foodpro

23-26 JULY 2023

Melbourne Convention
and Exhibition Centre

Don’t Build Todays’ Facility for Tomorrow

Who?

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Wiley
Specialising in complex projects

DESIGN AND ENGINEER PROCESSES

DESIGN FACILITIES

PROCURE DESIGNS, EQUIPMENT, MATERIALS & SERVICES

DELIVER FACILITIES (CONSTRUCTION, PROJECT MANAGEMENT)

What are people investing their big CAPEX's in?

Source: https://unsplash.com/photos/ZVprbBmT8QA

Don't Build Today's Facility for Tomorrow

Expectations

Carbon

Source: https://unsplash.com/photos/vc-vPgGqAr4

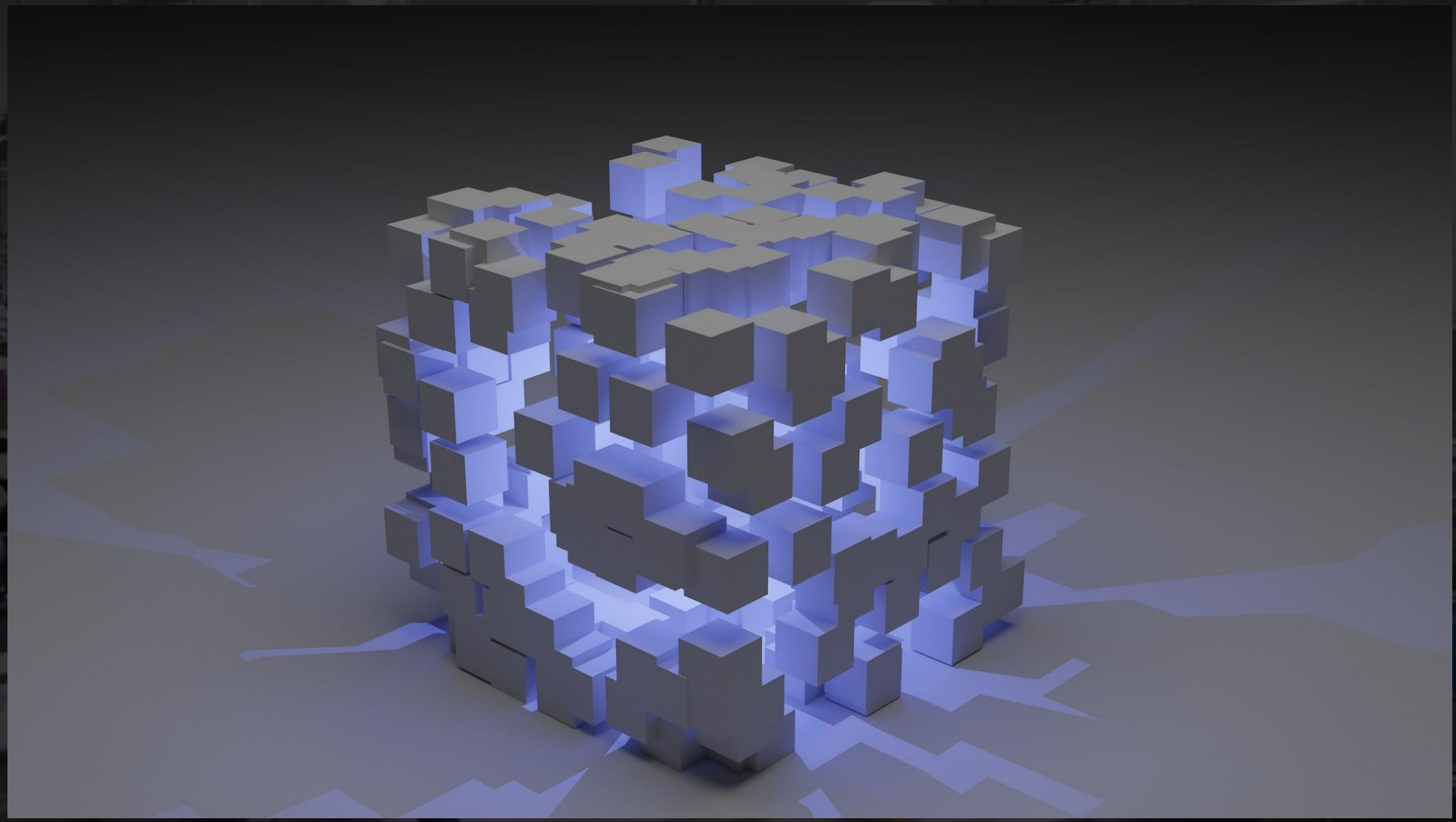
Renewables

Source: https://unsplash.com/photos/V4AxswWbSBg

Industry 4.0

Source: https://unsplash.com/photos/jHZ70nRk7Ns

Blockchain



Source: https://unsplash.com/photos/UxDU0Gg5pqQ

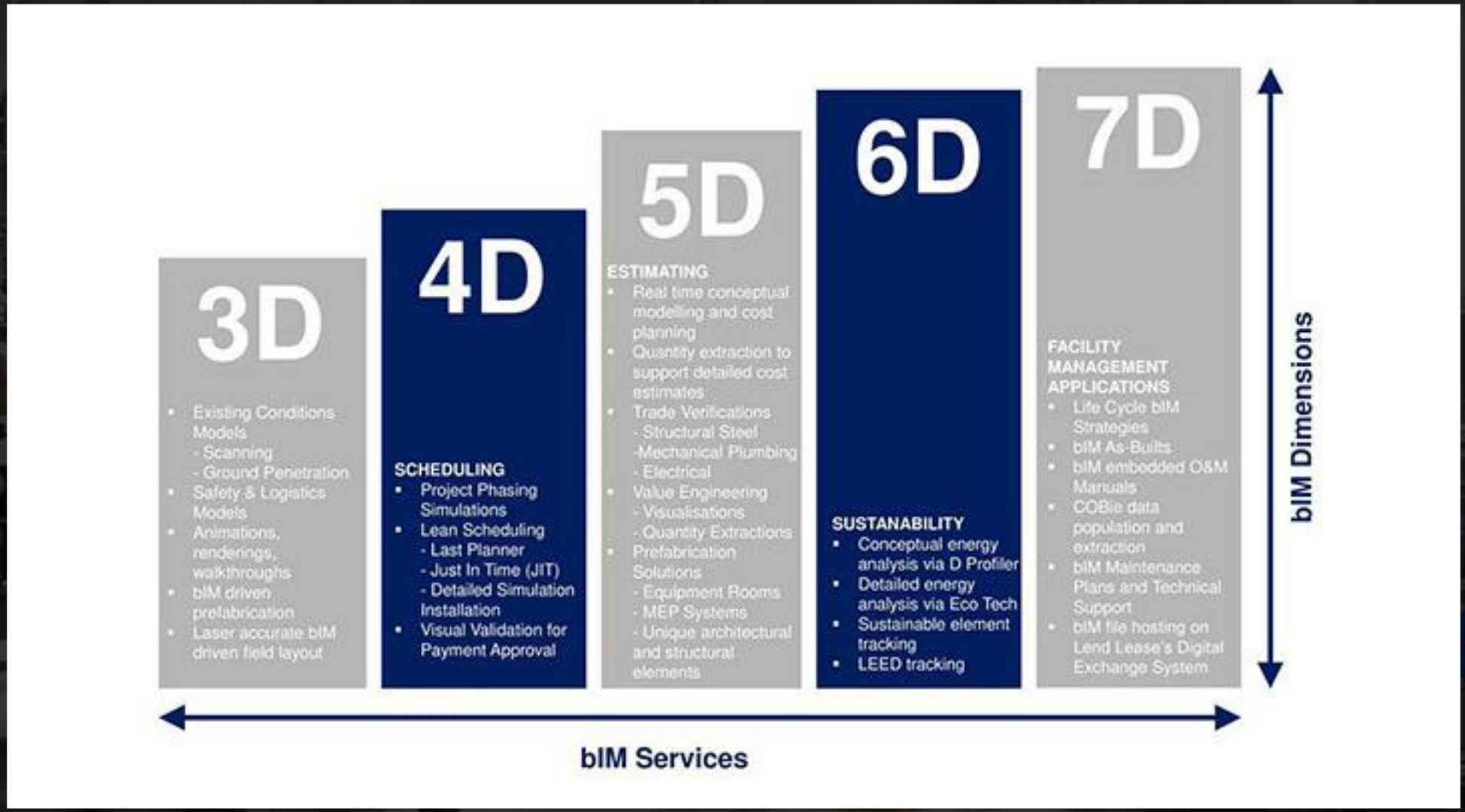
Augmented Reality

Source: https://www.rokin.tech/post/5-ways-augmented-reality-can-increase-manufacturing-productivity

Wearables

Source: https://industrywired.com/how-wearable-technology-in-the-workplace-is-leading-safety-and-productivity/

7D BIM



Source: https://www.e-flux.com/architecture/software/337517/7d-vision/

Cognitive Factories

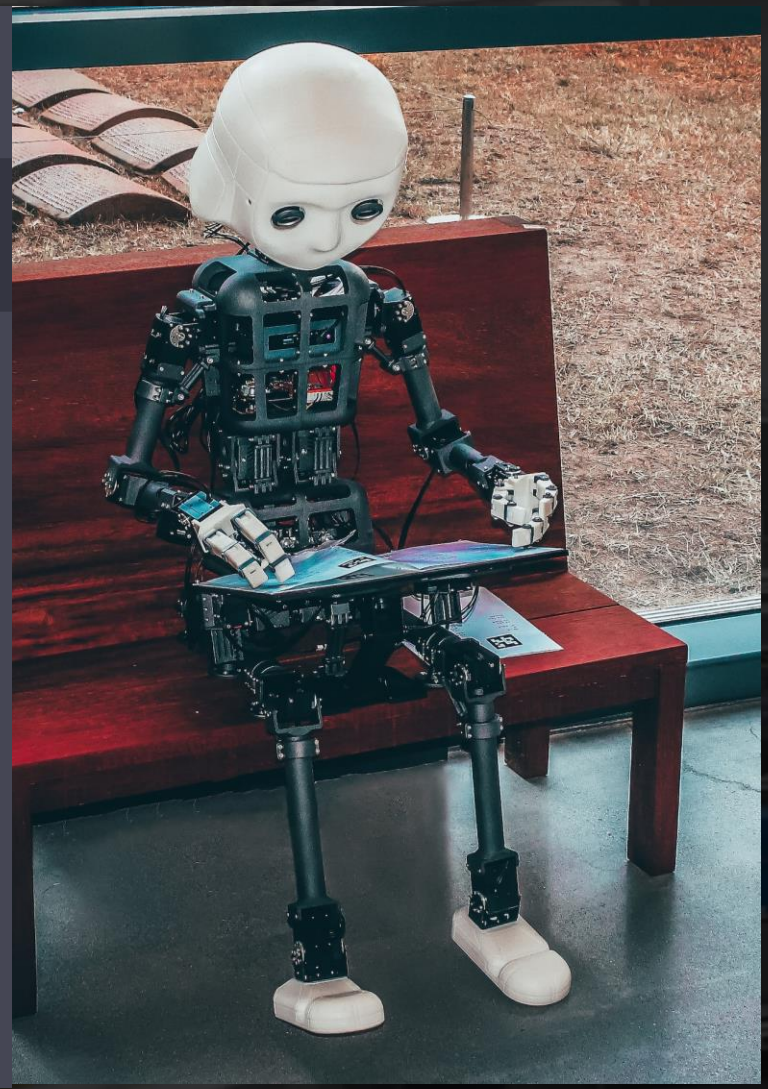
Source: https://www.esa-automation.com/en/cognitive-manufacturing-in-industry-4-0/

Artificial Intelligence

Hello Human, Start Chat >>>

How is AI used in Food Manufacturing?

AI is used in various ways in the food manufacturing industry. One application is in quality control, where AI systems can analyze images and data to detect defects or anomalies in food products, ensuring that only high-quality items are distributed. AI is also used in optimizing production processes by analyzing data from sensors and machines to identify areas for improvement and increase efficiency. Additionally, AI is employed in inventory management, demand forecasting, and supply chain optimization to minimize waste and ensure timely delivery of products. Overall, AI plays a crucial role in enhancing productivity, quality, and sustainability in food manufacturing.



Source: https://unsplash.com/photos/zwd435-ewb4

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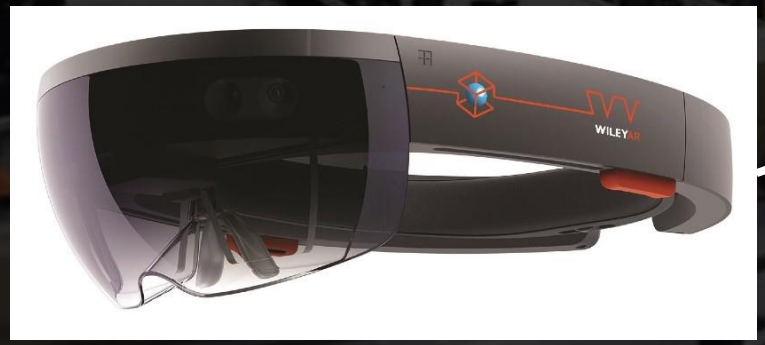
Expectations…….

• Carbon capture	• 1938
• Renewable energy	• 200BC
• Industry 4.0 and the IoT	• 2011
• Blockchain	• 2008
• Augmented Reality	• 1960's
• Wearables	• 1960's
• 7 Dimensional BIM	• 2000's
• Cognitive factories	• 2010's
• Artificial intelligence	• 1950's

Don't Build Today's Facility for Tomorrow



Released in early 2016

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• Artificial intelligence	• 1950's

So……. what's really going on?

Next 2-5 years

Is that much really going to happen?

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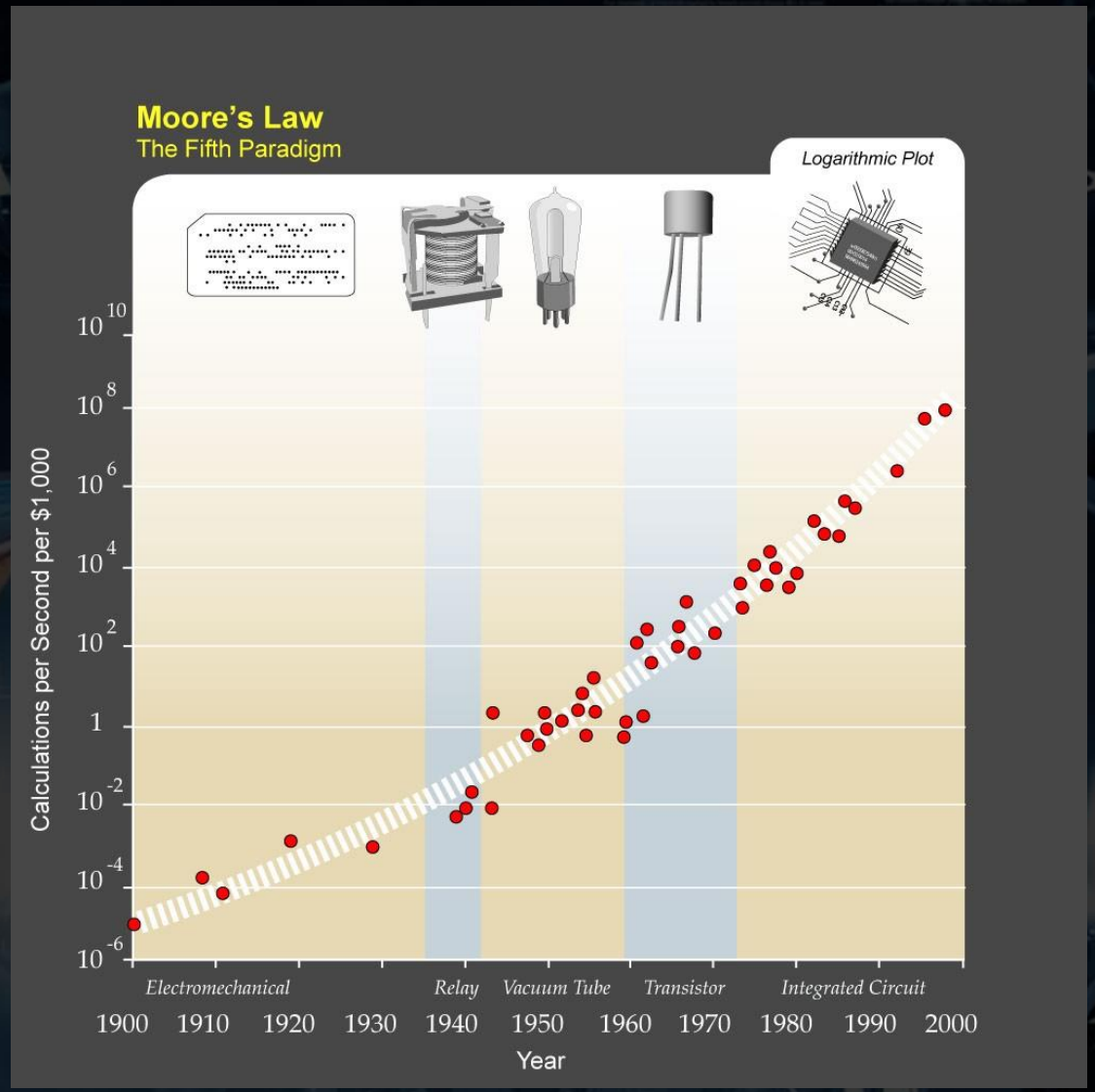
Moore's law is the observation that the number of transistors in a dense integrated circuit (IC) doubles about every two years



Source: https://www.forbes.com/sites/danwoods/2013/12/12/how-to-create-a-moores-law-for-data/?sh=4cc06c8144ca

Next 2-5 years

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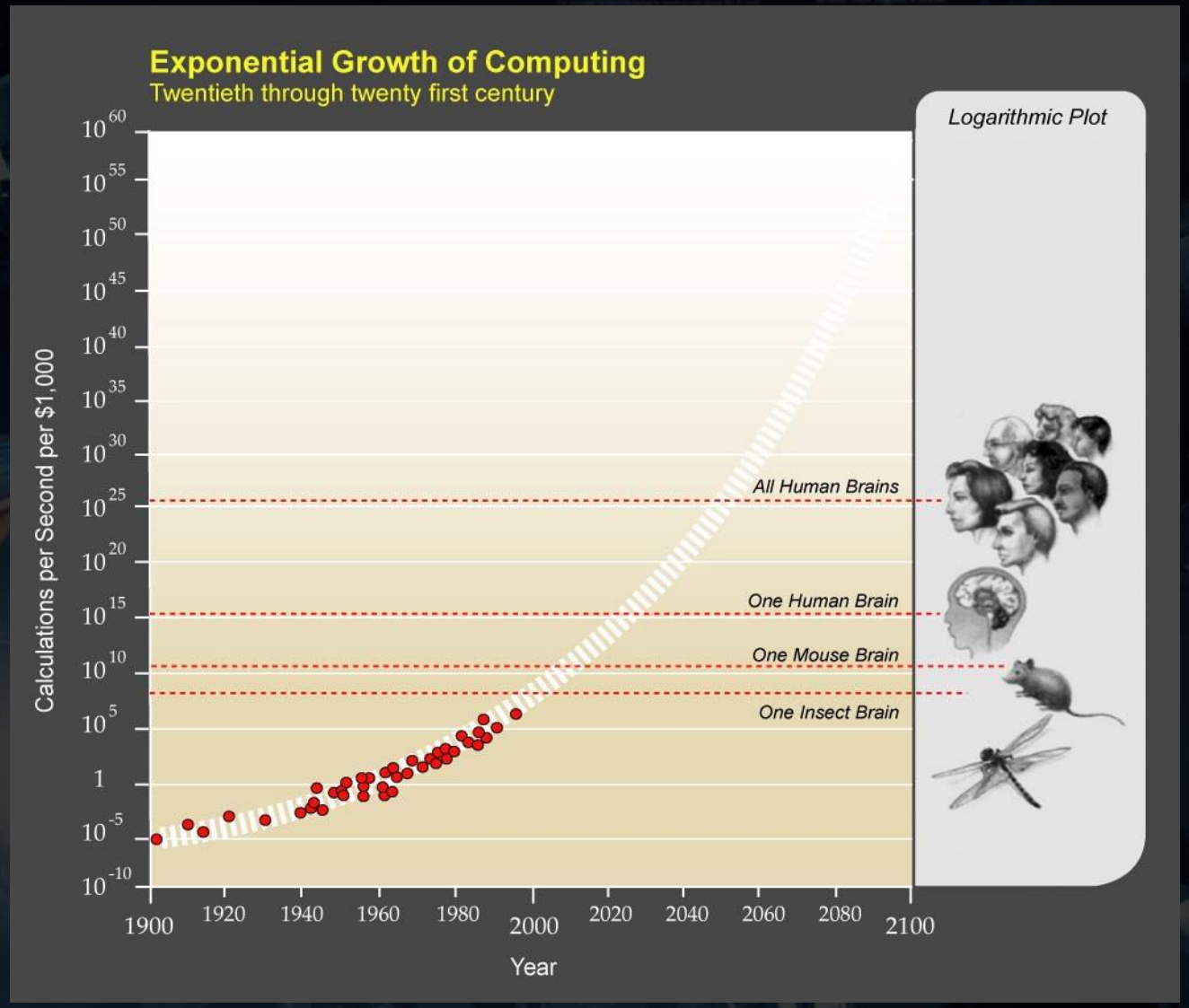
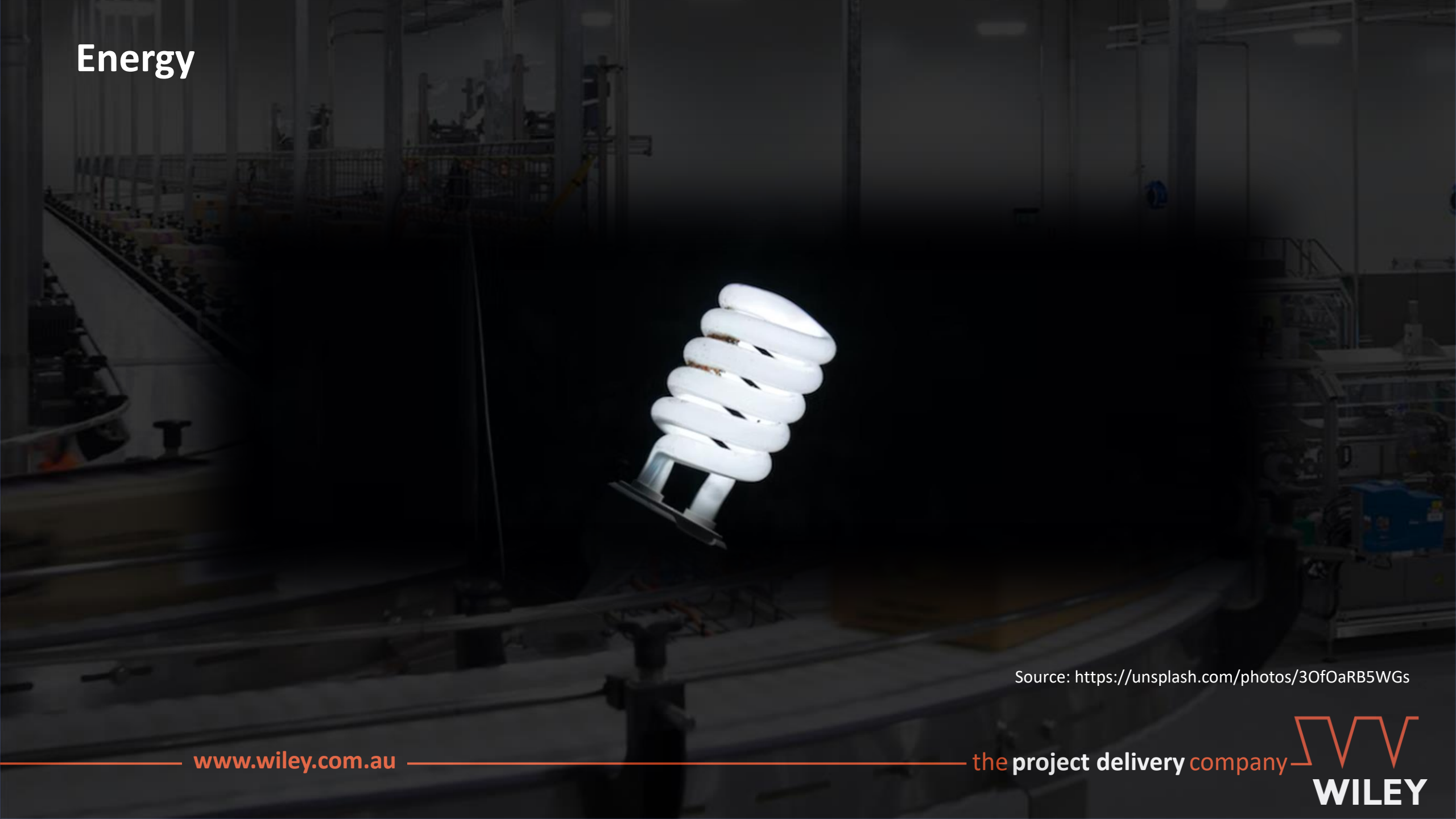


Source: https://www.forbes.com/sites/danwoods/2013/12/12/how-to-create-a-moores-law-for-data/?sh=4cc06c8144ca

Next 2-5 years

1. Energy
2. Automation
3. People

Energy



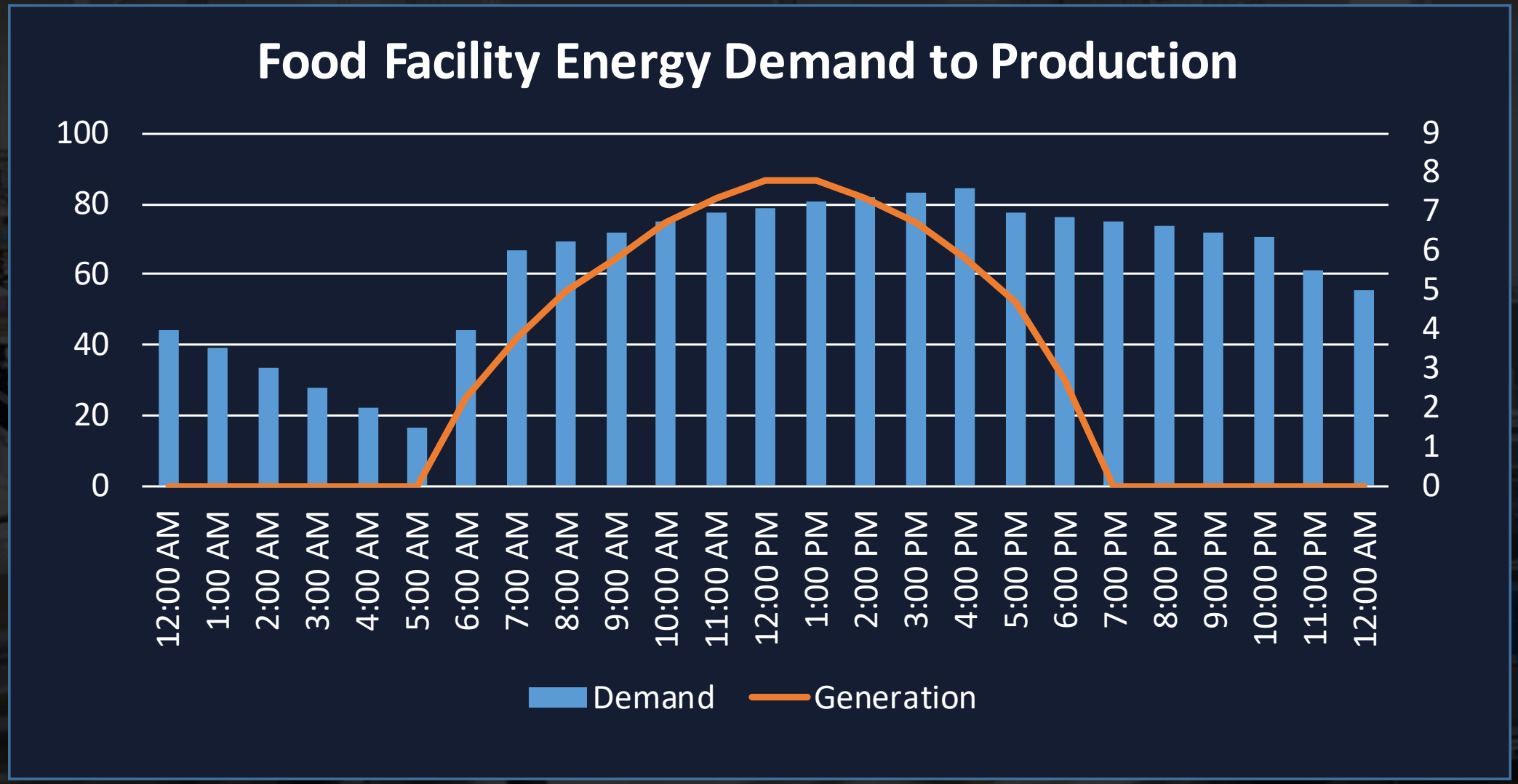
Source: https://unsplash.com/photos/3OfOaRB5WGs

Energy

Energy

Source: https://innotechtoday.com/6-priorities-could-deliver-energy-breakthroughs-at-the-glasgow-climate-summit-theres-progress-on-some-of-them-already/

Energy


Food Facility Energy Demand to Production
100
80
60
40
20
0
9
8
7
6
5
4
3
2
1
0
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
12:00 AM
Demand
Generation

Energy

Source: https://clearsunpower.com/aircon

Energy

Source: https://www.katahdincedarloghomes.com/blog/ice-bear-batteries/

Energy

A. Reduce
B. Generate
C. Store

Source: https://unsplash.com/photos/_kdTyfnUFAc

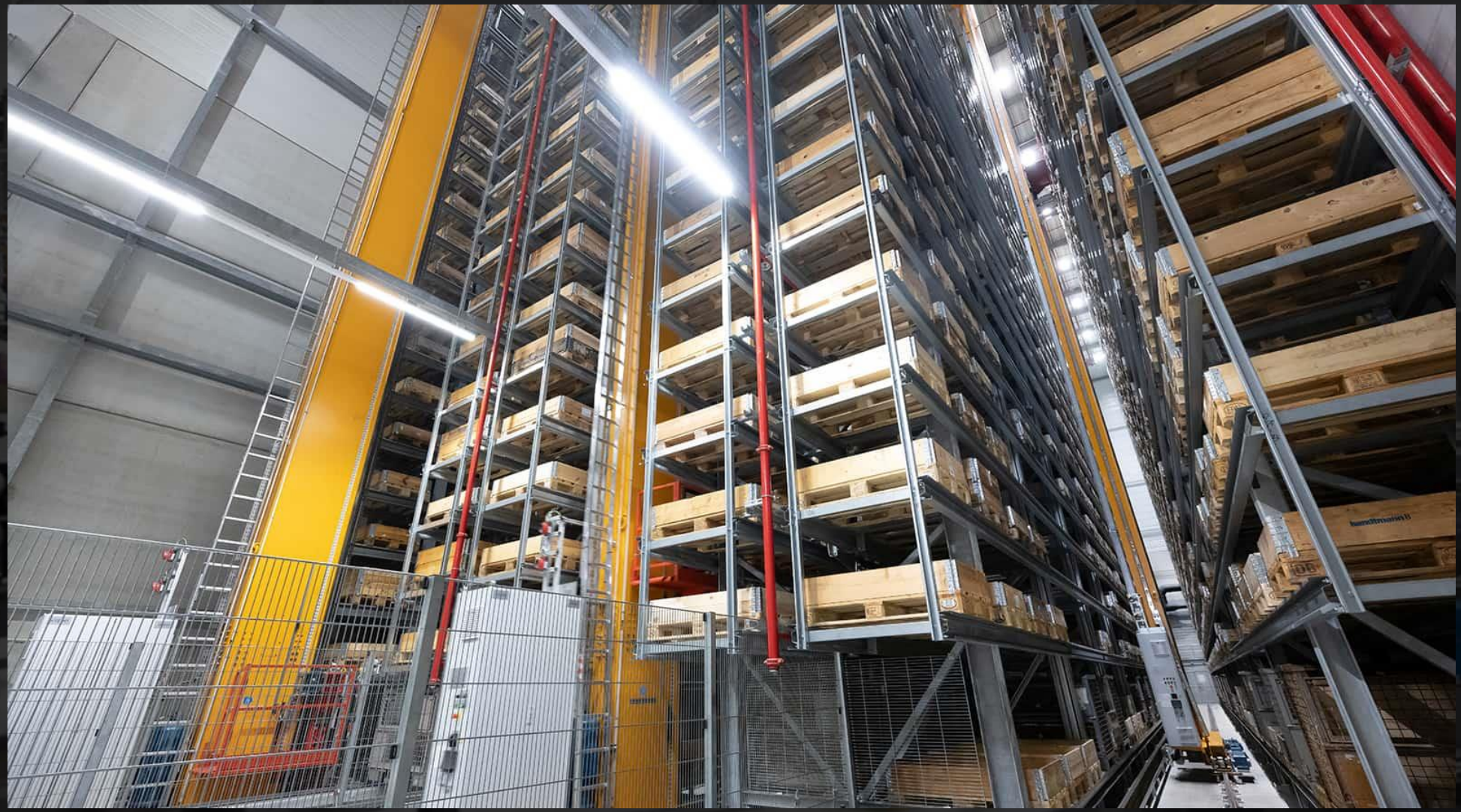
Automation

Source: https://www.dornerconveyors.com/industries/automation

Automation

Source: https://www.koerber-supplychain.com/supply-chain-solutions/supply-chain-material-handling/automated-guided-vehicles/

Automation



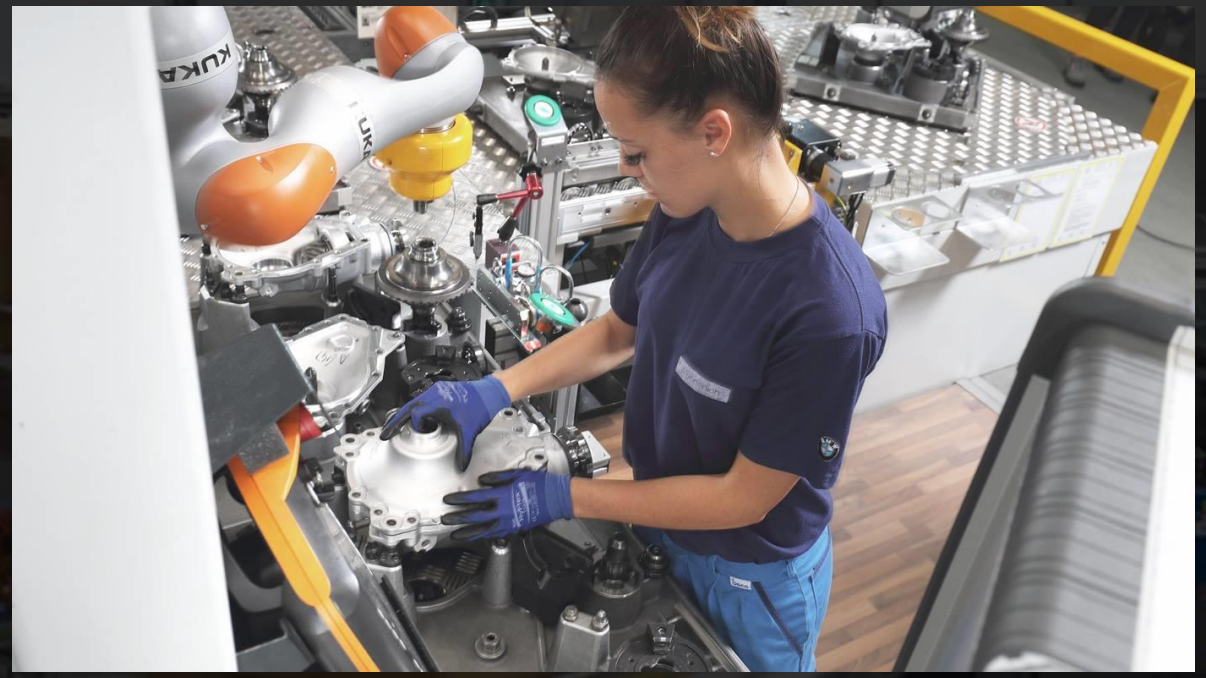
Source: https://www.dematic.com/en-us/products/storage/

Automation

Source: https://www.esa-automation.com/en/cognitive-manufacturing-in-industry-4-0/

Automation

A. Materials handling
B. Assembly
C. Cobotics



Source: https://www.kuka.com/en-us/future-production/human-robot-collaboration/cobots

What the?

Source: https://unsplash.com/photos/rHzv5r-_CE8

What the?

WORLD ECONOMIC FORUM

65% of children entering primary school today will ultimately end up working in completely new job types that don't yet exist (published 2020)

Source: https://reports.weforum.org/future-of-jobs-2016/chapter-1-the-future-of-jobs-and-skills/

What kind of people / skills might the smart factory of tomorrow need?

Source: https://careerswithstem.com.au/15-jobs-that-dont-exist-yet/#gsc.tab=0

What kind of people / skills might the smart factory of tomorrow need?

AI Ethicist

The job: Advocate for the ethical and legal matters regarding the creation and distribution of AI-based tech products.

The skills: Must be as into philosophy as robots. Fluency in analytics a plus

Source: https://careerswithstem.com.au/15-jobs-that-dont-exist-yet/#gsc.tab=0

What kind of people / skills might the smart factory of tomorrow need?

Human-technology integration specialist

The job: Create future-focused learning environments that embrace the latest digital learning resources.

The skills: Research, communication, analytics and high-level tech smarts.

Source: https://careerswithstem.com.au/15-jobs-that-dont-exist-yet/#gsc.tab=0

What kind of people / skills might the smart factory of tomorrow need?

Human-machine team manager

The job: Develop and manage a system in the workplace where human and AI employees communicate to generate better business outcomes.

The skills: Experience in human resources (HR) and robotics.

Source: https://careerswithstem.com.au/15-jobs-that-dont-exist-yet/#gsc.tab=0

People

A. AI advisors
B. HM specialists
C. HM team manager

Source: https://www.kuka.com/en-us/future-production/human-robot-collaboration/cobots

What is your focus?

1. Energy
   - A. Reduce
   - B. Generate
   - C. Store
2. Automation
   - A. Materials handling
   - B. Assembly
   - C. Cobotics
3. People
   - A. AI advisors
   - B. HM specialists
   - C. HM team manager

What's next?

What are food manufacturers talking about investing in next?

Source: https://unsplash.com/photos/M8xxVih_V_U

Useful resources

Source: https://sdgs.un.org/goals/

Source: https://www.effra.eu/

Thank you.

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