TECHNOLOGY AND MANUFACTURING DAY

Intel Custom Foundry
Strategy & Progress

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Vice President Technology and Manufacturing Group
Co-General Manager, Intel Custom Foundry
September 19, 2017
China Tech and Manufacturing Day 2017 occurs during Intel's “Quiet Period,” before Intel announces its 2017 third quarter financial and operating results. Therefore, presenters will not be addressing third quarter information during this year's program.

Statements in this presentation that refer to forecasts, future plans and expectations are forward-looking statements that involve a number of risks and uncertainties. Words such as “anticipates,” “expects,” “intends,” “goals,” “plans,” “believes,” “seeks,” “estimates,” “continues,” “may,” “will,” “would,” “should,” “could,” and variations of such words and similar expressions are intended to identify such forward-looking statements. Statements that refer to or are based on projections, uncertain events or assumptions also identify forward-looking statements. Such statements are based on management's expectations as of September 19-20, 2017, and involve many risks and uncertainties that could cause actual results to differ materially from those expressed or implied in these forward-looking statements. Important factors that could cause actual results to differ materially from the company’s expectations are set forth in Intel's earnings release dated July 27, 2017, which is included as an exhibit to Intel’s Form 8-K furnished to the SEC on such date. Additional information regarding these and other factors that could affect Intel’s results is included in Intel's SEC filings, including the company’s most recent reports on Forms 10-K, 10-Q and 8-K reports may be obtained by visiting our Investor Relations website at www.intc.com or the SEC's website at www.sec.gov.
THE OPPORTUNITY ~ LEADING EDGE FOUNDRY MARKET IS GROWING

Note: Samsung and Intel internal are excluded from TAM. Leading edge defined as: 65nm and below for 2010, 45nm and below for 2011 and 2012, 32nm and below for 2013-2016.

Source: Amalgamation of analyst data and Intel analysis.

FOUNDRY TAM ($B)

<table>
<thead>
<tr>
<th>Year</th>
<th>Leading Edge</th>
<th>Lagging Nodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>$23B</td>
<td>$23B</td>
</tr>
<tr>
<td>2011</td>
<td>$23B</td>
<td>$23B</td>
</tr>
<tr>
<td>2012</td>
<td>$23B</td>
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<td>2013</td>
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<td>2014</td>
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<tr>
<td>2015</td>
<td>$23B</td>
<td>$23B</td>
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<tr>
<td>2016</td>
<td>$30B</td>
<td>$30B</td>
</tr>
</tbody>
</table>
China’s share of worldwide semiconductor consumption is 58.5%. China’s share of the worldwide fabless industry is 25%.

“Both China’s semiconductor production and consumption revenues continued to outpace those of the global market, further solidifying its position as a key player in the worldwide industry.”

Source: PricewaterhouseCoopers “China’s impact on the semiconductor industry: 2016 update”
INTEL CUSTOM FOUNDRY FOCUS

Intel Custom Foundry

22 NM + 14 NM + 10 NM + 22 FFL

+ Co-Optimized Design Kit
+ Silicon Proven IP
+ Innovative Package & Test Capabilities

NETWORKING INFRASTRUCTURE

MOBILE & CONNECTED DEVICES
NETWORKING INFRASTRUCTURE

Technology density

High-speed data transfer

Affordable multi-chip integration
Technology density

High-speed data transfer

Affordable multi-chip integration

2x higher transistor density than others
Networking Infrastructure

Technology density

High-speed data transfer

Affordable multi-chip integration

56 Gbps PAM4 SerDes in lab
112 Gbps SerDes in development

Transmitted

Received

10 nm
NETWORKING INFRASTRUCTURE

56 Gbps PAM4 SerDes in lab
112 Gbps SerDes in development

Technology density
High-speed data transfer
Affordable multi-chip integration
Technology and Manufacturing Day

Technology density
High-speed data transfer
Affordable multi-chip integration

Networking Infrastructure
Embedded Multi-Die Interconnect Bridge (EMIB)
Heterogeneous chip integration
High-density, high bandwidth, low cost
RINA RAMAN
Vice President, Programmable Solutions Group
General Manager, Customer Experience Group
FALCON MESA - NEXT GENERATION 10 NM FPGAS

CONTINUING PRODUCT LEADERSHIP

- Built on Intel Custom Foundry 10 nm Platform
- World’s Most Advanced FinFET Process
- 2\textsuperscript{nd} Generation Intel\textsuperscript{®} HyperFlex™ Architecture
- 2\textsuperscript{nd} Generation EMIB
- Next Generation HBM Support
- Up to 112 Gbps Transceiver Rates
- PCI-Express Gen4x16 Support

Delivering Industry Leading Performance and Power
MOBILE & CONNECTED DEVICES

MAINSTREAM MOBILE

IOT & ENTRY MOBILE

Image Sources: TechRadar (YouTube), Electronics Weekly
MOBILE & CONNECTED DEVICES

- Time to Market
- Power Efficiency
- Area

Power/Performance Leadership

MAINSTREAM MOBILE

Ultra Low Leakage
Low Cost
Ease of Design

IOT & ENTRY MOBILE
MOBILE & CONNECTED DEVICES

- Time to Market
- Power Efficiency
- Area
- Ultra Low Leakage
- Low Cost
- Ease of Design

Power/Performance Leadership
ARM Update

- RTL to first TO in 14 weeks
- Standard synthesis / APR flow
- Standard Intel 10nm Foundry Process
- PDK 1.0
- > 3.3 GHz at latest sign-off
- .25 mW/MHz

10nm Foundry Test Chip

< 0.9 mm²

Other names, logos and brands may be claimed as the property of others
MOBILE & CONNECTED DEVICES

Time to Market
Power Efficiency
Area

Ultra Low Leakage
Low Cost
Ease of Design

Mainstream Mobile
Power/Performance Leadership

IOT & Entry Mobile
Share of Wafer Volume

Source: Amalgamation of data from IDC, Selantek, IHST, Chipworks, Bain, and Intel estimates
INTEL 22FFL: IDEAL FOR YOUR IOT/MOBILE DESIGNS

Up To 100X Lower Leakage*

Up To 2.5X Lower Active Power*

Up To 20% Smaller Die Area*
22FFL Ecosystem ready for growing IoT Market

22FFL工艺非常棒！我们在这上面花了很多时间以取得更好结果。这项技术在高性能和低漏电之间实现了绝妙的平衡。

Aart De Geus
Chairman and co-Chief Executive Officer, Synopsys

22FFL是一项非常令人振奋的工艺，它提供了FinFET晶体管所能带来的优势，并且有更简单的后道工艺。这种优势从ARM的角度来说，为量大但对成本敏感的移动和消费类的应用找到了一条很好的通路。

Will Abbey
Senior VP, Strategic Alliances & Sales, ARM Inc.

PDK1.0 available NOW and full production readiness in Q4 2017*

* Intel estimate based on current expectations and available information. Other names, logos and brands may be claimed as the property of others.
Dr. Leo Li
Global Executive Vice President of Tsinghua Unigroup
Chairman and CEO of Spreadtrum Communications
Chairman of RDA Microelectronics
Chairman of Global Semiconductor Alliance (GSA)
Thank you for the fruitful partnership.

The Intel custom foundry 14nm platform with Intel Architecture CPU IP makes the SC9853I a great product.

- High performance
- Affordable solution
- Low power
- Turnkey design

- 14nm
- 8-core
- 1000T2 latency
- CATEGORY 15
- Security
- Sensor Hub
- WiFi

- Spreadtrum
- SC9853I

- Intel

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Summary

- Leading in networking with Intel 10 nm, 112Gbps SerDes, EMIB technology
- Rapid progress with ARM on Intel 10 nm
- Intel bringing FinFET to China ecosystem with 14 nm and 22 FFL

Intel Custom Foundry is Committed and Ready to Serve the Expanding China Technology Ecosystem