Intel Corporation

NASDAQ:INTC

11/13/2023

SANTA CLARA INVESTMENT FUND







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Business Overview

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Company Overview



Overview of Company

Business Overview

- Intel Corporation is a multinational semiconductor chip integrated device manufacturer
 - · Headquartered in Santa Clara, California
 - Founded in 1968 and IPO'd in 1971
 - Successful from its high-performance CPUs

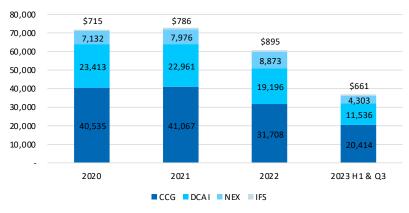
Main Operating Segments Overview

- Client Computing Group (CCG)
 - Main revenue stream, chips made in house to be used in embedded tech like laptops, main customers are retail
- Data Center & AI (DCAI)
 - Software/hardware solutions for all businesses within the AI and data center space, main customers are everyone
- Network & Edge (NEX)
 - FPGA chips designed to be programmable, instead of a chip being made for one use the consumer can program it to their liking
- Intel Foundry Services (IFS)
 - New open foundry service to provide wafer fabrication, packaging, and software to customers, touched upon more later

Financial Overview

Market Cap	\$161.1 B
Share Price	\$38.22
52 Week High/Low	\$24.73 – \$40.07
TTM EPS	\$0.60

Intel Revenue Segments 2020-2023 (\$M)



YTD Stock Performance



Positive market reactions to expansion of manufacturing capabilities

• 2023 Q1
earnings –
largest
quarterly loss
in INTC history

 Announce manufacturing and test facility in Poland

Terminate
 acquisition
 plans of Tower
 Semiconductor





Summary of Operations

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Semiconductor Landscape



Semi manufacturing is typically split between "designers" and "manufacturers" with foundries

Design

- Designers work through a lengthy process to create chip designs using software
- Designers are fabless and do not have the ability to fabricate chips
- Customers request specific designs for their needs in which the designers fulfill
- Economic value add is ~57%, designers can capture the most value out of all steps in the semi process

Operates in Both as an IDM



CPU Mrkt Share: 50%

Manufacturing (Fabrication)

- Pure-play semiconductor foundries operate only in the manufacturing business creating chips made from designers
- Using fabrication machines, commonly known as fabs at specific sizes the current being at 2 nanometers
- Economic value add is ~19% of the entire chip making process

Key Players

Key Players

Ticker	Mrkt Cap. (\$B)		Mrkt	Shr.
NVDA	\$	1,173.0	GPUs:	83%
AMD \$	183.3	GPUs:	17%	
	3 183.3		CPUs:	50%

Sends Designs



_	Ticker	Mrkt Cap. (\$B)		Mrkt Shr.
	TSM	\$	448.3	57%
_	KRX	\$	354.6	12%
-	GFS	\$	28.1	7%





Fabricates Chips



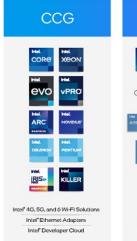




Product Overview

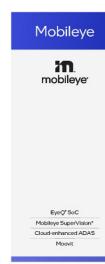


Intel operates in 6 main segments









MAX Wed. What. What.



Client Computing Group

- Embedded chips are what Intel has been known for since their IPO in the 80s
- This is what considers them as an integrated device manufacturer
- Mainly Central Processing Units or CPUs which is the "brain" of a computer
- ~50% of FY2022 revenue

Data Center & Al

- Software and hardware solutions for hyperscalers
- Servers and server management for data centers
- Hyperscalers and Data Centers
- ~30% of FY2022 revenue

Network & Edge

- Specific cloud and edge hardware/software for the jump from cloud to edge
- Made for large tech or data centers
- ~14% of FY2022 revenue

Mobileye

- Acquired in 2017 with recent IPO
- Intel has 88% stake
- Self-driving and Advanced Driver Autonomous Software
 - ~3% of FY2022 revenue

Accelerated Computing & Graphics Systems

- CPUs and GPUs for content creation and gaming on the cloud
- High performance GPUs for AI workloads
- ~1% of FY2022 revenue

Intel Foundry Services

- New open foundry aimed at: wafer fabrication, packaging, chiplets, and software
- Main catalyst moving forward
- ~1% of FY2022 revenue



Customer Overview



Who buys what from Intel



19% of FY2022 revenue

Data Center & Al



12% of FY2022 revenue



11% of FY2022 revenue

Client Computing Group

CCG and DCAI segments make up

for computers

~80% of revenue

Top 3 customers mainly purchase embedded chips and processers

cisco



Network & Edge



Mobileye

- Does not disclose customers in 10-K
- Has 6 partnerships including BMW, Volkswagen, and Nissan to collect data with EyeQ4 chips

Accelerated Computing & Graphics Systems







Intel Foundry Services



- To be acquired by Intel which fell through
- \$353M break fee
- Recently signed \$300M deal to invest in Intel's NM fab



Customer Overview



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Client Computing Group

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11 11 11

Network & Edge

Microsoft

ERICSSON

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Accelerated Computing & Graphics Systems







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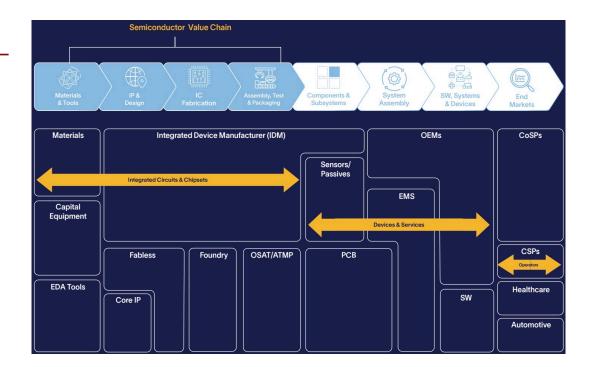


Intel Sits at the Intersection and is Vertically Integrated



Largest Integrated Device Manufacturer (IDM)

- Designs its own microprocessors and other semiconductor products, including integrated circuits, chipsets, etc.
- Owns and operates 15 manufacturing facilities (fabs)
- Able to control quality, performance, and feature set of products throughout the entire manufacturing process
- This is the company's ultimate competitive advantage over fabless companies who need an outside manufacturer
- Looking to build out fabs/foundries, so being a vertically integrated company will give them an edge in quality control, performance, innovation etc.





INTC Recent News





- Worst quarterly loss in the company's history Q1 2023
 - PC market has fallen off in the past year
 - Recently cut dividends and slash other costs, and laid off workers to free up cash
- Recently scrapped two major projects for cost savings
 - \$200M foundry research center in Israel
 - \$700M lab in Oregon

- Announced programmable chip unit as separate business
 - Programmable Solutions Group
 - Plan to IPO in next 2-3 years
 - Greater autonomy and flexibility to compete FPGA market



- Stock rose after Q3 earnings announcement
 - News in foundry and Al attributed to stock beating earnings estimates
 - Recovery in PC market





Industry Analysis

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Macroeconomic Factors



Onshoring Chips in the United States

Conflict Over Taiwan

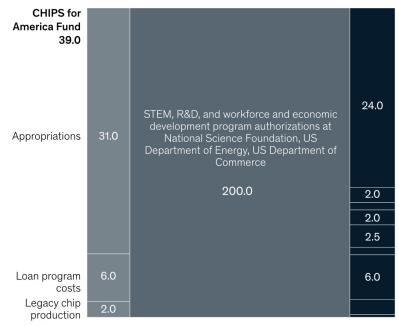
- U.S.-China dispute over Taiwan's status
- The U.S. has relied on Taiwanese semiconductor production like many other countries
- U.S. looking to rely less on Taiwan and bring chip production in-house

Government demand for domestic chip supply

- No matter who wins the next election, there is a strong push for domestic chip production
- The CHIPS and Science Act (2022)
 - Signed into law to boost semiconductor R&D, and chip production in the U.S.
 - Allocates \$53B to the domestic chip industry, grants are being offered this year

The CHIPS and Science Act directs \$280B in spending over the next ten years, the bulk in R&D

Total **278.2**

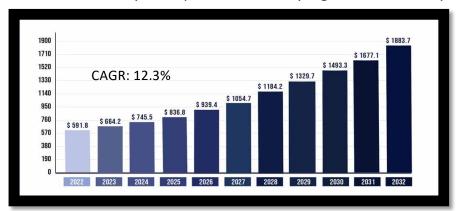




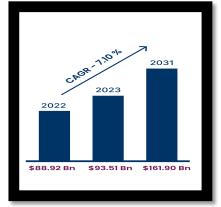
Manufacturing Expanded



The semis industry is unique with extremely high barriers to entry alongside enormous (yet volatile) growth prospects



Semiconductor Market Size, 2022 to 2032



Semiconductor Foundry Market Size, 2022 to 2031

Barriers to Entry

- Semiconductor manufacturing is incredibly capitalintensive and comes with high R&D costs
 - Fabrication facilities cost billions of dollars
- Partnerships extremely important
 - The biggest players have established partnerships and contracts

Consolidation

- The semiconductor foundry market is incredibly consolidated due to the huge barriers to entry
 - Only a few real players
 - TSMC ~57%
 - Samsung ~12%
- There is room for disruption
 - Especially in scenario where TSMC is no longer a viable option
 - Even a short-term scare of a China invasion would bring over sticky customers





Internal Analysis

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INTC Internal Analysis



INTC internal analysis as of FY22

General Financials

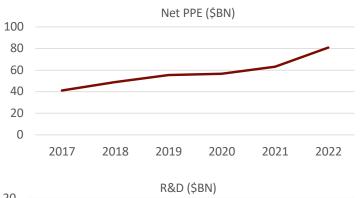
Market Cap	\$163.84B
Enterprise Value	\$187.68B
Gross Margin	42.61%
EV / Sales	1.98x

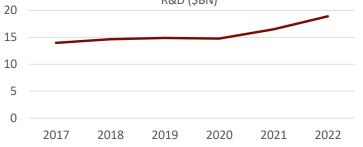
Solvency Ratios

Current Ratio	1.57
Cash Ratio	0.88
Altman Z Score	2.12
Net Debt / EBITDA	2.01

Unique Metrics

Heavy investment into PPE (net of accumulated depreciation) and R&D









Investment Thesis

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Thesis #1 – Macroeconomic Tailwinds



American reshoring is picking up

Reshoring

- CHIPS Act is incentivizing in-house manufacturing
- Reshoring/CHIPS → tax credits/subsidies to build out manufacturing plants → more and better chips → increased ability to compete with TSMC → steal market share
- Upcoming 2024 election
 - Either outcome is a catalyst for Intel
 - If Biden wins, he will continue his reshoring efforts as seen with the CHIPS Act
 - If Trump wins, he will expectedly implement even stronger reshoring policies than Biden
 - Possibly further incentivizing companies to switch to American chip suppliers, of which Intel will be #1, instead of TSMC
 - A Trump win is the preferred outcome for INTC



Thesis #2 – Addition of Revenue Driver & Cost Cutting



Intel Foundry Services can further diversify revenue streams and capture a massive, growing, monopolized market

Intel Foundry Services (IFS)

- Intel will enter the foundry market with ambitions to be the second largest foundry globally next year
 - Internal and external benefits
 - To start production in Q1 2024
 - Costed ~\$30B, Intel holding 51% of stake
 - Already has a single contract signed for ~\$300M with Tower Semiconductor



- Expected gross margin increase from cost cutting
 - 45% **60%**
- Costs cut expected to be \$8B-\$10B exiting 2025

More Than a Foundry

- Wafers: 5 nodes expected within 4 years: 7, 4, 3, 20A, and 18A
 - Current most advanced node is 3 nm
- Packaging: A chips ability to pack transistors on it which enables computing power
- 3.
- **Chiplets:** Modular ways to create chips than enable developers with various options
- 4.
- **Software:** Open-source software which accelerates delivery and the ability to test chip designs





Risks and Mitigations

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Risks and Mitigations Overview



What risks should we look out for?

Risk

Mitigation

Lower Risk

Risk 1

Little Reshoring:

- Failure to expand domestic supply in U.S.
- Scrapped projects for cost savings
- At what rate will they be able to expand?

CHIPS Act will help with cost savings and new projects

 Government wants in-house chips so there is less reliance on international companies, production brings more jobs

Risk 2

Other Fabless Making Fab:

- AMD, Nvidia, Qualcomm, etc.
- Can they compete with Intel in the U.S.?

- Intel will have manufacturing advantage over competitors that have nothing
- Intel will have a superior product from established domestic presence



Foundry Issues:

- Unable to compete with existing foundries
- Foundry acquisition fell through
- Will they have a competitive product?

- Continual demand for computing
- Excitement from Q3 earnings in IFS, big updates coming Q1 2024





Catalysts



What will drive stock growth in Intel?

Data Centers

- Data centers use tens of thousands of computers that each need chips to function
- These computers are replaced every 3-5 years, which means new chips are needed
- Demand for data centers → demand for semiconductors

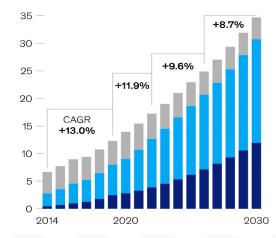
Artificial Intelligence

- A big part of AI is LLMs, which are trained on huge amounts of data stored in data centers
- As the AI boom continues, so will the need for semiconductors

Big Data

- Our world continues to collect more and more data
- This collection of data is stored in data centers
- As the reliance on data continues, so will the need for semiconductors

Data center power consumption, by providers/enterprises, 1 gigawatts







Valuation

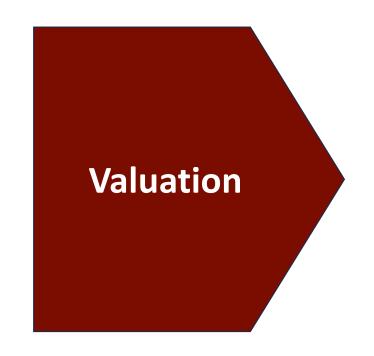
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Intel Corp. Valuation



Revenue Segments	2020A	2021A	2022A	2023A H1 & Q3	2023E	2024E
CCG	\$40,535	\$41,067	\$31,708	\$ 20,414	\$ 26,570	\$ 28,164
Growth Rate		1.31%	-22.79%	-26.71%	-16.20%	6%
DCAI	23,413	22,961	19,196	11,536	17,008	18,709
Growth Rate		-1.93%	-16.40%	-29.93%	-11.40%	10%
NEX	7,132	7,976	8,873	4,303	6,583	7,570
Growth Rate		11.83%	11.25%	-38.63%	-25.81%	15%
Mobileye	967	1,386	1,869	1,442	2,004	2,606
Growth Rate		43.33%	34.85%	-17.13%	7.24%	30%
IFS	715	786	895	661	965	4,343
Growth Rate		9.93%	13.87%	-19.61%	7.82%	350%
All Other	651	774	837	466	922	1,033
Growth Rate		18.89%	8.14%	-33.24%	10.16%	12%
	4	4	4		4	
Total Revenue	\$73,413	\$74,950	\$63,378	\$ 38,822	\$ 54,052	\$ 62,424
Mrkt Cap (\$B)						\$ 161.2
w/ Cash & Debt						187.3
Net Debt						26.1
Net Best						20.1
2024 Rev (\$B)						\$ 62,424
INTC 2024E Multiple						3.1x
EV						193,515
Market Cap						193,489
Price Target						\$ 45.89
						-

Our Recommendation



Buy

Price Target: \$45.89

Expected Returns: 20.04%

Time Frame: 1-3 Years