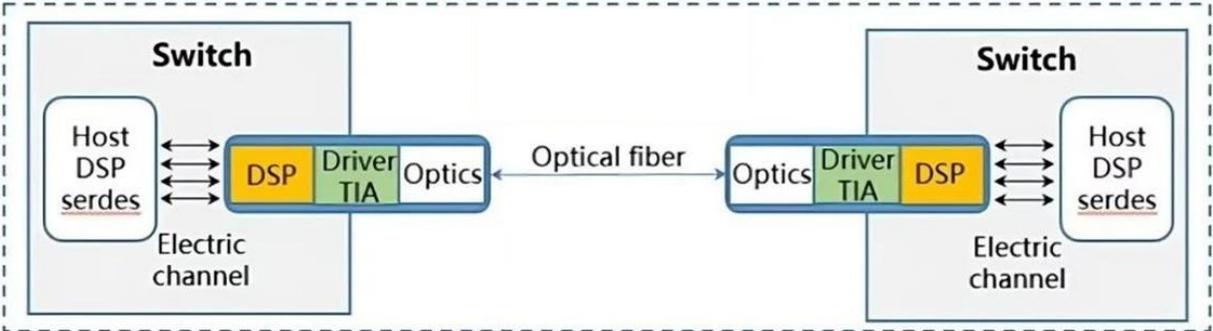
Co-packaged Optics



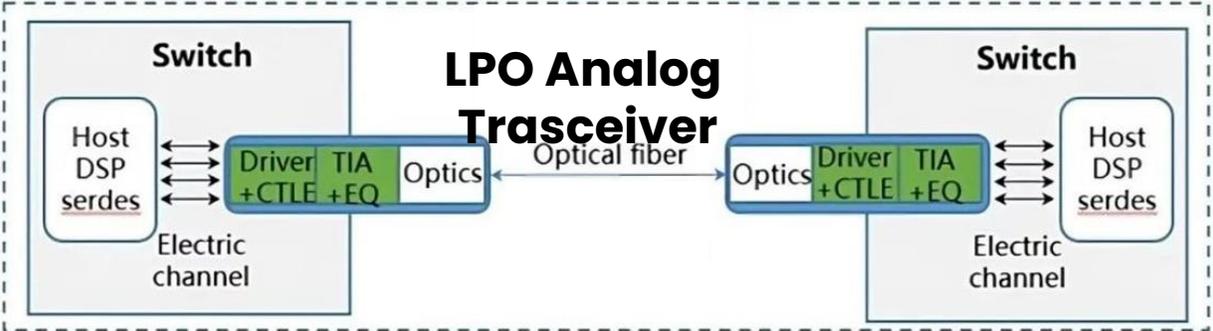
Biosensors

Linear Pluggable Optics Replace the DSP with SiGe-based Redrivers and TIAs

DSP-based Transceiver



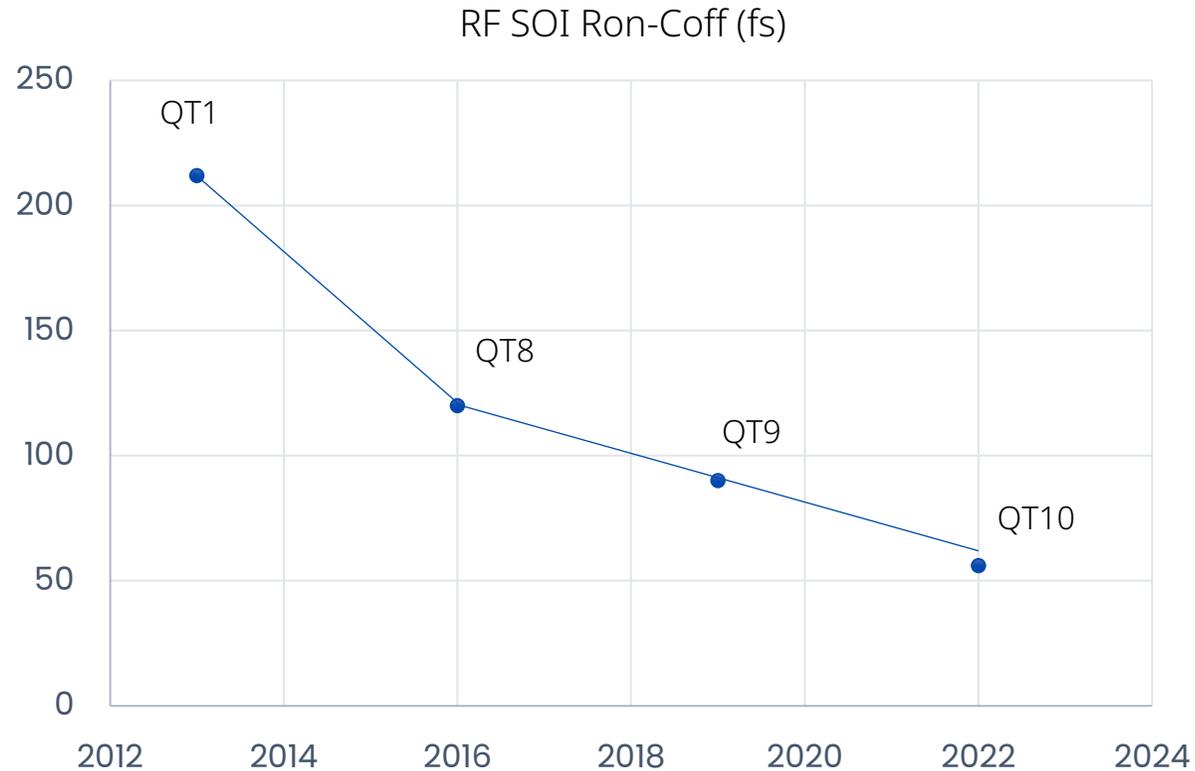
LPO Analog Transceiver



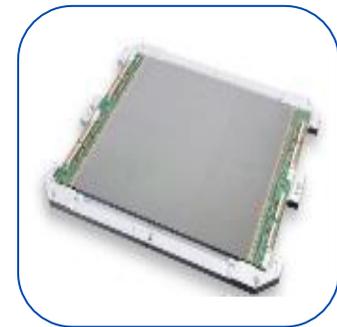
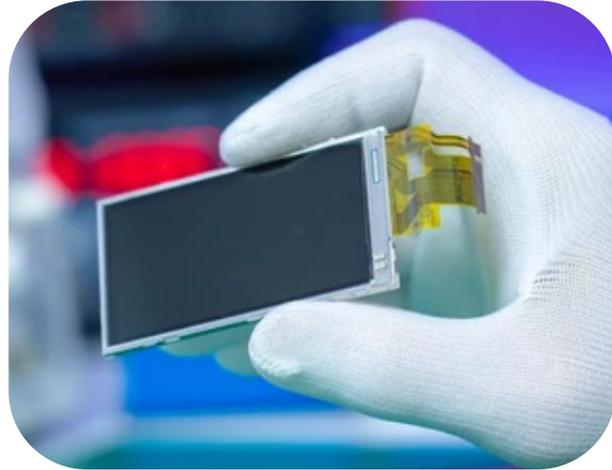
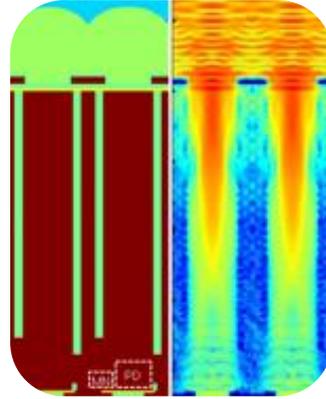
Source: Ruijie Networks

- Linear Drive (no DSP)
 - Lower Cost
 - Lower Power
 - Lower Latency
- Larger market for SiGe

Tower RF SOI Technology



- 200mm and 300mm wafer sizes
- 180nm to 65nm nodes
- 4 facilities in high volume + qualifying Agrate
- Best-in-class FoM and roadmap with low Ron-Coff and high-power handling



Sensors & Displays Development Activities

- Next Generation Stacked BSI Global Shutter pixel platforms:
 - 2.74um for High Resolution stitched sensors (100Mp to 325Mp)
 - 2.2um for low to medium resolutions (from 2Mp up to 50Mp) with high shutter efficiency
- Fast Stacked BSI Rolling Shutter stitched pixel platform for next generation high-end photography Full Frame sensors
- Medical X-Ray stitched lean flow on 300mm to compete with IGZO technology, alongside with next generation pixel platform based on edge photo-detection for next generation CT
- Low leakage high voltage (8-10V) unique platform for CMOS backplane for micro- OLED displays (OLEDoS) for VR headsets.

Tower BCD offering by voltages

Available

In development

Markets



Industrial & Automotive

Isolated gate drivers
 Digital Isolators
 High voltage motor
 GaN and MOSFET gate drivers
 Automotive BMS (battery management system)
 48V system power solutions



Mobile devices

USB-C
 PMIC
 Audio
 Haptic IC
 BMS



CPU & GPU

PCIe & Server
 power supplies



Consumer Electrification

Motor driver
 BMS
 DCDC converter
 Active fuses

Operating voltages

1500V

Galvanic Cap

200V

200V SOI

160V

48V

24V

30V

28V

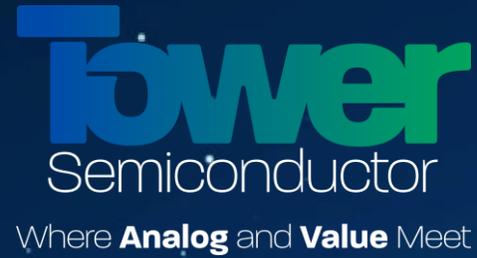
24V

180nm BCD

- RESURF technology bulk inc. DTI platform
- SOI process
- Galvanic capacitor
- Dual manufacturing sites

65nm BCD

- High modularity Platforms (Isolation, Devices, BE, Mask count)
- Aggressive developments & roadmap for 3rd Gen, Smart power & Analog enhancements
- Dual operations sites



Thank You

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Email: noitle@towersemi.com