



***Gdansk***

***September 26th 2017***

DIGITAL PLATFORM

*"Share, Open, Connect!"*



# Digital revolution

Digital revolution is a in-depth society disruption induced by the digital techniques boom.

This major transformation leads to a worldwide connection of people and things.

The third industrial revolution, the digital one, must be for Rail operators and manufacturers:

the unique opportunity to go faster and further in progress, enabling Railways in the world to once again be an actor and a vector of development of the 21st century.

# Digital trends worldwide

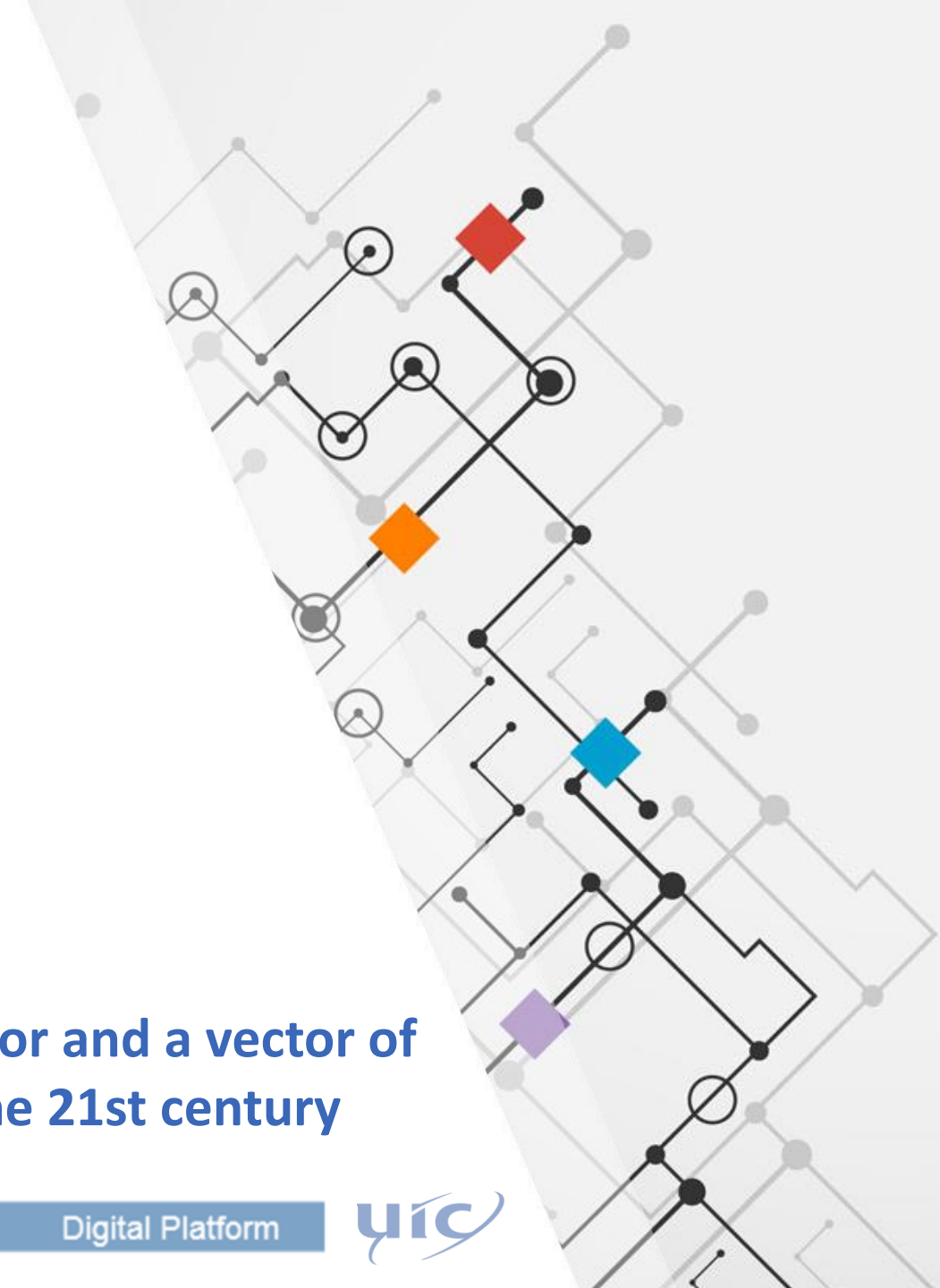
- Digital revolution: anyone can potentially provide or collect information
- Internet of Things
- Big data



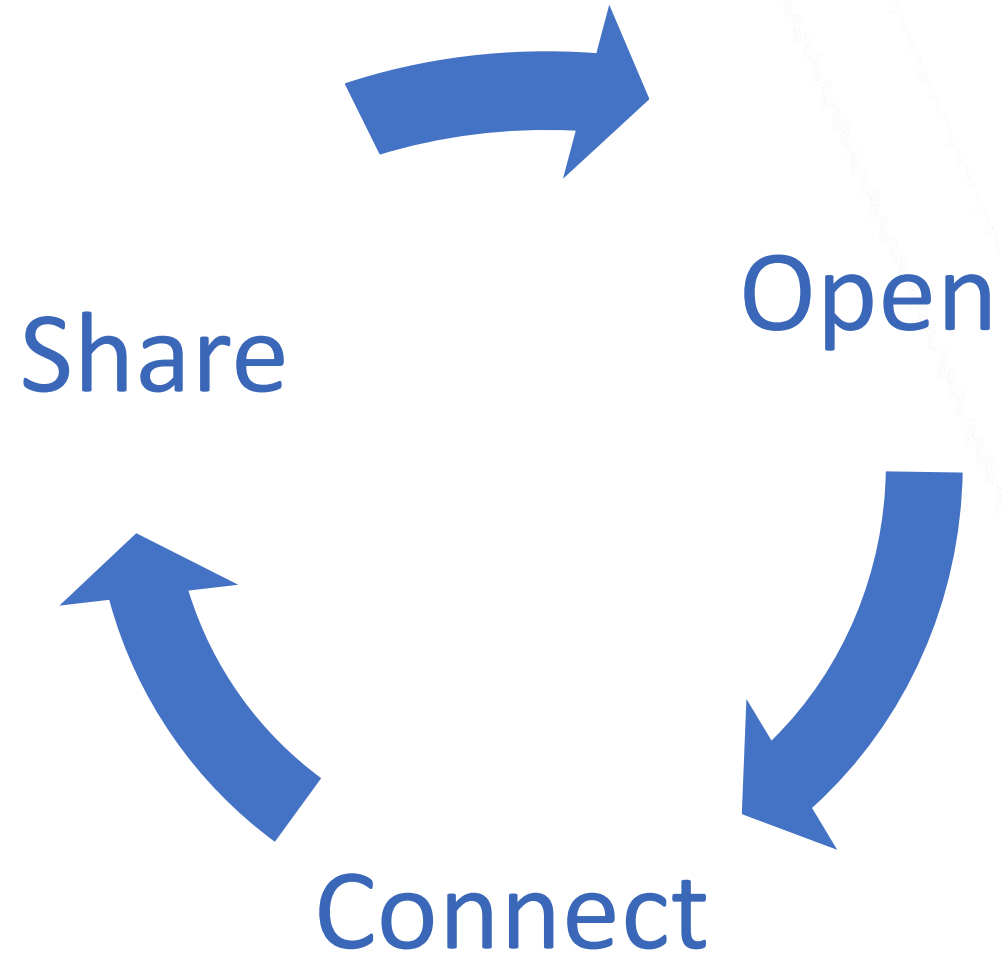
# Railway

- Interoperability
- Reliability and Capacity
- High-speed rail transport
- Digital signalling
- Predictive maintenance
- Location Based Services

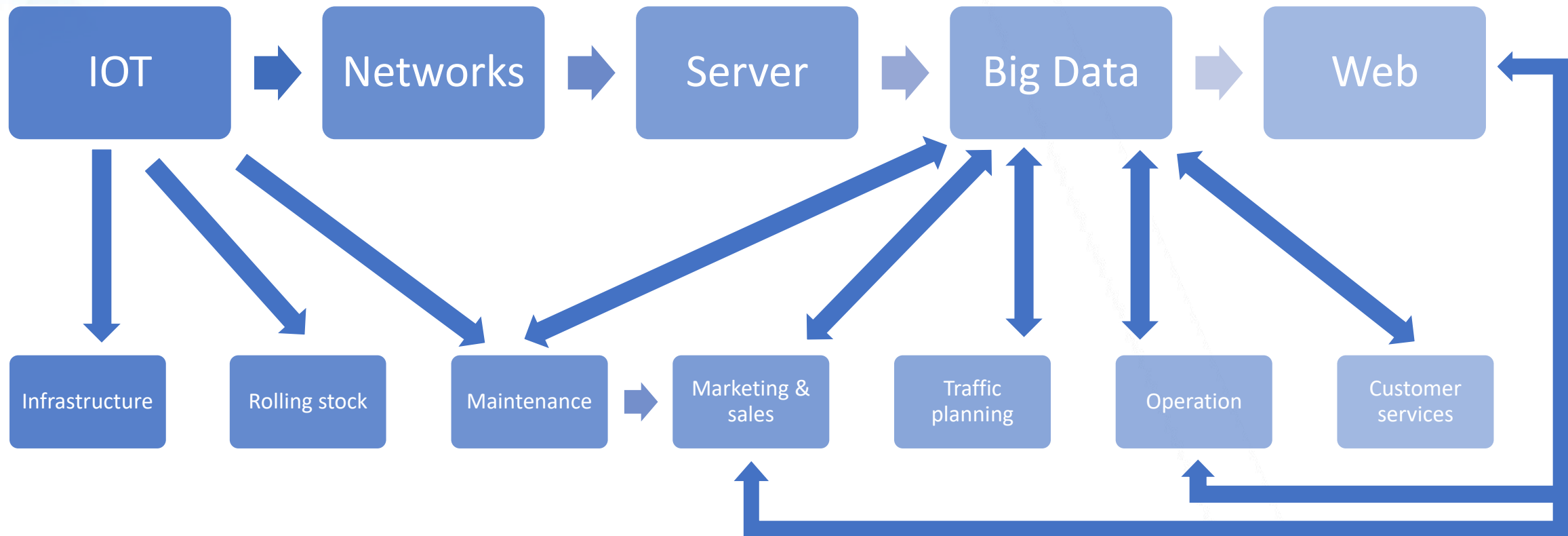
Railway can be an actor and a vector of development of the 21st century



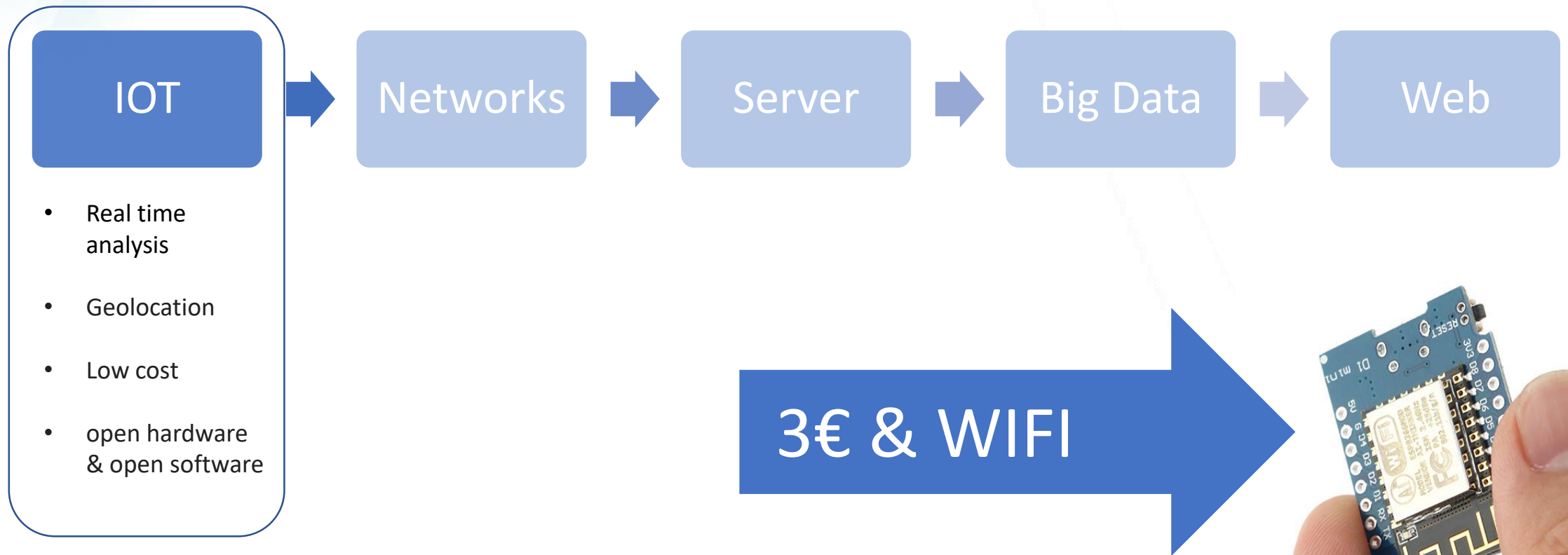
# Digital Platform missions



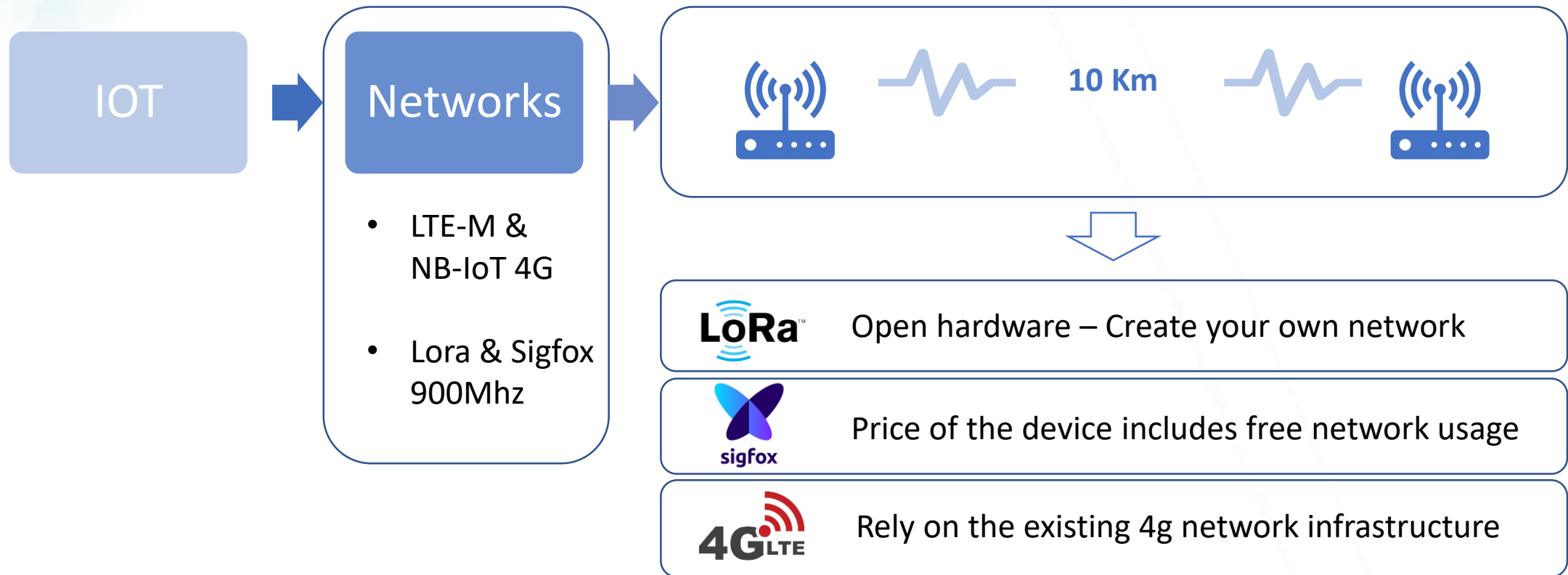
# Digital cycle



# Digital cycle & opportunity

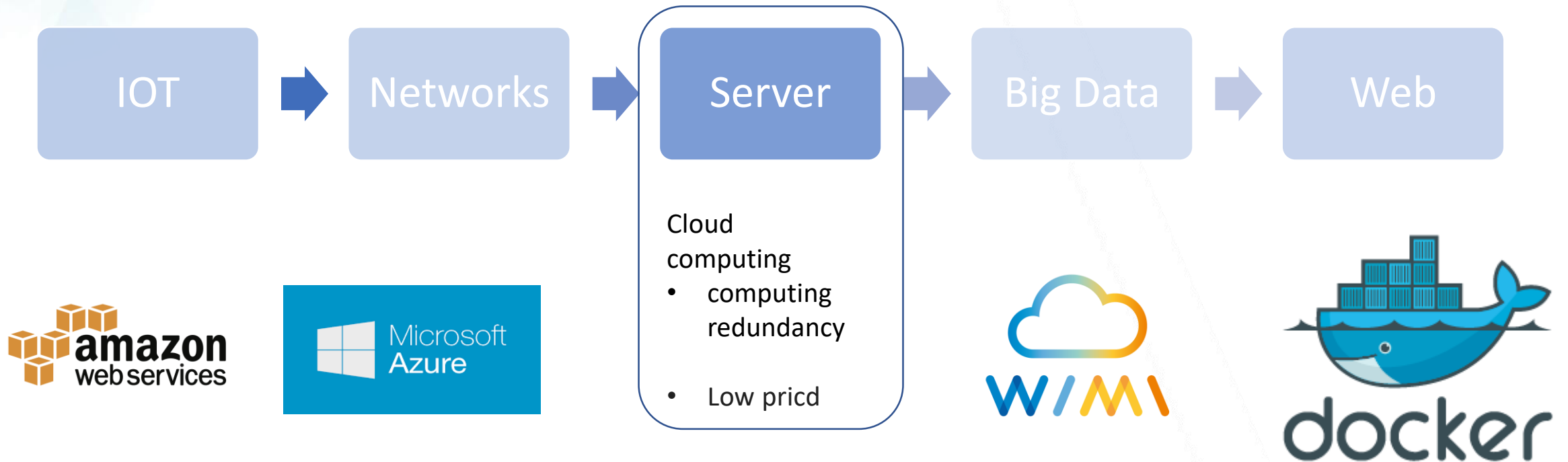


# Digital cycle & opportunity

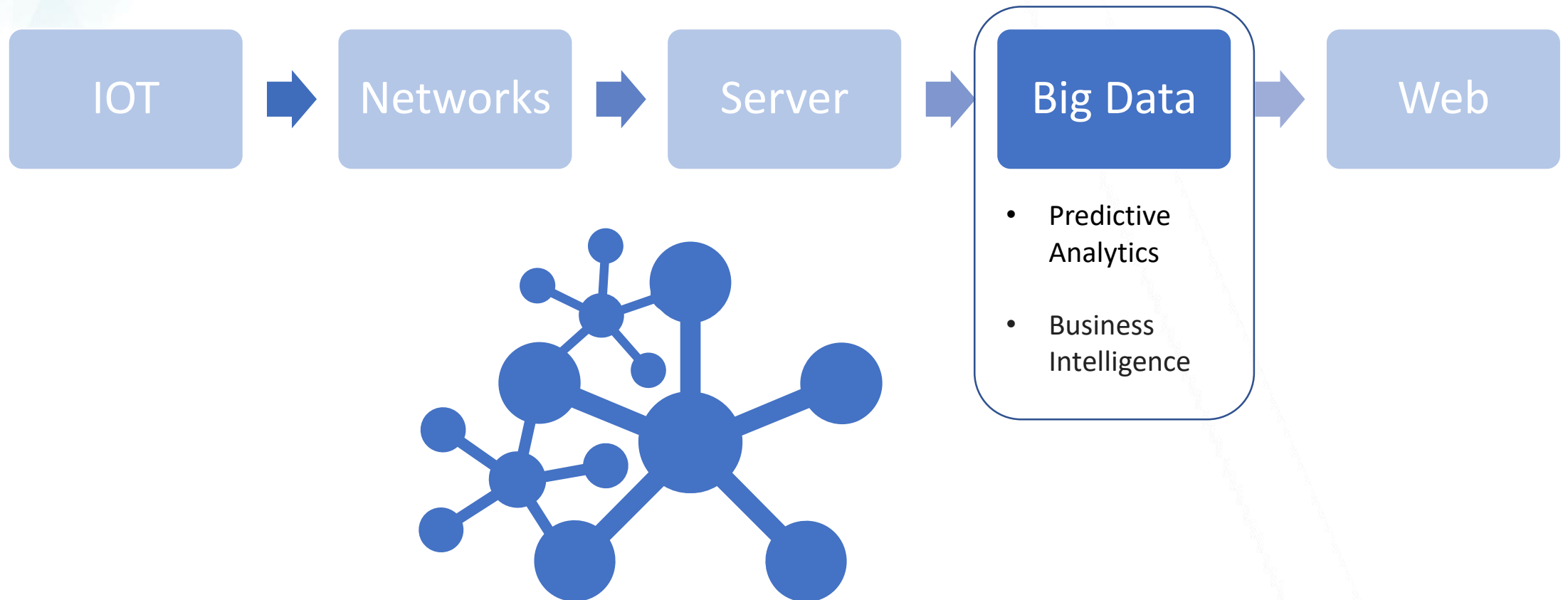




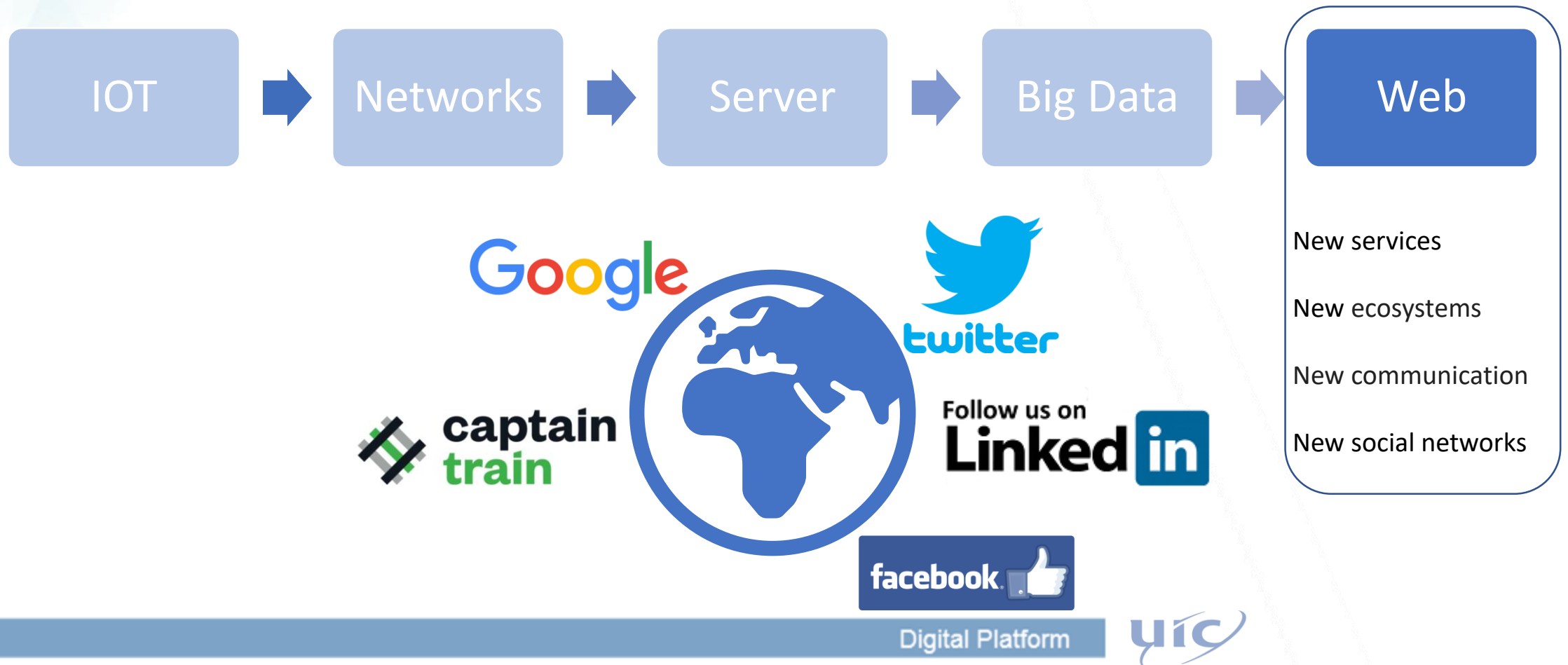
# Digital cycle & opportunity



# Digital cycle & opportunity



# Digital cycle & opportunity



# Digital cycle & risks

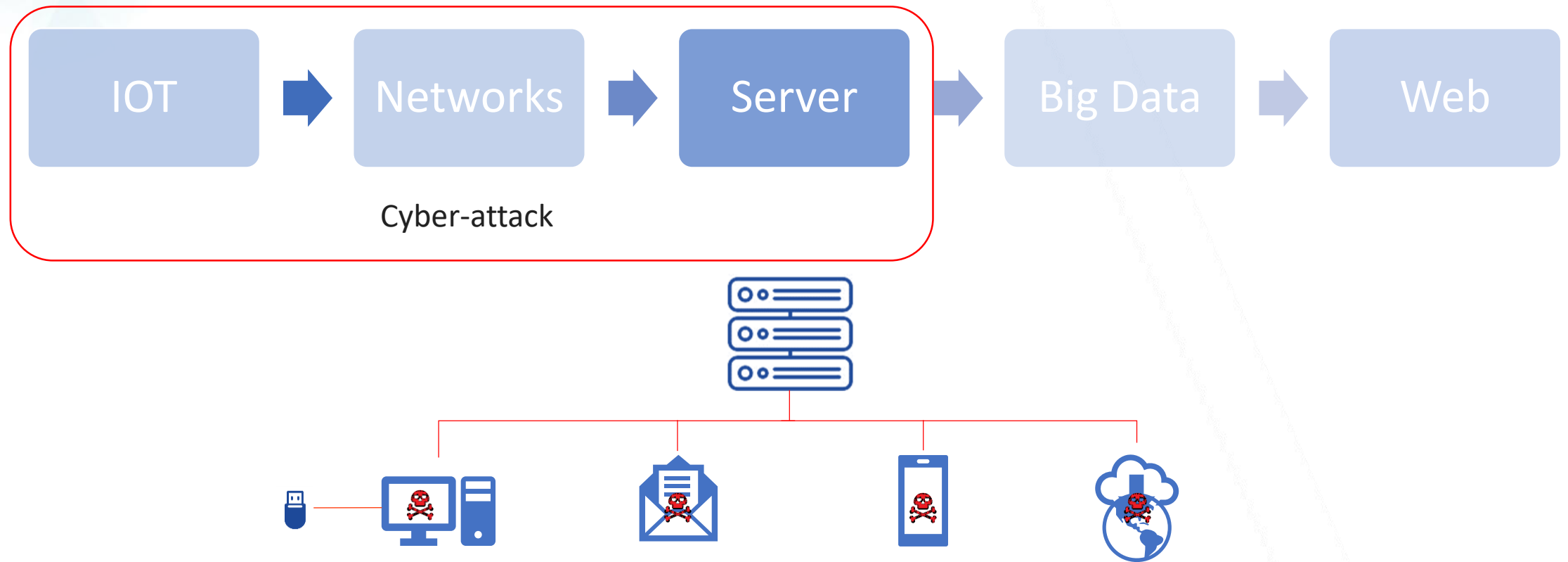


Electronics sensible to:

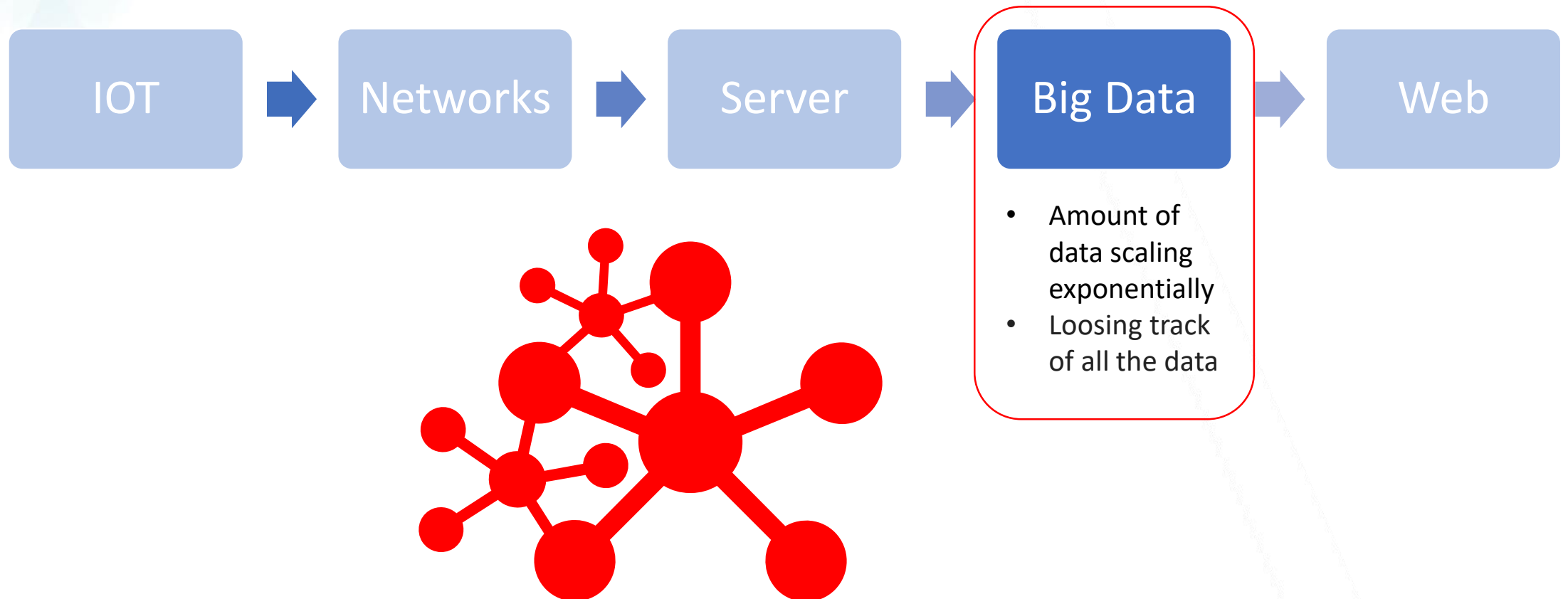
- Magnetic field
- humidity
- Vibrations
- High temperature variations
- Easily hackable
- Low to no encryption mechanism



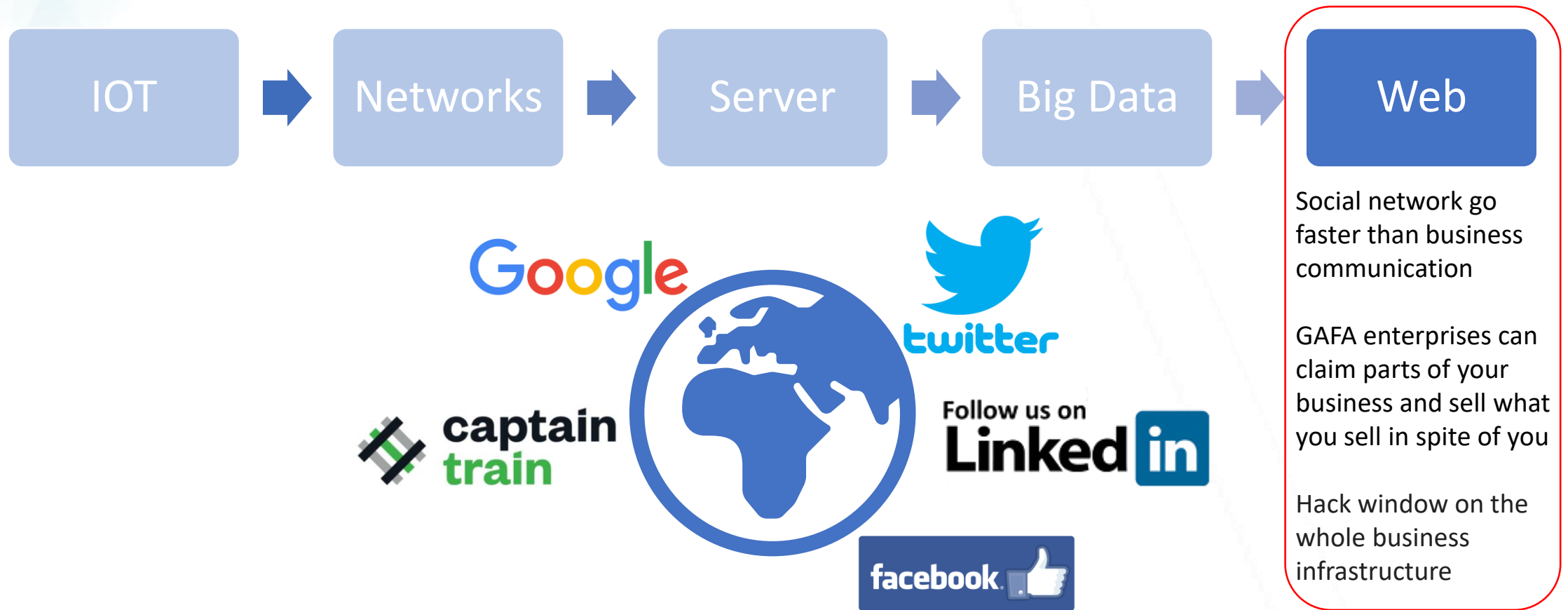
# Digital cycle & risks



# Digital cycle & risks



# Digital cycle & risks



# Digital cycle & Cyber security

- Digital new vulnerabilities

➔ **Risk is real! Must be a priority**  
**Awareness is a pre-condition**



# Digital cycle & Cyber security

## What preconception to limit the risk ?

- Check for vulnerabilities on OS
- Create sub-network to isolate every department to limit the spread of a virus
- Create cycles for saving the most critical information
- Save the data on multiple infrastructure
- Have firewall and anti-virus up to date for every type of transmission (mail, USB, TCP/IP, ...)
- Security must be integrated from the design of the IoT

# Cybersecurity

For railway security, digitalization is both:

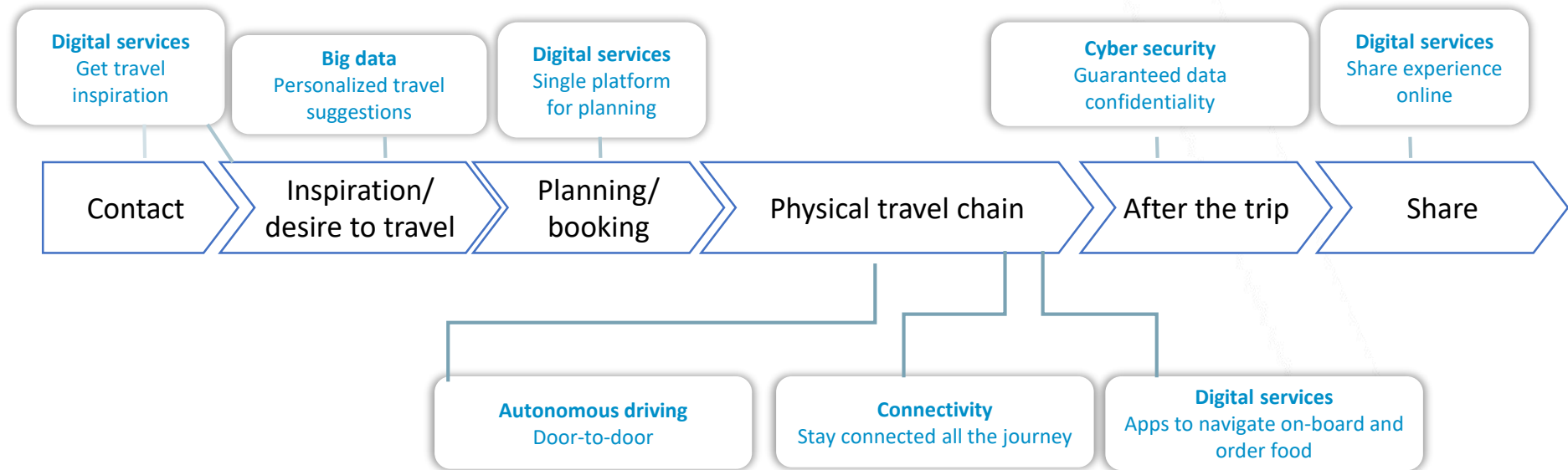
- A risk: information on social networks forces the crisis managers to react (media and political pressure)
- An opportunity: real-time information

Networks' size : impossible to supervise 24/7. Travelers can be used as an important mode of information

.

# For a better quality of customer services

## Digital with impacts along all service and customer value chain



# 2017 Roadmap



IoT and Big Data workshop, Beijing (19 June 2017)



Digital Day: Assets digitalization & Cybersecurity  
Italy (18 – 19 September 2017)



2nd UIC Digital Awards, Paris (December 2017)



3rd UIC Digital Conference, Paris (December 2017)

# Thanks for your kind attention

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