

Master
Datenschutzbewusste Trusted-Konnektoren für kognitive Häfen
Privacy-Aware Trusted Connectors for Cognitive Ports

Motivation

In the context of the DataPorts project, a data platform for the connection of cognitive ports will be developed in which transportation and logistics companies around a seaport will be able to manage data like any other company asset, in order to create the basis to offer cognitive services¹. An overview of the DataPorts platform with several functionalities and components is provided in Figure 1. Ensuring security is an important aspect of the DataPorts data platform. A secure environment of data exchange in reliable and trustworthy manner has to be created, with access permits and contracts to allow data sharing and the exploration of new artificial intelligence and cognitive services.

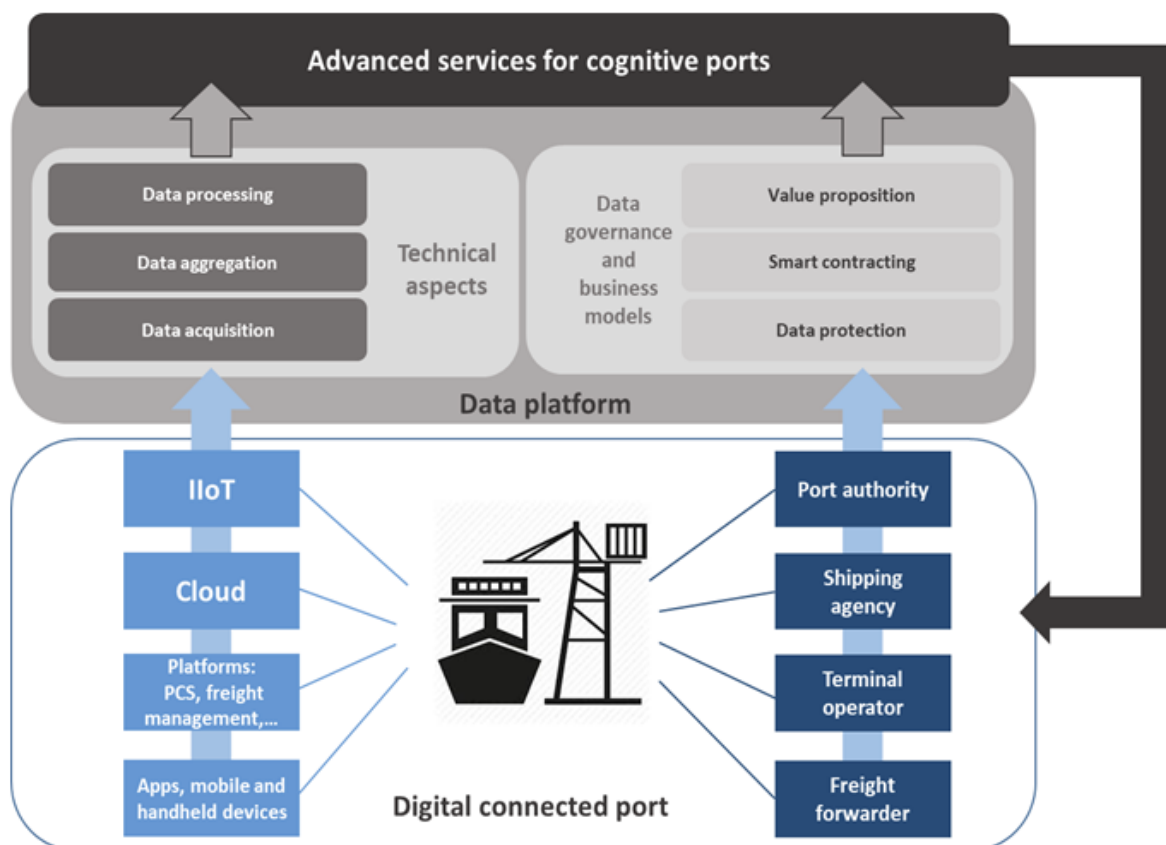


Abbildung 1: An overview of the DataPorts platform.

The data platform will be aligned with the Industrial Data Space (IDS) Reference Architecture Model,² offering data owners the option to describe connectors where type and conditions of data will be clearly stated and offered to data consumers. To enable the establishment of trusted relationships, the central technological components

¹<https://dataports-project.eu>

²<https://internationaldataspaces.org/publications/ids-ram/>

used for data processing and data exchange need to be trustworthy. The IDS connector is the central component for data exchange and data processing in the International Data Spaces, and thus a central component that needs to be trusted. A trusted connector guarantees a controlled execution environment for data services and supports the creation of trusted relationships. The IDS trusted connectors mainly focuses on security aspects. Generally, no mechanism is provided to realize privacy and data protection principles (particularly the principles that are introduced in Article 5 of the General Data Protection Regulation (GDPR), such as minimization).

Tasks/Goals

The tasks that must be supported in this thesis are listed in what follows:

- Defining how the IDS reference architecture model (especially the trusted connectors) may be integrated in a cognitive port environment.
- Analyzing the state of the art of trusted connectors regarding privacy principles and regulations.
- Developing a concrete methodology to support privacy principles (as prescribed in Article 5) in a trusted connector.

Remarks

The opportunity to cooperate in writing research paper after the successful submission of the thesis will be provided.

Relevant Research Projects

- DataPorts Project: A Data Platform for the Connection of Cognitive Ports³.

Organizational

Kontakt/Contact:
Dr. Amirshayan Ahmadian (ahmadian@uni-koblenz.de)

³<https://dataports-project.eu>
