DA VINCI SURGERY ROBOT

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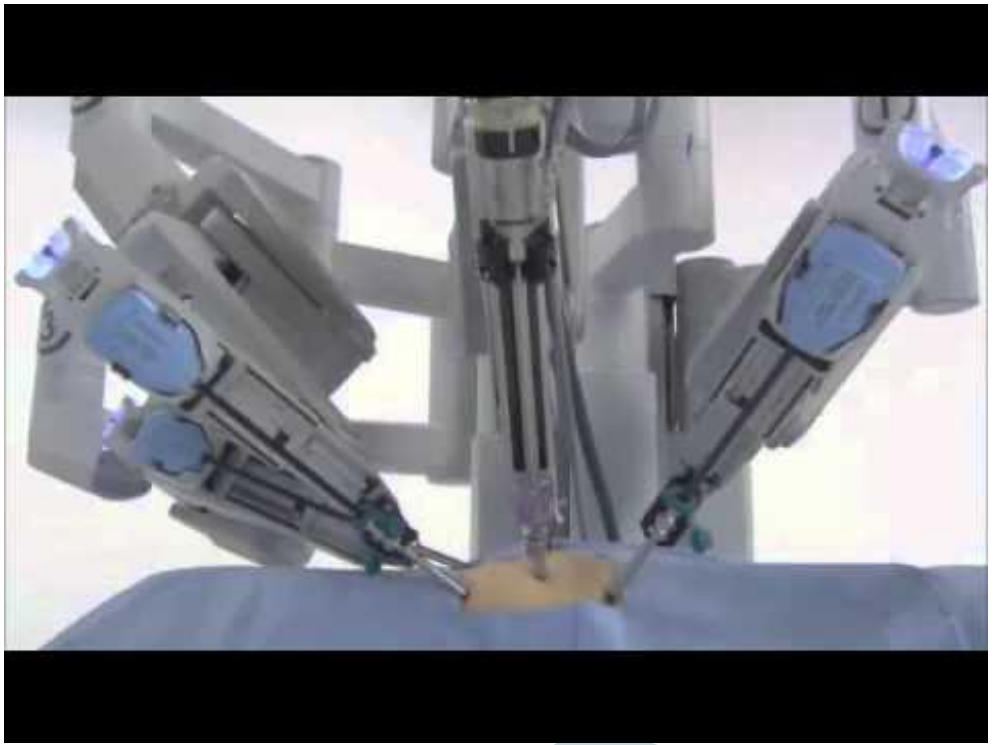
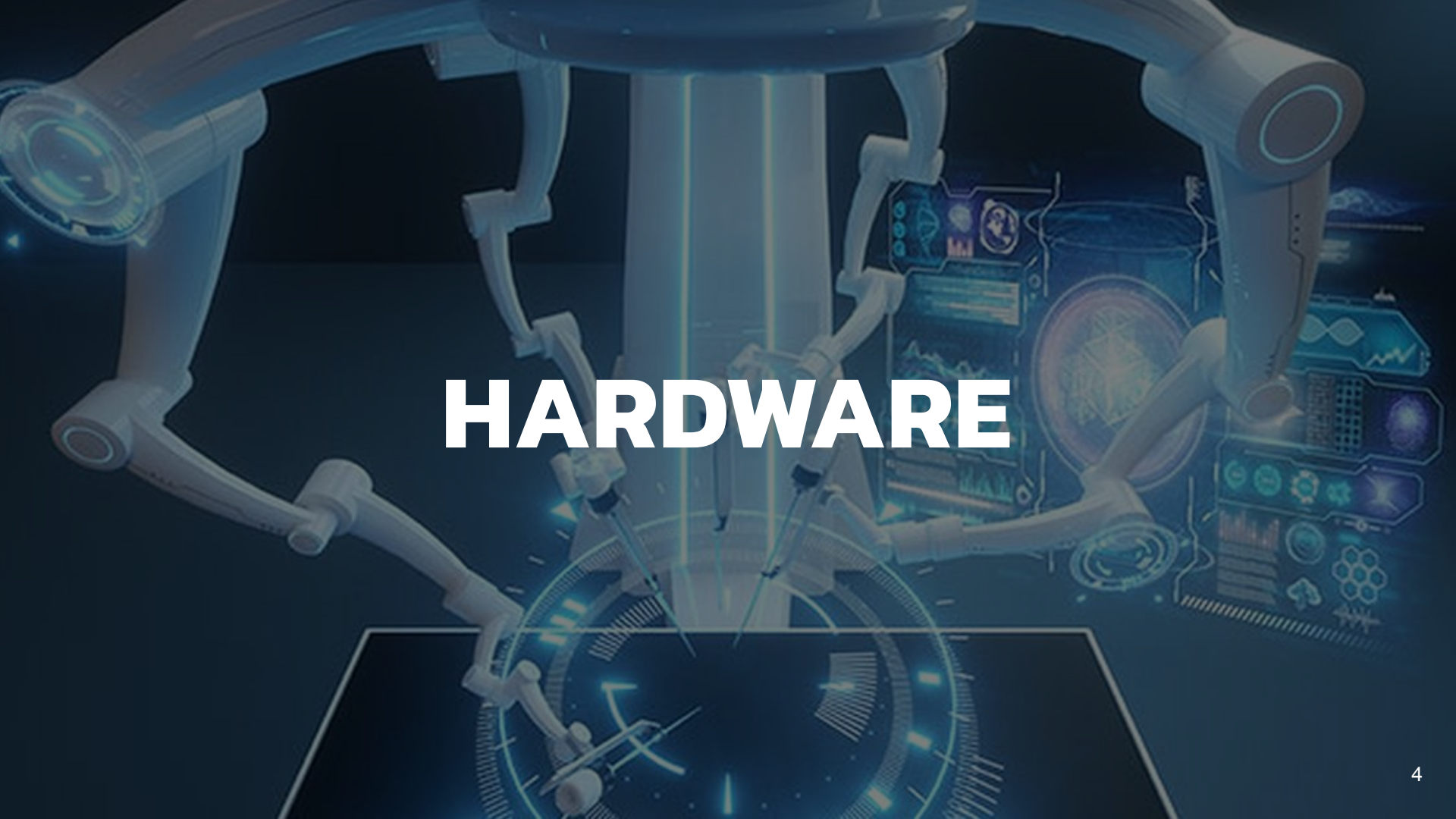
Ms.Gigg | 2022.11.30

INTRODUCTION

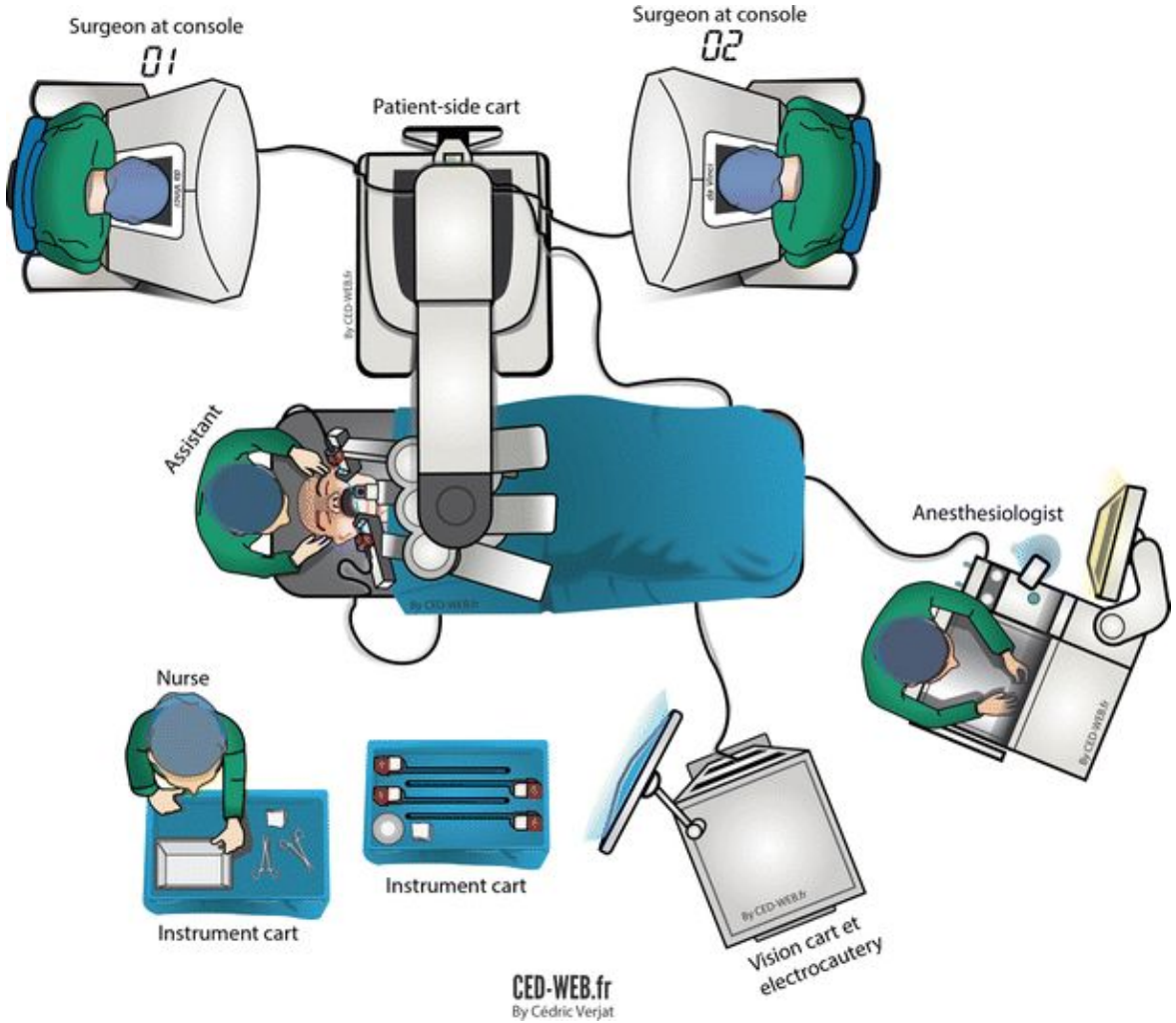
- Robotic surgical system
- Less invasive approach
- Extends the capabilities of the surgeon

How it Works




HARDWARE

Birds-Eye View of the Operating Room



Surgeon Console

- Where your surgeon sits during the procedure
- Close-up + 3D view of anatomy
- Control the instruments

Patient Cart

- Portable hand-cart near surgery bed
- Performs the surgery
- Robotic arms with tools and cameras

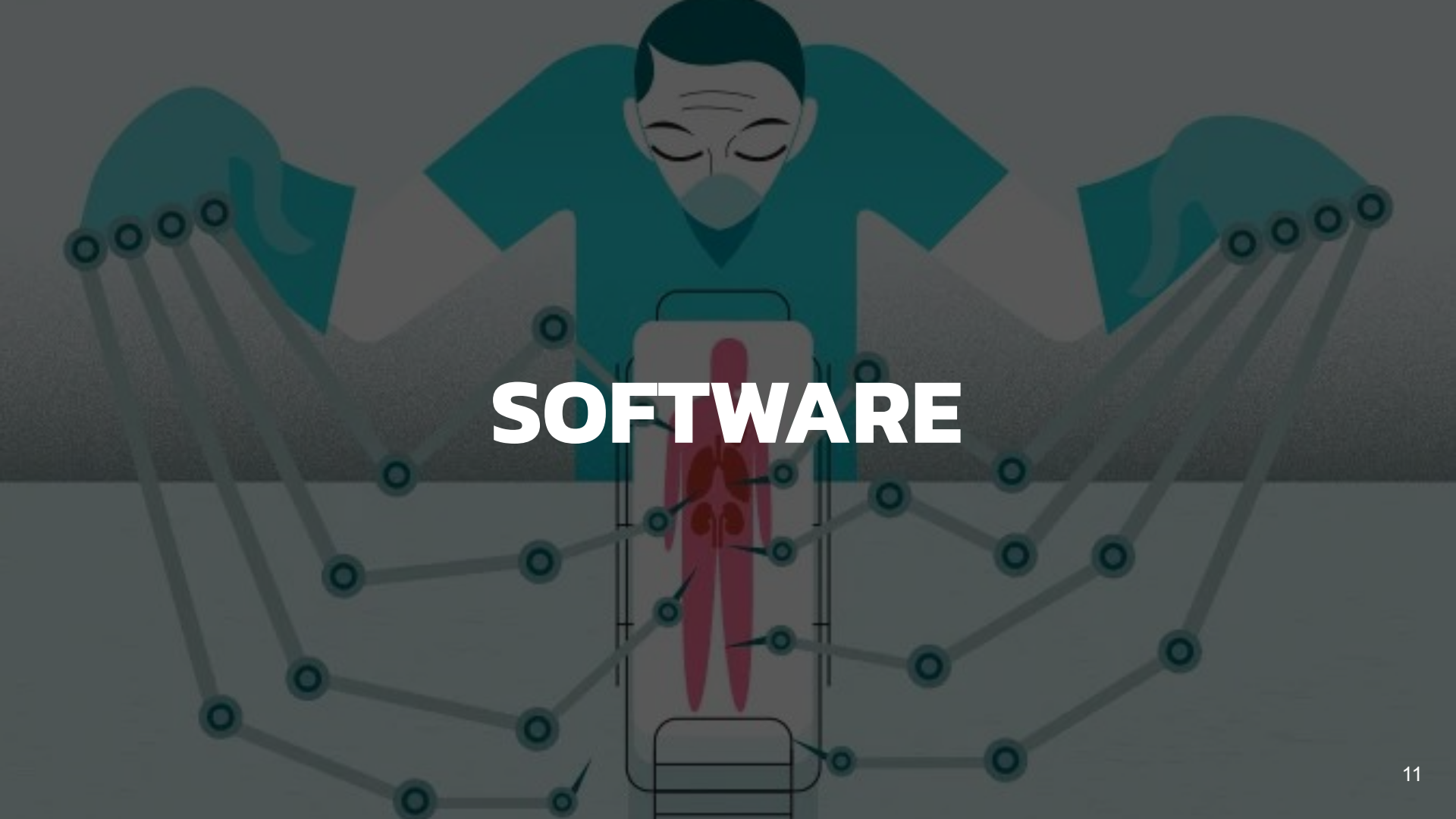
Vision Cart

- Provide communications across components
- Advanced vision tech
- Energy generation systems
- Large high definition display

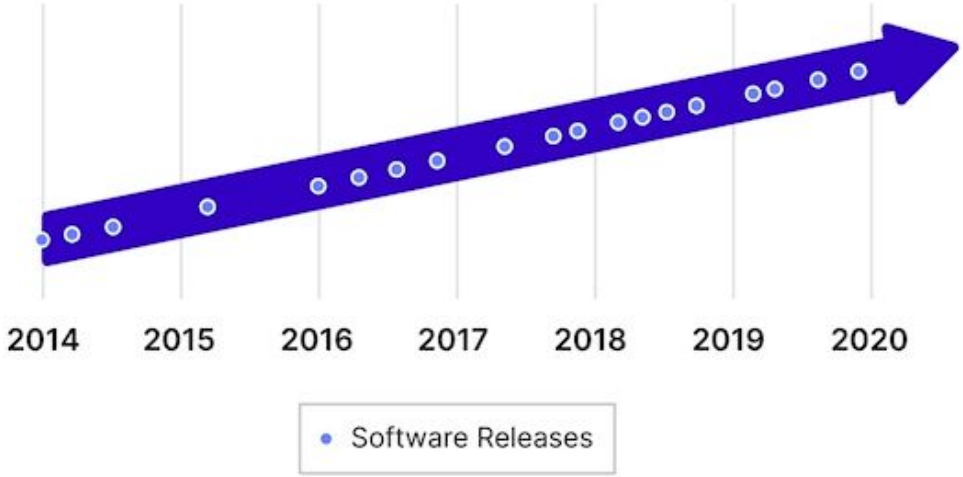
E100 Generator

- Da Vinci Energy
- Increased efficiency, speed, results
- Precisely seal/cut vessels and tissues

Robotic Arms


SOFTWARE

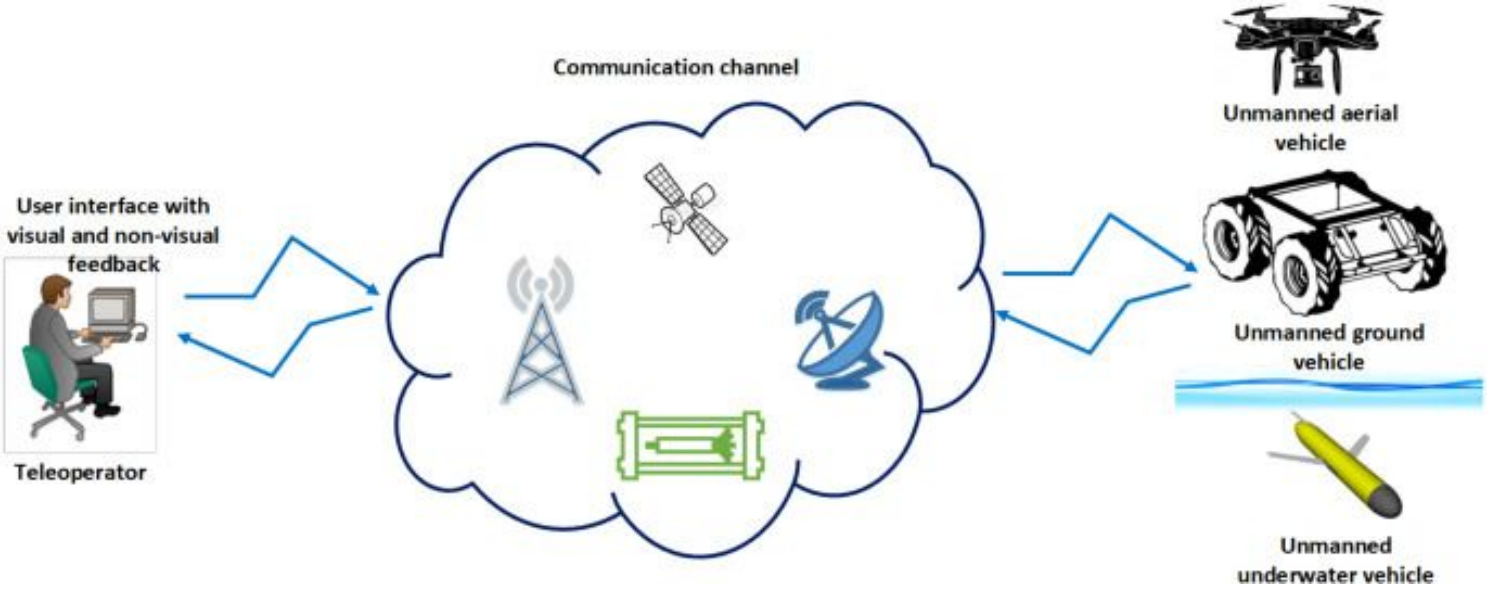
Generation

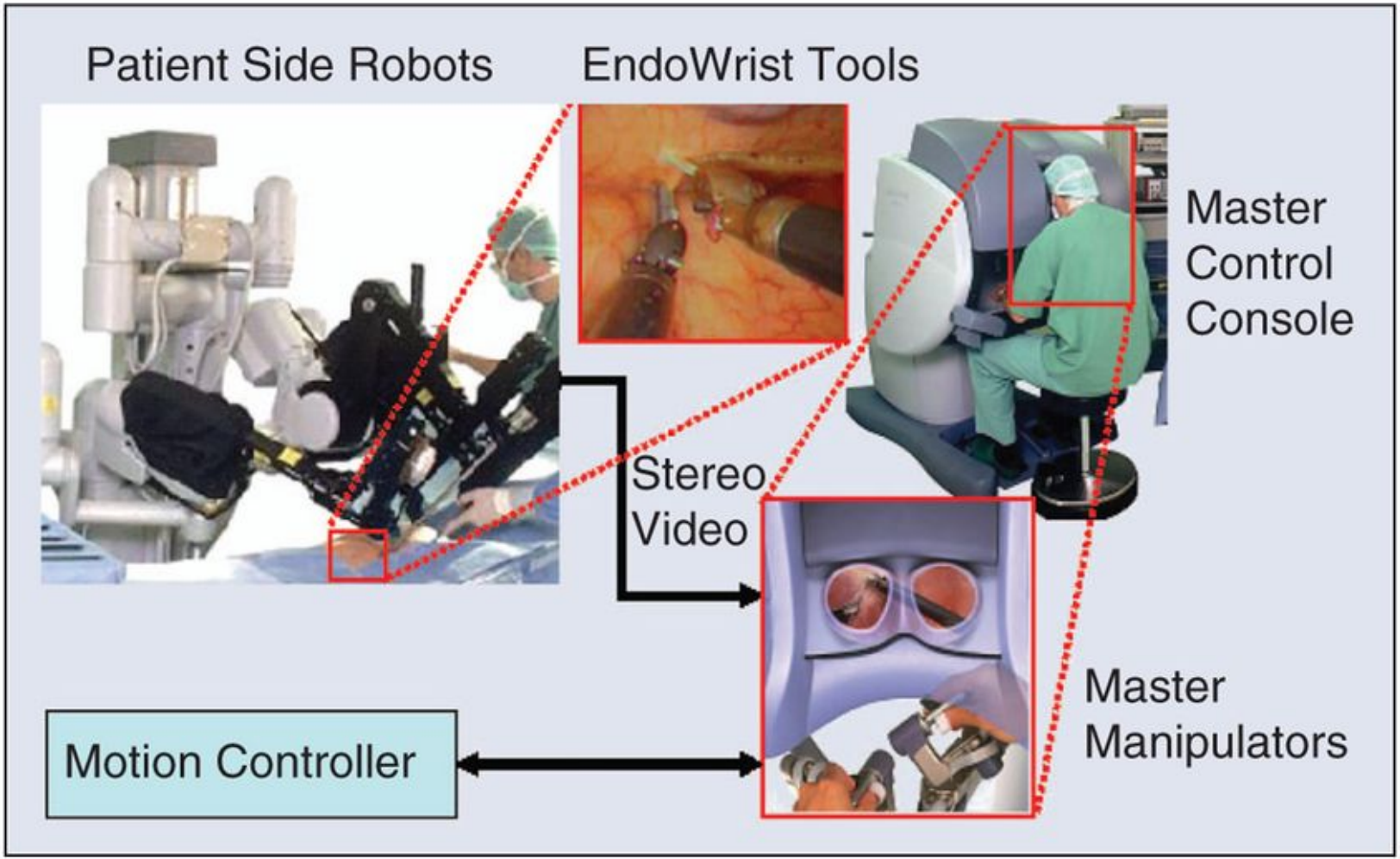


- Upgradable Architecture
- Settings and modes can be altered according to the surgeons expertise
- Latest: Da Vinci OS4

Networking

Principle: teleoperation




Patient Side Robots
EndoWrist Tools
Master
Control
Console
Stereo
Video
Master
Manipulators
Motion Controller

Pros & Cons

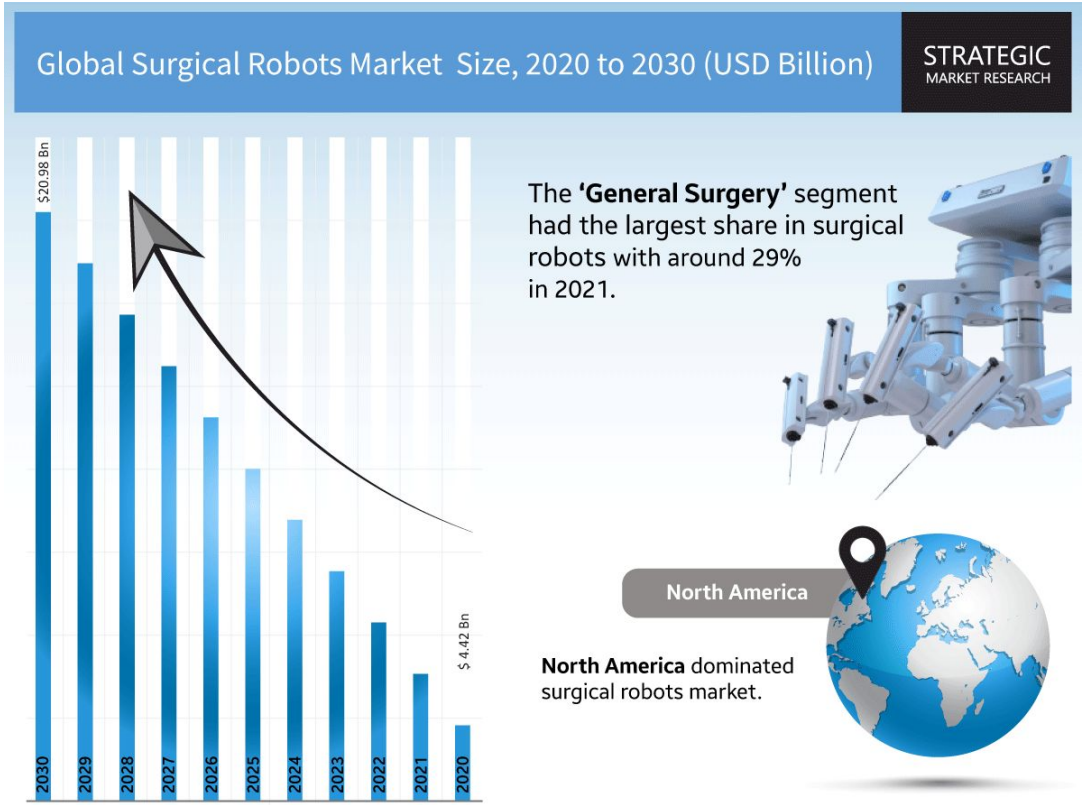
Pros	Cons
Better precision	Device malfunction
Faster recovery time	doctors' lack of practical experience
Less blood loss / scarring	Possible burns / cuts / tears to surrounding organs
Less risk of infection	High price

Risks

Between 2000 and 2013, 10,624 reports for injuries or adverse events associated with the da Vinci robotic surgery system:

- **8,061** device malfunctions
- **1,391** injuries
- **144** deaths associated with the da Vinci system.

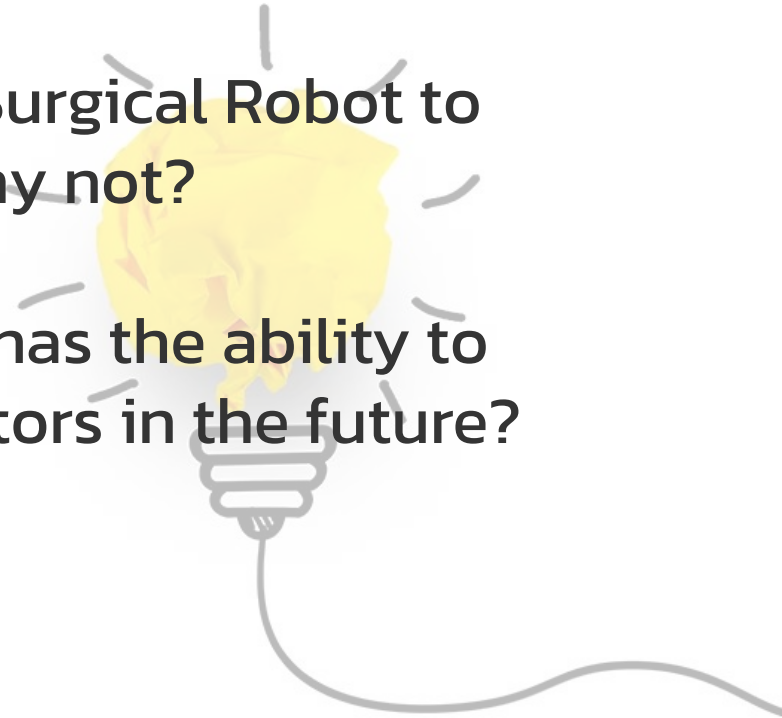
Connection to Society(Employment)

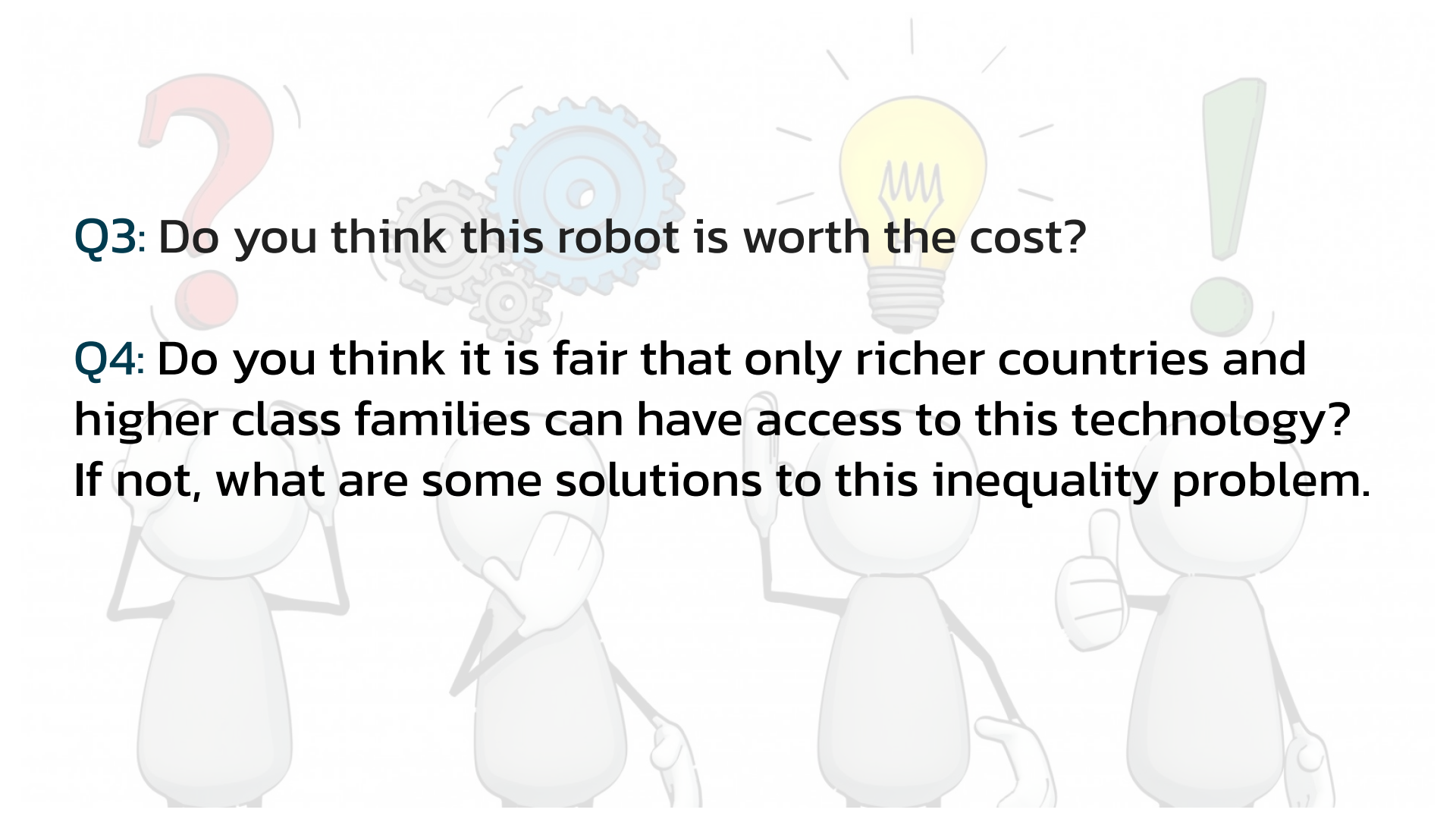


Questions

Q1: Would you trust the Da Vinci Surgical Robot to perform your surgery? Why or why not?

Q2: Do you think robotic surgery has the ability to supplant the employment of doctors in the future?





Q3: Do you think this robot is worth the cost?

Q4: Do you think it is fair that only richer countries and higher class families can have access to this technology? If not, what are some solutions to this inequality problem.

Q5: Will the use of robotic surgeries weaken the skills and experience of a traditional surgeon as the doctors continue to depend on technological assistance?

Thanks!