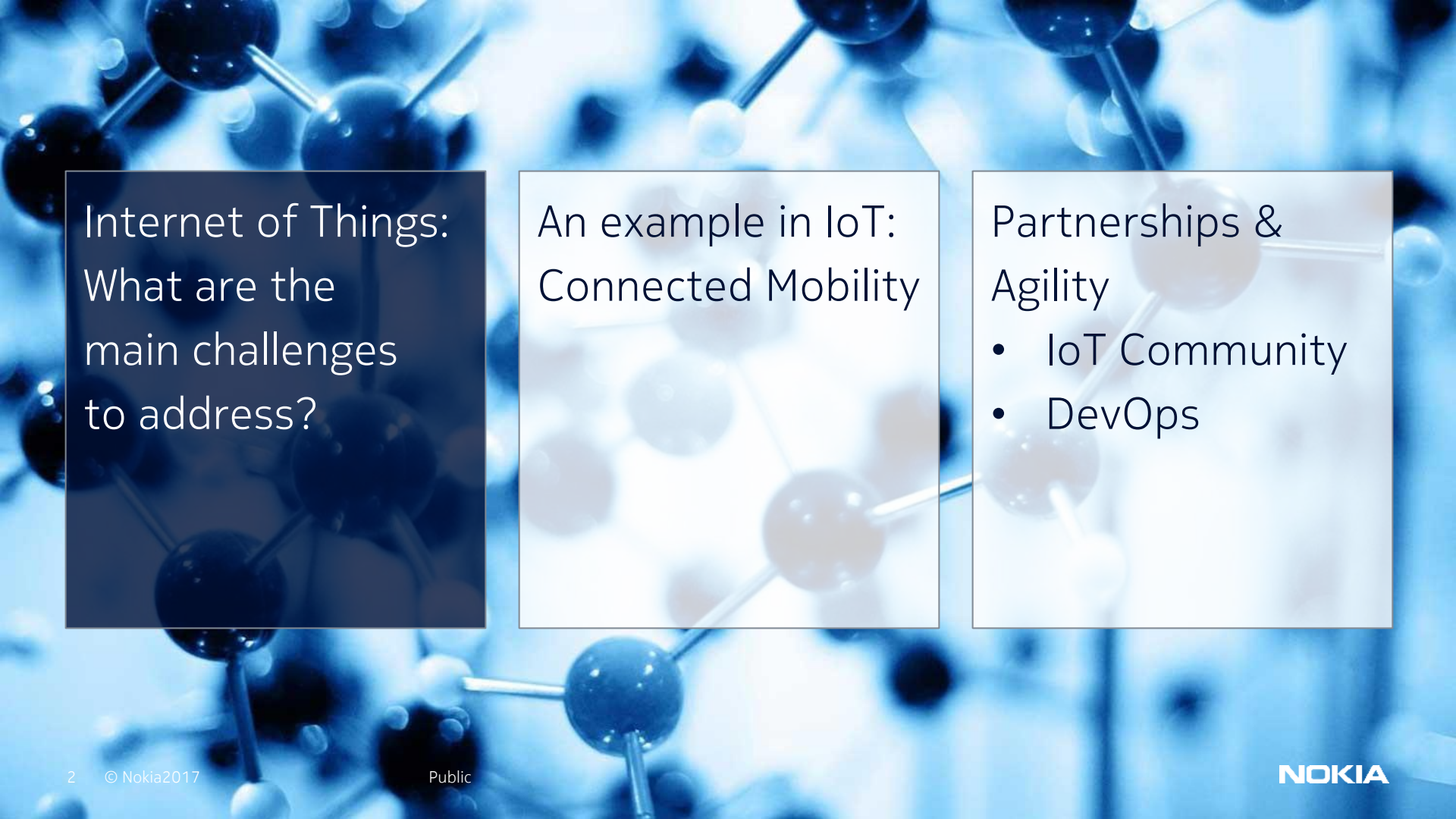


Internet of Things

How to capitalize on the IoT opportunities?

DOING SOFTWARE RIGHT- software which understands the customer

- Dr. Polizois Kokkonis
- The Cube, Athens; Tue. May 2nd, 2017



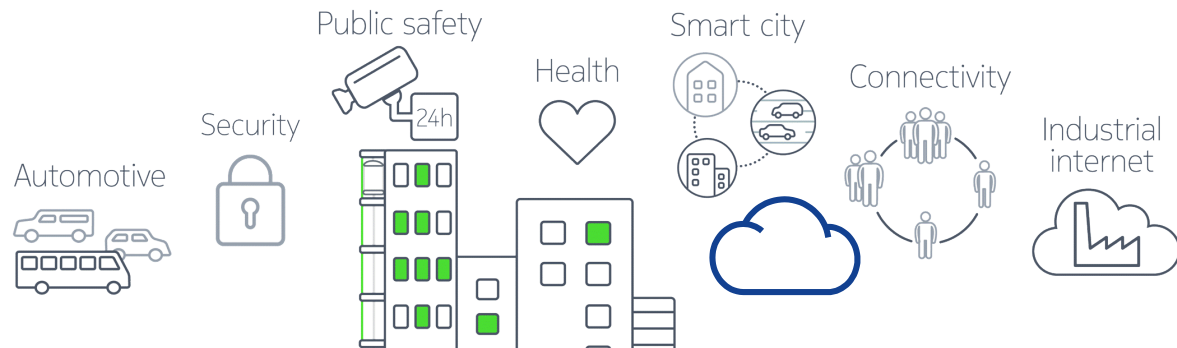
Internet of Things:
What are the
main challenges
to address?

An example in IoT:
Connected Mobility

Partnerships &
Agility

- IoT Community
- DevOps

New IoT business models require new type of agility



More efficient, agile and real-time possibilities for industries through automation, enhanced connectivity and intelligence.

How to reduce, operational, sales-related and care costs?

How to trigger easier acquisition of IoT customers?

How to create more value from IoT business?

50 billion connected objects, therein 3 bn cellular, by 2025 create new opportunities for operators

To fully capitalize the Internet of Things opportunity, five main challenges have to be addressed

Robust
connectivity:
Latency, availability,
coverage

1

Standardization:
Standard
connectivity for
billions of things

2

Interoperability and
open interfaces:
Enabling platforms
to talk with each
other

3

Privacy and
security:
Prevent malware
injection and data
misuse

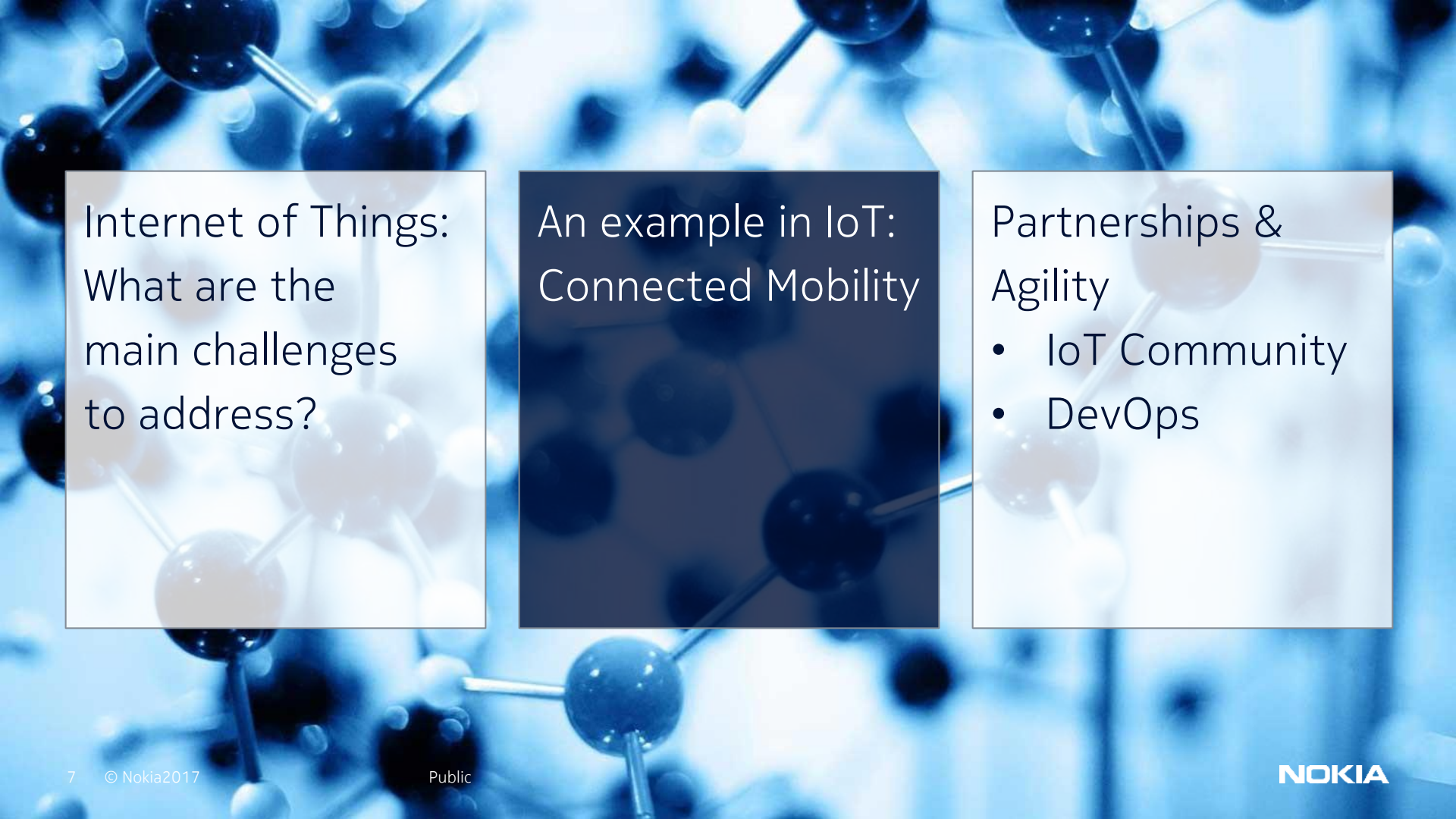
4

Domain knowledge:
Deep, vertical-specific insights

5

Nokia IoT portfolio from a helicopter view





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Connected mobility makes driving safer



Field proven innovation

In November 2015, connected cars were publicly showcased on the German A9 highway

Cross industry

Nokia Mobile Edge Computing with Deutsche Telekom's live LTE network in collaboration with Continental and Fraunhofer

Partners



Use cases

- Co-operative passing assistant
- Electronic brake light

Benefits

- Low 10–15ms application latency enables near real-time communication improving road safety

Partners and roles

NOKIA

Continental

Fraunhofer
ESK

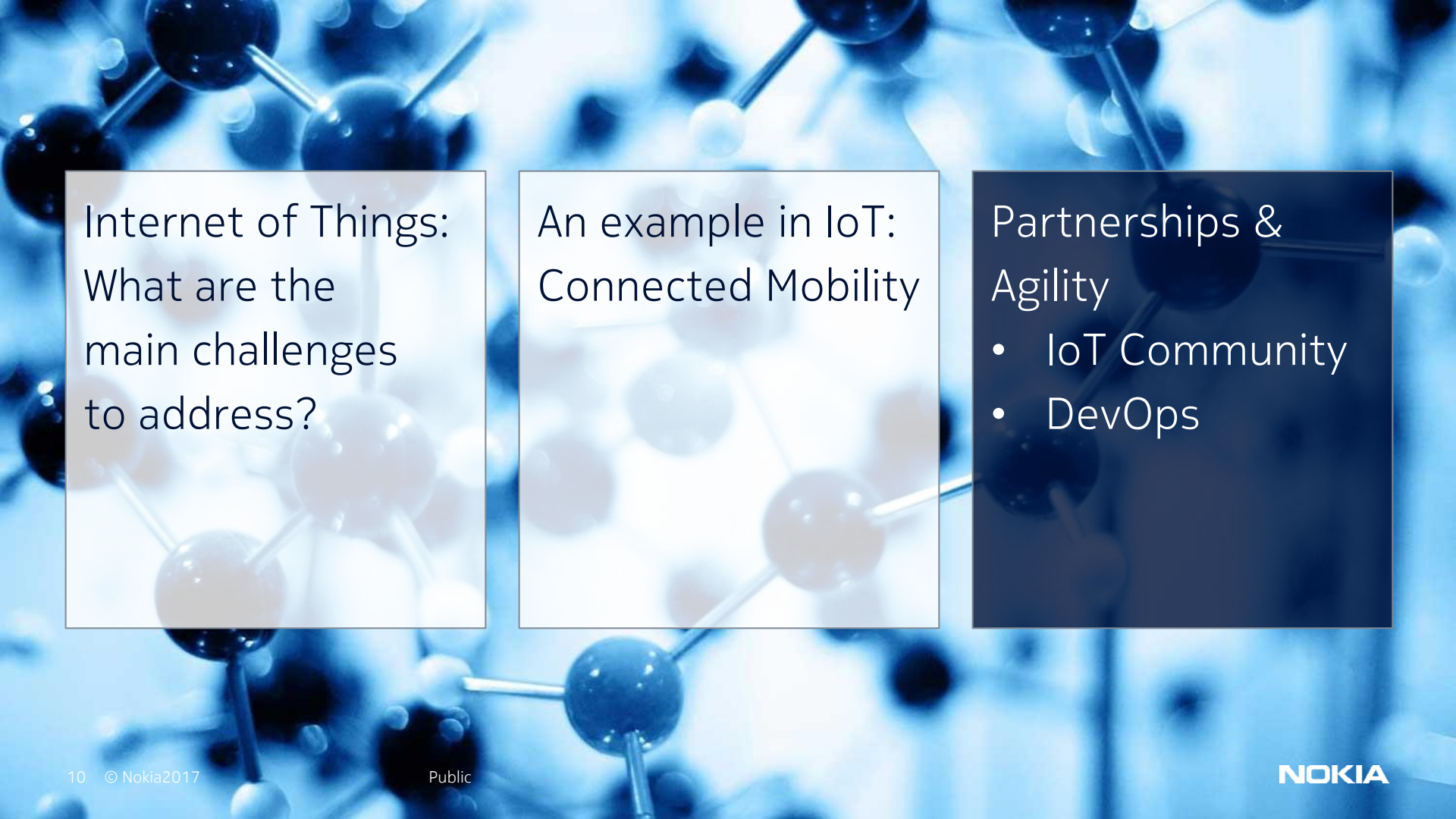
T..

Mobile Edge
Computing platform
E2E test and general
project management

Use case design and
tablet-based
application
Interface between
car electronics and
on-board unit (OBU)

On-board unit (OBU)
and its software
platform
Geo-service running
on Liquid
Applications

Network and
network operations
Network security



Internet of Things:
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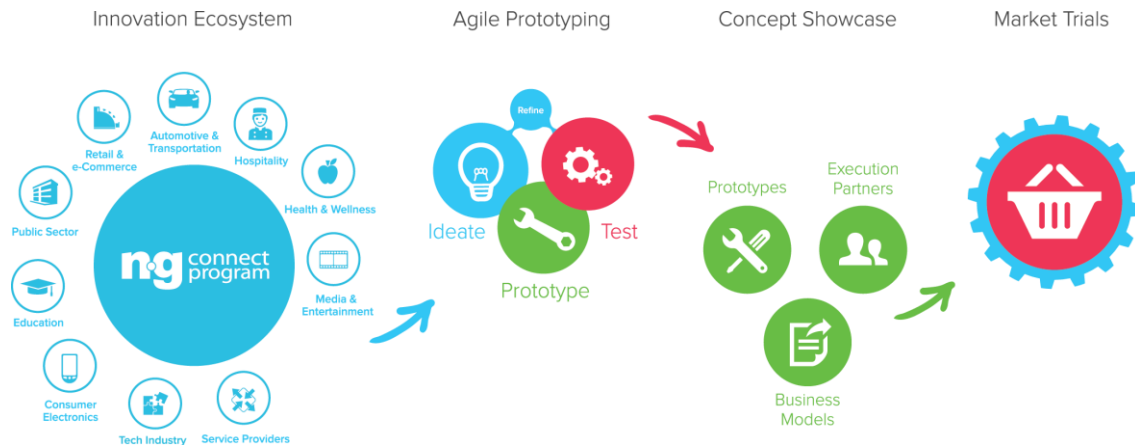
- IoT Community
- DevOps

IoT Community

What we do

The IoT Community of the ng Connect Program brings innovative companies together to collaborate and unleash the potential of the Internet of Things.

- Define solution concepts
- Collaborate on prototypes
- Explore business models
- Showcase concepts for feedback
- Conduct market trials for business model validation



For a complete listing of members, go to www.iotcommunity.com or www.ngconnect.org

Includes CSPs, vendors, government agencies, and universities



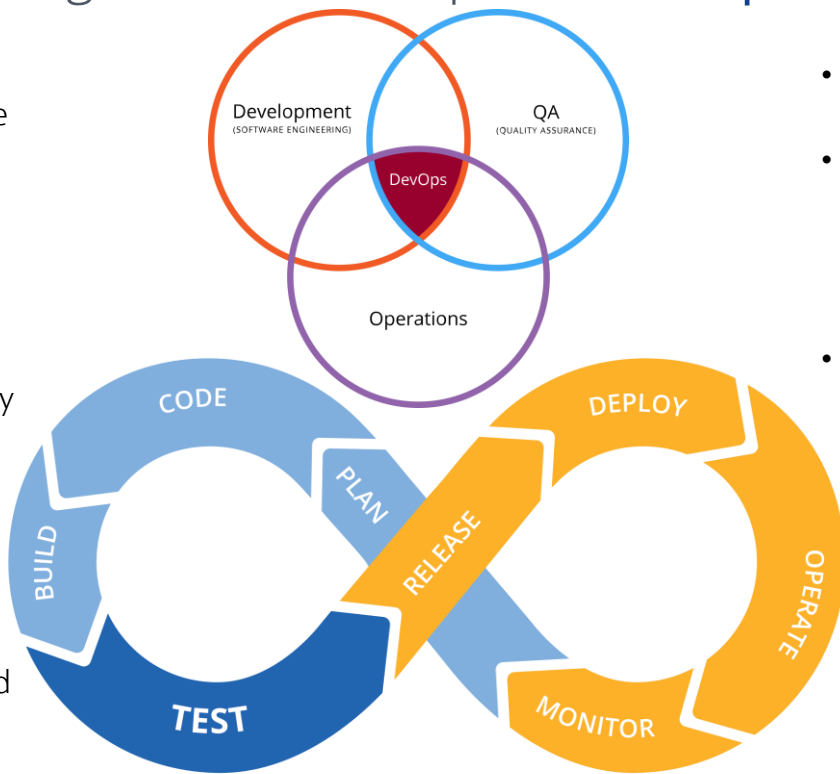
Introducing DevOps

The seamless integration of **Development** and **Operations**

DevOps can create an infinite loop of release and feedback for all your code and deployment targets

The process from the code modification to the deployment is fully automated

The microservices architectural style is becoming the standard for building continuously deployed systems



- DevOps is the contraction of **Development** and **Operations**
- It aims at establishing a culture and environment where building, testing and releasing software can happen rapidly, frequently, and more reliably
- Bring many advantages :
 - significantly shorter time-to-market
 - improved customer satisfaction
 - better product quality
 - more reliable releases
 - improved productivity and efficiency
 - increased ability to build the right product by fast experimentation

NOKIA

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