

Technology, work and the future of jobs

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Summary

Introduction



Technology destroys jobs

Technology creates jobs



Conclusion

Introduction



- Battle between man and machine goes back centuries :

:(Are they taking our jobs?

:(Is my job safe?

Or :

:) Are they easing our workload?

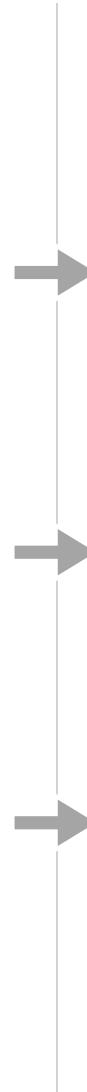


Before

- 100y ago: Vast majority of farmers

- 90 y ago: Million of jobs related to horse-drawn carriage

- 70y ago: 3% of the USA worked by the railroad industry



Nowadays

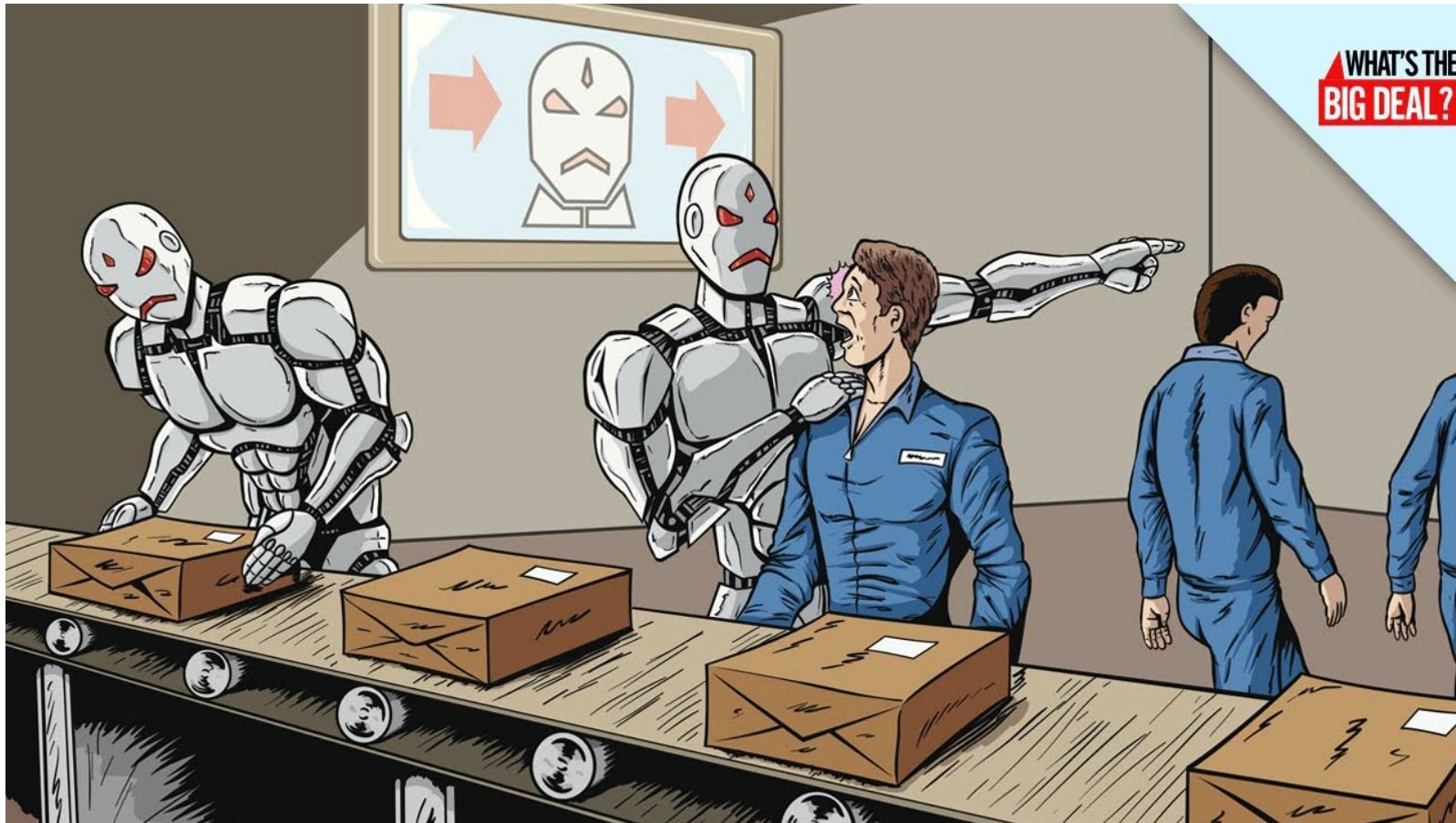
- Only 2% are farmers (USA)

- Those jobs are almost eliminated

- 0.1% of the workforce is involved in railroad industry



Will technology destroy all our jobs? Will robots and IA replace humans?



Technology destroys jobs

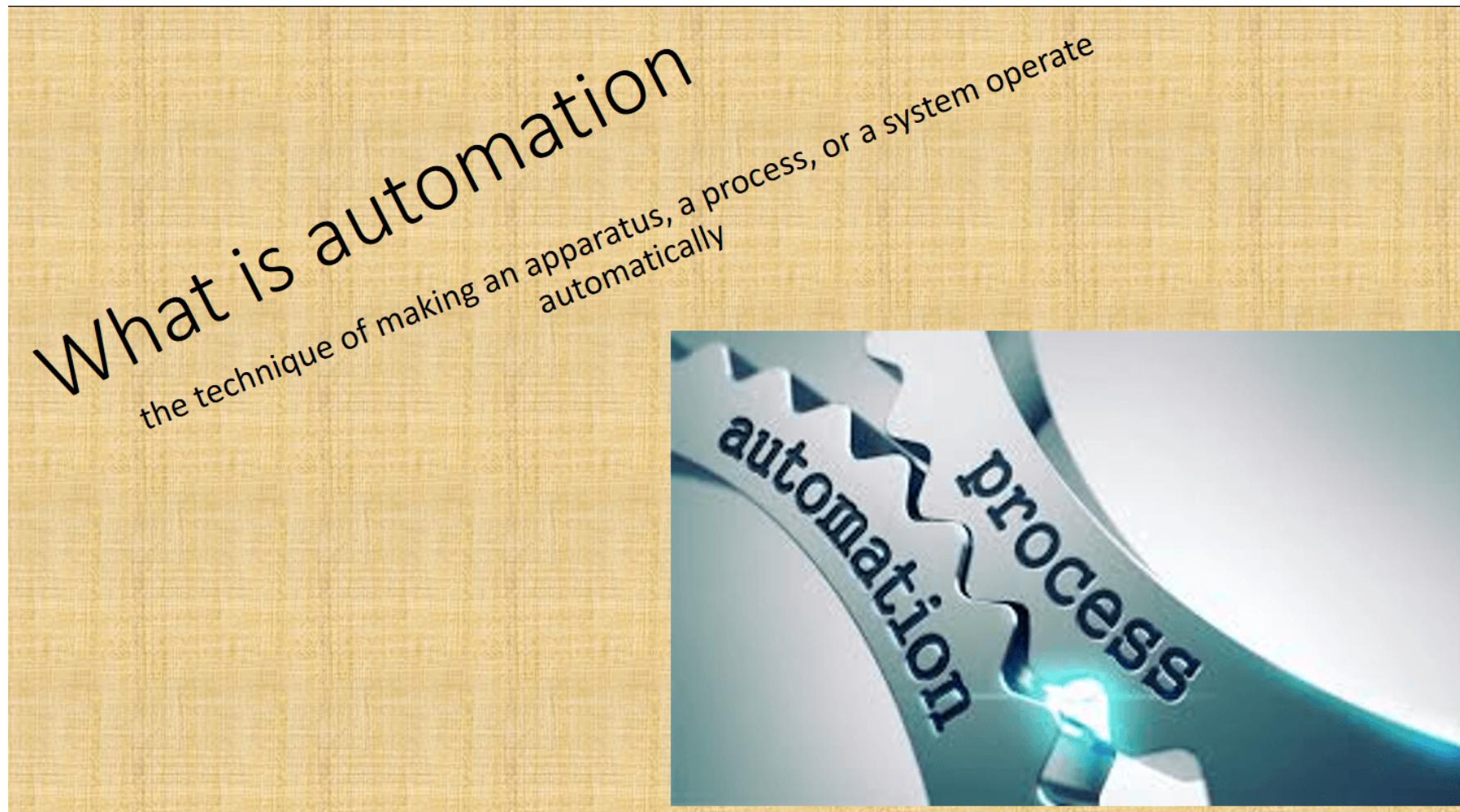
Q1 Automation & IA**Q2** Advantages**Q3** Disadvantages

Image source :



Q1

Automation & IA

Q2

Advantages

Q3

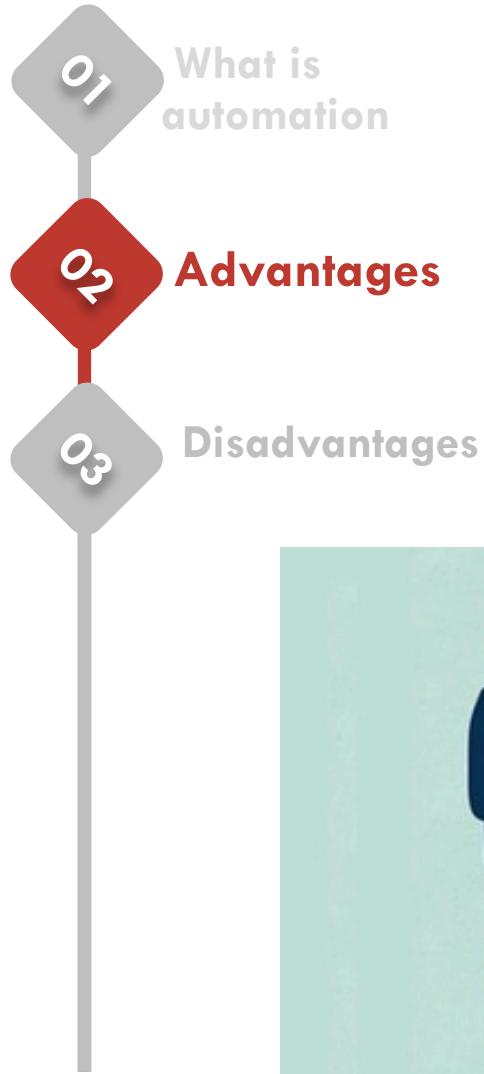
Disadvantages

AI (artificial intelligence) is the simulation of human intelligence processes by machines

These processes include:

- learning
- reasoning
- self-correction





Why are we using automation & IA ?

- Substitute human muscle
- Error Reduction
- Higher productivity
- Economic growth



Q1

What is
automation

Q2

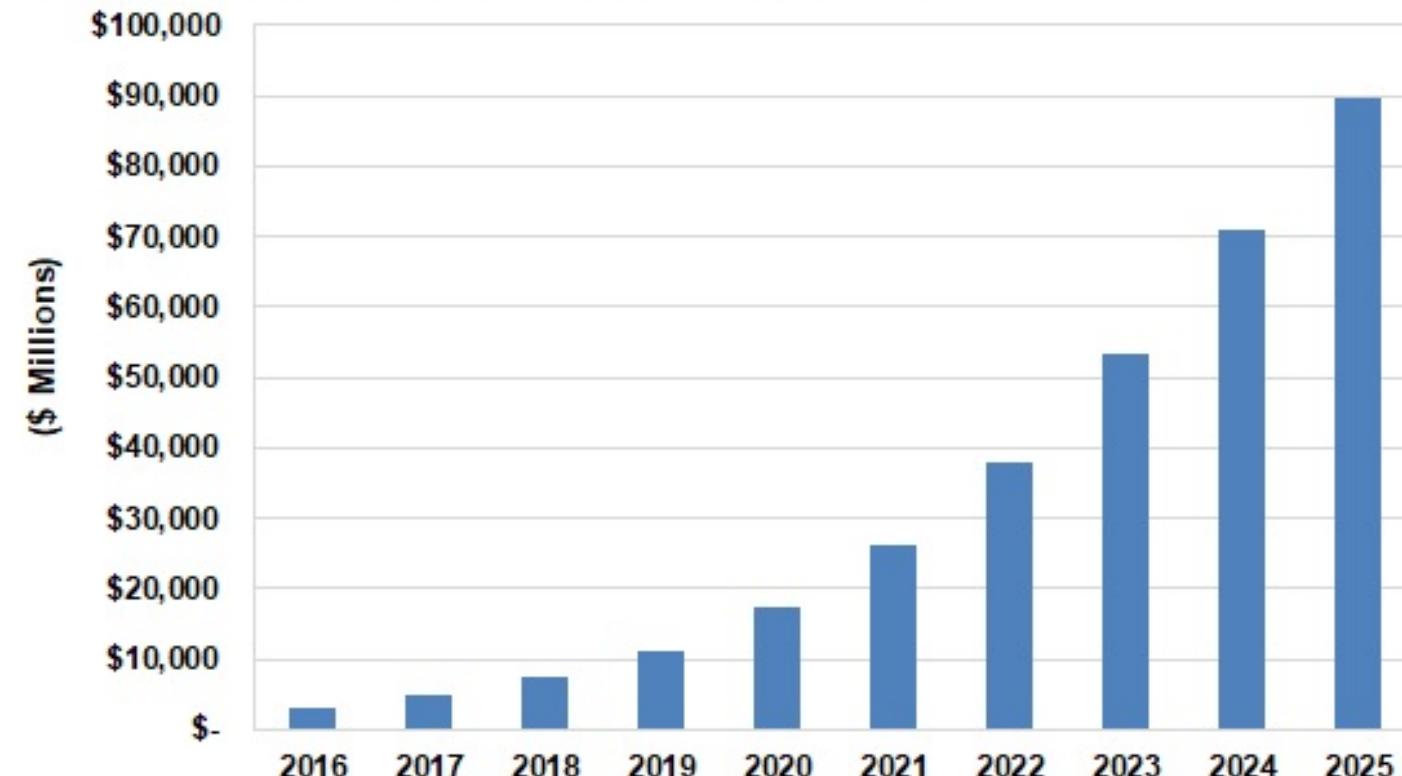
Advantages

Q3

Disadvantages



Artificial Intelligence Software Revenue, World Markets: 2016-2025



Source: Tractica



01

What is
automation

02

Advantages

03

Disadvantages

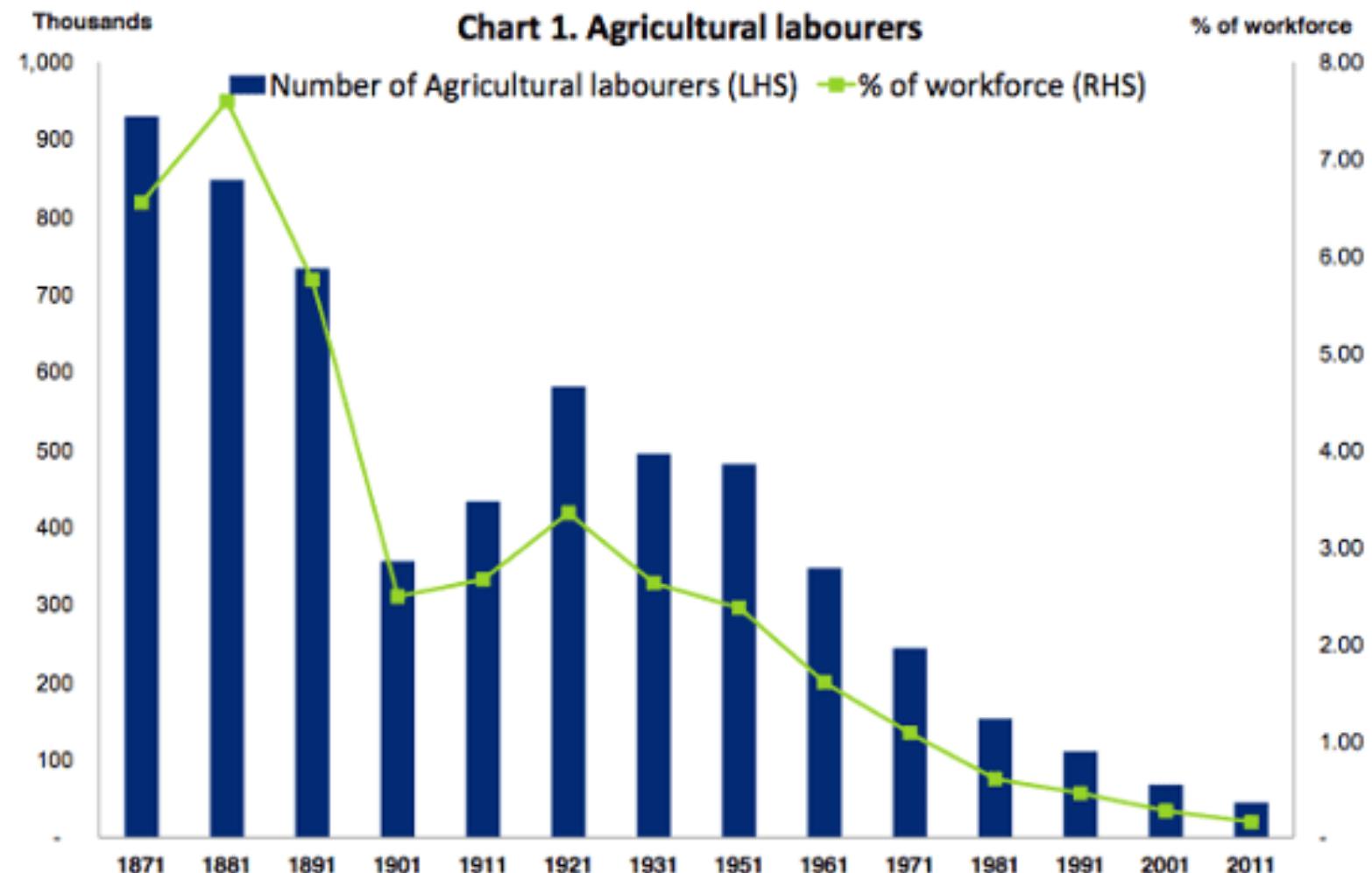
Disadvantages automation & IA :

- No creativity
- High costs
- **Unemployment**



- O₁ What is automation
- O₂ Advantages
- O₃ Disadvantages

Exemple : Agriculture





Q1

What is
automation

Q2

Advantages

Q3

Disadvantages

- University of Oxford
 - ➡ Almost all jobs in the USA will be under pressure from automation

- McKinsey Global Institute
 - ➡ 800 million jobs could be lost to automation and IA
- PricewaterhouseCoopers
 - ➡ 30% of jobs in the UK 35% of jobs in Germany and 21% of jobs in Japan at risk of being replaced by machines in early 2030s



Q1

What is
automation

Q2

Advantages

Q3

Disadvantages

Civil servant in the US

- ➡ Mail career = the most endangered career
- ➡ Newspaper reporter, flight attendant = disappearing

World Economic Forum (WEF) :

- ➡ Over five million human jobs eliminated within the next four years across 15 of the world's most powerful countries



- Jobs already suffering :

Mail Carrier, New reporter, Factory Worker, Telemarketer, Bank Teller, Inventory and Warehouse Worker

- Jobs at risk:

Cashier, Loan Officer, Insurance Rep, Accountant, Driver, Food services Worker, Journalist, Security Guard, Delivery Personnel, Postal Worker, Paralegal, Financial Analyst, Clerk

- Jobs safe for now :

Social worker, Therapist, Doctor, Dentist, Police Officer, Teacher, Robotics Engineer, Software Engineer, Clergy

Technology creates
new jobs



Q1 New jobs

➡ Replace some old jobs in industries

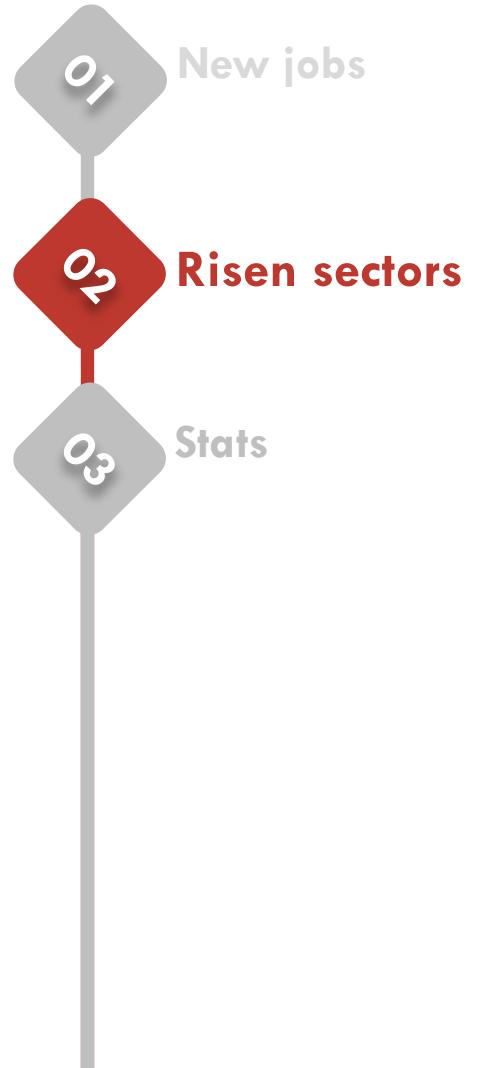
Q2 Risen sectors

➡ 25% create in 25 years in US where type that didn't exist before

Q3 Other advantages

➡ New jobs : IT development, hardware manufacturing, app creation, IT systems management...

➡ Technology = « Job creating machine »



'Caring' jobs have risen:

→ Care, education, provision of services to others

Raise of productivity and employment in knowledge-intensive sectors :

→ Medicine, education, professional services



01

New jobs

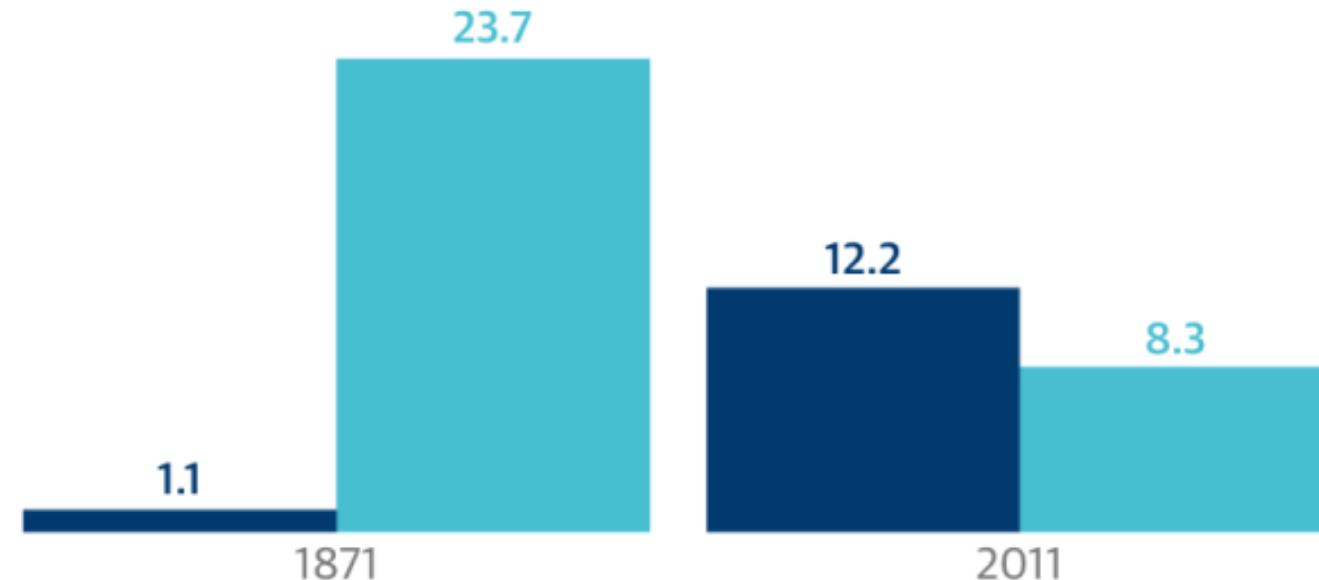
02

Risen sectors

03

Stats

Total employment, percentage
Caring professions | Muscle power workers



'Muscle power' includes cleaners, domestic servants, labourers and miners. 'Caring professions' include health and teaching professionals and care home workers. Source: England and Wales Census records



Q1

New jobs

Q2

Risen sectors

Q3

Stats

Last decade :

580% increase in teaching and educational support assistants

183% increase in welfare, housing, youth and community workers

168% increase in care workers and home carers



New jobs



Risen sectors



Stats

Robots will transform, not replace, human work

- ➡ Automation (in US) :
- ➡ Job lost: 22.7 million by 2025
- ➡ Job created: 13.6 million
- ➡ Job transformed: at least 25%



- Technology has created more jobs than it has destroyed, according to 140 years of data
- Other advantages:
 - ➔ Shifted consumption to more luxuries
 - ➔ Cut the prices of essentials : food, TVs, kitchen appliances
 - ➔ Price of cars halved in 25 years in the UK



Why robots will never fully replace humans ?

- Robots Don't Understand Irrational Thought
- Robots Don't Understand Context
- Robots Don't Understand Customer Service
- Robots Lack Creative Problem Solving
- People Prefer to Talk With A Human



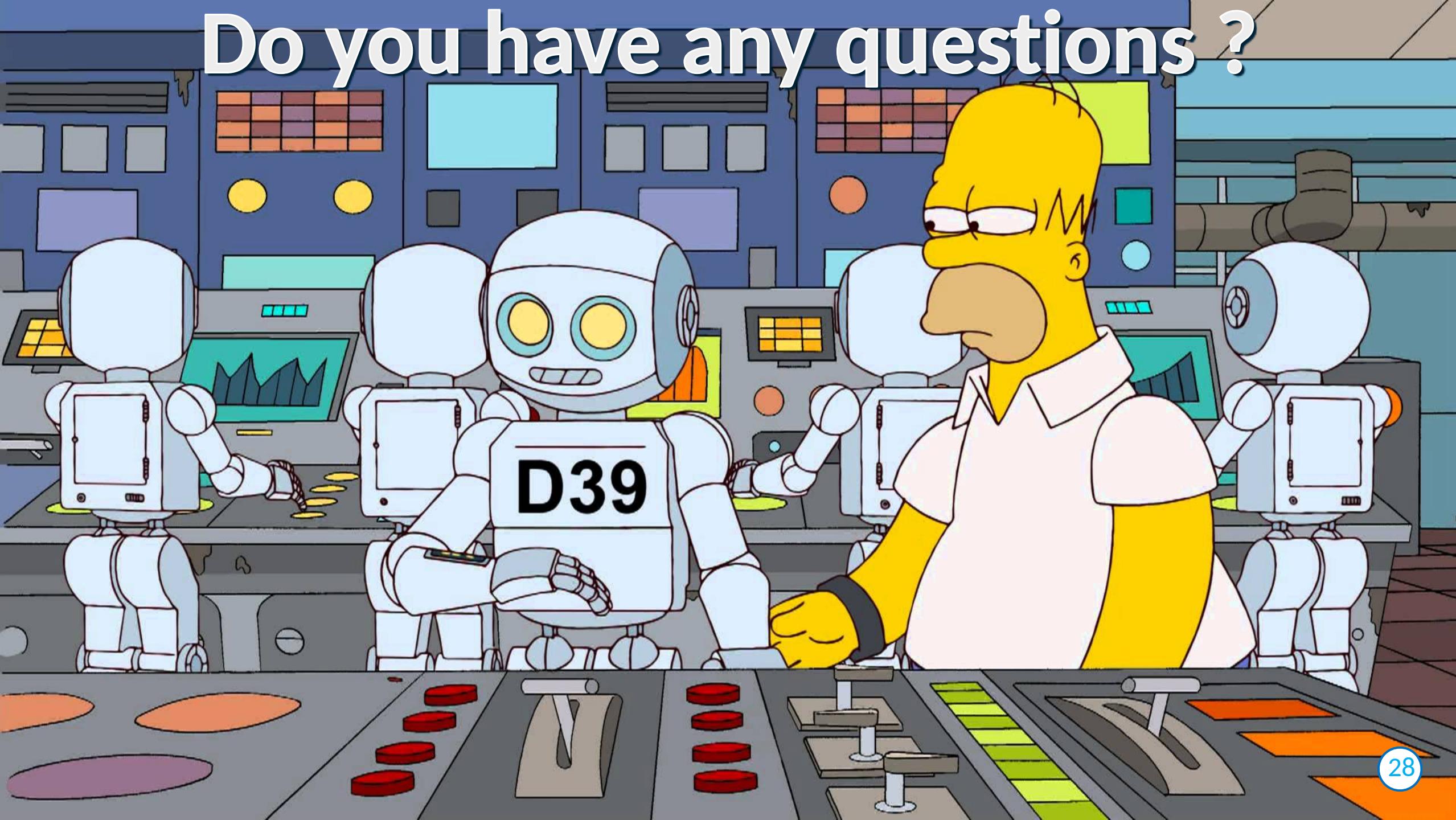
Conclusion

- Change is inevitable
- Technology creates and transforms jobs more than it does destroy them.
- Technology helps us in difficult jobs that need muscle power



Thank you for your attention

Do you have any questions ?



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