



2023

A3 Business Forum Automation Discussion

Agenda

1

What is Automation?

2

Impact of Automation

3

Drivers of Automation Adoption

4

Navigating Current Macro Backdrop



1 What is Automation?



Automation is Electronic Process Control

“

The technique, method, or system of operating or controlling a process by highly automatic means, as by electronic devices, reducing human intervention to a minimum

[Dictionary.com](https://www.dictionary.com)

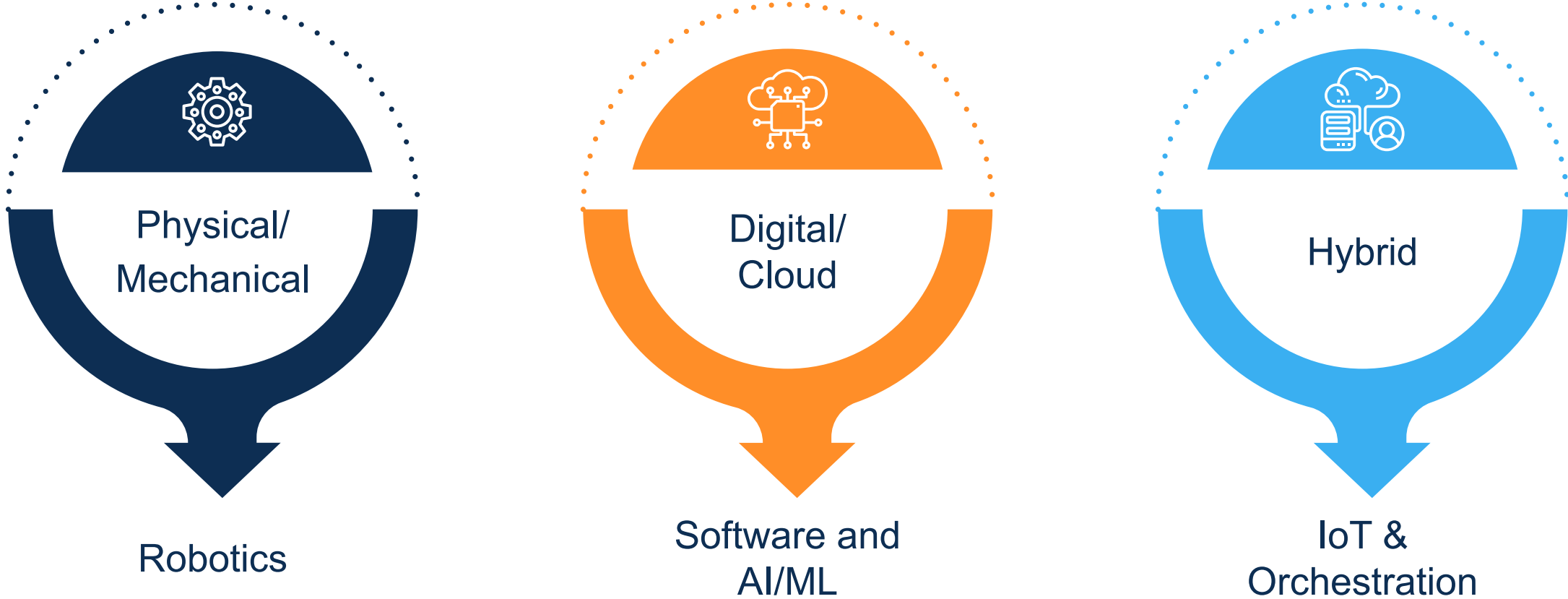
Automation is Transformative

“

A global force that will transform economies and the workforce

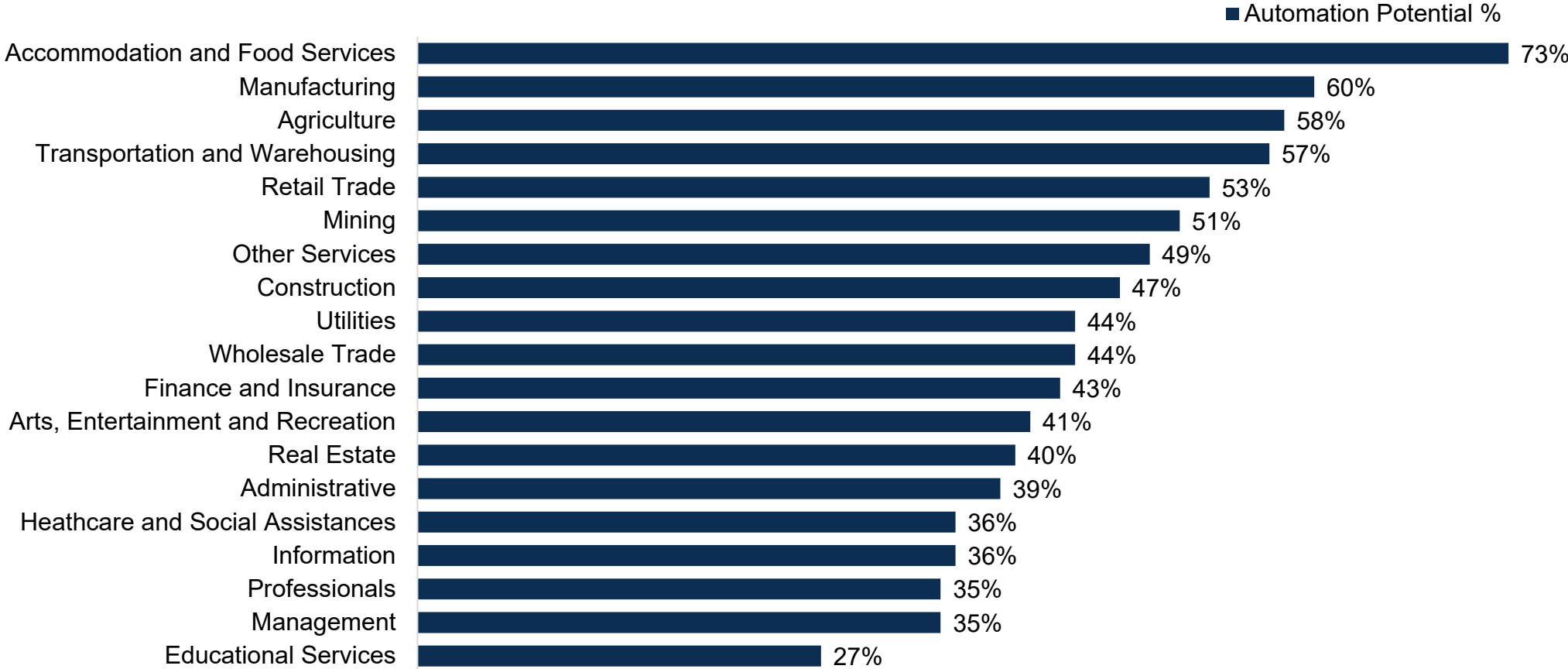
McKinsey

Automation Is A ~\$100+ Billion Market with >20% Growth



Source: McKinsey Global.

Automation Touches Nearly All End Markets and Industries



Source: McKinsey Global.



THL Automation Experience

Across Technologies and End Markets

Automation Companies

Technologies

Physical/Mechanical

- **Global Robotics**
- **Machine Vision**

Digital/Cloud

- **Process Automation**
- **Artificial Intelligence**
- **Machine Learning**
- Augmented Reality
- Virtual Reality
- **Robotic Process Automation**

Hybrid

- Edge Computing
- **Smart Sensors**
- **Real-Time Locating System**

End Markets

- Agriculture
- Construction
- Content
- CPG / Retail
- E-Commerce
- Healthcare
- Insurance
- Logistics
- Manufacturing
- Semiconductors
- Sports

Note: Bolded technologies indicate THL investment. "Automation Companies" include 16 add-ons.





2 Impact of Automation



Automation is a Key Force Fueling Global GDP Growth...



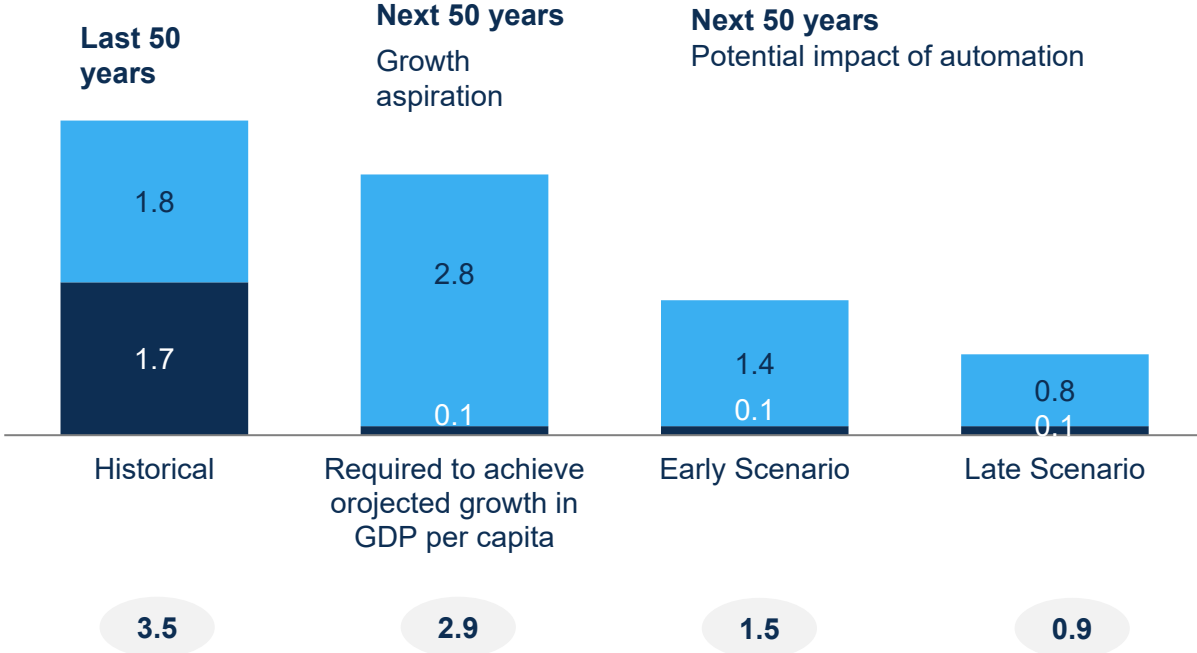
Up to half of global GDP growth for next 50 years driven by impact of automation on productivity



“ A step change in productivity at least equivalent to the Industrial Revolution

Massachusetts Institute of Technology

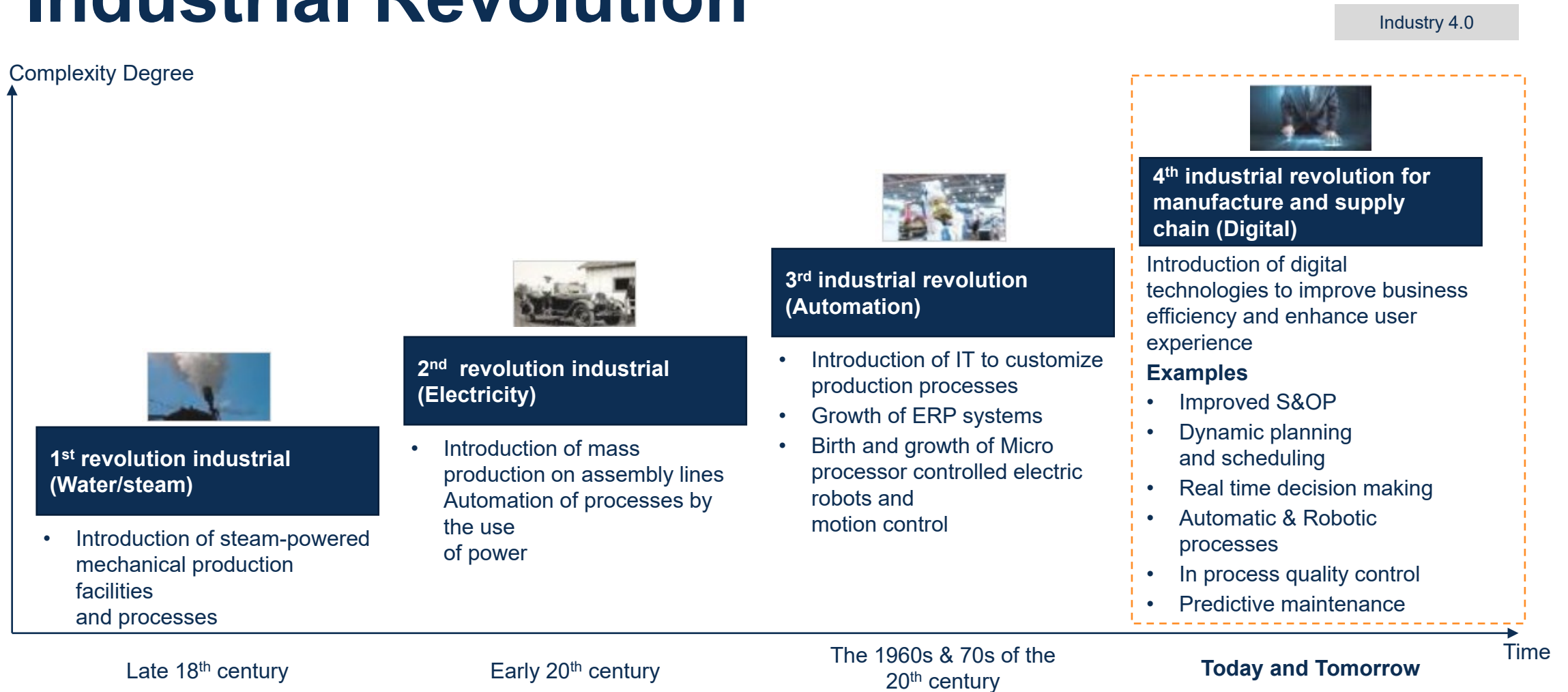
- Productivity growth, %**
Automation can help provide some of the productivity needed to achieve future economic growth
- Employment growth, %**
Will slow drastically because of aging



Source: McKinsey Global.



...And Automation is Powering The Fourth Industrial Revolution



Source: McKinsey Global.

Automation Impact – In Numbers

33%

Expected annual increase in industrial – robot installations over the next three years

Source: International Federation of Robotics

40%

The expected increase in labor productivity by 2035 as a result of AI

Source: Accenture

12 million

The number of new jobs that will be created by automation by 2035

Source: World Economic Forum

50%

Workplace tasks that could be automated by 2055

Source: McKinsey

94%

Business leaders who say AI is critical to success over the next 5 years

Source: Deloitte

30%

Projected drop in operational costs by 2024 due to business-process automation

Source: Gartner

\$12.6 trillion

Amount of economic value attributable to IoT by 2030, up from \$1.6 trillion in 2020

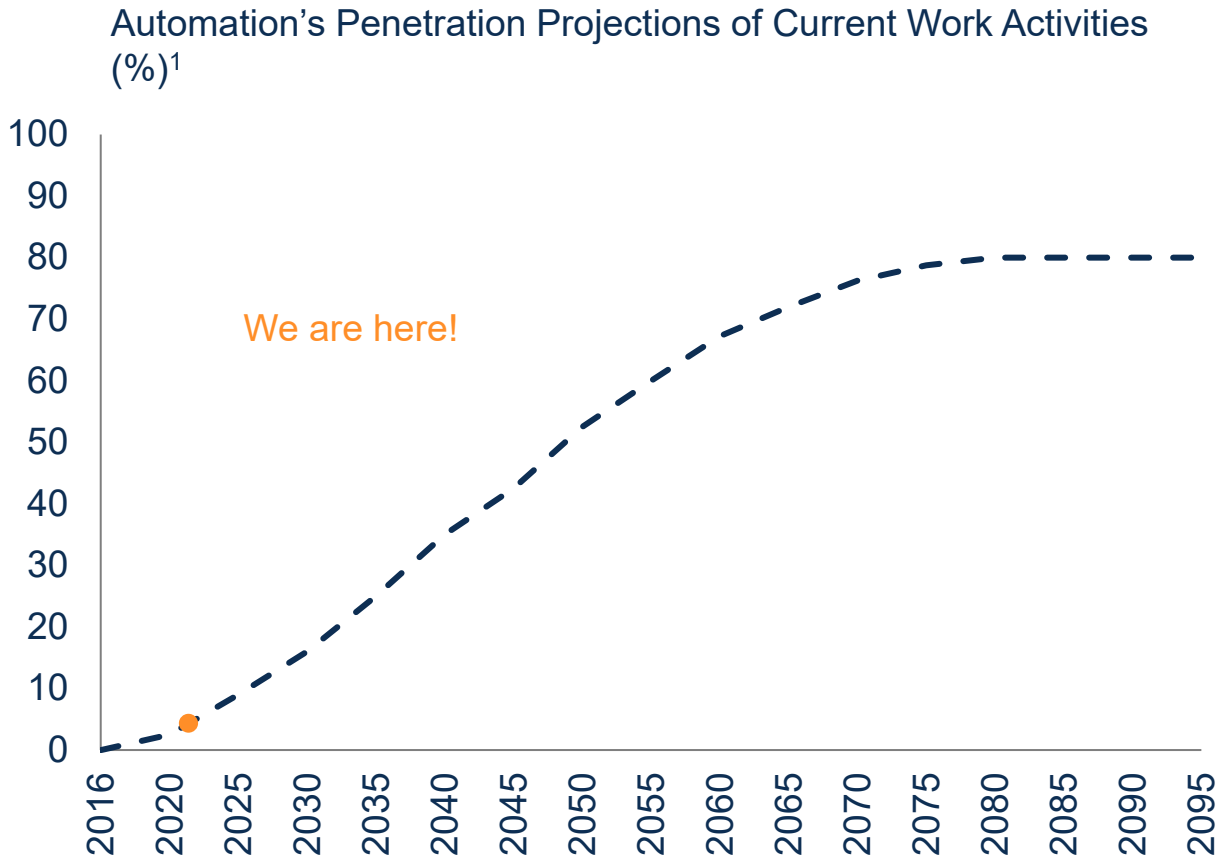
Source: McKinsey



3 Drivers of Automation Adoption



We Are Very Early In Automation Adoption



Source: Leading Market Research Firm



Automation Not Only Addresses The Macro Concerns...

Macro Concern	Labor Shortage	Inflation	De-Globalization	Supply Chain	Sustainability
Automation Benefit	Replace high turnover, low availability labor	Reduces input costs	Enables on-shoring	Higher throughput	Lower energy usage
	Upskilling drives productivity	Lower error rate/higher up-time	Reduces costs	Better visibility	Reduce physical footprint
	Access demand via improved output	Offset wage costs	Drives competitiveness	Improves service and decision-making	Minimize waste



...But The Adoption Has Been Getting Easier / Cheaper As Well

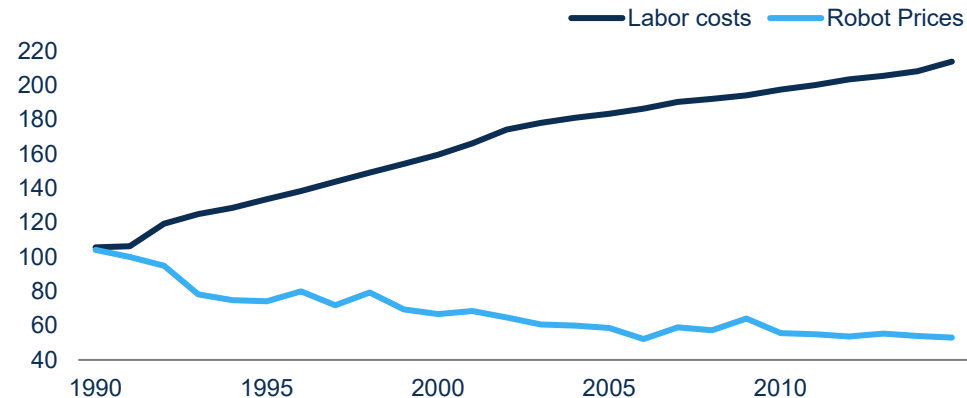


Improving robot economics

Robot prices have fallen in comparison with labor costs

Cost of automation

Index of average robot prices and labor compensation in manufacturing in United States, 1990 = 100%



- Labor costs have increased while robot avg' selling prices have fallen
- Robot operating efficiency is increasing and surprising human labor

Source: Economist intelligence unit; IMB; Institut für Arbeitsmarkt – und Berufsforschung; International Robot Federation; US Social security data; McKinsey analysis



Technical advancements increasing automation scope

Automation Potential By Activity, %

Time Spent in All Occupations, 2021, %

Total Real Wages in US, 2021, \$ Bn

Example Occupations

72	67	65	30	23	19	10
16	17	17	12	15	15	8
Process Data	Predictable Physical	Collect Data	Un-Predictable Physical	Interface	Expertise	Manage
1,176	934	1,282	633	1,113	1,612	820
Payroll, Time Keeping Clerks	Prod. Workers	Surveyors, Transpo. Inspectors	Const. Labor	Customer Service, Sales	Scientists, Engineers	C-Suite

- ~50% of work time in the US is spent on repetitive activities that have automation potential higher than 65%

Key Factors Affecting Pace and Extent of Automation Adoption





4 Navigating Current Macro Backdrop



Global Risks Beyond Anything in Our Lifetimes

2020 Global Worries

Global Pandemic

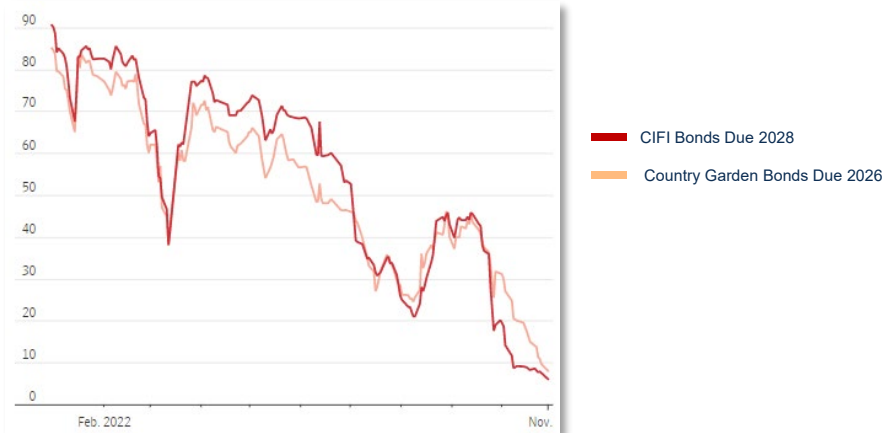
China Trade

Brexit

Iran

Political Gridlock in the U.S.

China Property Bonds



Source: WSJ.

Current Global Worries



Who Cares?



Unified Government in the U.S.

Russia/Ukraine War

Taiwan/China Potential War

Energy Pricing / Availability

Food Pricing / Availability

Worldwide Inflation

Global Stagflation

Rising Cost of Capital

Availability of Financing

Challenging labor market

Slowing demand cycle / weakening consumer

Navigating Current Macro Backdrop

1

Cash is king – optimize cash flow and assume there is no financing available for 12 / 18-months, at least on attractive terms

2

Narrow the focus – double down on winning use-cases / applications

3

Focus on standardizing vs. customizing

4

Build partner ecosystem – collective win-win

5

No win is small – whale hunting is important but those can't be your only wins

6

Your current customer is the best ally and most economical growth vector

Two Quotes I Leave You With

“

It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change

Charles Darwin

“

You cannot overtake 15 cars in sunny weather.... but you can when it's raining

Ayrton Senna