

Future Automation: Future Workforce

Challenges and approaches

Billion Dollar CEO Roundtable

October 12, 2017

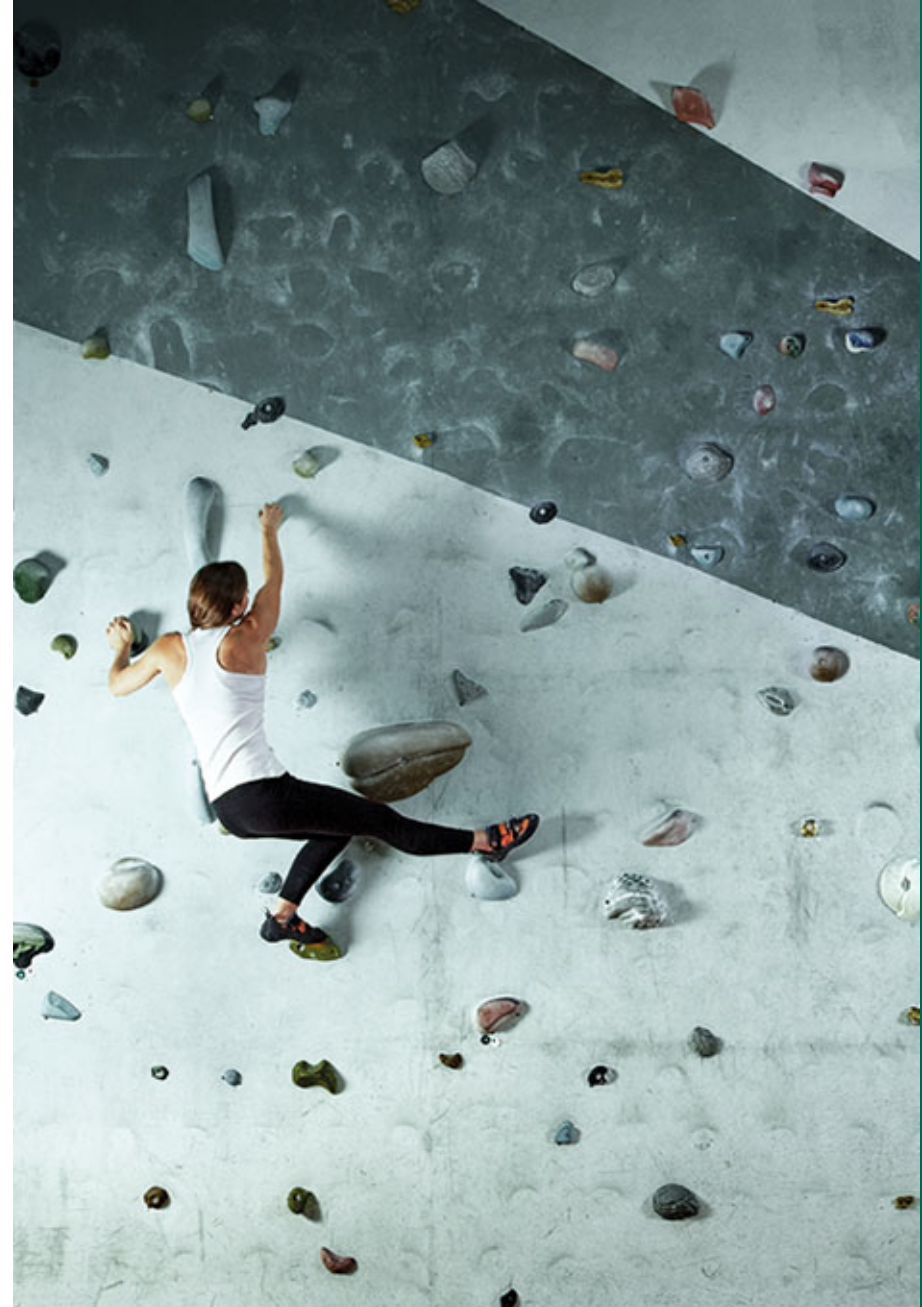


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Agenda

- Trends in automation technology
- Making an automated workforce work

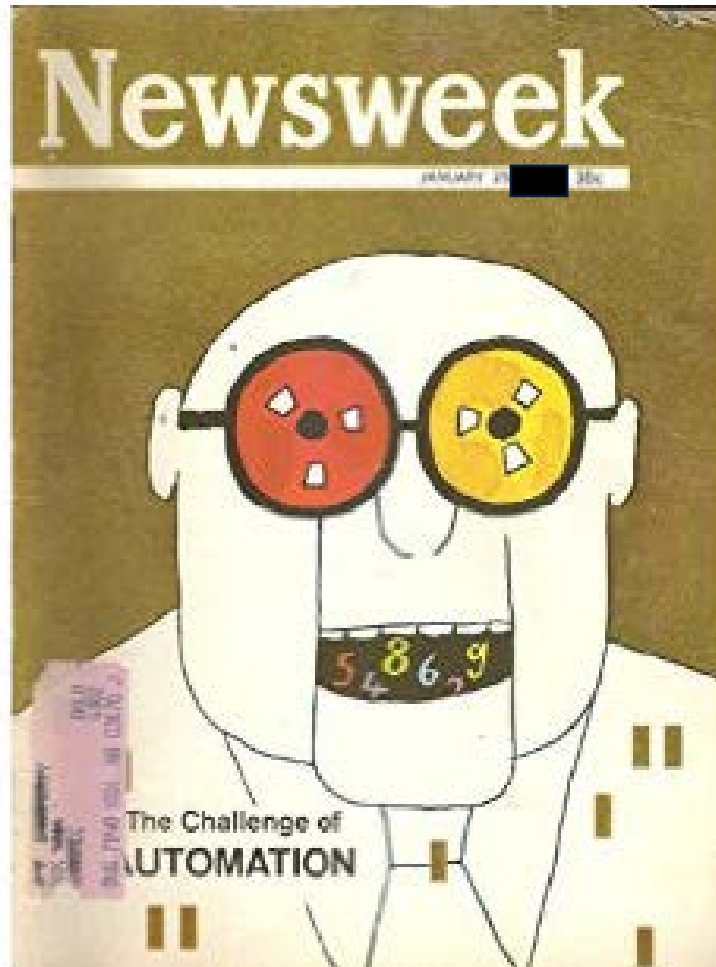




Trends in automation technology



Some historical perspective...



Guess what year
this cover story is
from...

A new chapter in automation: the post-Kiva ecosystem

2012



- ✓ Rest of market lost access to Kiva technology
- ✓ Added 80K warehouse employees post Kiva
- ✓ \$22 million in savings per warehouse (data from Deutsche Bank)

Today



- Robotics start-up ecosystem has grown to fill the void left by Kiva
- Major venture from within wholesale world: Symbotic, owned by C&S

Progress in automation – in the warehouse

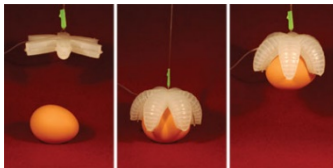
Untethering



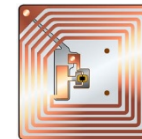
“The grip issue”



Soft robots



IoT tags

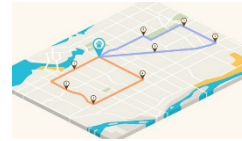


Progress in automation – on the road

Algorithmic managers



Machine learning for route optimization



Self-driving trucks

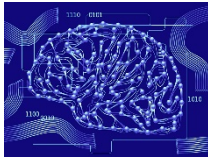


Vehicle to vehicle communications



Progress in automation – in the boardroom

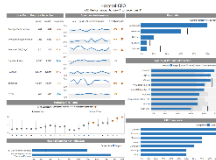
AI-driven analytical decision support



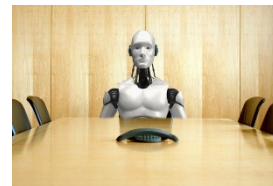
Automated cyber defense



Anticipatory reporting



Robot board members?

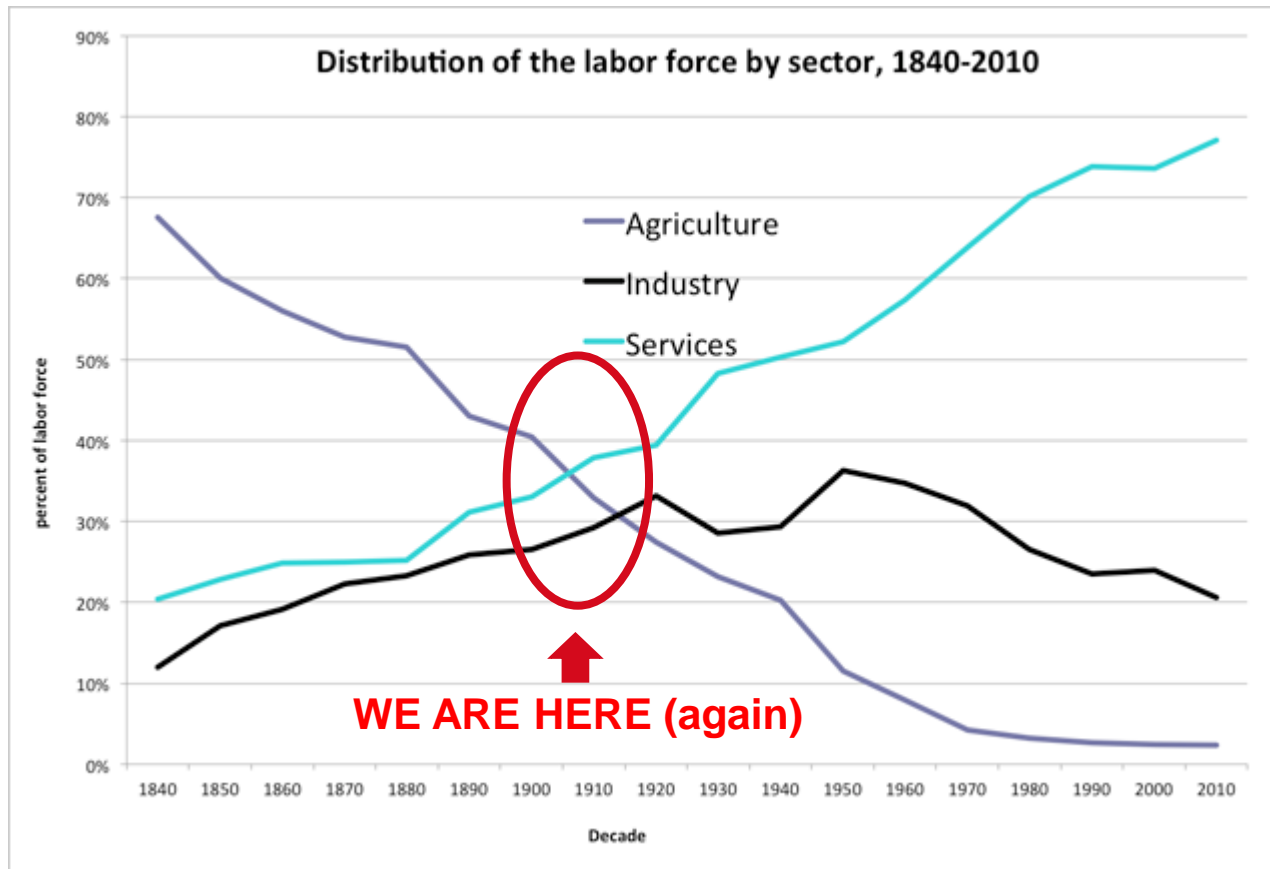




Making an automated workforce work



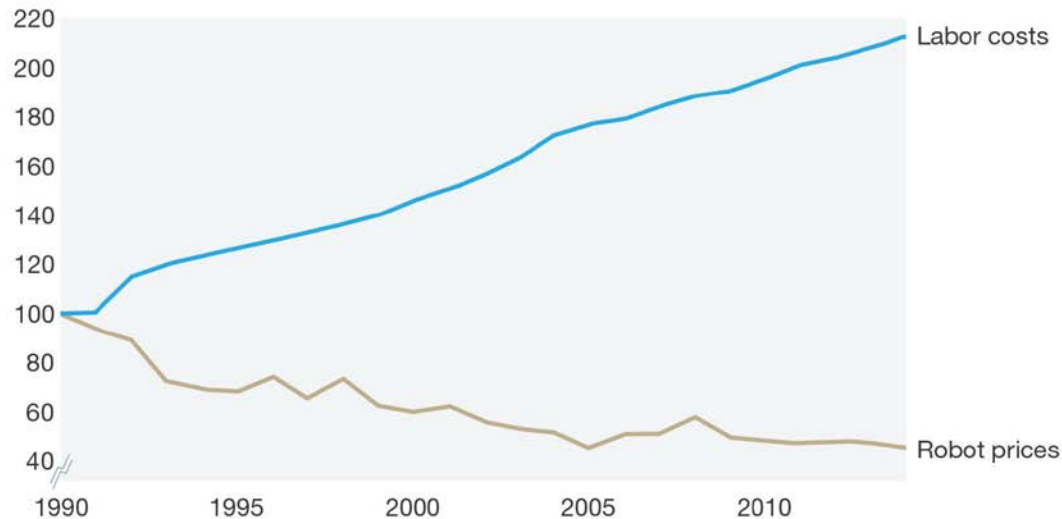
Some more historical perspective...



The economics of automation certainly have improved

Cost of automation

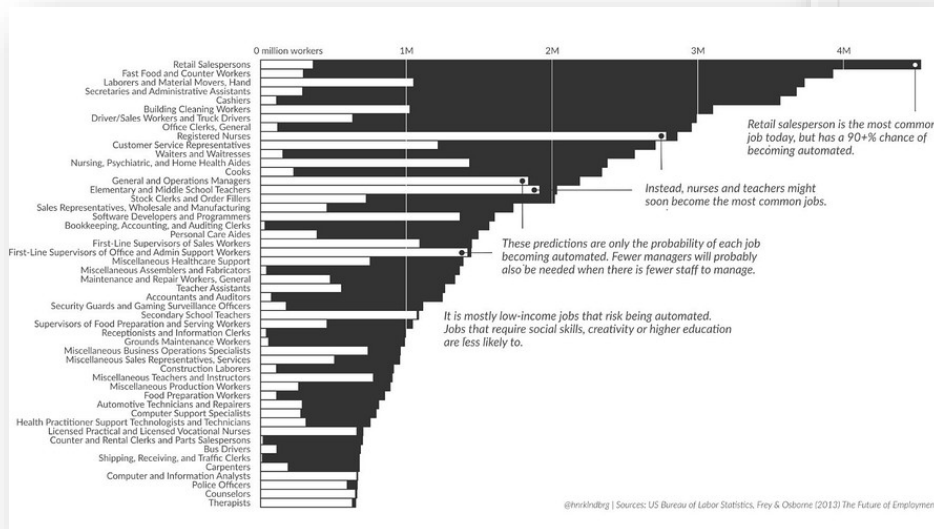
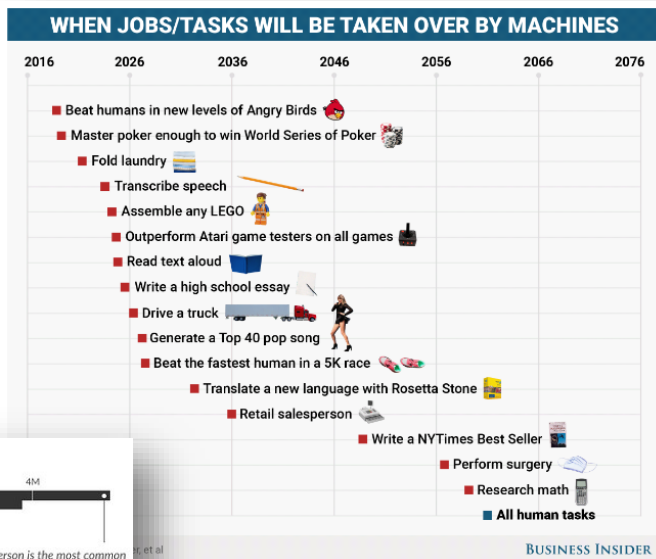
Index of average robot prices and labor compensation in manufacturing in United States, 1990 = 100%



Source: Economist Intelligence Unit; IMB; Institut für Arbeitsmarkt- und Berufsforschung;

Are robots taking jobs?

Experts predict self-driven trucks by 2026...



...and possibly significant inroads into currently large swaths of the labor force.

https://www.weforum.org/agenda/2017/06/this-is-when-robots-will-start-beating-humans-at-every-task-ae5ec71-5e8e-44ba-87cd-a962c2aa99c2?utm_content=buffera31a6&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

Robots taking jobs: myth and reality



Myth

Each robot deployed = 1 job lost



Reality

Deployment of automation increases capacity to operate, thus increasing hiring



Reality

Deployment of automation means *different* workers can be hired



Reality

Deployment of automation enables services shift or even business model change to anticipate disruptive competition, preserving jobs



Reality

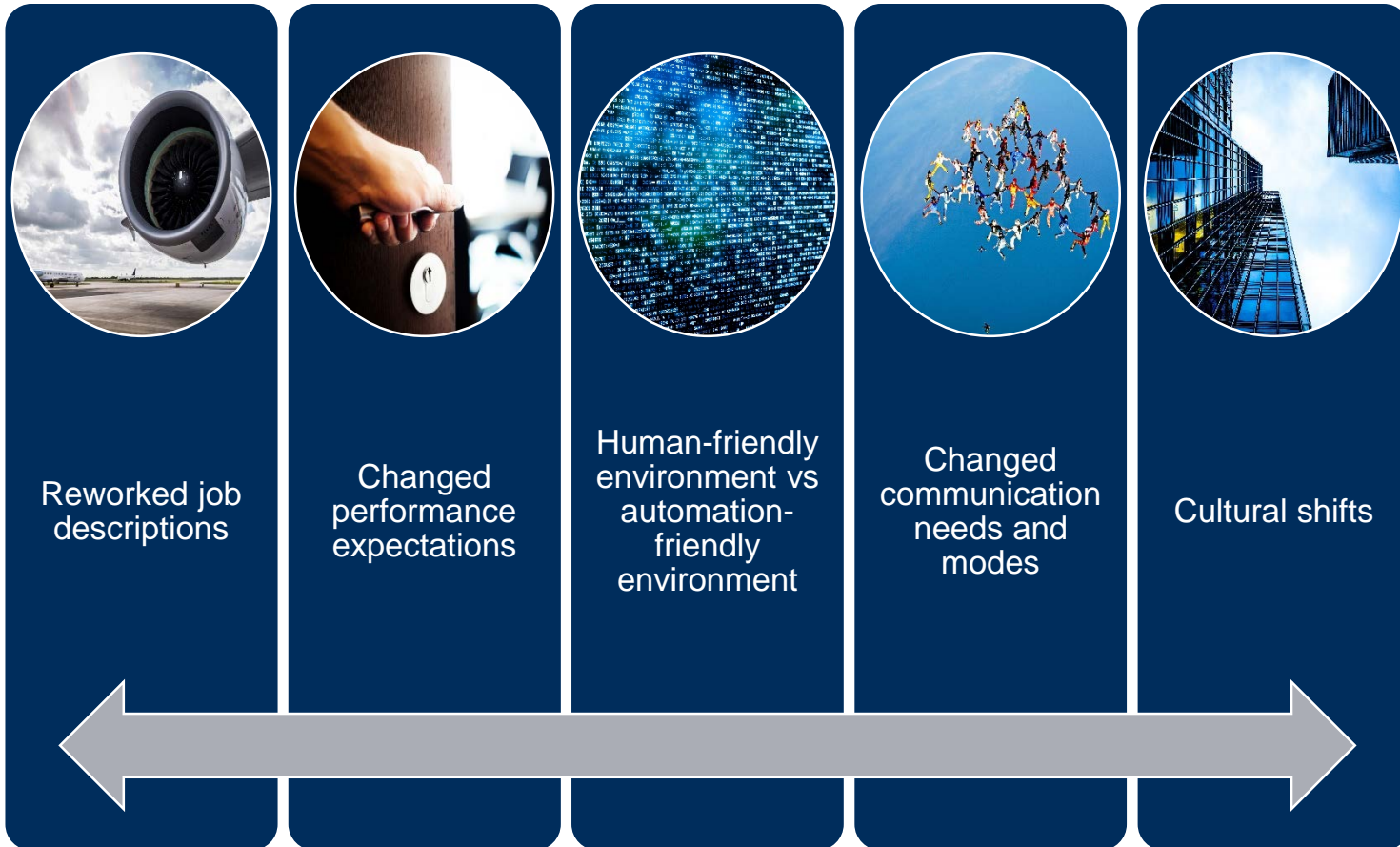
Robots will take on undesirable or dangerous jobs.



Reality

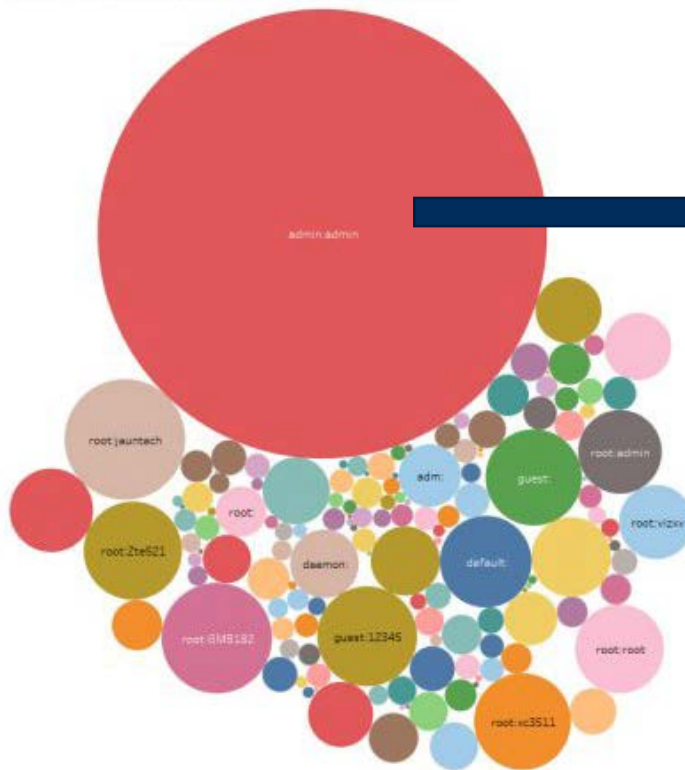
Jobs will be created to invent, deploy, and service automation technology ("the ATM effect")

Impacts to humans who work side by side with automated workers



One elephant in the automation room: cybersecurity

Data visualization of IoT passwords



```
Username: admin
Password: admin
```

<https://flipboard.com/@flipboard/-the-internet-of-things-massive-security/f-19978d3338%2Ffastcodesign.com>

Five key questions to consider...

What do my customers really need that only a human can provide...and what can be done on an automated basis with no loss of customer satisfaction?


What have we always wanted to do that the natural constraints of human beings have never allowed us to do?

What added value could we provide to customers if we could put current skills aside, and redeploy 20%-40% of our workforce?

How are we going to identify the part of our workforce that agnostic of scenario, we keenly want to retain?

What is our purpose as an organization, and how will we mobilize our human workforce against it?

...and five immediate actions to take



Conduct a listening tour of your own workers' experience of automation.

Visit the most disruptive company in your ecosystem and really take stock of the working environment and culture.

Take a thoughtful inventory of your current workforce composition and talent landscape – and scenario-plan for different disruptive futures.

Audit your employer brand.

Define and communicate your vision for an automated future.