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Paradigm Shifting Advancements

Foundational

- Spoken Language
- Clothing
- Mastery of Fire
- Coil Pottery
- Weapons

B.C.

- Domestication of Plants
- Domestication of Animals
- Smelting of Ore
- Money
- Wheel
- Writing
- Bronze
- Iron

Middle Ages – 19th C.

- Water Wheel
- Three Masted Sailing Ship
- Printing Press
- Factory System
- Steam Engine
- Railways
- Iron Steam Ship
- Internal Combustion Engine
- Electricity

20th – 21st C.

- Automobile
- Airplane
- Mass Production
- Computer
- Lean Production
- Internet
- Biotechnology
- Mobile Computing
- Advanced Manufacturing
- Nanotechnology
- Artificial Intelligence
- Synthetic Biology

- Cognitive Augmentation
- Extended Reality
- Mass Customization
- Quantum Computing

24 Products 14 Processes

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“AI is the most profound technology humanity is working on. More profound than fire, electricity, or anything that we have done in the past."

~ Sundar Pichai, CEO
Alphabet (Google)

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Controlled Fire

c. 1.7 Million
Years Ago

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Controlled Fire

c. 1.7 Million Years Ago

2nd Industrial Revolution

Late-18th Century

Controlled Fire

c. 1.7 Million Years Ago

2nd Industrial Revolution

Late-18th Century

The Age of AI

Early-21st Century

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Controlled Fire

c. 1.7 Million Years Ago

Gutenberg's Press

Mid-15th Century

2nd Industrial Revolution

Late-18th Century

The Age of AI

Early-21st Century

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~~Artificial~~ Intelligence

Profound Capabilities

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"This is not a story about AI snatching away your job. It's the people and businesses skilling up right now, learning how to leverage AI to leapfrog ahead of the field."

~ Todd McLees
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Extended Human Capabilities

Augmented Human Intelligence

Boosted Human Creativity

Surging Human Productivity

Super-Human Communication

Bespoke Human Skill-Building

Dynamic Human Decision-Making

Insightful Human Empathy

Reclaimed Human Time

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Today's AI Landscape

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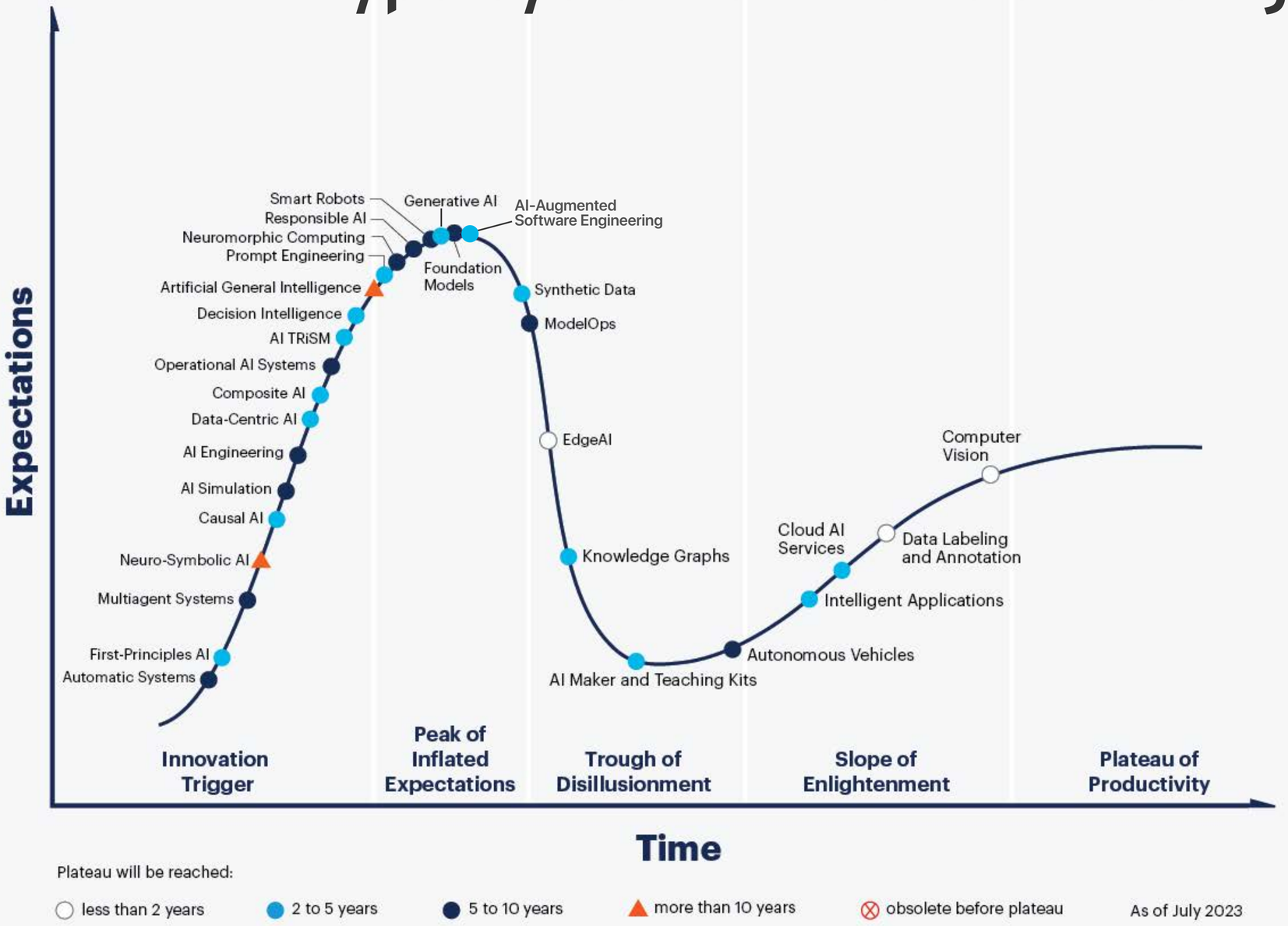
"Hype Cycle" for Artificial Intelligence – 2023



- < 2 Years
  - Computer Vision
  - Data Labeling and Annotation
  - Edge AI
- 2 to 5 Years
  - Cloud AI Services
  - Intelligent Applications
  - AI Maker and Teaching Kits
  - Knowledge Graphs
  - Synthetic Data
  - AI-Augmented Software Eng.
  - Generative AI
  - Prompt Engineering
  - Decision Intelligence
  - AI TRiSM
  - Composite AI
  - Data-Centric AI
  - Causal AI
  - First-Principles AI

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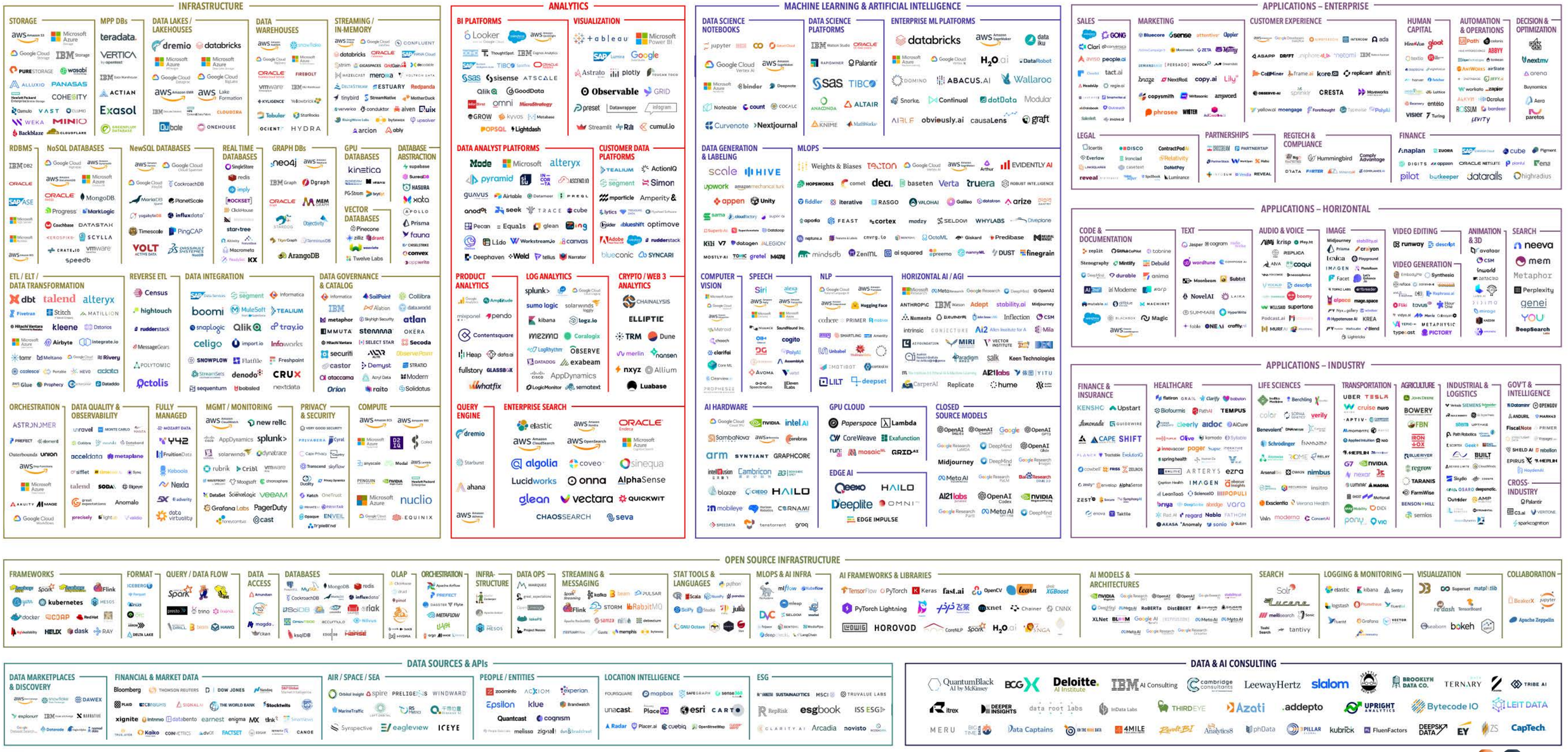
The 2023 MAD Landscape

(Machine Learning, Artificial Intelligence, & Data)



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AI Start-Up Landscape (Israel 2018)

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10 High-Priority Questions About Your College's AI Strategy

Integrating AI Literacy:
How can our institution integrate AI literacy as a foundational element in their curricula, ensuring that graduates, irrespective of their field of study, have a solid understanding and can effectively navigate the AI landscape?

Collaborative Learning with AI:
How can our Community College develop curricula that teach students the technicalities of AI and foster a collaborative learning environment where students are prepared to work alongside AI tools effectively?

Leveraging AI for Competitive Advantage:
In an increasingly competitive landscape, how can we facilitate the accessibility of AI resources and tools to students, enabling them to leapfrog their competition in the workforce? And how will that differentiate our College?

Cross-disciplinary Approaches to AI:
How can we foster a cross-disciplinary approach to AI education, encouraging collaborations between technologists and professionals from other fields to develop AI solutions that are more holistic and considerate of various societal aspects?

Partnerships with Employers on AI Strategies:
How can our institution build strong partnerships with employers to develop AI-infused workforce strategies collectively, transforming into a potent reskilling engine for the modern workforce?

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10 High-Priority Questions About Your College's AI Strategy

Ethical Development and Deployment of AI:
How can higher education play a pivotal role in ensuring AI's ethical development, deployment and responsible use, equipping students with the skills and knowledge to build AI solutions aligned with societal values and norms?

Personalized Learning with AI:
How can our College leverage AI to create personalized learning experiences, optimizing the student journey and fostering a deeper engagement with the learning material?

Building Entrepreneurial Capabilities with AI:
How can our Community College foster an entrepreneurial mindset in students, enabling them to leverage AI technologies to create innovative solutions and potentially spawn new industries and job categories?

Fostering Community Engagement through AI:
How can our institution utilize AI to foster a deeper engagement with the community, possibly translating AI advancements into tangible benefits at a local level? Can we envision community projects where students apply AI knowledge to solve real-world problems, thereby fostering a culture of innovation and community development?

Preparing for the Evolving Job Landscape:
As AI continues to reshape the job market, how can we ensure that our graduates are not only prepared to enter the workforce but also equipped to adapt to the shifting dynamics and emerging opportunities in an AI-driven economy? How can we integrate continuous learning and adaptability as core components of our educational offerings?

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Skills-Based Renaissance

The Human Response to AI

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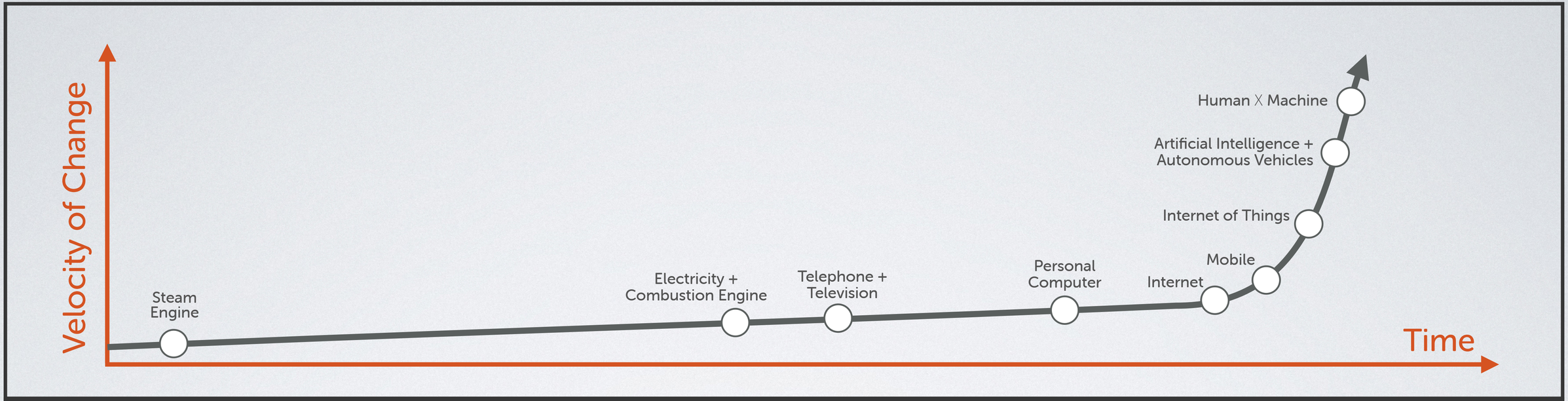
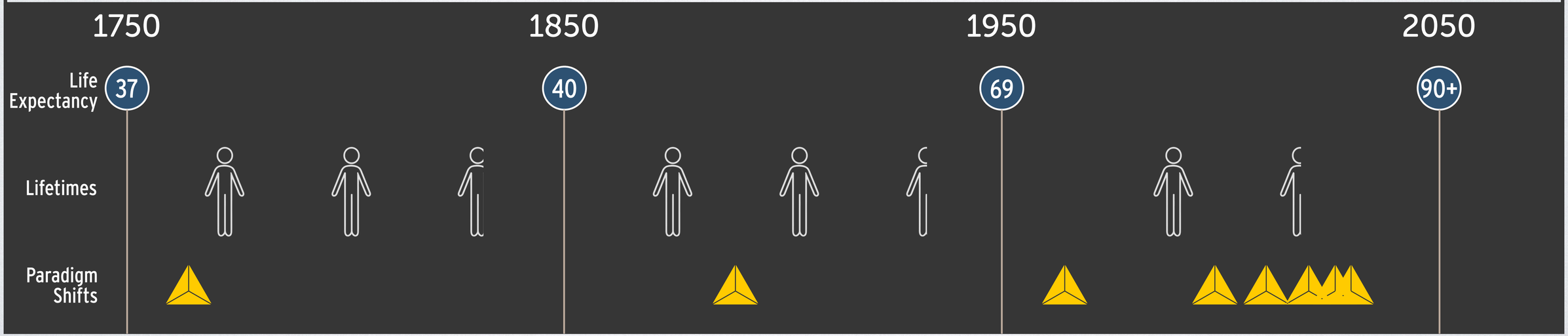
Velocity of Change Requires Adaptation





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Adapted from the frameworks of Heather McGowan

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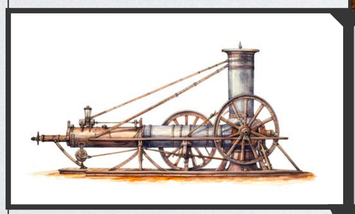
A Workforce Inflection Point: The Human x Machine Era



1.0
Industrial Revolution
Steam Engine
Mechanical Manufacturing

2.0
Technological Revolution
Electricity
Internal Combustion Engine
Mass Production

3.0
Digital Revolution
Personal Computers
Manufacturing Automation

4.0
Industry 4.0
Cyber-Physical Systems
Internet of Things (IoT)
Extended Reality (XR)
Advanced Manufacturing

5.0
Human x Machine
Artificial Intelligence
Synthetic Biology
Quantum Computing
Mass Customization

Our Mental Models

We Are Here

	Talent Requirements
1780	Physical Labor Mech. Engineering Learn a Skill
1870	Business Certainty Reduce Risk Standardization
1970	Deep Expertise Disciplinary STEM / STEAM
2007	Adaptability Digital Skills Transdisciplinarity
~2030	Skills-Based Mindset Human Skills Partnering w/ AI

Adapted from the frameworks of Heather McGowan

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Forces of Change: 4th Industrial Revolution

	3rd Industrial Revolution	4th Industrial Revolution
Technological Innovation	Computerization	Merging Digital, Physical, Biological Systems
Vocational Displacement	Routine Manual Labor	We Are Here Routine Cognitive Labor
Competitive Advantage	Specific Expertise, Stored Knowledge	Agility, Adaptability, Ability to Learn, Purpose, Human Skills
Education + Training	Factory Pipeline To Work	Continuous Skill Building; Durable and Transferrable Skills
Tools	Learn the Tool to Increase Productivity	Learn From and With the Tool to Create New Value

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Human Skills for the Age of AI

Human Skills Framework

5 Core Human Elements

4 Areas of Focus (quadrants)

8 Future-Proofing Mindsets

24 Human Skills

400+ Micro-Skills

2,000+ Nano-Skills

Human Skills Ecosystem

100+ Global Collaborators

80+ Frameworks Analyzed

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AI and the Future of Work

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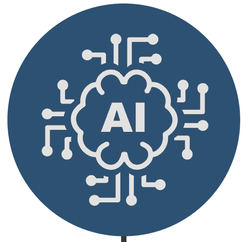
8 Disruptive Trends Shaping the Future of Work

Artificial Intelligence

40% of Working Hours impacted accenture

Fastest Adoption of Technology in History



Affordability of AI, Cognitive Computing, and Robotics

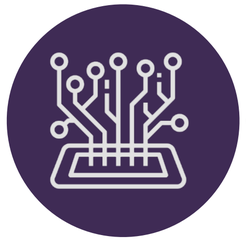
$500,000 in 2008
$22,000 today

Deloitte.

Hyper-Connectivity

14 Billion+ connected devices globally in 2022

Source: IHS



Tsunami of Data

9x more data in the last two years

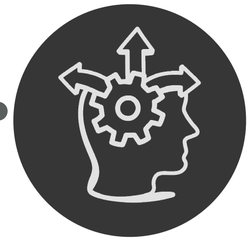
Deloitte.

Work tasks vulnerable to automation by 2030

35% UK • 47% US • 77% China

Change in nature of Jobs to Skills-Based Work

30% of Jobs are Stable
Half-Life of Perishable Skills: **1.5–5 years**



Explosion in Contingent Work

US contingent workers 40% by 2030

Source: Intuit

Diversity + Generational Change

Millenials – 50% of workforce
Gen Z – 27% of 2025 workforce
Gen Alpha – 11% by 2030

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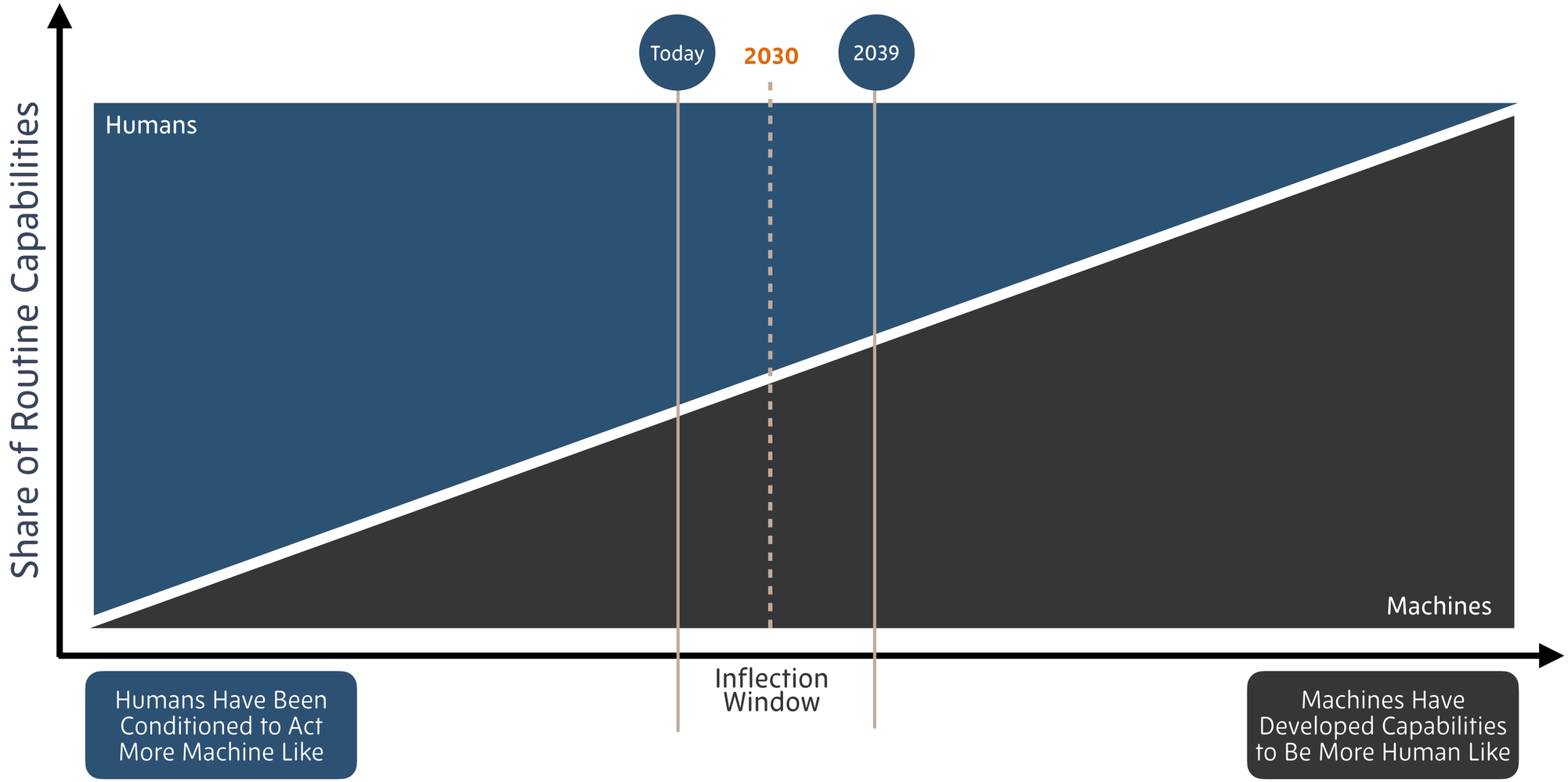
Human X Machine Partnership Inflection Point



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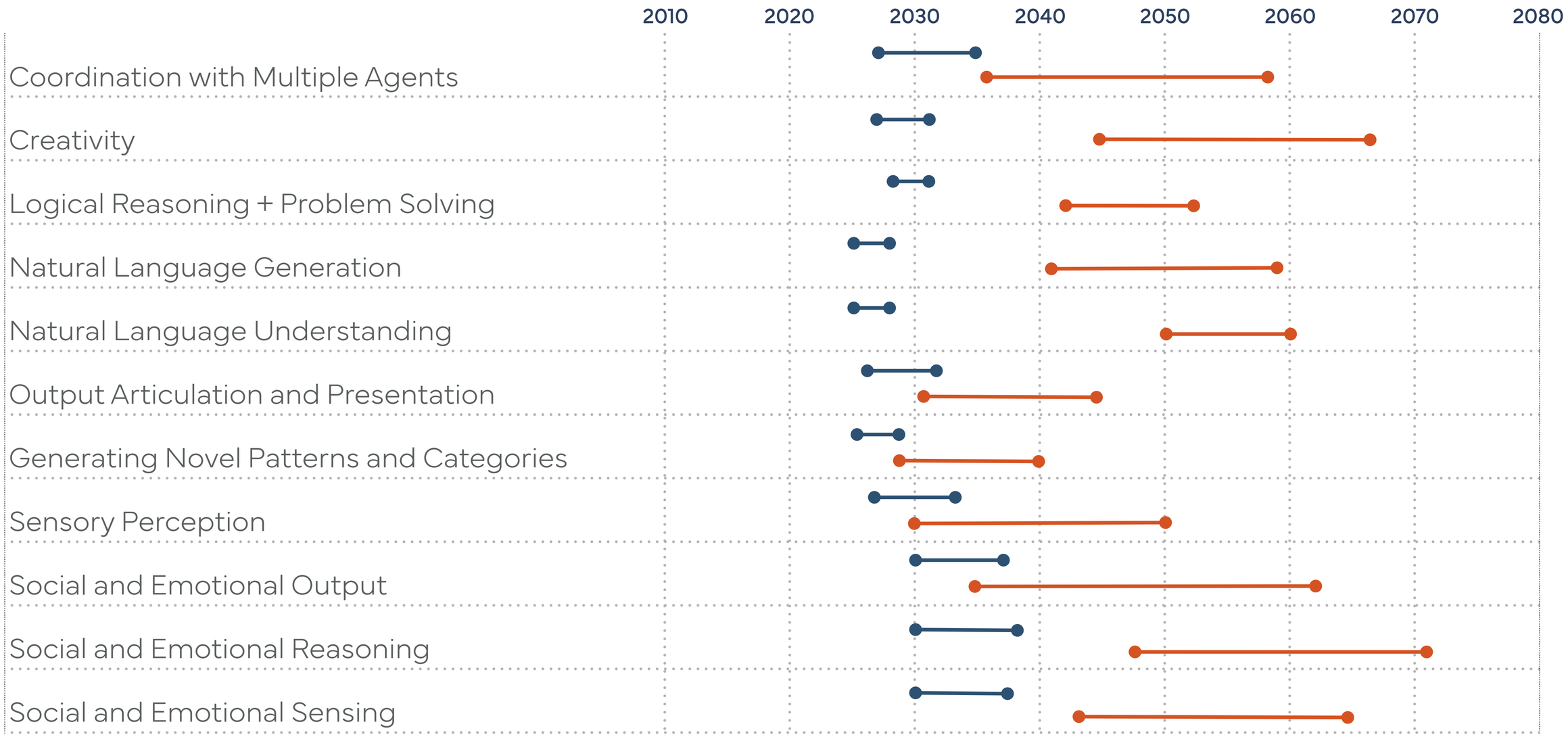
When Will Top Quartile Human Performance be Achieved with Technology?



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McKinsey & Company

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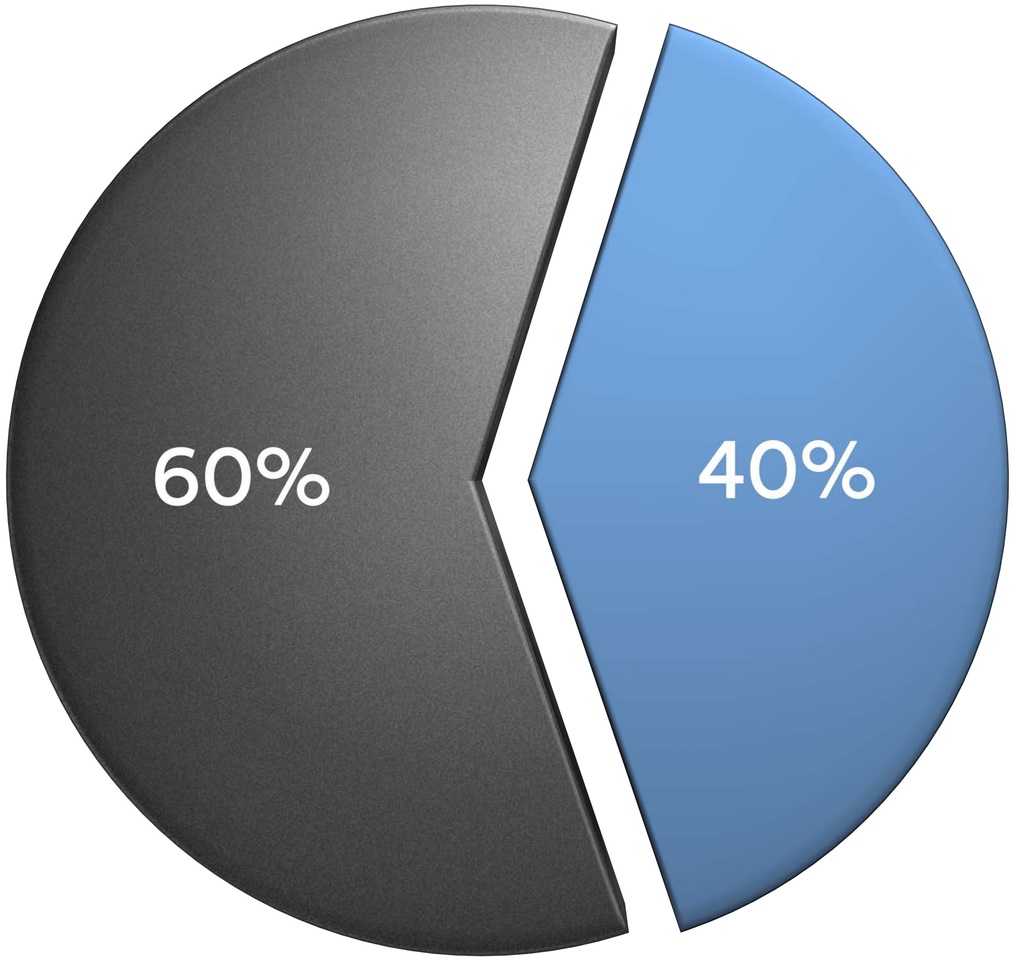
Generative AI Transforms Work Across Industries



40%

of Working Hours across industries will be impacted by Large Language Models

accenture

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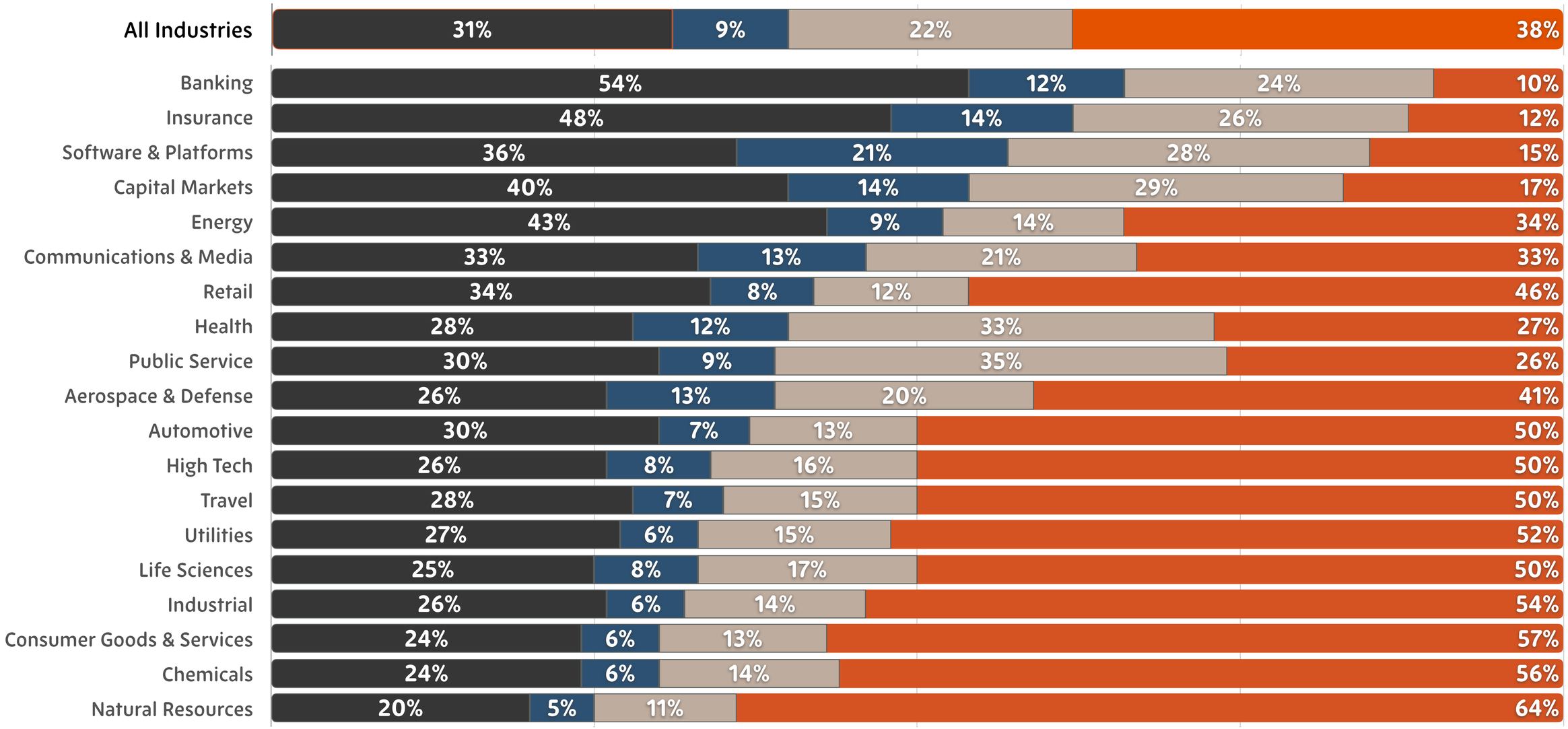
Work Time Distribution by Industry & Generative AI Impact



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Source: Accenture Research based on analysis of Occupational Information Network (O*NET), US Dept of Labor, US Bureau of Labor Statistics

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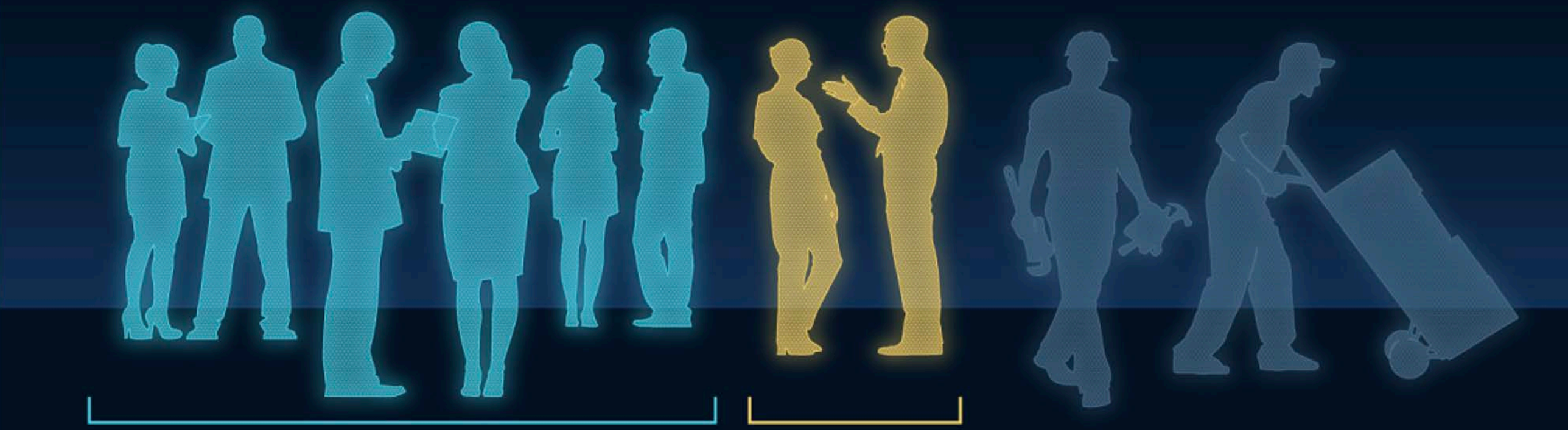
AI's Impact – for Every 10 U.S. Workers



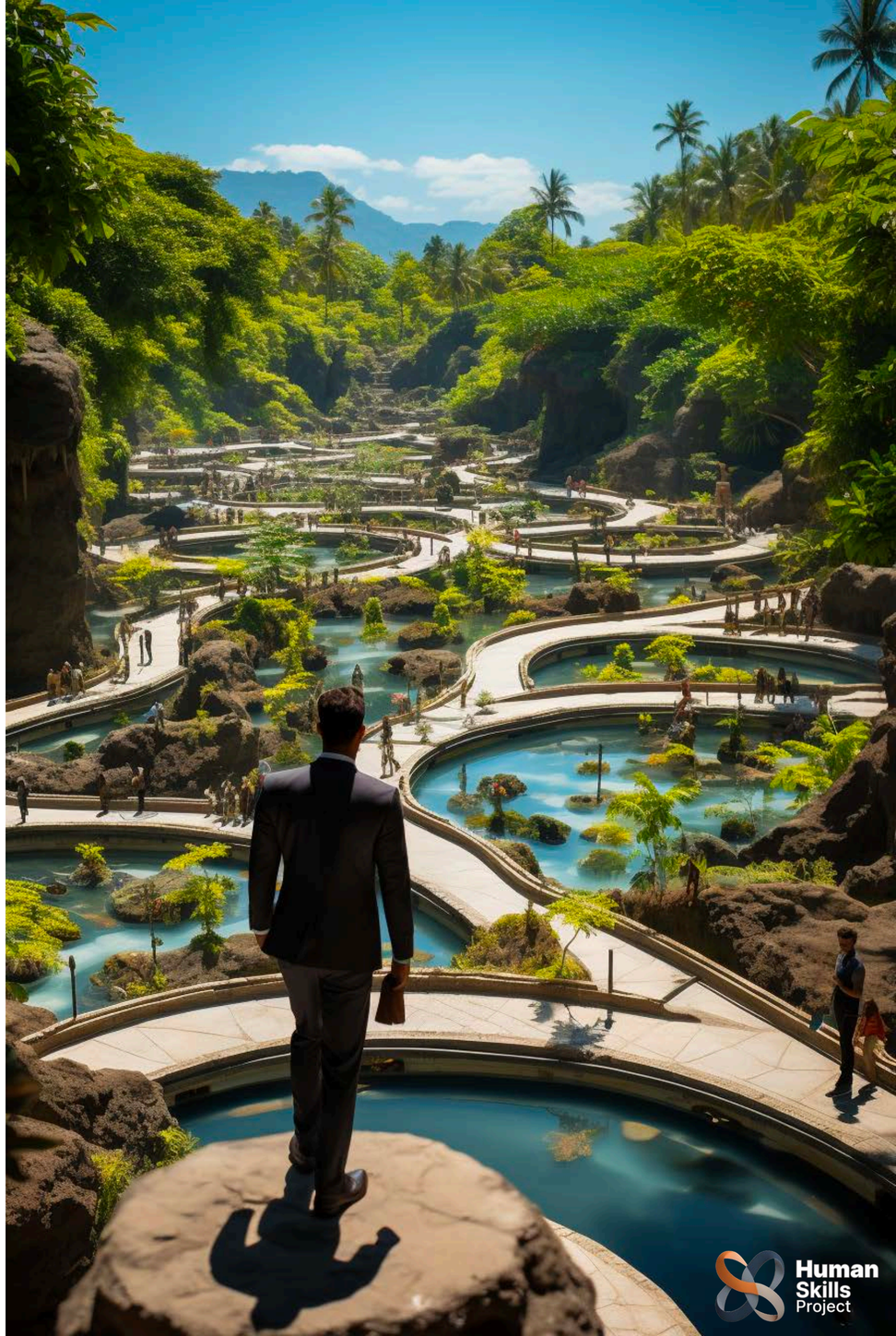
10% OF WORK IMPACTED

Six workers will have at least **10%** of their work tasks impacted by GPT technology

50% OF WORK IMPACTED

Two workers will have over **50%** of their work tasks impacted by GPT

Navigating the Skills-Based Economy



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Reimagining Customer Service Jobs

4 tasks would continue to be performed primarily by humans, with low potential for automation or augmentation

- Personalized Customer Engagement
- Crisis Management
- Developing Customer Education Content
- Building and Maintaining Relationships

5 tasks could be augmented to help humans work more effectively – such as using an AI summary to provide a rapid solution with a human touch.

- Handling Complaints and Issues
- Providing Technical Support
- Gathering Customer Feedback
- Multichannel Communication
- Upselling & Cross-Selling

4 tasks could be fully automated – such as gathering, classifying, and summarizing information on why a customer is contacting a company.

- Product Recommendations
- Analyzing Customer Data
- Processing Orders and Transactions
- Responding to Basic Customer Inquiries

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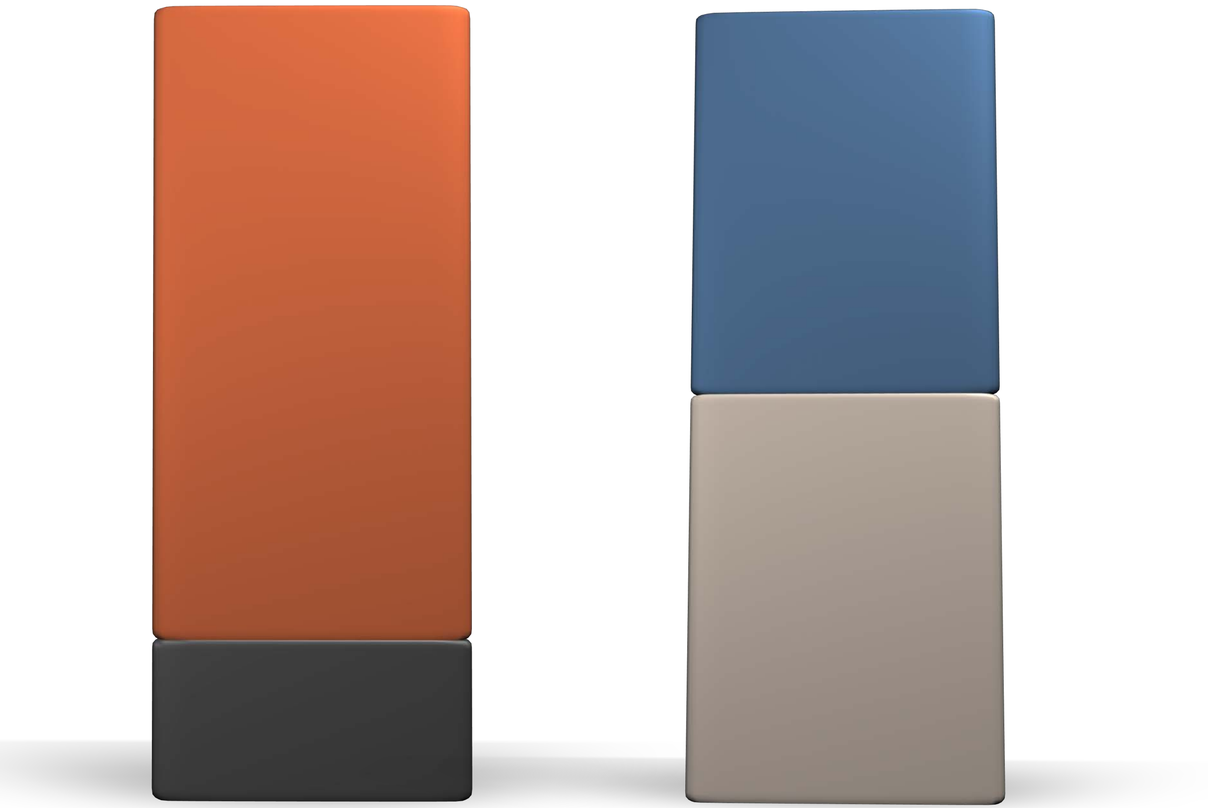
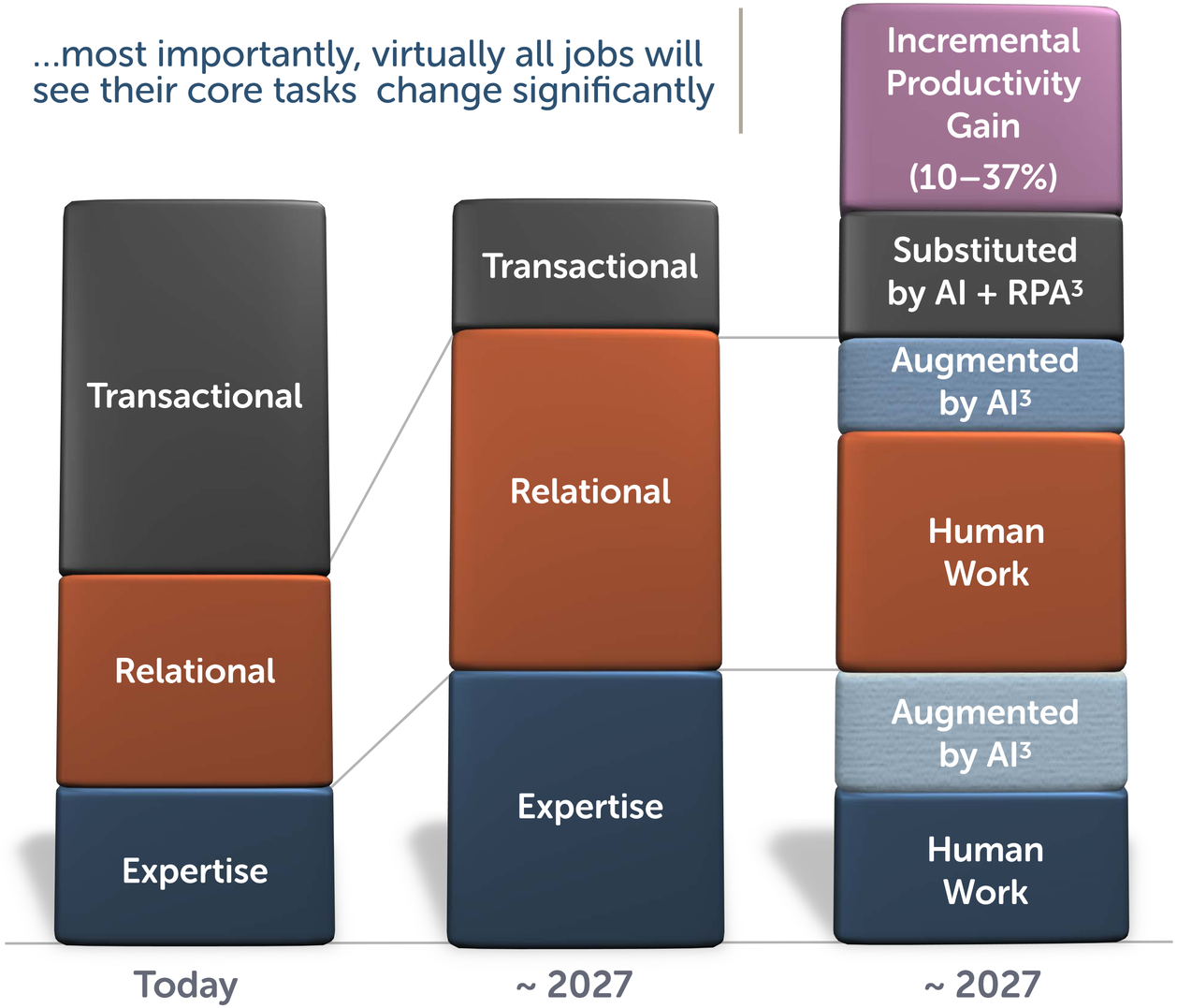
How Generative AI is Changing Work

80% of today's jobs are likely to be affected by Generative AI[1]

...19% of jobs will see 50% of their tasks affected



...most importantly, virtually all jobs will see their core tasks change significantly



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OpenAI

BROOKINGS

Goldman Sachs

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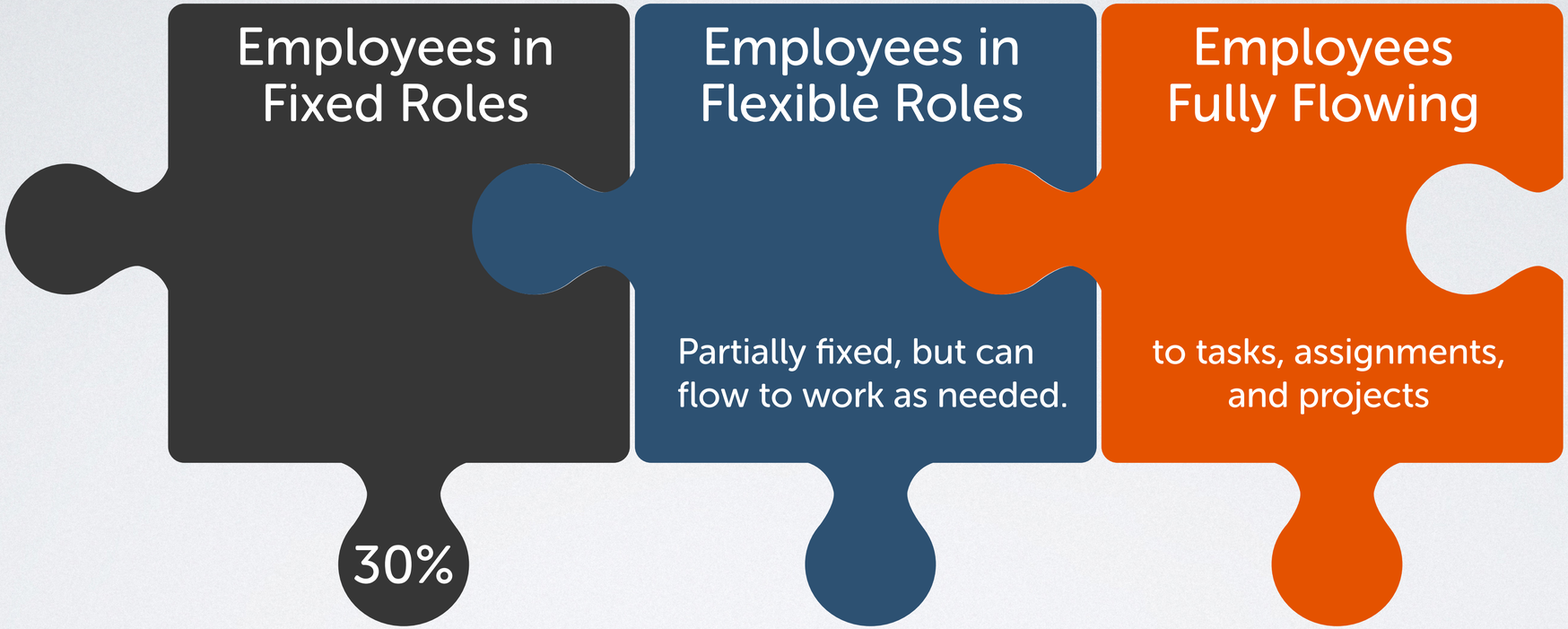
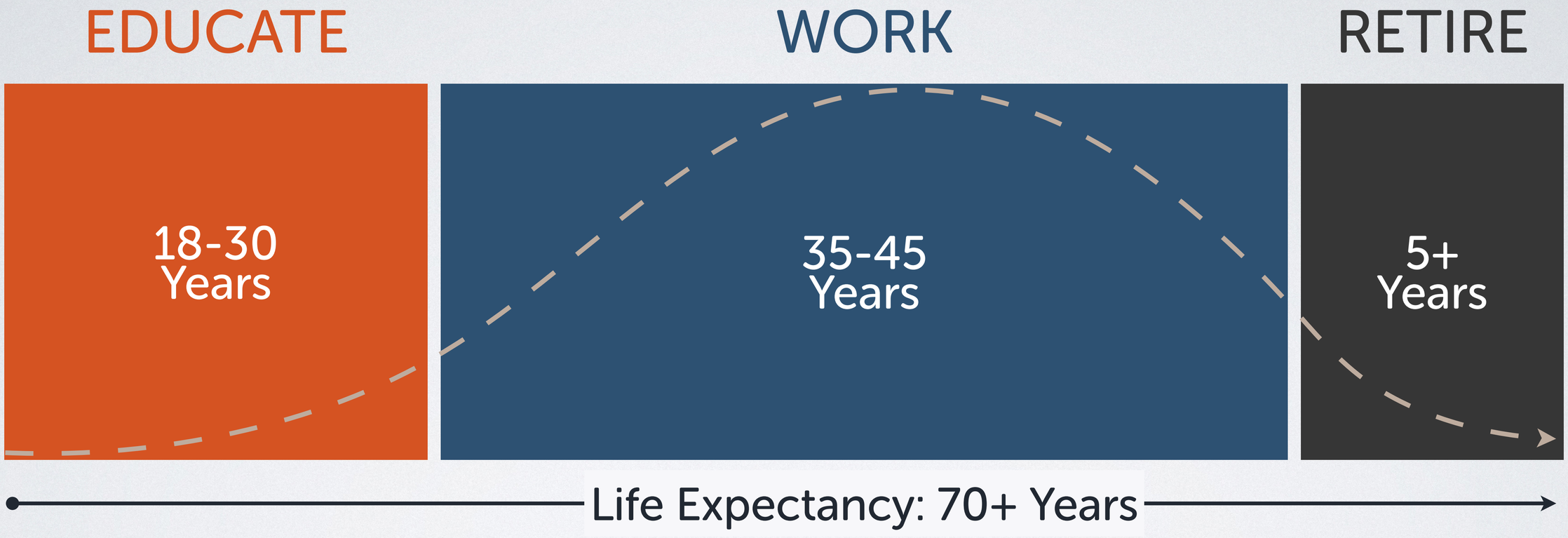
Connecting Talent to Work



ROI	Reduce time to fill	Greater talent visibility	Insights into emerging/ declining work	Increased Labor Productivity	Speed and Agility

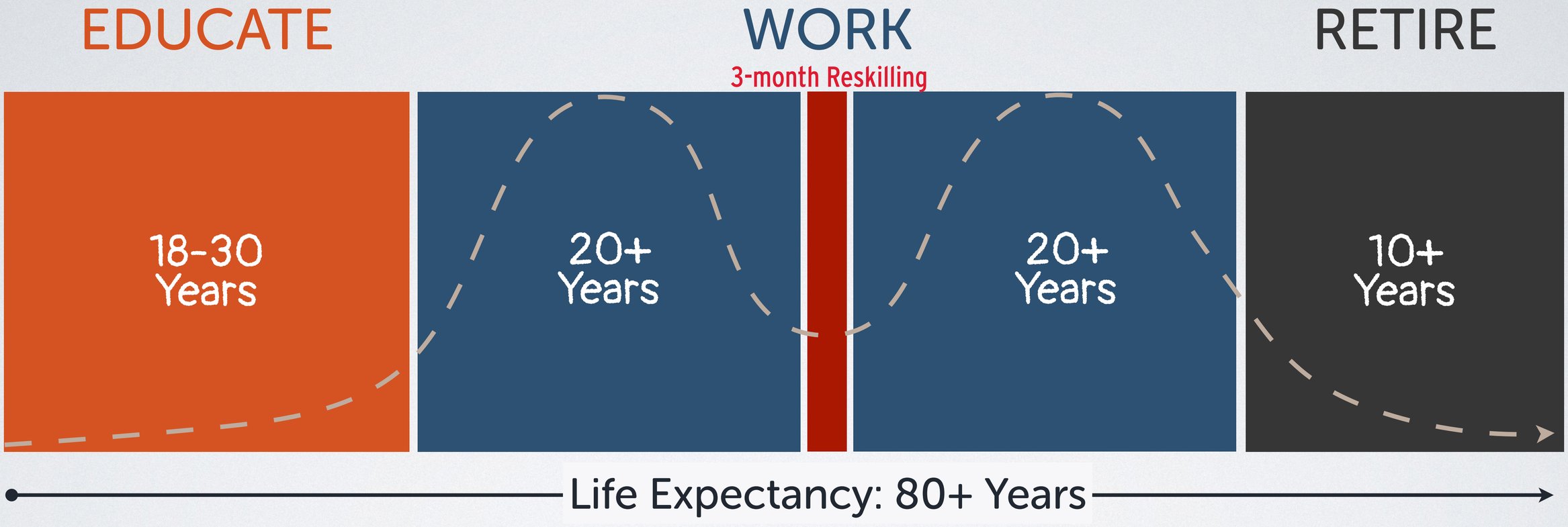
Source: “Work Without Jobs” – Ravin Jesuthasan & John Boudreau

Old Economy Learning Paradigm



Source: Heather McGowan

The Up/Reskilling Fallacy:



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Source: Heather McGowan

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New Emerging Model

Source: Heather McGowan

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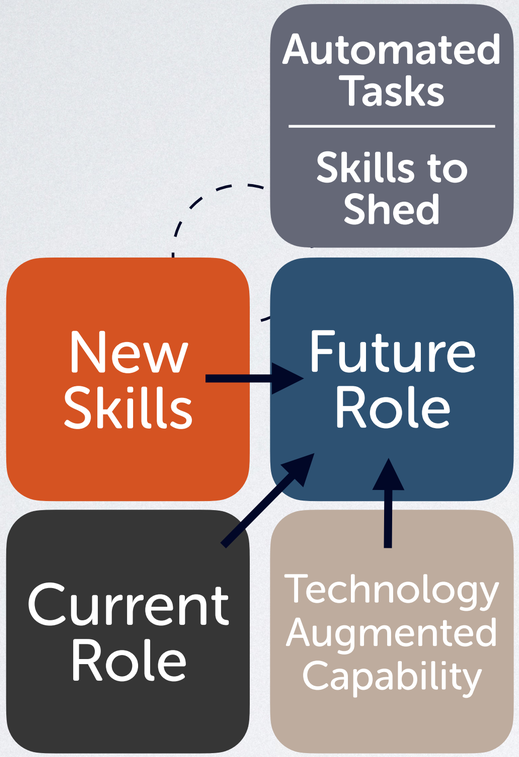
Career Planning Framework in the Age of AI



Current Role

− Tasks Automated / Skills Shed

\+ New Skills + Capabilities

\+ Human X Machine Partnership

= Future Role

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Adapted from the works of Heather McGowan

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“The Future of Work Is Uniquely Human”

accenture
c. 2017

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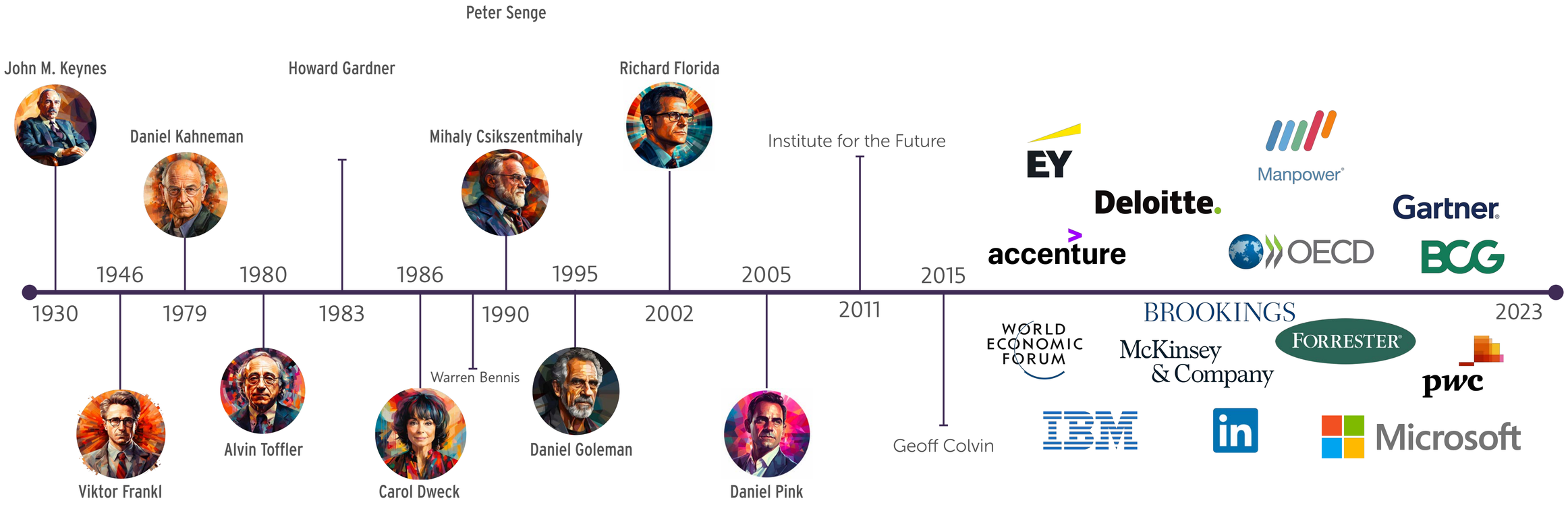
The Need for Human Skills Is Centuries Old



2027 Top Skills Outlook

		Rank 2023 v 2027
1	Analytical Thinking	–
2	Creative Thinking	–
3	AI & Big Data	+12
4	Leadership & Social Influence	+5
5	Resilience, Flexibility, & Agility	–2
6	Curiosity & Lifelong Learning	–1
7	Technological Literacy	–1
8	Design & User Experience	+9
9	Motivation & Self-Awareness	–5
10	Empathy & Active Listening	–2
11	Talent Management	+1
12	Service Orientation & Customer Service	+1
13	Environmental Stewardship	+10
14	Resource Management & Operations	–
15	Marketing & Media	+6
16	Quality Control	–6
17	Networks & Cybersecurity	+5
18	Dependability & Attention to Detail	–11
19	Systems Thinking	–8
20	Programming	–

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Source: WEF Future of Jobs Report - May 2023

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"As machines get better at being machines, humans have to get better at being more human."

~ Andrew J. Scott
Professor of Economics
London Business School

Human Skills for the Age of AI

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10 High-Priority Questions About Your Skills-Based Economy Strategy

Resource Allocation:
How can higher education institutions realign their resource allocation to correlate to skill-building frameworks (e.g., 70:20:10) for learning and development, fostering a balance between formal education, social learning, and experiential learning?

Durable and Transferable Skills:
In an economy where perishable skills are becoming obsolete at a faster rate (1.5 – 5 years), how can institutions focus on imparting durable and transferable skills that remain relevant and can adapt to the changing demands of the job market?

Developing Uniquely Human Skills:
How can higher education facilitate students in identifying and cultivating their uniquely human skills, which AI cannot replicate, thus preparing them for the fact that employers highly value these skills?

Alignment with Industry Demands:
How can higher education maintain a dynamic alignment with industry demands, ensuring that the skills we are delivering are not only current but also foresee future skill requirements?

Lifelong Learning Facilitation:
How can higher education evolve to facilitate continuous skill building, helping individuals to continuously update their skill sets in alignment with the evolving economy? What is our current CLTV and what can it be?

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10 High-Priority Questions About Your Skills-Based Economy Strategy

Integrated Learning Platforms:
How can higher education institutions develop integrated learning platforms seamlessly transitioning between theoretical knowledge acquisition and practical skill application?

Cross-Sector Collaborations:
How can higher education foster cross-sector collaborations, enabling students to develop a multifaceted skill set that transcends traditional boundaries of disciplines?

Real-Time Skill Adaptation:
How can higher education institutions create mechanisms for real-time adaptation of curricula, responding swiftly to the changing skill demands of the economy?

Fostering Entrepreneurial Mindset:
How can higher education catalyze the nurturing of an entrepreneurial mindset in students, empowering them not just to seek jobs but create opportunities and contribute to economic growth?

The Role of Multiple Associate Degrees:
As we transition into a period where most individuals will have multiple careers spanning over 65+ years, how can higher education institutions reimagine credentialing?

Could multiple associate degrees integrated with stackable IRCs and certificates become the ultimate credentialing method for continuous reskilling and upskilling mid-career professionals?

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