



Where **Analog** and **Value** Meet

# TSEM Corporate Overview

February 2021

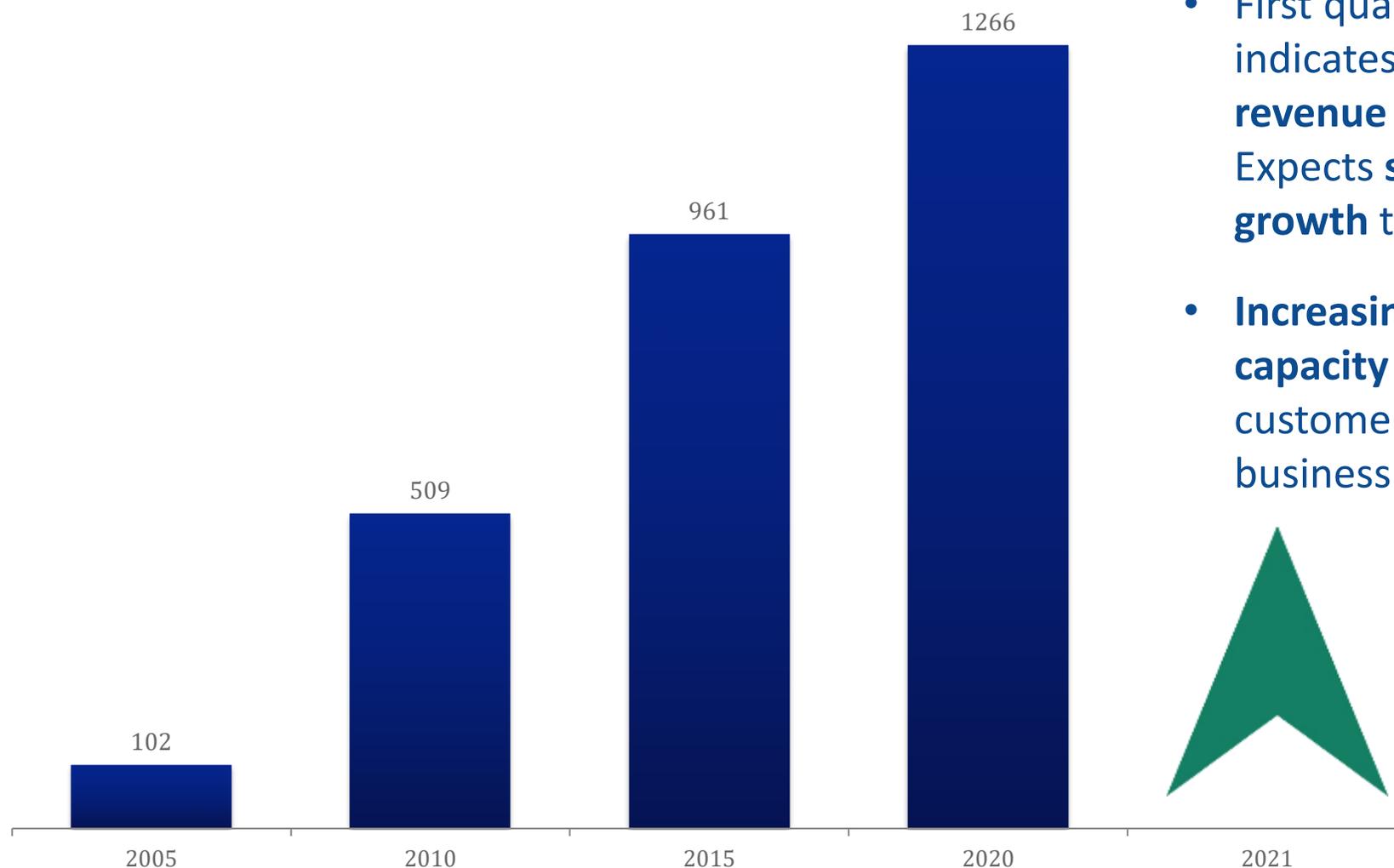


# Safe Harbor

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.

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# Annual Revenues \$M – 5-year tracking & 2021 Target



- First quarter mid-range guidance indicates the **highest first quarter revenue in Company's history**; Expects **sequential quarterly revenue growth** through 2021
- **Increasing 200mm and 300mm capacity** to answer exceeding customer demand serving all our business units

# Leading the Analog Ecosystem

- **Mega Trends and Technology Solutions**
- **Unique Position and Value-add Offerings**
- **Growth Drivers and Current Market Outlook**

# Semi Market Trends

## Wireless Everything

Seamless Connectivity



36%

of corporate revenue

*Mobile – up 22% 2020/19*

*Infrastructure – up 15% 2020/19*

## Green Everything

Energy Efficiency



32%

of corporate revenue

*PMIC – up 25% organic 2020/19*

*Discrete – down 12% 2020/19*

## Smart Everything

Interactive Smart Systems



18%

of corporate revenue

*Up 7% 2020/19*

# Analog IC: RF

## 2021 Focus and Future Growth Drivers

- **Expand 200mm and 300mm business with added capacity**

RF SOI: strong traction on existing platforms; winning new designs on next-gen platform

- **Capitalize on 5G opportunity**

- Infrastructure: the upgrade of 5G base-stations occurring utilizing our 25Gbps SiGe
- Mobile: strong content growth with 5G

- **Continue growth in Optical data-com business**

SiGe: data center recovered H2'20 with continued strength – strong demand for 100Gbps, early adoption of 400Gbps and even activities at 800Gbps.

SiPho: established leading edge foundry technology with initial production, poised for strong growth in the next several years.

# RF: 300mm Opportunity

The ability to print smaller dimensions on 300mm wafers has enabled Tower to expand its Analog IC markets to include:

- **Smaller geometry RF SOI** with enhanced LNA and digital integration
  - 65nm RF SOI: 4x smaller digital and improved LNA performance for 4G and 5G
  - Now ramped to high volume
- **65nm SiGe** for next generation optical and mmWave products
  - Enabling SiGe with high performance CMOS and dramatically higher digital density

# 5G Opportunity for RF

## Optical Fiber Communications

### HP SiGe and Si Photonics

## Wireless Front-Ends

### SiGe and RF SOI



### Mobile:

Transition to 5G handsets that require 30-50% more RF content



### Infrastructure:

Continued roll-out of 5G infrastructure and data center buildout



# Analog IC: Power Management

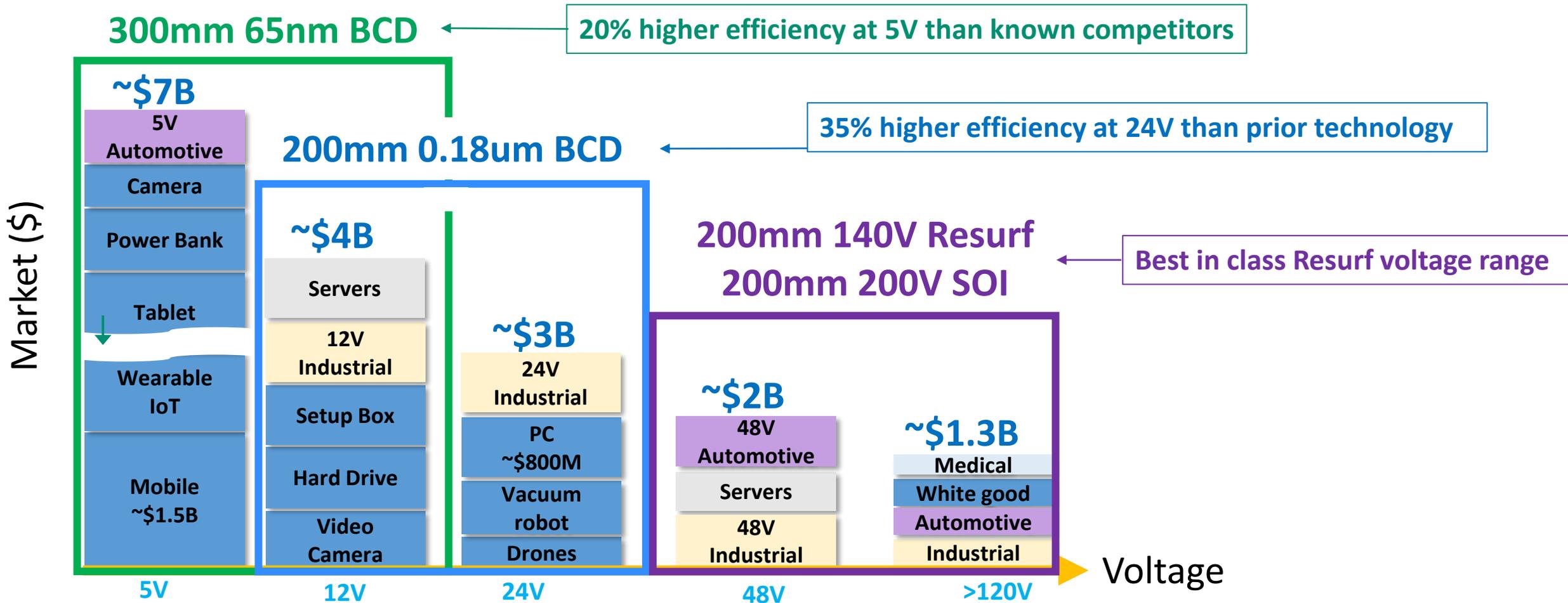
## 2021 Focus and Future Growth Drivers

- **Gain share in the large 200mm Power market**
  - Developed next gen 200mm BCD platform, enabling strong area reduction targeting market share
  - Expanded platforms into high-voltage power applications, strong design wins with our differentiated 140V and 200V offerings.
  - Very high demand with large CapEx investment in 3 sites
- **300mm business with added capacity**
  - 65nm BCD: strong orders beginning with large pipeline of new Tier 1 opportunities

### 300mm opportunity

- **Low-Voltage Power Management 65nm BCD** (serving an \$11B analog market)
  - Best in class performance
  - Platform provides up to 50% cost reduction vs. 0.18um at low voltage

# Power Management Opportunity



Poised to gain share with new technology and best power efficiency across entire voltage range in this large and diverse market.

# Sensors and Displays

## 2021 Focus and Future Growth Drivers

- **Image Sensors**

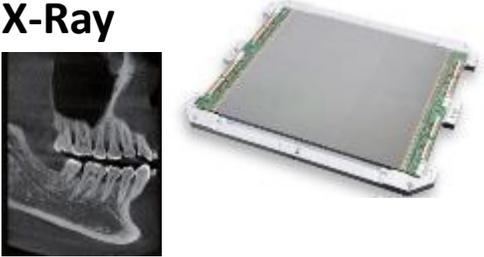
- Strong share in traditional markets exhibiting growth (x-ray, high-end photography, machine vision), with best in the world figures of merit and continued road-map development.
- Long-term partnerships with absolute leaders for new, hence by definition, high growth markets (under screen fingerprint and advanced time of flight for facial imaging).

- **Non-imaging Sensors and Display**

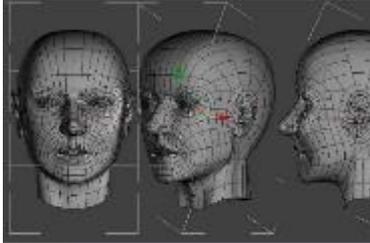
- Displays: dramatic change from LCD based screens with LED backlighting into micro-LED or micro-OLED displays.
- Differentiated MEMS microphones, gas, temperature, magnetic and non-magnetic axial motion sensors, as well as edge AI devices.

# CMOS Image Sensors

- Tower Traditional Market

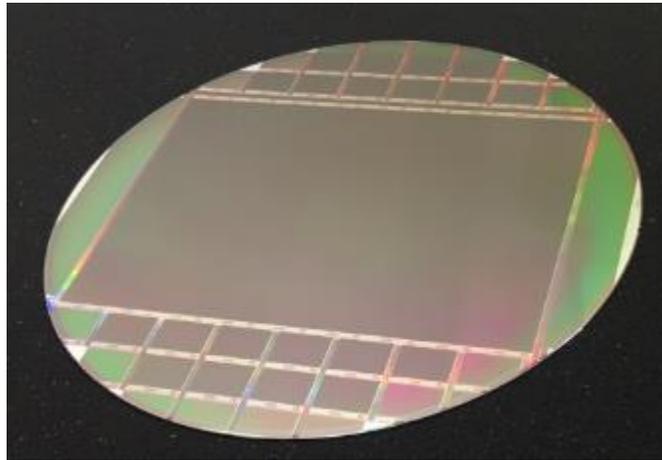
<p><b>Medical and Dental X-Ray</b></p> 	<ul style="list-style-type: none"> <li>• Growing market share</li> <li>• New 200mm and 300mm products introduction</li> </ul>
<p><b>High end Photography</b></p> 	<ul style="list-style-type: none"> <li>• New Cinema products</li> <li>• Growing market share with a leading DSLR maker</li> </ul>
<p><b>Industrial Machine Vision</b></p> 	<ul style="list-style-type: none"> <li>• Next gen products based on 300mm state of the are GS pixels</li> </ul>

- New Emerging High Growth Markets

<p><b>Under Screen Fingerprint</b></p> 	<ul style="list-style-type: none"> <li>• Customers providing to leading Chinese cellphone makers</li> <li>• Under OLED</li> <li>• Under LCD</li> </ul>
<p><b>Time of Flight</b></p> 	<ul style="list-style-type: none"> <li>• Two market leaders for face recognition ToF based solution</li> </ul>
<p><b>VR Displays</b></p> 	<ul style="list-style-type: none"> <li>• Market leader for VR goggles</li> </ul>

# Stitching on 300mm wafers for X-Ray and high-end photography sensors

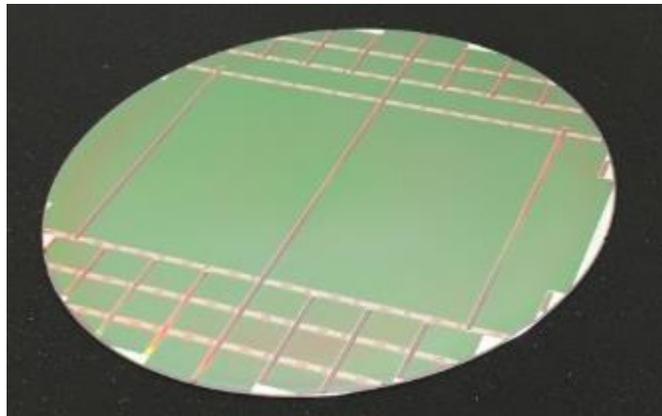
1die per wafer product



Radiography



2dies per wafer product



Fluoroscopy (hand)



# Global Operations

# High Quality and Flexibility of Worldwide Manufacturing Capabilities

<p><b>Migdal Haemek, Israel</b></p>  <p>6", 150mm Sensors, Power 1µm to 0.35µm</p>	<p><b>Migdal Haemek, Israel</b></p>  <p>8", 200mm Sensors, Power, RF SOI 0.18µm to 0.13µm</p>	<p><b>Newport Beach, USA</b></p>  <p>8", 200mm SiGe, MEMS, RF SOI 0.5µm to 0.13µm</p>	<p><b>San Antonio, USA</b></p>  <p>8", 200mm RF SOI, Power 0.18µm</p>
<p><b>Tonami, Japan</b></p>  <p>8", 200mm Power 0.18µm</p>	<p><b>Arai, Japan</b></p>  <p>8", 200mm Sensors, RF SOI 0.13µm to 0.11µm</p>	<p><b>Uozu, Japan</b></p>  <p>12", 300mm Power, Sensors, RF SOI 65nm &amp; 45nm</p>	

\$150 million investment to increase capacity and enable additional capabilities to existing tools for higher margin offerings.

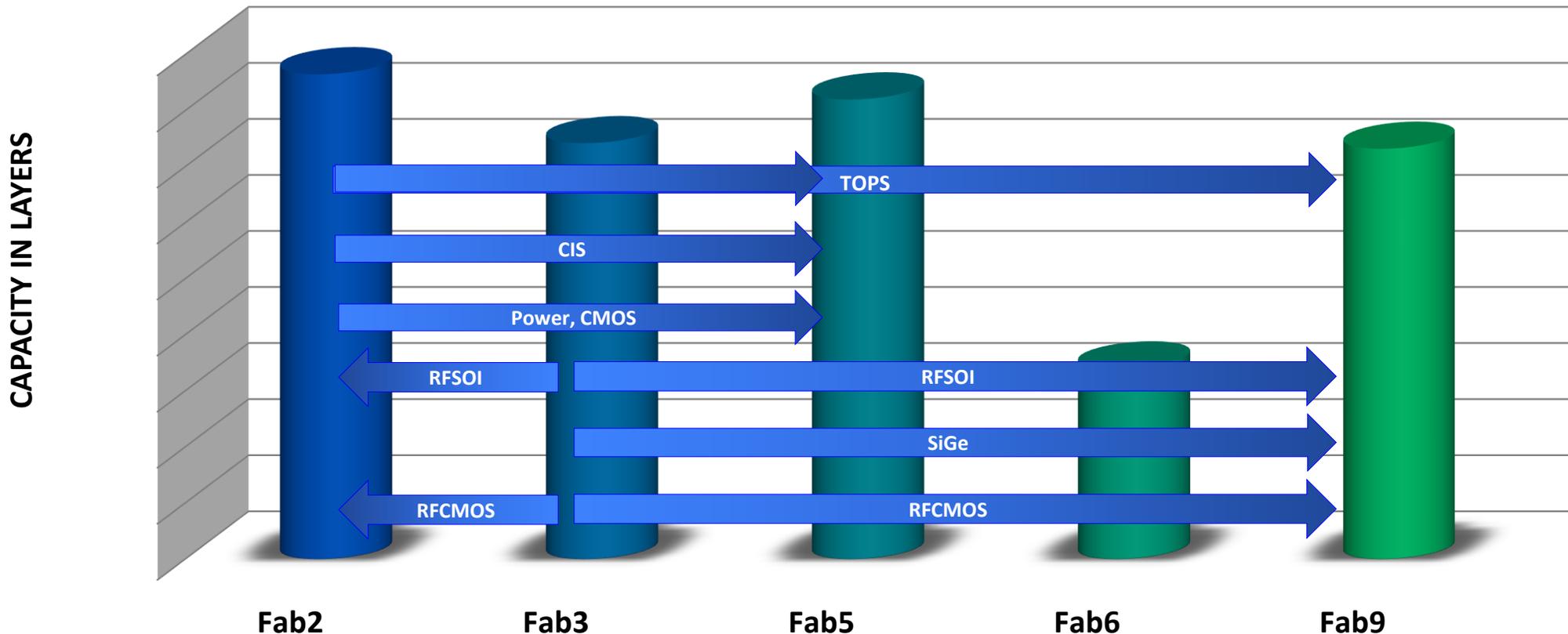
Potential of adding \$150 million of revenue on an annual basis once fully qualified and utilized.



# Tower Operations - differentiation factors: Global capacity assurance

## Enabling 200mm multi-fab wafer production

- Cross qualified platforms enabling maximized utilization and customer assurance
- Cross qualification answer customers BCP needs



# Financial Performance

# Q4'20 Financial Results Highlights and Business Outlook

(\$ in million, except per share data)

	Q4'19	Q3'20	Q4'20
Revenues	306	310	<b>345</b>
Gross profit	55	53	<b>70</b>
Operating profit	19	19	<b>33</b>
Net profit	21	15	<b>31</b>
EPS - basic	0.19	0.14	<b>0.29</b>
EBITDA	75	79	<b>96</b>

11% quarter over quarter and 13% year over year growth

Organic revenue growth of 20% quarter over quarter and 17% year over year

Significant increases in the fourth quarter of 2020 in gross profit, operating profit, EBITDA and net profit

**Guides 15% Year Over Year Revenue Growth for the First Quarter of 2021;  
Expecting Quarterly Sequential Growth Throughout 2021**



# Balance Sheet (\$ in million)

	December 31, 2020	September 30, 2020	December 31, 2019
<b>CURRENT ASSETS</b>			
Cash and cash equivalents	212	208	356
Short-term deposits	310	313	216
Marketable securities	189	184	176
Trade accounts receivable	162	118	126
Inventories	199	205	192
Other current assets	31	30	22
<b>Total Current Assets</b>	<b>1,103</b>	<b>1,058</b>	<b>1,088</b>
Long-term investments	41	41	40
Property and equipment, net	<b>839</b>	781	682
Intangible assets, net	18	16	17
Deferred tax asset and other assets, net	93	89	106
<b>TOTAL ASSETS</b>	<b>2,094</b>	<b>1,985</b>	<b>1,933</b>
<b>CURRENT LIABILITIES</b>			
Short-term debt	107	87	66
Trade accounts payable	97	104	119
Customer prepayment and deferred revenue	10	10	10
Other current liabilities	59	58	58
<b>Total Current Liabilities</b>	<b>273</b>	<b>259</b>	<b>253</b>
Long-term debt	284	229	246
Employee related liabilities	16	17	13
Customer prepayment	25	26	28
Deferred tax liabilities	41	40	46
<b>TOTAL LIABILITIES</b>	<b>639</b>	<b>571</b>	<b>586</b>
<b>Shareholders' Equity</b>	<b>1,455</b>	<b>1,414</b>	<b>1,347</b>
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b>2,094</b>	<b>1,985</b>	<b>1,933</b>



# Summary

# Value Vectors

We pursue excellence in all we do from ideation through product shipment. Hence, we deliver the best experience to our customers and employees

Being a trusted long-term partner for customers, employees and shareholders

Partnership

Leadership

Leading the analog ecosystem with technology and manufacturing solutions in exciting and growing markets

**Excellence**

Embedded in everything that we do

Making a positive and sustainable impact on the world

Impact

Innovation

An environment of innovation - moving great ideas into value

# A Resilient Growth Company in a Challenging Environment

- **Well experienced, matured and strong global company** – with solid and enviable balance sheet and net cash financial position, exceptional analog technology solutions and manufacturing capabilities, high level expertise and talents.

## **Excellence in leadership, partnership, impact & innovation**

- **Long-term partnerships** – based upon unparalleled trust, mutual roadmap creation and shared success.
- **Leading the analog ecosystem in exciting growth markets, providing strong competitive advantage with full circle value creation.**



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**Thank You**

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