

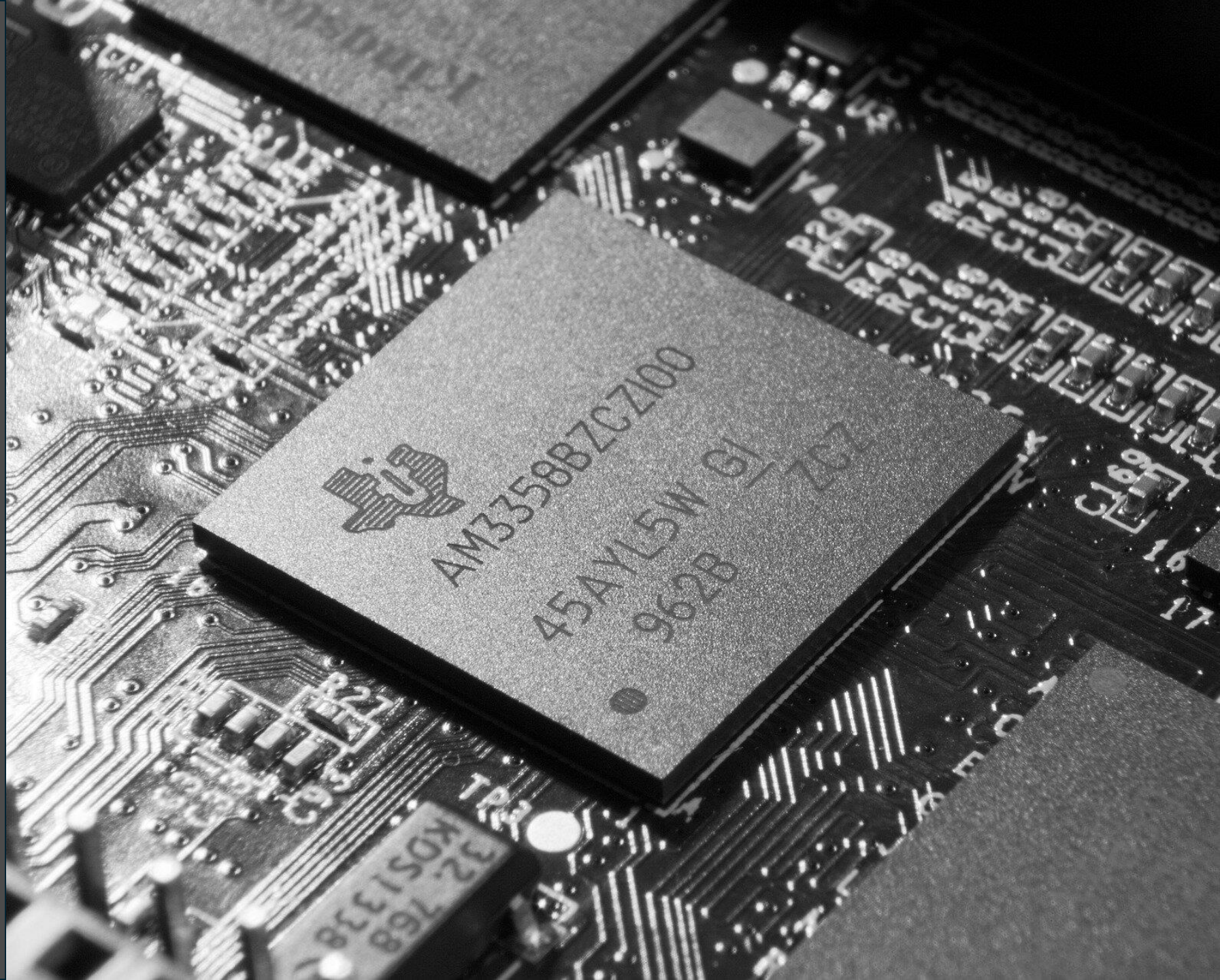


# TEXAS INSTRUMENTS

NASDAQ: TXN

Technology Sector

UWIG Winter 2025





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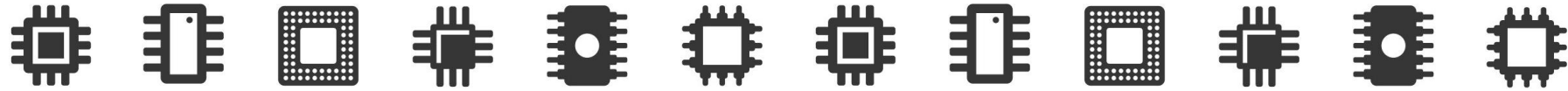
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- 2 Investment thesis
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- 6 Recommendation



# Overview

Company and industry overview



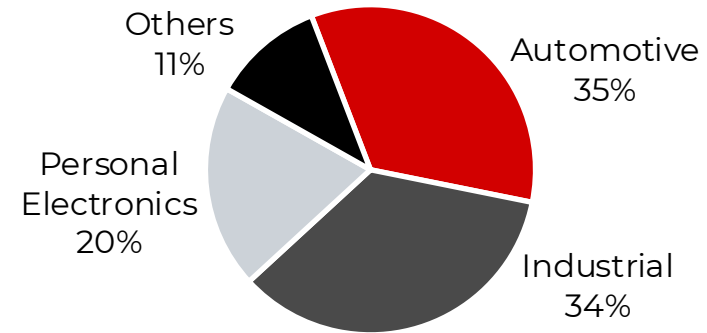
# Company overview

TXN is the 6<sup>th</sup> largest semiconductor company by market cap

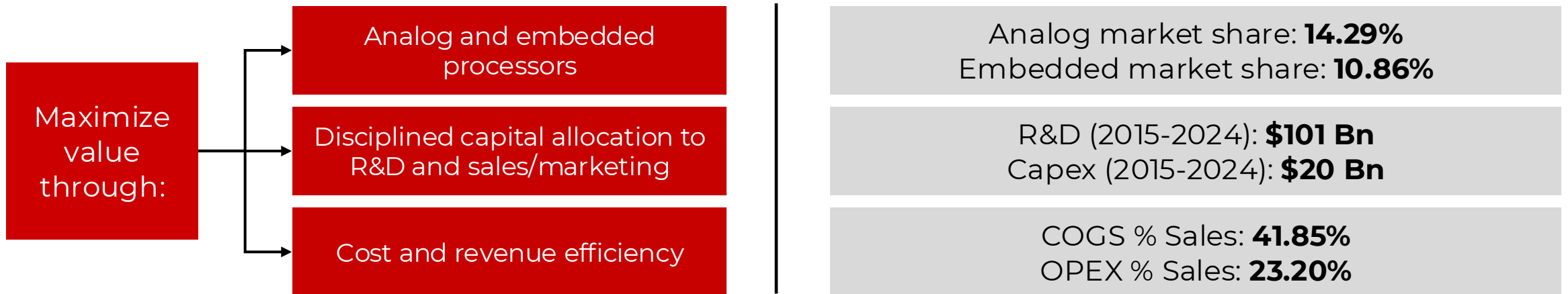
## Overview

- Founded in 1930; Based in Dallas, Texas
- Stock first traded in 1953 on NYSE
- Stock currently trading at \$199.98 (2/25/25)
- Invented first-ever integrated circuit in 1958
- Reportable segments: Analog and Embedded processors

## Market exposures



## Business model

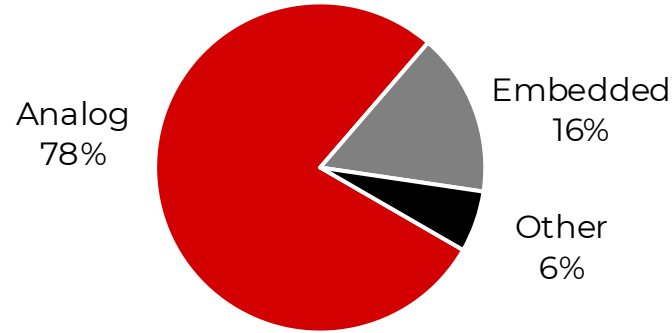




# Financial overview

Analog accounts for majority proportion of total revenue

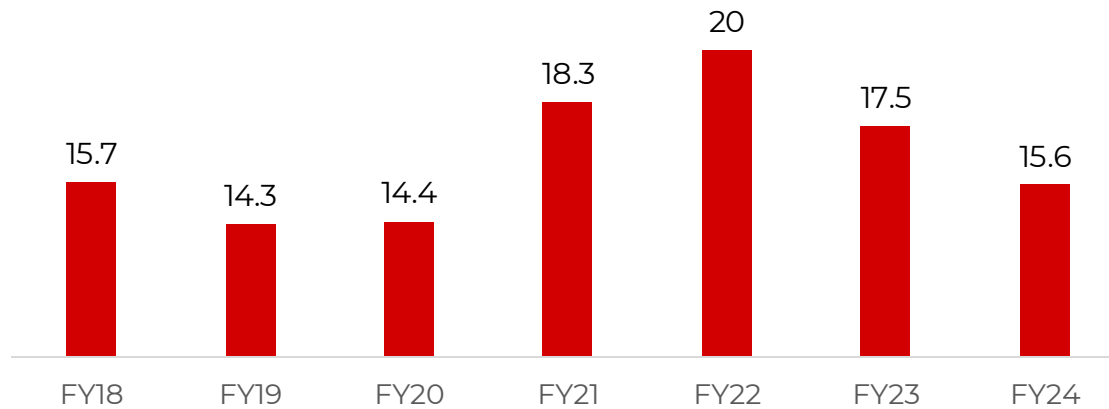
## Revenue breakdown



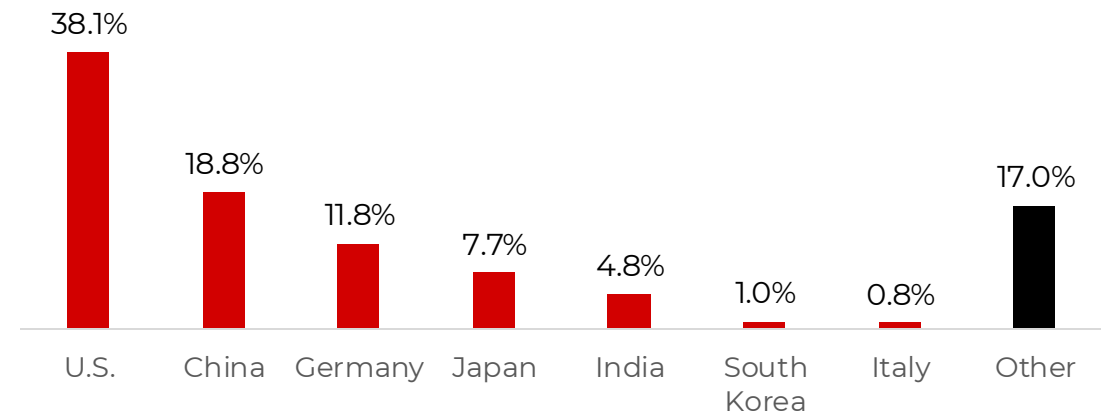
## Financial highlights

Market Cap: **\$184bn**  
 EBITDA Margin: **45.04%**  
 Dividend Yield: **2.69%**  
 Forward P/E Ratio: **35.71**

## Annual revenue trend



## Annual revenue by region









# Industry and subsector overview

Analog market forecasted to see consistent demand with 5.64% CAGR

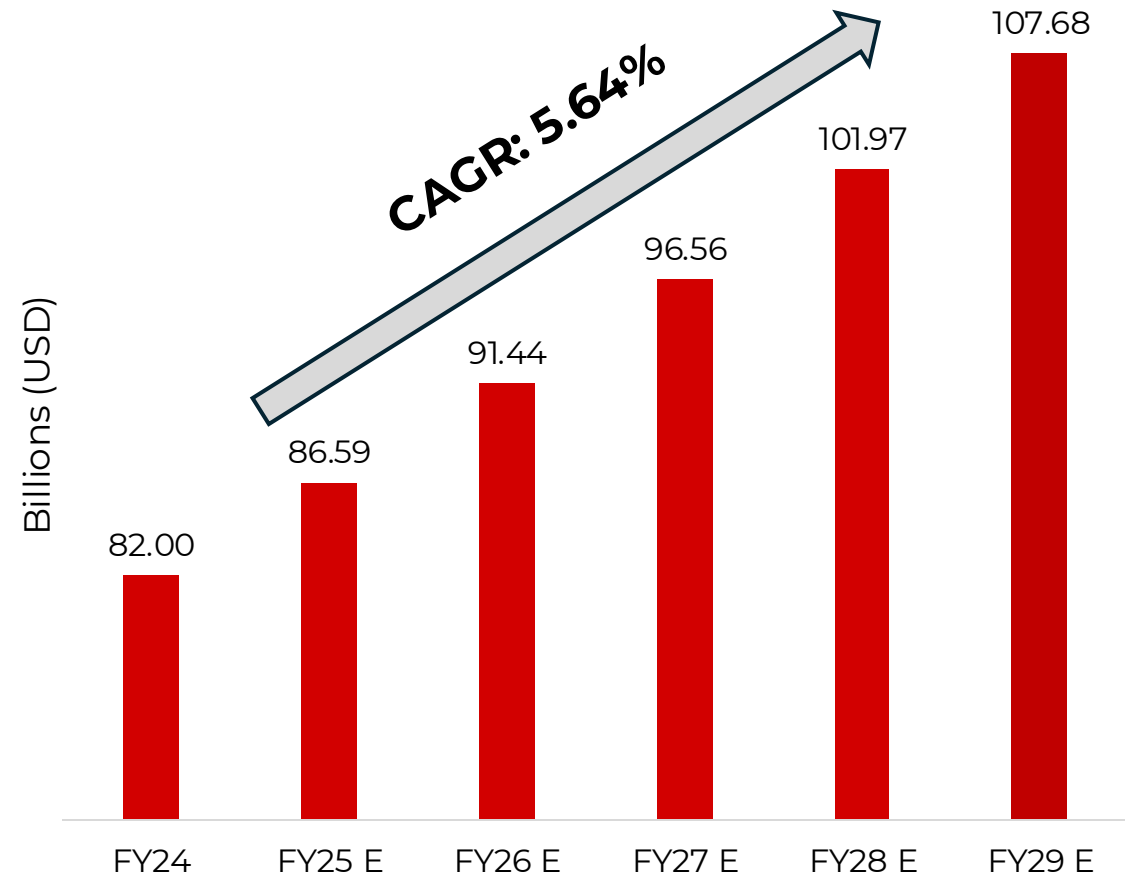
## Analog market overview

- Electrical component that measures temperature, sounds, and movement
- Applications: Industrial, Automotive, Personal Electronics, and Aerospace and Defense

## Key players and industries served

	Industrial, automotive, and consumer
	Industrial, automotive, and consumer
	Automotive, green industrial power, and sensor systems
	Communications, consumer electronics, automotive

## Market forecast





# Industry and subsector overview

Analog market forecasted to see consistent demand with 5.64% CAGR

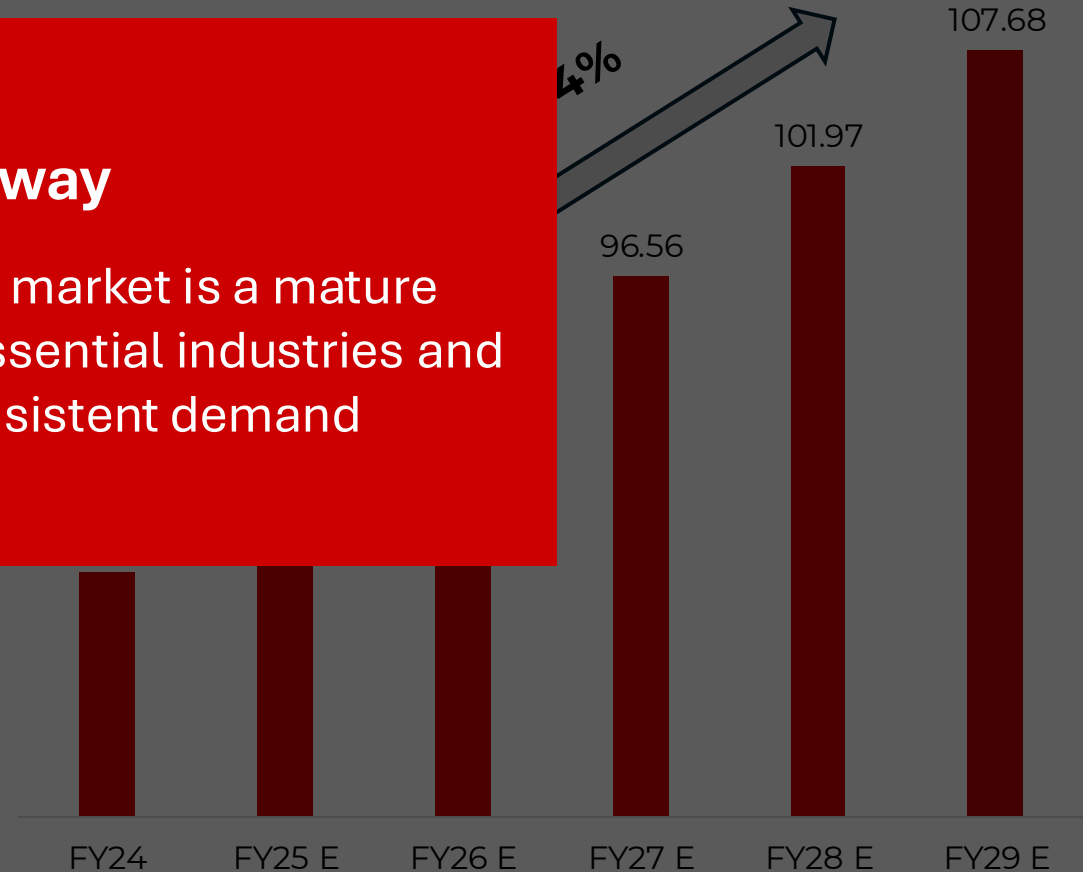
## Analog market overview

- Electrical component that measures temperature, sound, light, and pressure
- Applications: Industrial, Consumer Electronics, and Aerospace

## Market forecast

**Key Takeaway**

The analog semiconductor market is a mature market that supports many essential industries and will continue to see consistent demand



## Key players and their focus

- Industrial, consumer electronics, automotive
- Industrial, consumer electronics, automotive
- Automotive, green industrial power, and sensor systems
- Communications, consumer electronics, automotive





# Industry and subsector overview





Embedded processors has various applications from ADAS to home appliances

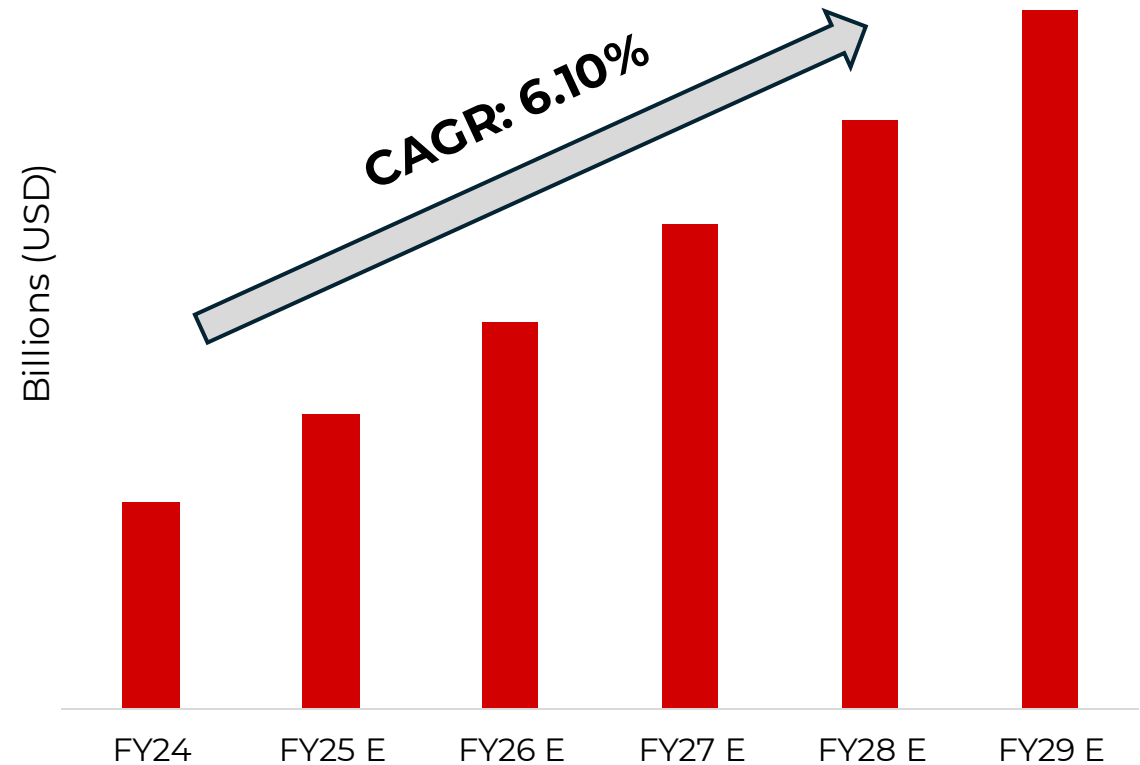
## Embedded market overview

- Small computers that use microprocessors control electrical and mechanical functions
- Applications: Advanced driver assistance systems, medical devices, home appliances

## Market forecast

### Key players and industries served

	Industrial, automotive, and consumer
	Data center networking, software, and enterprise solutions
	Industrial, automotive, and communications
	Industrial, consumer, and medical





# Industry and subsector overview

Embedded processors has various applications from ADAS to home appliances

## Embedded market overview

- Small computers that use microprocessors control electrical and
- Applications: Advanced systems, medical de

## Market forecast

### Key Takeaway

The embedded semiconductor market is a growing market that is expected to be used in different autonomous driving and AI applications

## Key players and



Indus



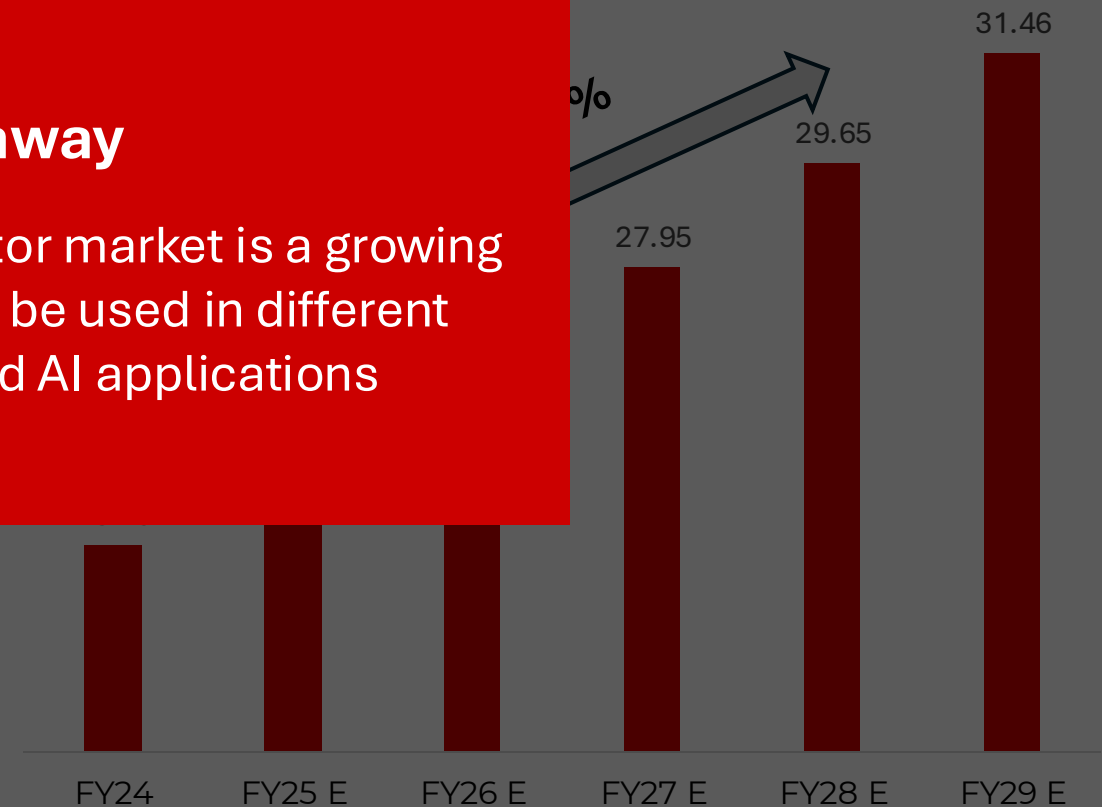
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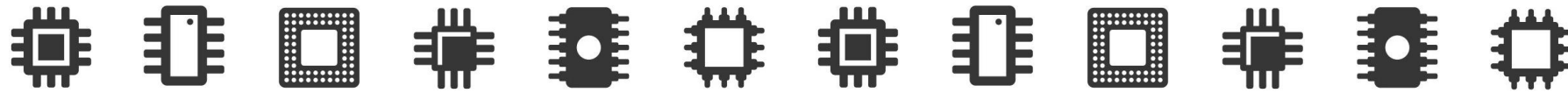


Industrial, automotive, and  
communications



Industrial, consumer, and medical





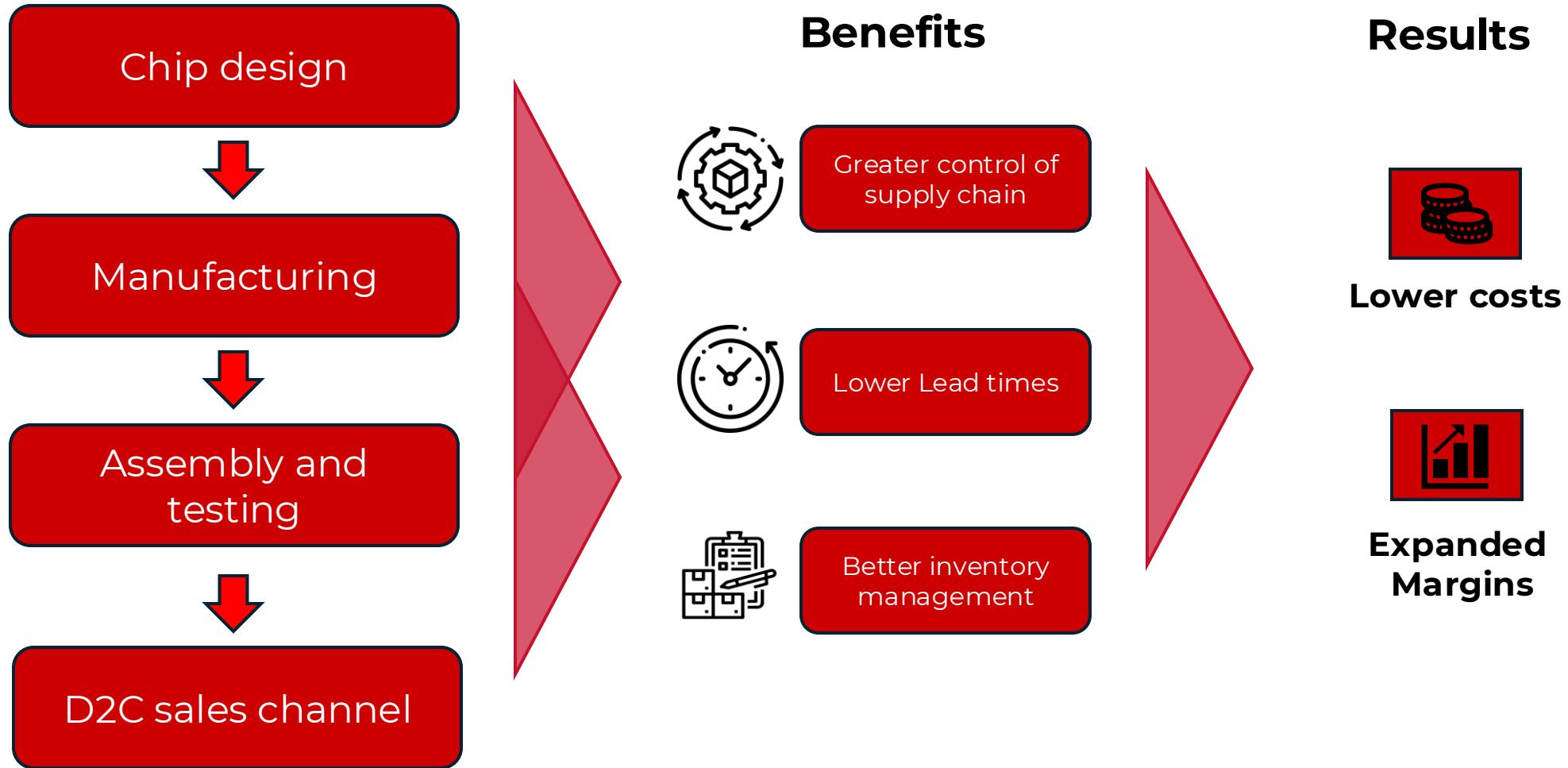
## Investment thesis I

Reduced expenses through vertical integration



# Reduced expenses through vertical integration

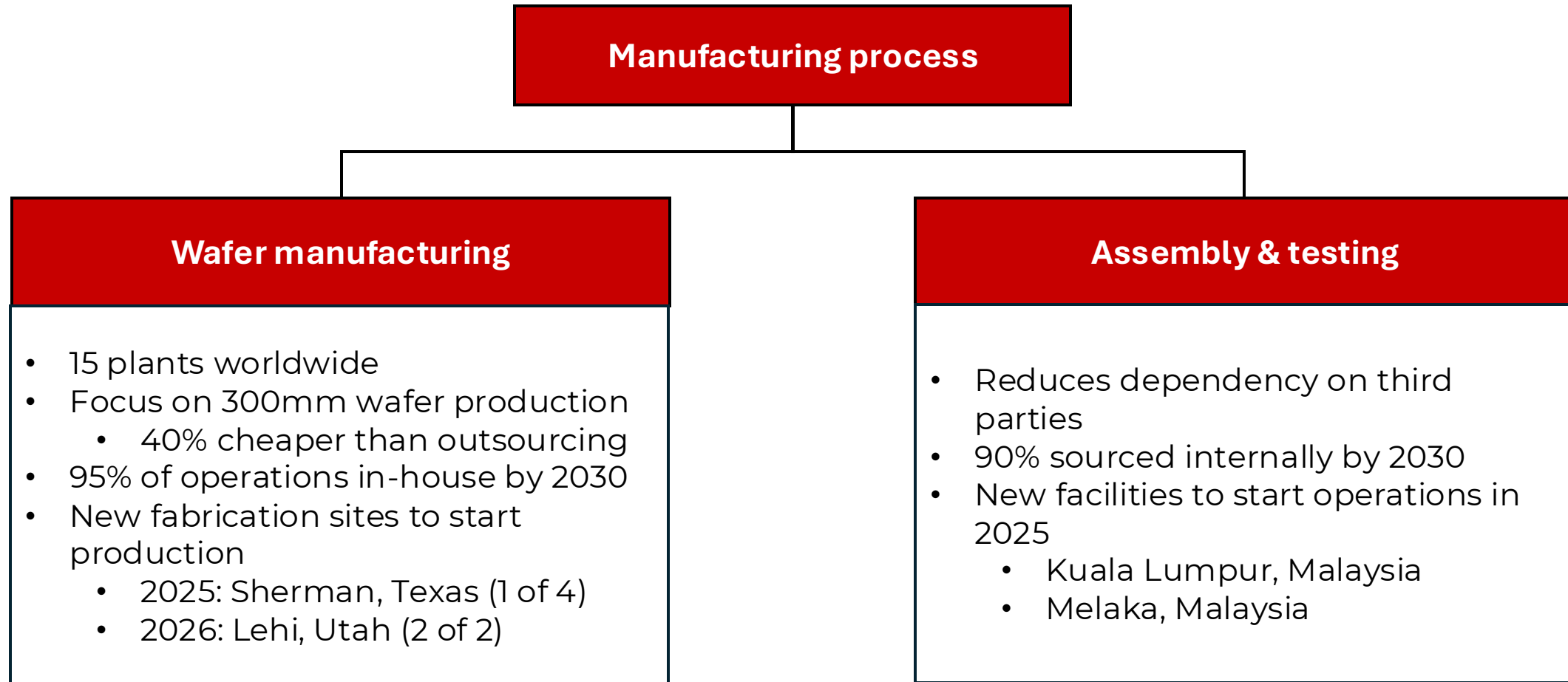
Overview of the vertical integration strategy





# Reduced expenses through vertical integration

## Vertical manufacturing and assembly





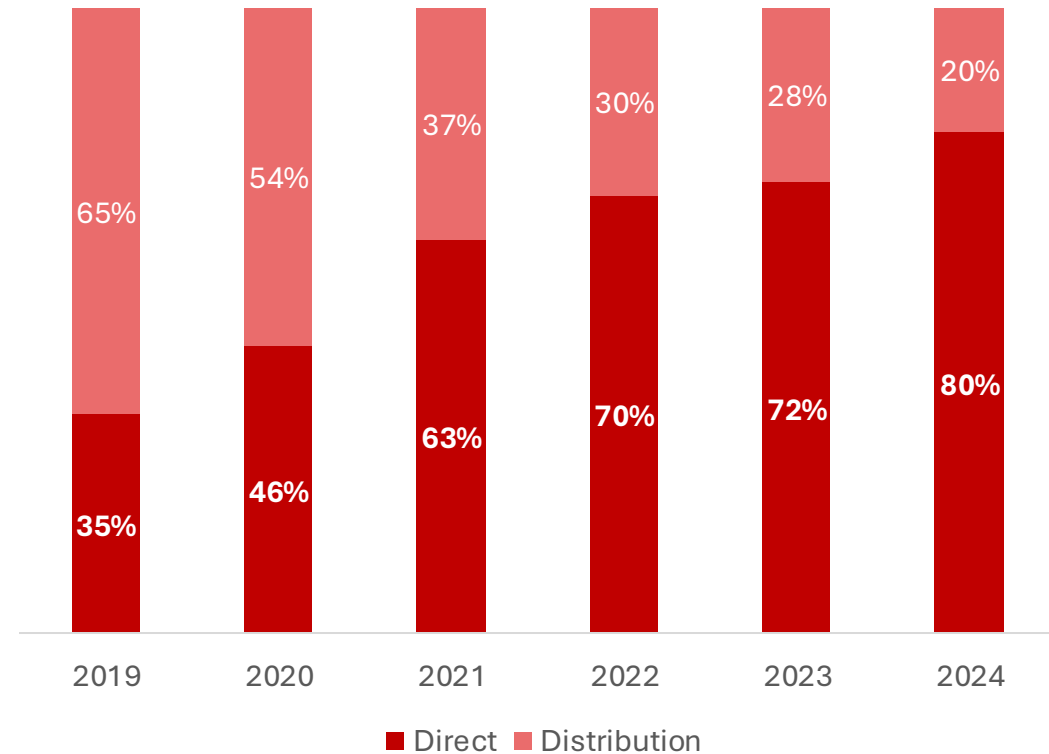
# Reduced expenses through vertical integration

## D2C sales

### D2C sales channel

- Customers can buy directly from TI:
  - Backlog scheduled at lead time
  - Directly from TI.com for immediate shipment
- Online ordering made convenient for customers, shows best price and availability for products
- D2C sales channel has grown 45% since 2019
  - Increase makes the whole value chain vertical at TI

### Sales channel breakdown





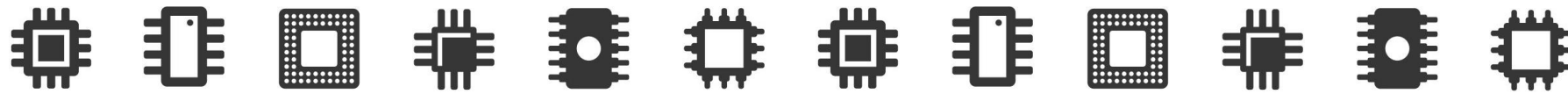
# Lower costs through vertical integration

TI has the best vertical integration among competitors



	TI	Skyworks	NXP	Analog Devices	Broadcom
Design	✓	✓	✓	✓	✓
Manufacturing	✓	✗	✓	✓	✗
Assembly & testing	✓	—	—	—	✗
D2C sales	—	✗	✗	✗	✗





## Investment thesis II

Advantages in current economic and political climate



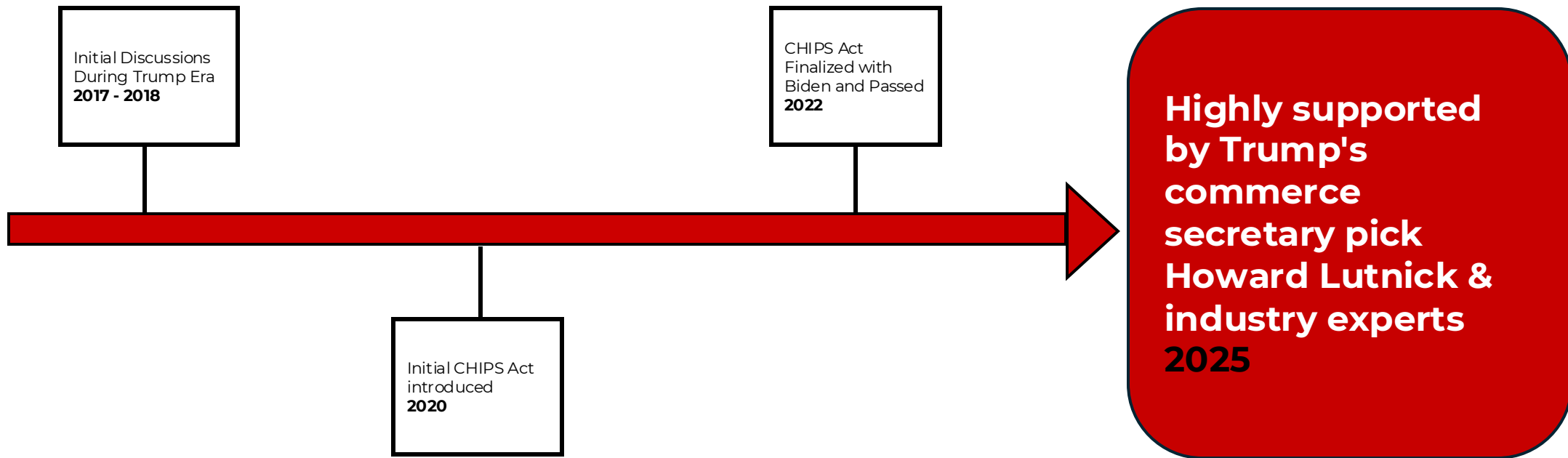


# Current state of the CHIPS Act

## Short history of the CHIPS Act

### CHIPS Act overview

- Enacted in August 2022
- Incentive to boost the US domestic semiconductor manufacturing industry
- \$52.7 Billion allocated



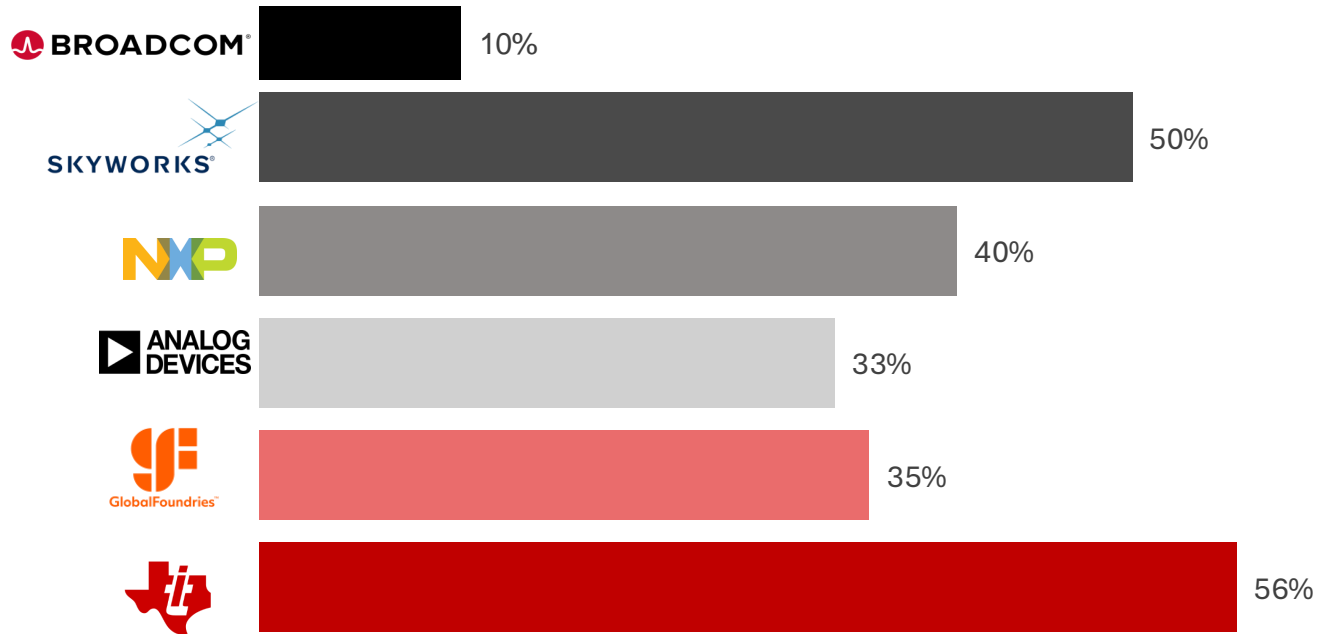


# Domestic production & tariffs

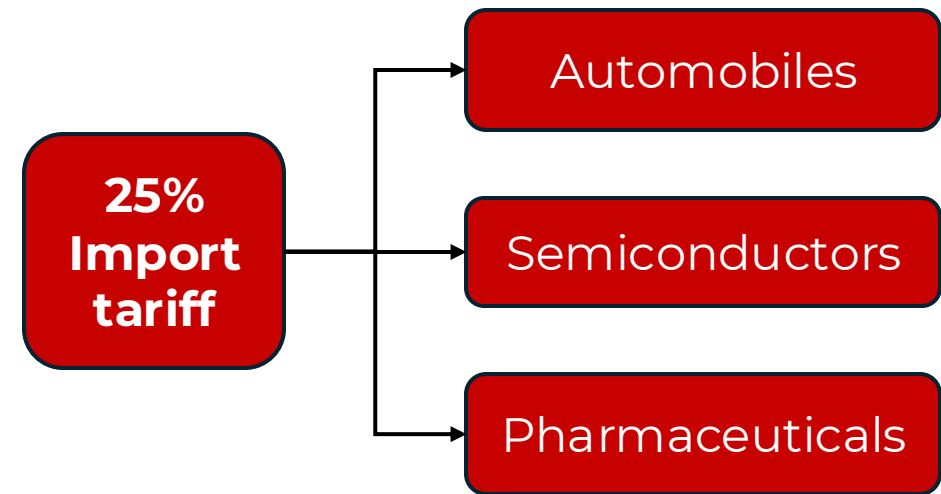
## TXN against competitors

### TXN vs competitors

Fabs in the US



### Tariffs



"I've been contacted by some of the biggest companies in the world, and because of what we're doing economically and through tariffs and incentives, they want to come back into the United States" – Donald Trump





# Strategic domestic expansion

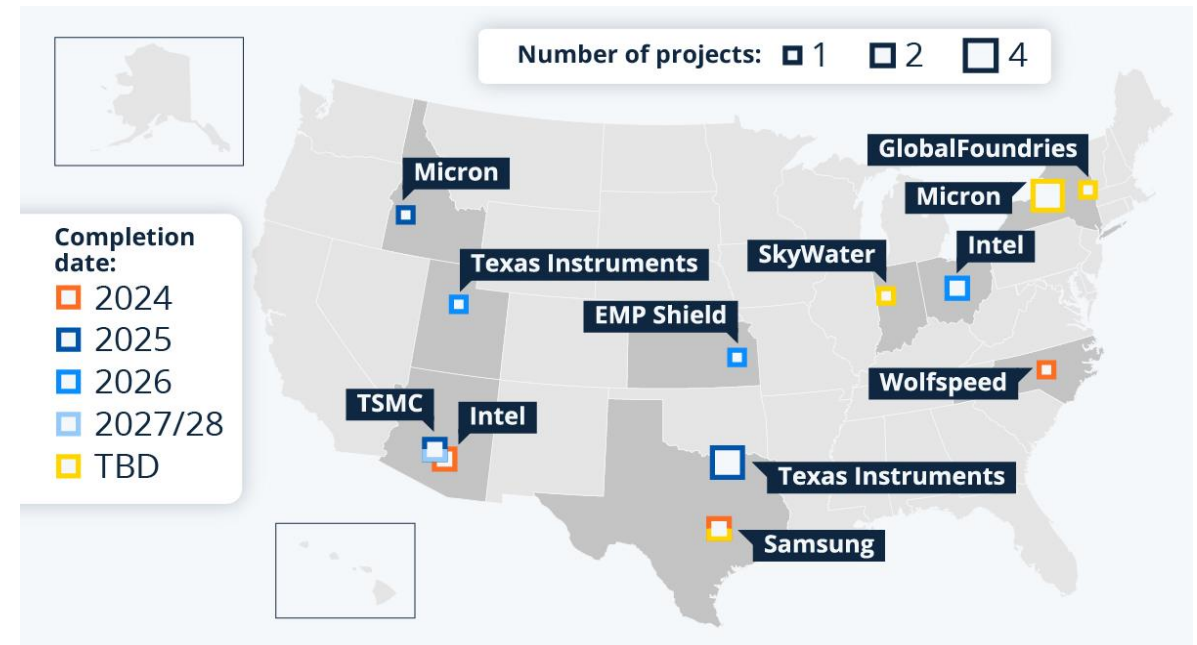
## TXN's edge in U.S production

### CHIPS Act

- Increased funding to support domestic manufacturing in Texas and Utah (lowest minimum wage)
- Tax credits also provided gov. funds
- TXN received more funding than competitors.

### Trump's tariffs

- Semiconductor tariffs would promote American production
- TXN is the leader in domestic analog chips
- Better prepared for tariffs that would hurt competitors reliant on Asian-built chips

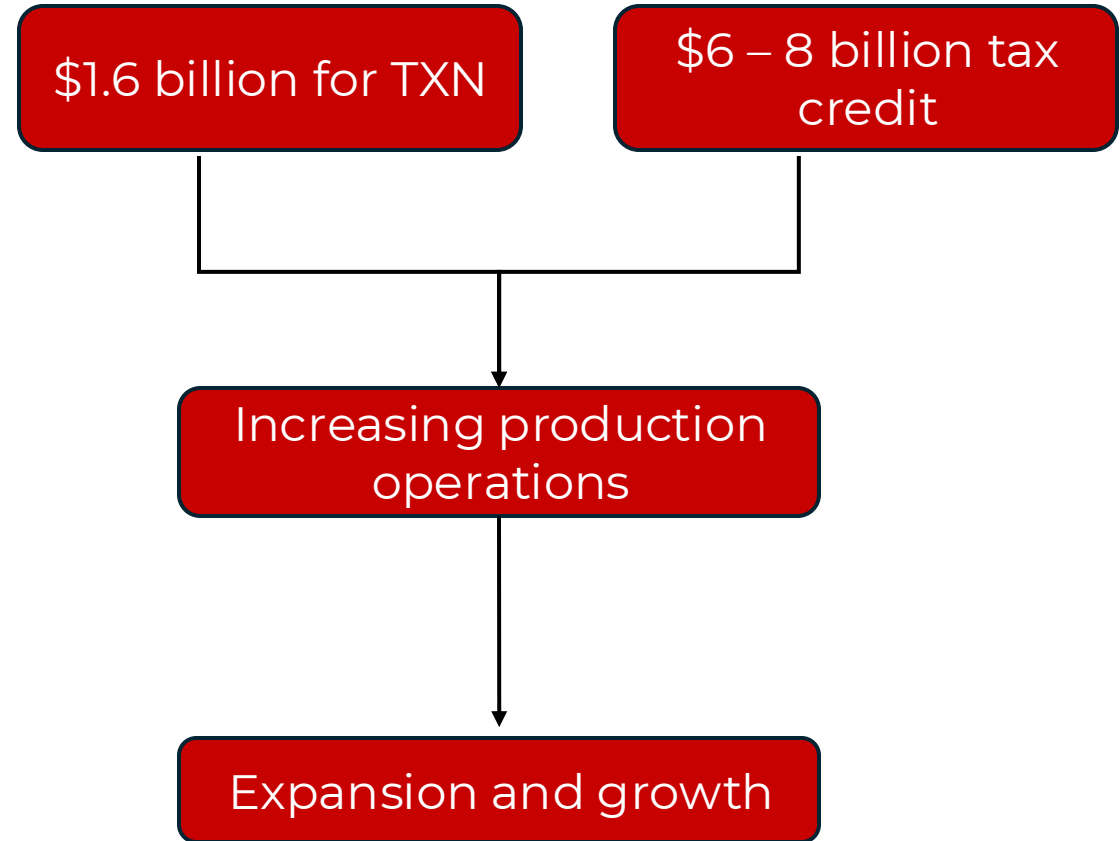
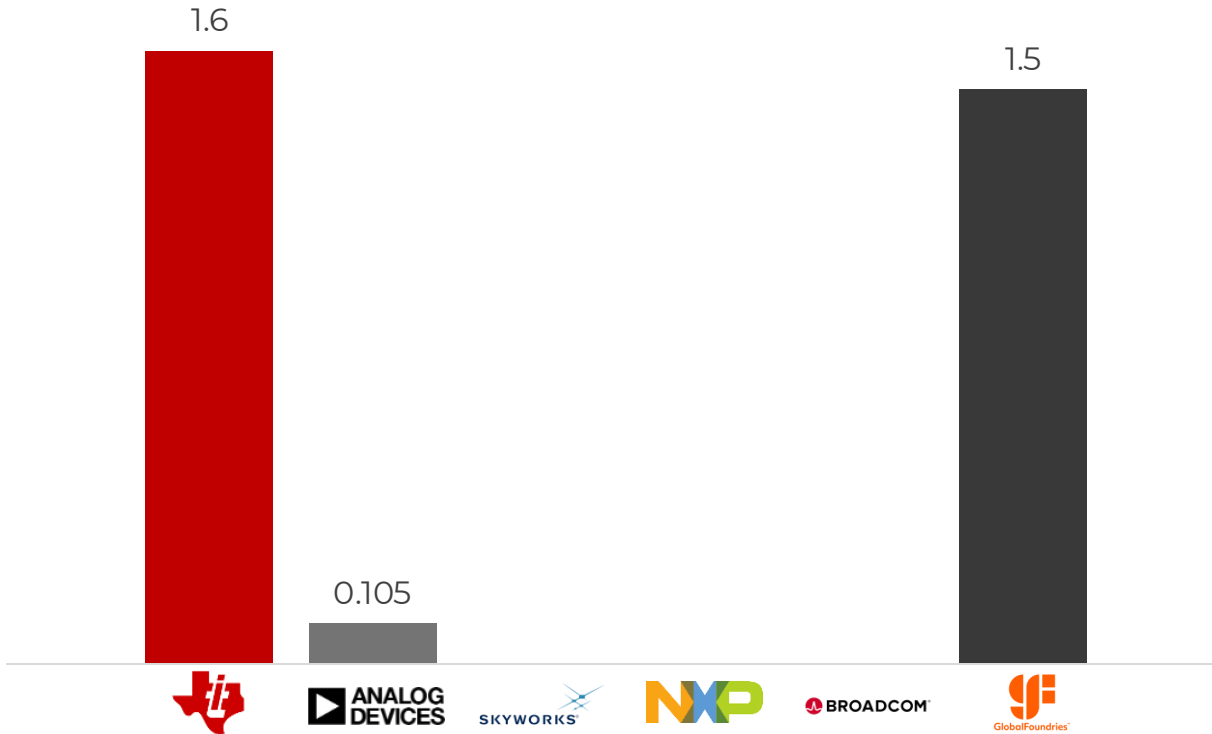


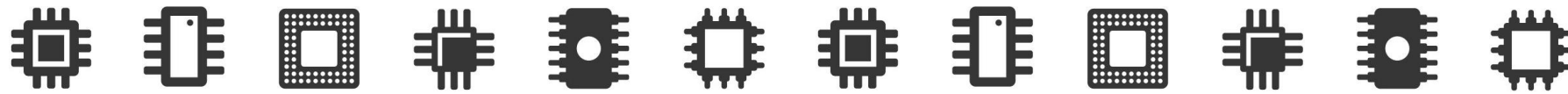


# Funding from CHIPS by company

TXN vs. Competitors

Money Recieved from CHIPS Act (\$USDbn)





## Investment thesis III

200mm vs 300mm wafer capacity

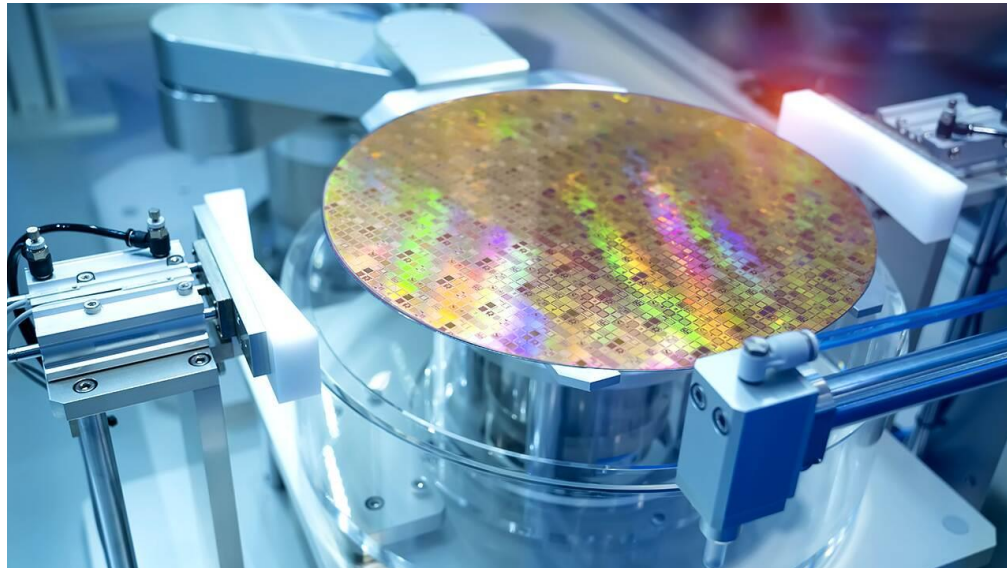


# 200mm vs 300mm wafer

## Cost reduction of wafer fabrication upgrade

### Overview

- Thin, flat disc made of semiconductor material
- Foundation for manufacturing integrated circuits (ICs) and microchips
- Individual chips are cut out of wafers



### Cost reduction

	Built on 200mm	Built on 300mm
Sales price of example part	\$1.00	\$1.00
Chip cost	\$0.20	\$0.12
Assembly, test, other	\$0.20	\$0.20
Total	\$0.40	\$0.32
<b>Gross margin %</b>	<b>60%</b>	<b>68%</b>



# TXN fabrication facility timeline

## Timeline and benefits of upgrading

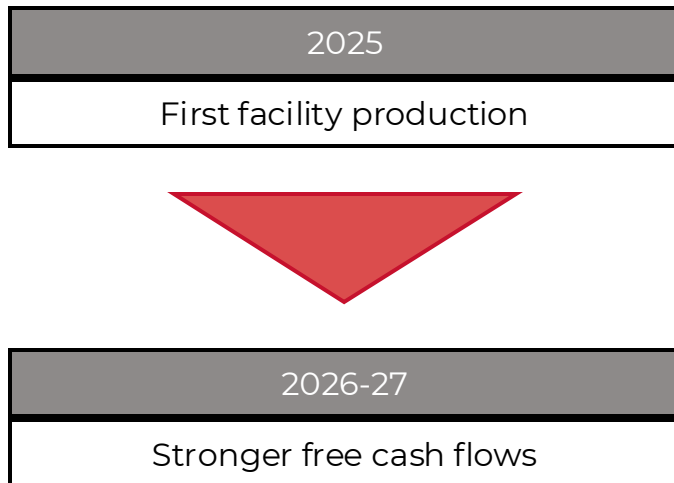
### TXN manufacturing expansion

- Construction of three new facilities (SM1, SM2, and LFAB2) + upgrading existing plants (RFAB2 and LFAB1)
- \$30 billion initial capital expenditure

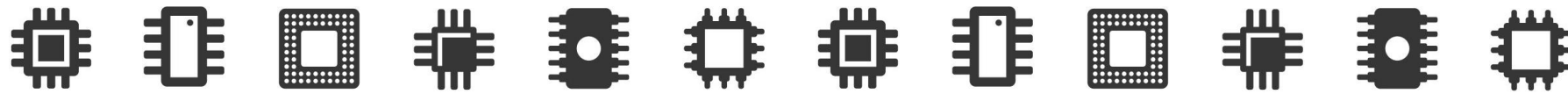
### Long term benefits

- Reduce energy consumption by 20-30% per unit area
- Greater supply chain control (premium pricing)
- Aligns with CHIPS Act funding

## Fabrication facility timeline



		<2020	2021	2022	2023	2024	2025	2026	2027	2035+
Richardson	RFAB1	Black	Black	Grey	Grey	Grey	Grey	Grey	Grey	Grey
	RFAB2	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Red	Red
Lehi	LFAB1	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey
	LFAB2	Grey	Grey	Grey	Grey	Grey	Grey	Red	Red	Red
Sherman	SM1	Grey	Grey	Grey	Grey	Grey	Grey	Red	Red	Grey
	SM2	Grey	Grey	Grey	Grey	Grey	Grey	Red	Red	Red
	SM3/4	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Red



## Financial analysis

Capital expenditures, revenue forecast, and credit analysis

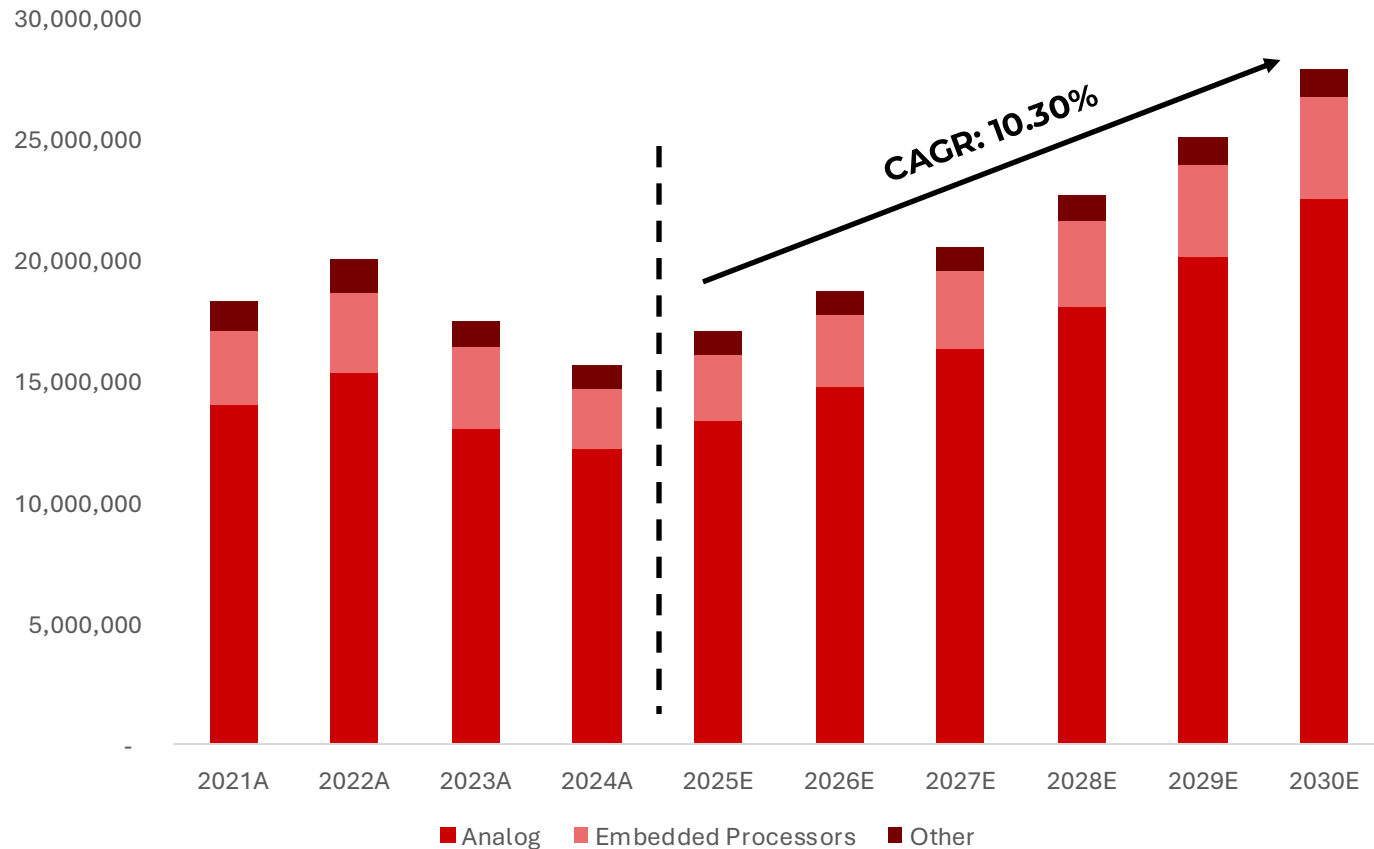




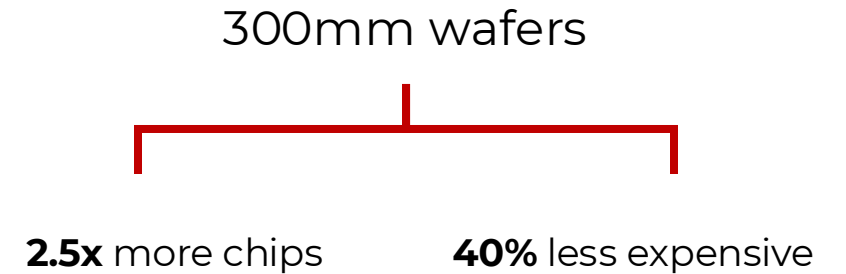
# Forecasted revenue segments

Analog & embedded processing segment to grow with 300mm wafers

Revenue forecast



Cost & capacity gains from 300mm wafers forecast



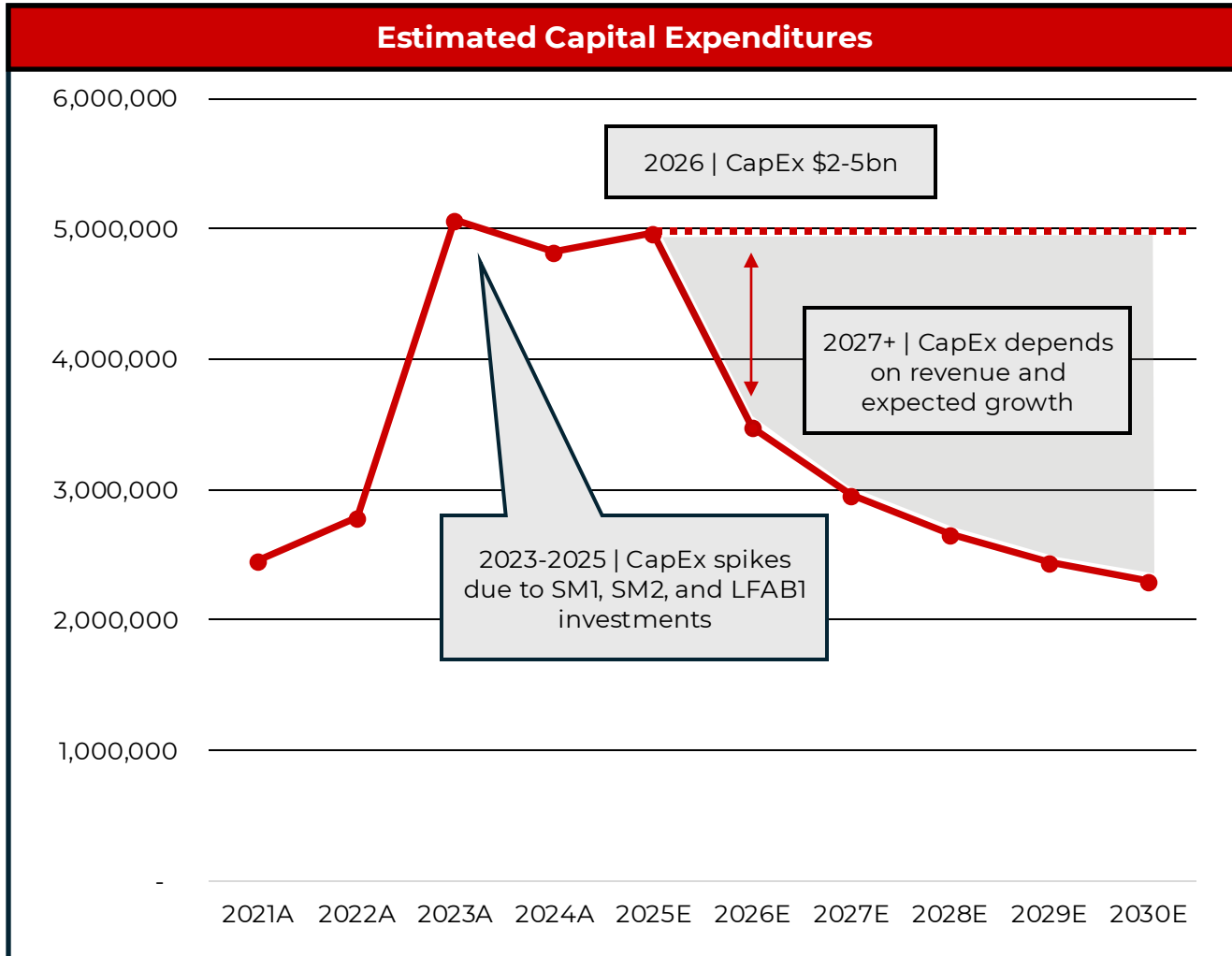
Projected growth segments

<b>Analog</b> 12%
<b>Embedded Processing</b> 10%



# Scalability of capital expenditures

Supports long-term growth



Key metrics	2022	2024	2026	2030
% of wafers internal	80%	~90%	>90%	>95%
% of internal wafers 300mm	40%	~60%	>70%	>80%
% of assembly internal	60%	~70%	>85%	>90%

TI's phased CapEx investments through 2026 are strategically aligned to achieve **>95% internal wafer production by 2030**, leveraging cost efficiencies from 300mm wafers and enhanced supply chain control



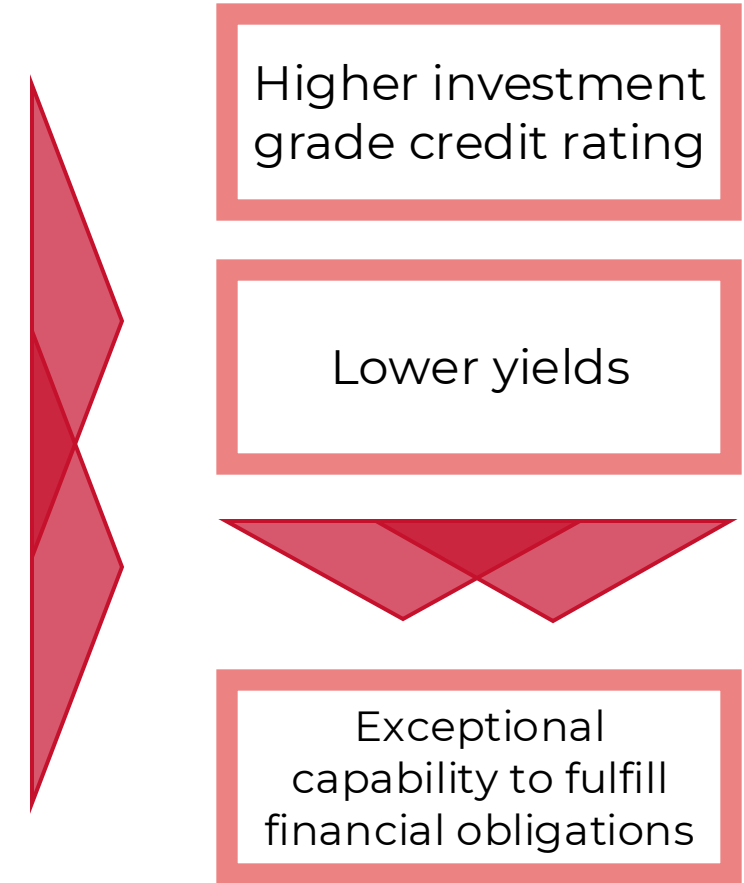
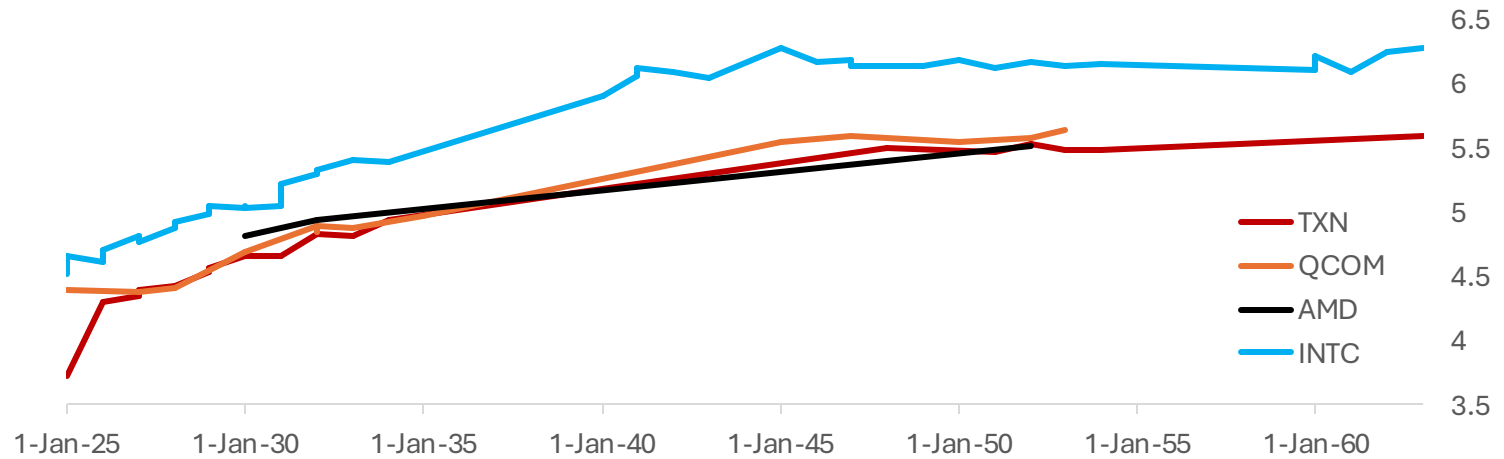


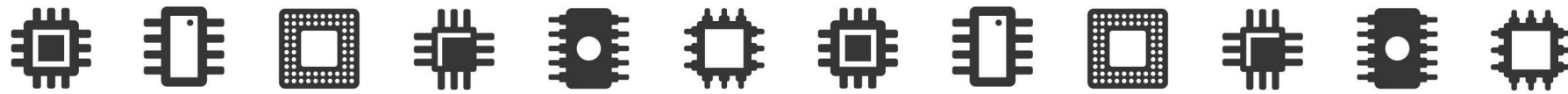
# Credit and earnings analysis

A strong yield curve implies debtors trust TXN to repay its obligations

Company	S&P	Altman Z Score	LT Debt/Total Equity	Outlook
<b>TXN</b>	A+	8.9	76%	Stable
<b>AMD</b>	A	13.2	3%	Stable
<b>QCOM</b>	A	6.2	49.2%	Stable
<b>INTC</b>	BBB	1.3	46.6%	Stable

Issuer Yield Curve





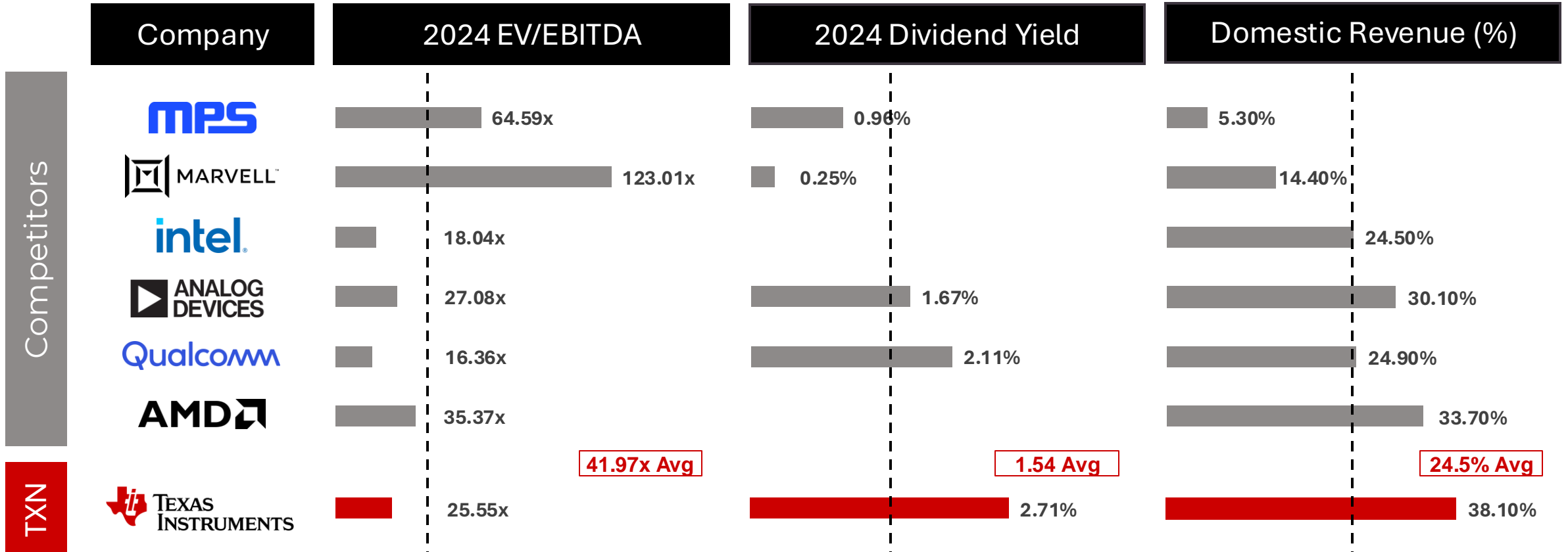
## Valuation

Valuation and comparable company analysis



# Comparable company analysis

Analysis highlights an EV/EBITDA of 25.55x, div. yield of 2.7%, and strong domestic revenue



- Relative low EV/EBITDA compared to industry peers indicates **a notable discount**
- TI's robust earnings **outpace many peers**, underlining its superior profitability and operational efficiency
- With **larger portions of sales** coming from the U.S than rivals, TI is better positioned for stability in the market



# Gordon growth approach

Using Gordon Growth, a base case upside of 8% is reached

## Discounted Cash Flow Valuation Assumptions

**Cost of Debt**  
2.95%

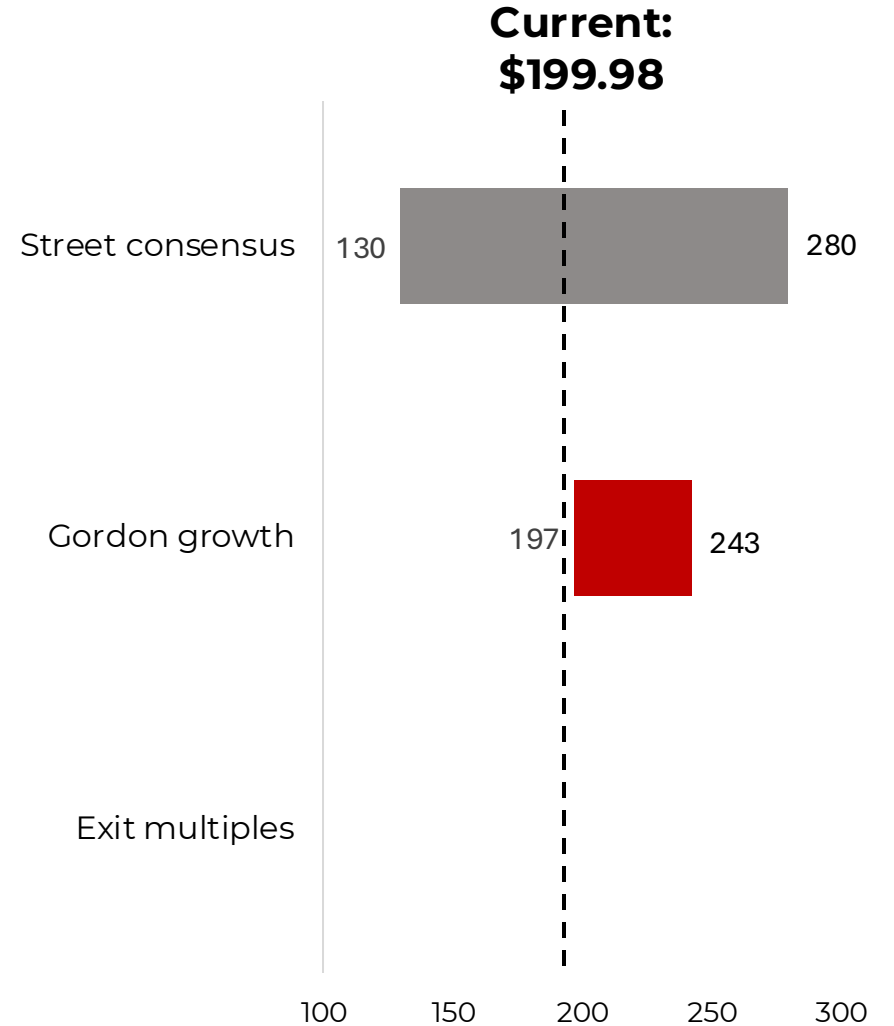
**Cost of Equity**  
9.77%

**WACC**  
6.73%

**Terminal Growth**  
2.00%

## Implied Share Price Range

		Terminal Growth Rate		
		1.75%	2.00%	2.25%
WACC	6.48%	\$219.65	\$230.60	<b>\$242.86</b>
	6.73%	\$207.72	\$217.49	\$228.34
	6.98%	<b>\$196.65</b>	\$205.69	\$215.36





# Exit multiples method

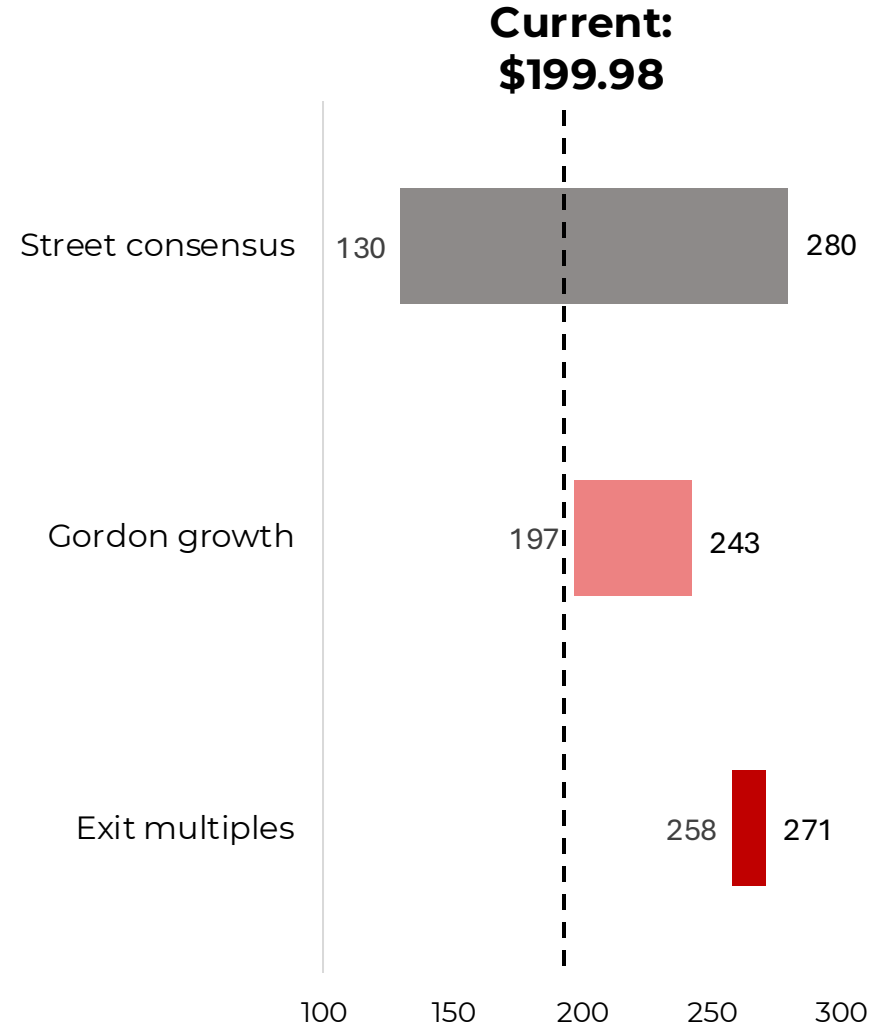
Using an EV/EBITDA exit multiple, a base upside of 31% is reached

## Discounted Cash Flow Valuation Assumptions

<b>Cost of Debt</b> 2.95%	<b>Cost of Equity</b> 9.77%	<b>WACC</b> 6.73%	<b>EV/EBITDA</b> 20.57x
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## Implied Share Price Range

		Weighted EV/EBITDA		
		20.07x	20.57x	21.07x
WACC	6.48%	\$277.52	\$283.64	<b>\$289.76</b>
	6.73%	\$274.29	\$280.25	\$286.29
	6.98%	<b>\$270.93</b>	\$276.90	\$282.87



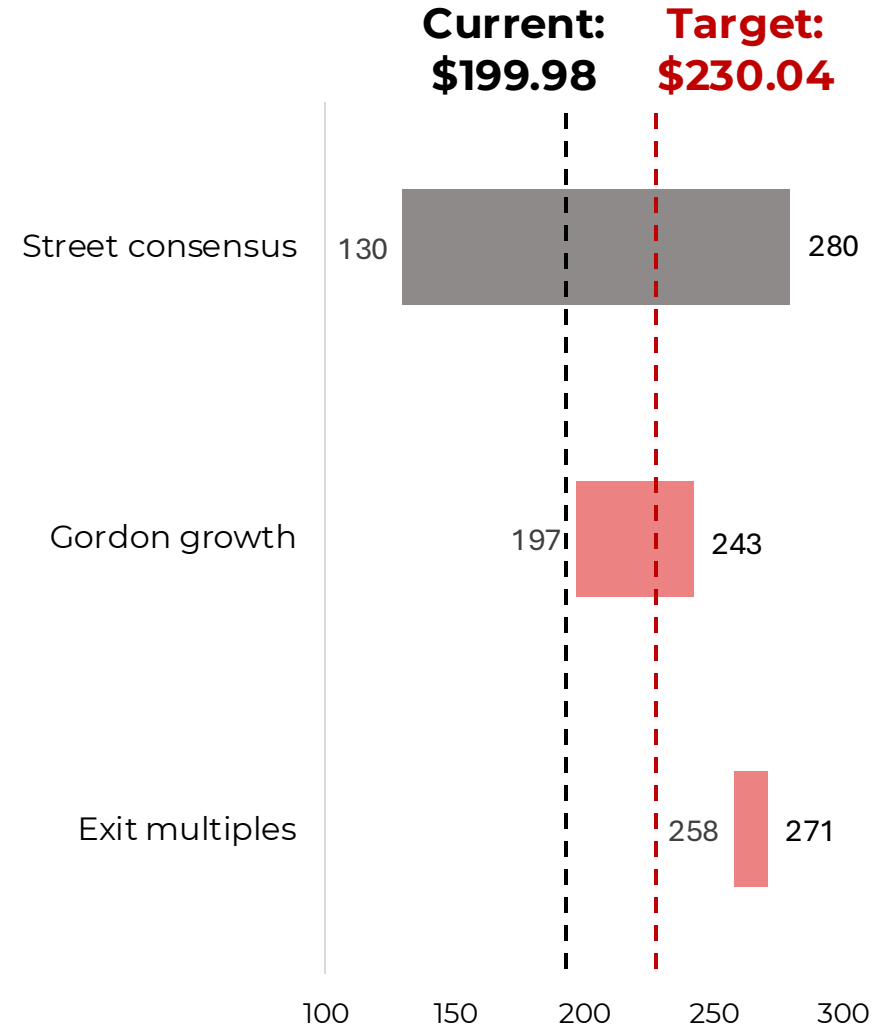


# Summary valuation

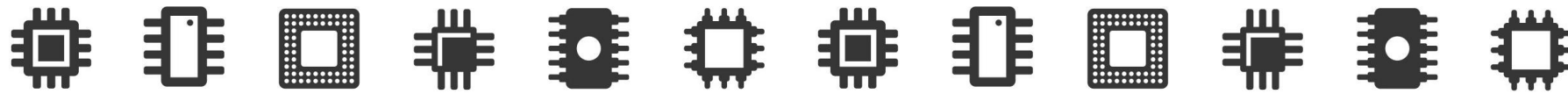
TXN's valuation represents a target base upside of 12.8%

## Price Target

Method	Weight	Price
Gordon growth	80%	\$217.49
Exit multiples	20%	\$280.25
<b>Target Price</b>		<b>\$230.04</b>







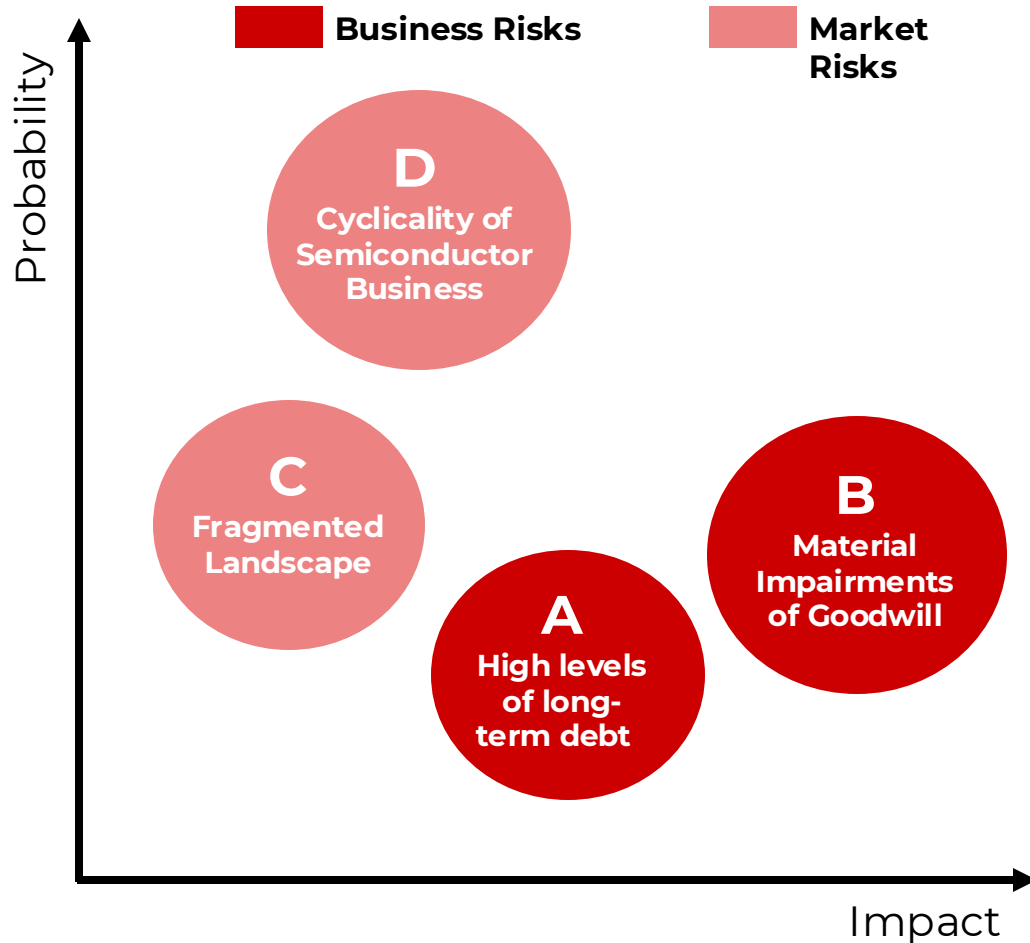
## Considerations

Investment risks, mitigations,  
and catalysts



# Risks and mitigations

Business and market risk considerations



## Mitigations

- A** A high credit rating paired with a low yield highlights the strong capabilities of fulfilling debt obligations
- B** Continued strong market presence and history of outperforming competitors
- C** Strong product line, high reach of channels to market, increased innovation
- D** Diversified market for products, reducing impacts of overall cyclicalty



# Key catalysts that will realize our projected share price

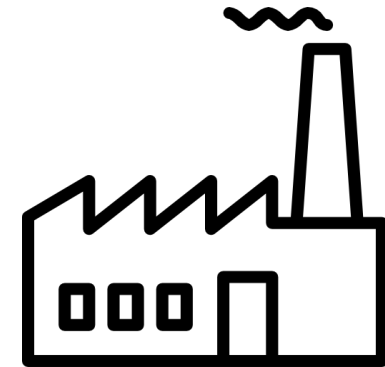
Factors that will trigger major shifts in the growth trajectory



**1. Future 10-Ks reflecting an increase in profit margins**



**2. Tariffs on semiconductors**



**3. Production starts at new fabs**



# BUY

Vertical integration | Domestic advantage | 300mm wafers

Date	02/25/2025
Current price	\$199.98
<b>Price target</b>	<b>\$230.04</b>
<b>% Upside</b>	<b>15.00%</b>



Overview

Investment thesis

Financial analysis

Valuation

Considerations

Recommendation

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