PORTFORWARD
IOT BASED SOLUTIONS FOR THE PORT OF THE FUTURE

Christian Blobner, Darmstadt, October 29, 2019

PortForward
Main objectives

Smart Port Solutions
employing ICT solutions to improve information flows between ports and port communities

Green Port Solutions
Adopting green technologies to reduce the environmental impacts of port operations and save resources

Interconnected Port Solutions
Combining different modes of transport integrating of different technologies to better monitor and control freight flows

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PortForward
Project overview

- Project duration
  - July 1, 2018 – December 31, 2021
    (42 Months)

- Project Budget
  - €4,994,311

Kristiansand

UBIMAX

Fraunhofer IFF (Coord.)

Brunel University

Magdeburg

IMECC

Livorno

LEITAT

ACCIONA

MARTE

Vigo

CORE

Baleares

3

But what is PortForward
Value proposition

PortForward will deliver an innovative services platform to create and co-create value for ports and their stakeholders. This value stems from:

The platform, which is the enabling space to unlock value from existing and new systems/ data within the port.

- The flexibility of the platform which allows customers to create solutions tailored to their needs.
- The scalability of PortForward, which can be easily expanded with further use cases/ services.

The innovative services developed within PortForward that release the value from the data, and which are tailored to the customers' needs.
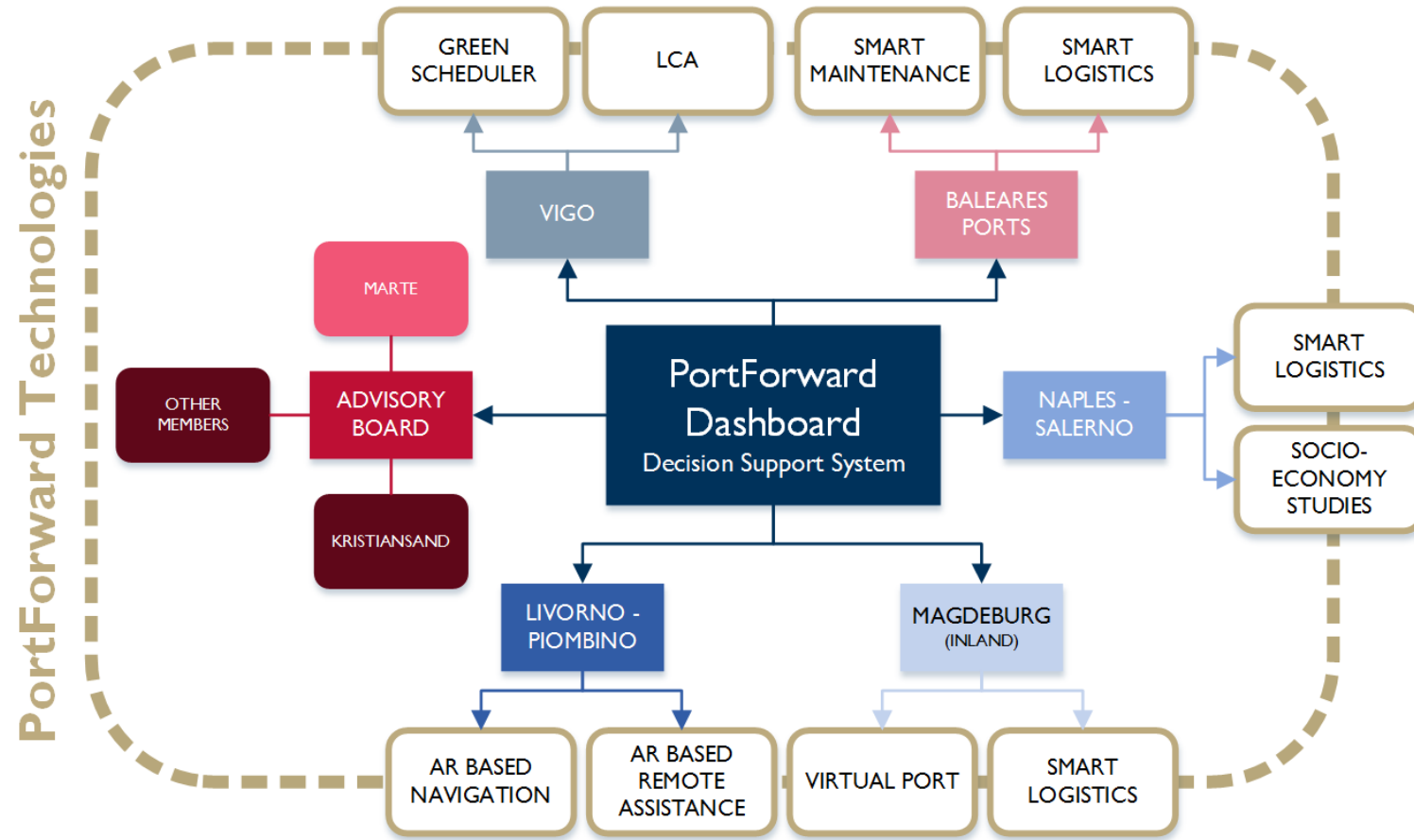
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But what is PortForward
A picture for a thousand Words
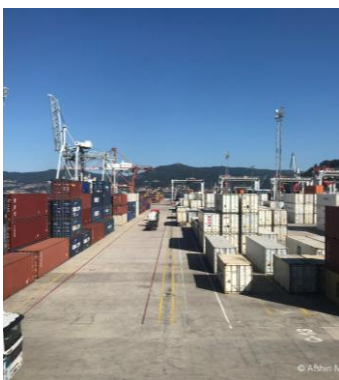
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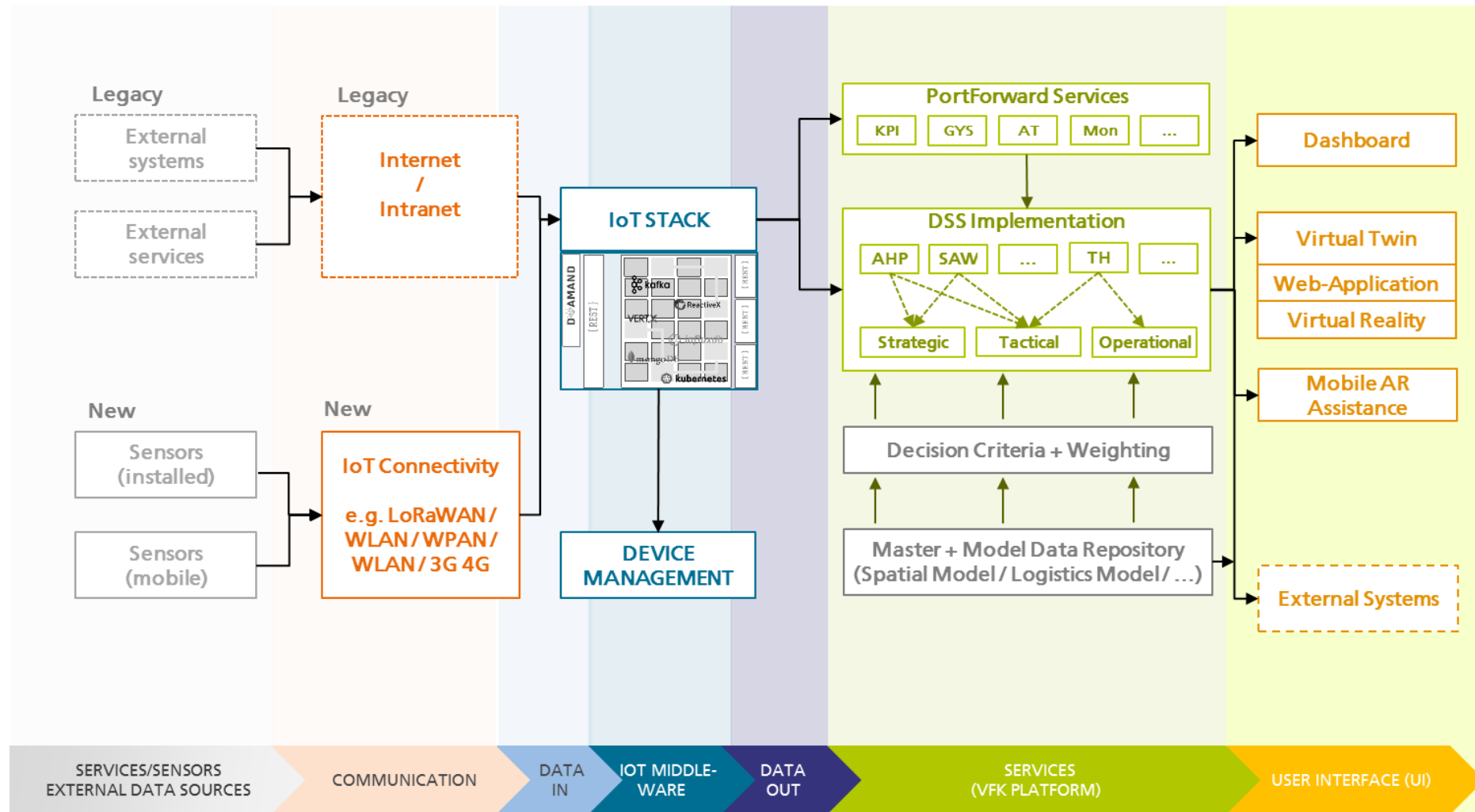
How does PortForward work
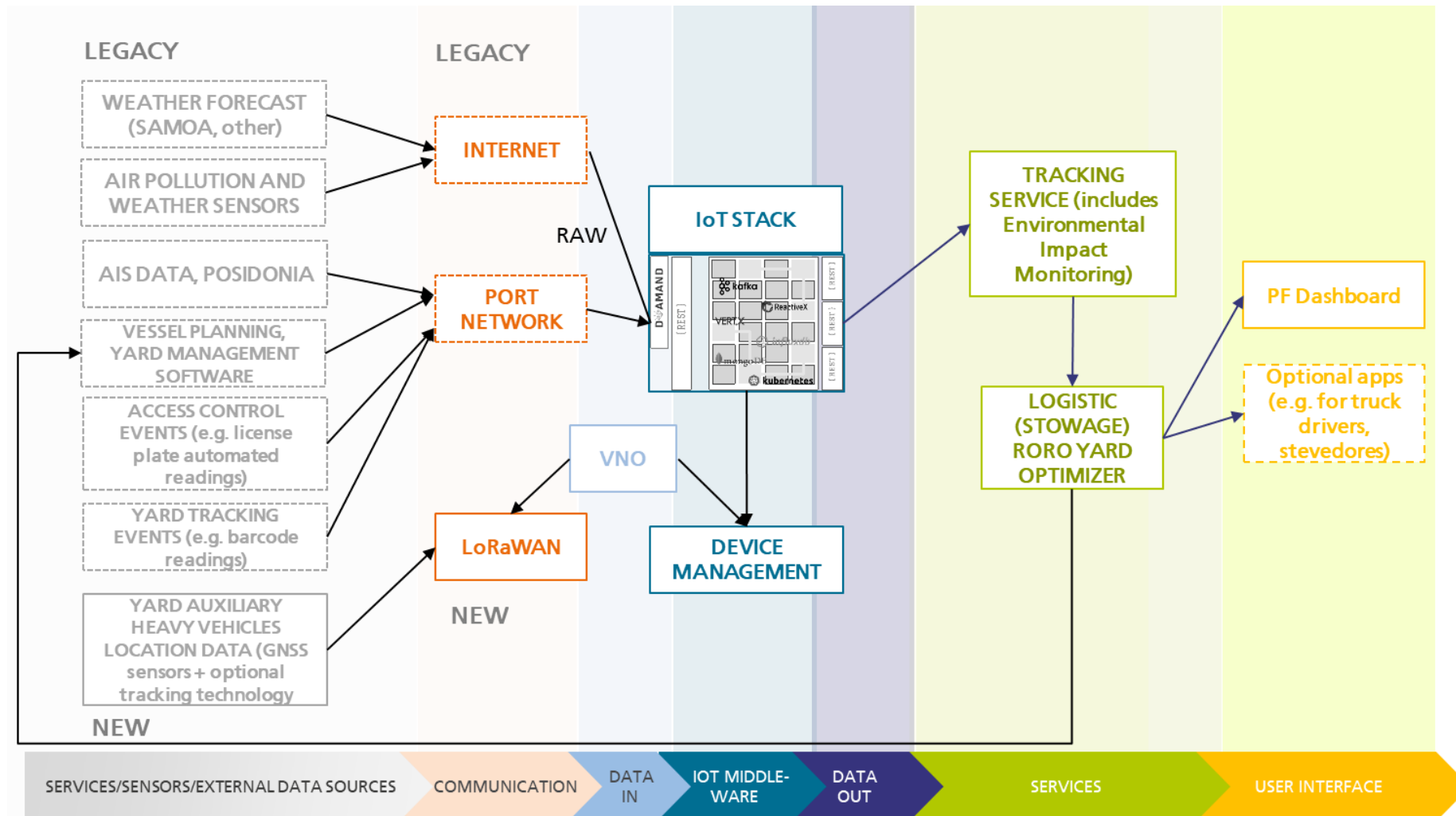## Use case oriented approach

How does PortForward work
Close cooperation between ports and research partners

How does PortForward work
Detailed description of use cases for technical implementation

How does PortForward work
Use case example Magdeburg Port

GALILEO-TRANSPORT
Sachsen-Anhalt

in Magdeburg
Hanse-Terminal

IHATEC
Innovative
Hafentechnologien

Bundesministerium
für Verkehr und
digitale Infrastruktur

Investitionsbank
Sachsen-Anhalt

AUTOSEC

Developing and testing of measures to increase the security in digital container terminal processes and implementation of safety measures to prevent and detect cyber attacks on the infrastructure and connected IT systems

IoT / Tracking & Tracing
in the port of Magdeburg

Safety & Security for CPS in
the port of Magdeburg

Virtual Model
of the port of Magdeburg

PortForward

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How does PortForward work
Use case example Magdeburg Port

- Using a fully developed spatial model VR model of the Magdeburg Port

- Enhancing the static VR model with further information from existing port systems (data bases, regulatory information, concessions)

- Enabling real-time capabilities by interfacing with IoT devices on site

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# How does PortForward work
Use case example Magdeburg Port

- Virtual Twin for Port of Magdeburg will be enhanced by dynamic real-time information and data

  - *Use Case 1 –* dynamic storage space monitoring (camera based monitoring + localization of handling operations)

  → using virtual spatial square of 2x2 m

  - *Use Case 2 –* location and state of assets (LoRaWAN tracking devices)
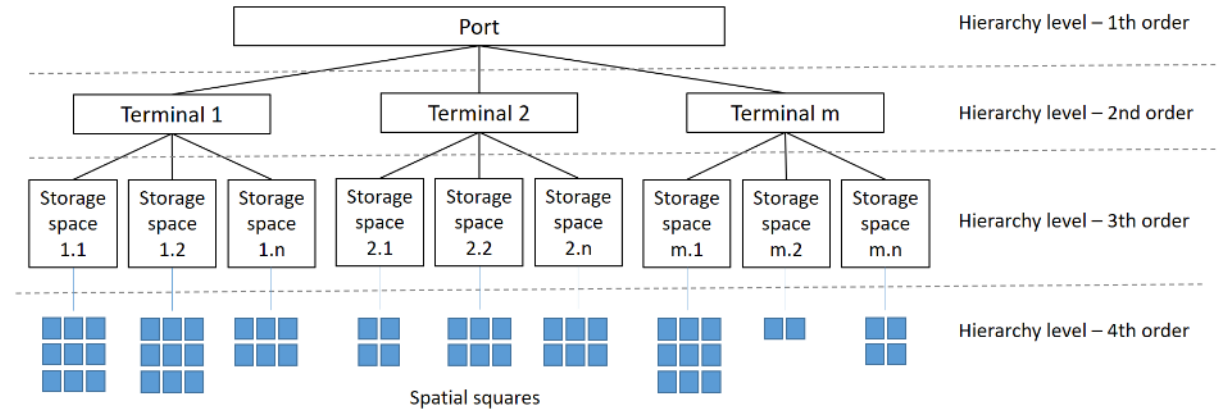
How does PortForward work
Use case example Magdeburg Port

- Integration of Dashboard functionalities
  - Visualization of KPIs and other measures in their spatial context
- Support of DSS by providing spatial context for decisions (strategic / tactical / operational)

- Installations, development and implementation of solutions for use cases
  - Dynamic storage space monitoring
  - Asset tracking
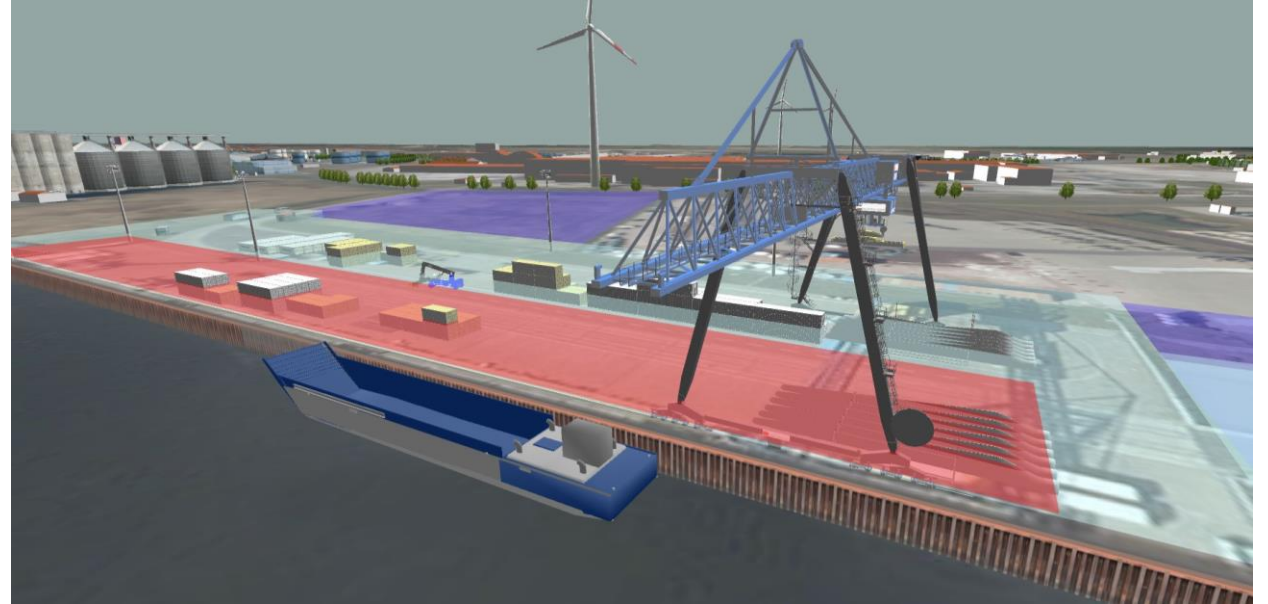
More information
The PortForward website

Visit us at:

📱   www.portforward-project.eu

Social media:

in   portforward-project

🐦   @portforward_eu

Get the latest project news, access to project dissemination materials and public deliverables.

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