Robotics & the SDGs

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The 17 Sustainable Development Goals





THE GLOBAL GOALS

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Main contributions



Healthcare, Industry, Smart Cities, IoT, Circular Economy Diana Voutyrakou ~ Robotics & the SDGs

Concerns







Industrial Robots

USA, 1962

- Assembly & Disassembly
- Pick & Place
- Packaging



Source: https://www.idtechex.com

Engelberger JF. Robotics in practice: management and applications of industrial robots. Springer Science & Business Media; 2012 Dec 6.

Industrial Robots



- Repeatability & efficiency
- Speed & Precision
- Longer working hours
- Safer Workplace
- Promote innovation



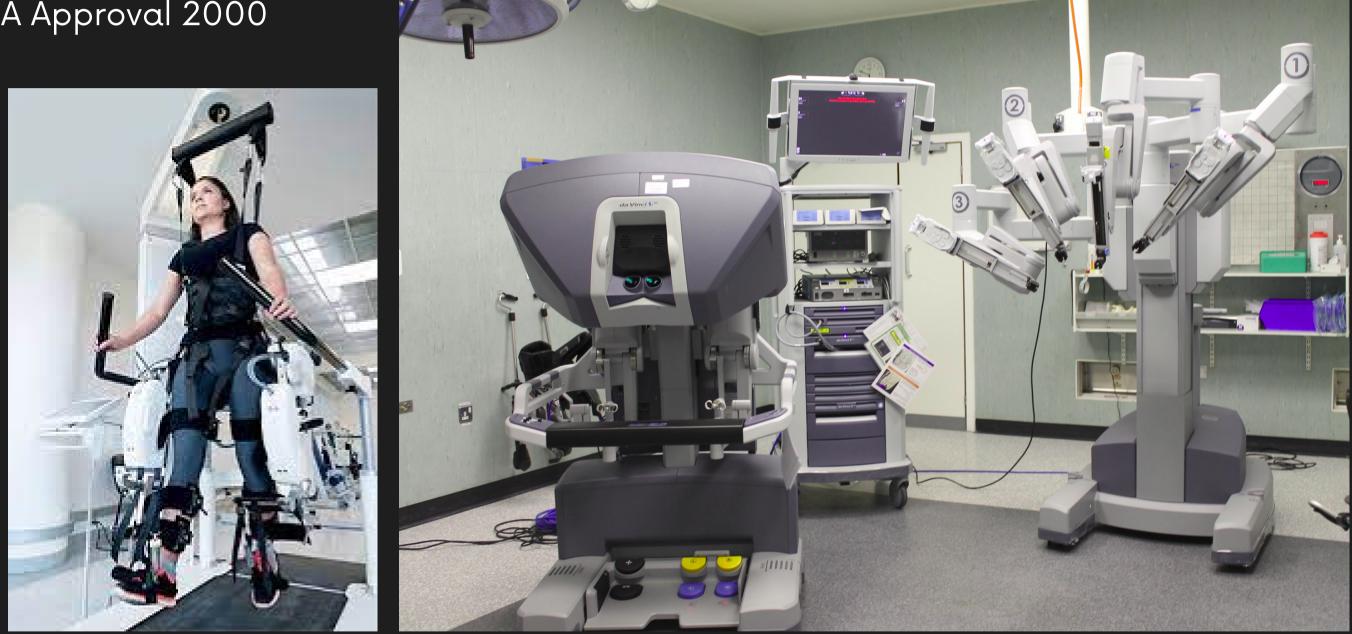


• Does More Technology Create Unemployment? Less working hours -> decreased salary • Inequalities for non tech educated

Robots in Healthcare

Da Vinci Surgical System: FDA Approval 2000 1700 systems (1.243.000 in 2020)

- Robotic surgery
- Supporting recovery
- Training Purposes



Source: www.southtees.nhs.uk , www.automate.org

Sharkey N, Sharkey A. Robotic surgery: on the cutting edge of ethics. Computer. 2012 Dec 4;46(1):56-64.

Robots in Healthcare



- Shorter Hospitalization
- Reduced Pain & Scarring

• Faster Recovery

Future Goals: Personalized, Reduced in size, Cheaper, User Friendly, Accurate & Repeatable



Ethical & Social Risks:

- Who has the responsibility for potential errors?
- Level of trust patients-surgeons-hospital administrators
- Inattentional blindness
- Not available for most of the developing countries



No Internet access

Source: Hellenic Statistical Authority

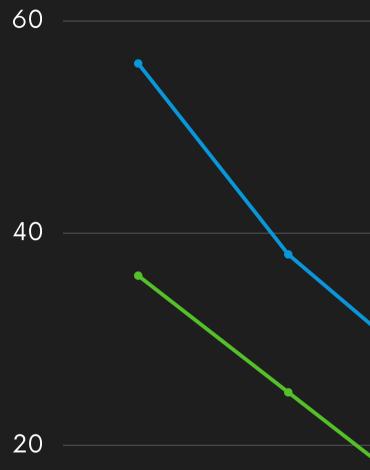
Source: Information Society S.A.

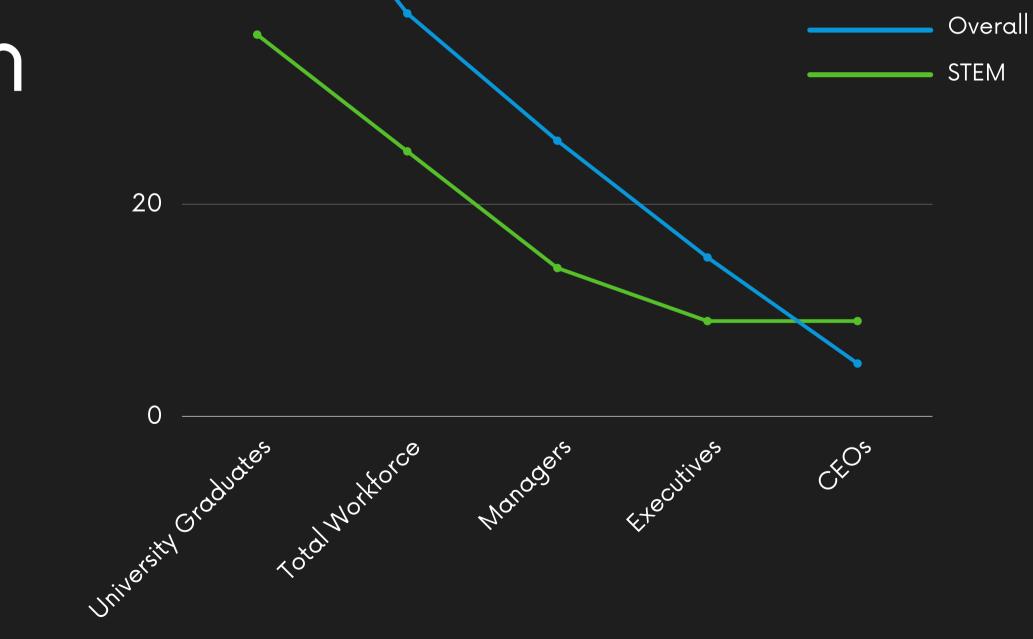


1 in 3

Technologically Illiterate

% of women







Source: UNESCO Institute for Statistics