

Port of Riga - smart digital port of the future

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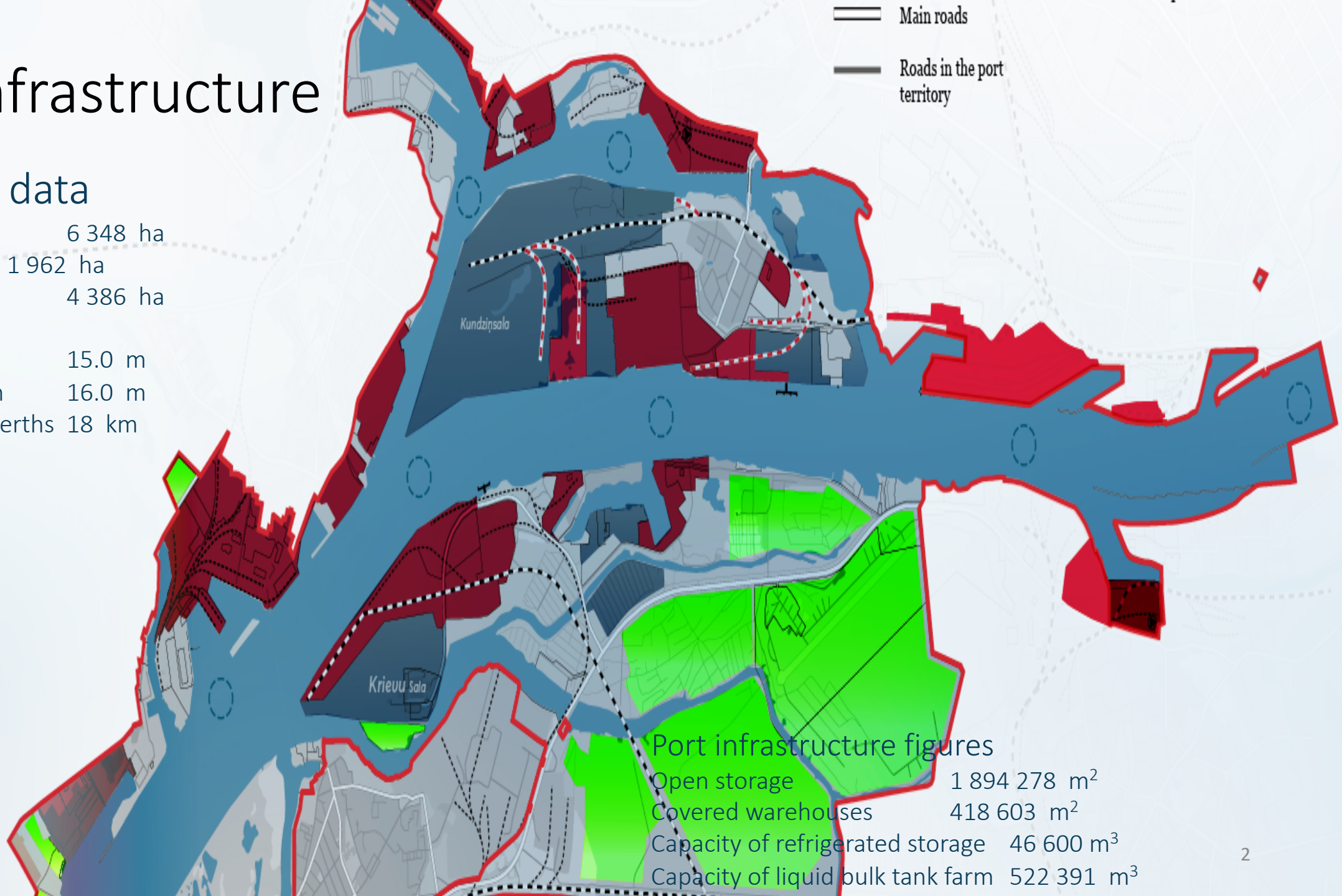
Challenges and Future
Opportunities for Ports and
Shipping in Europe

Virtual event
November 5, 2020

Port Infrastructure

Technical data

Total area	6 348 ha
Land area	1 962 ha
Water area	4 386 ha
Maximum draft of vessels	15.0 m
Maximum depth	16.0 m
Total length of berths	18 km



Principles of Port IT development

- Modern solutions
- Timely and strategic implementation planning
- Legislative **requirements** appropriate tools and solutions
- **Security and safety** of the port and its customers



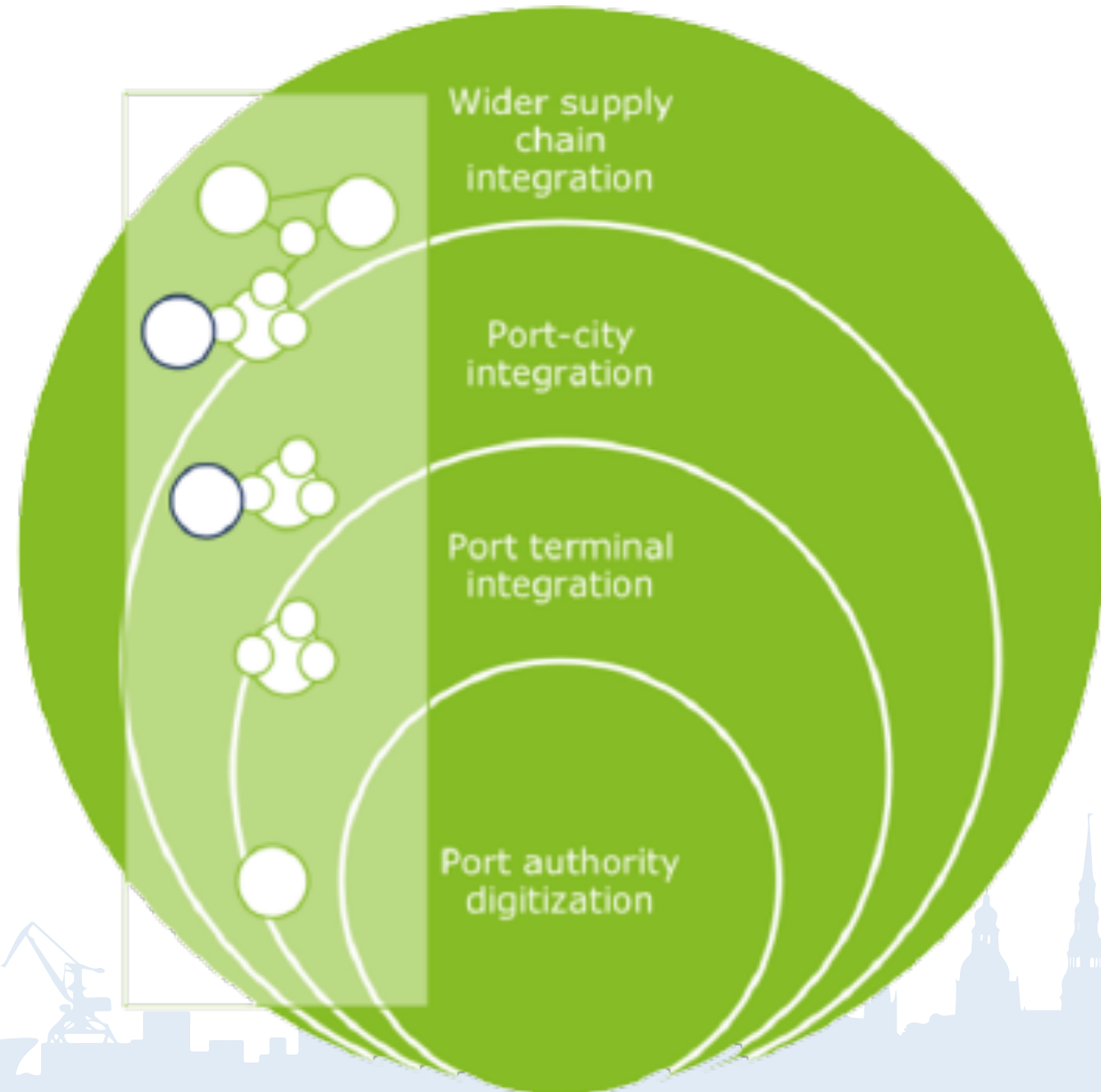
- Efficient and cost-effective solutions
- **Development and heritability** of existing solutions
- **Reducing** administrative burdens and improving processes

- Customer-oriented solutions, self-service options
- **Digitization** and use of **modern** communication tools
- One stop principle
- Innovation and development

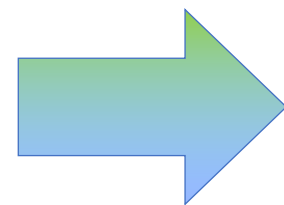
- Unified and **integrated** solutions
- Data exchange solutions
- Integration and coordination with other institutions and solutions
- **Support** for the implementation of initiatives of other institutions

The Port Process

- Traffic registration;
- Activities capture;
- Services registration;
- Invoicing;
- Reporting;
- Analytics;
- etc.



From manual service - to mobile service



SMART PORT projects, 2020-2022

Smart ports
solutions



2020
Port Community System (PCS)

2021
Graphic Information System (GIS)

Port automated and autonomous pass system (AAS)

Existing
technology
development



Data transmission network development

Document management system integration

Development of air quality monitoring system

Innovation
and research



Autonomous pollution monitoring

Research of unmanned solutions

Smart parking in the port

Development of emission reduction system

Cooperation
and integration



Support for piloting and implementing E-CMR

Support & integration of a logistics green corridor

AAS System operation and processes

Car
identification
and scanning



Document and
driver registration



Data registration,
authorization and
verification in third
party systems



Entry and
traffic control
in the port



Motion
monitoring
and
surveillance



Exit and weight
control



- ALPR (automatic number plate recognition),
- Container number reading
- OCR (optical character recognition)
- EIP (enhanced image processing)

- Driver's workplace for entering information without leaving track
- Dreading reading, biometric etc. information input
- Access authorization check

- Driver, car and inspection
- Enter pass check in **Port system**
- Verification of data in **third party databases**
- Car **crossing registration**

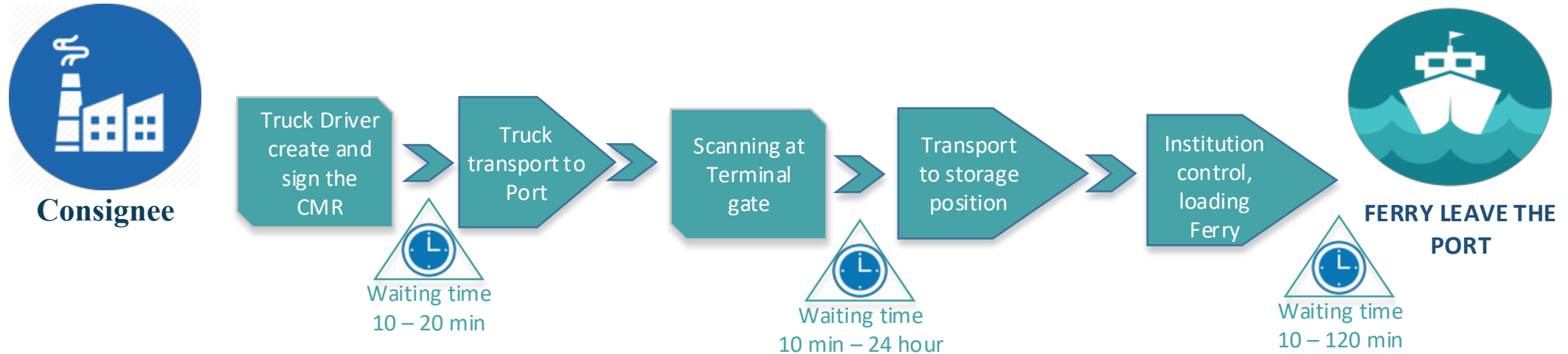
- Automated access gateway and operation control
- **Barriers, traffic lights** and variable content marks (VMS) traffic management in the territory

- **Command and Monitoring Center**
- Data processing and **real-time** track movement monitoring
- **Integration** with camera and security system

- Weights Check Automatic weight **registration and check** against documents

eCMR Application Visualisation

Illustration of truck driver application

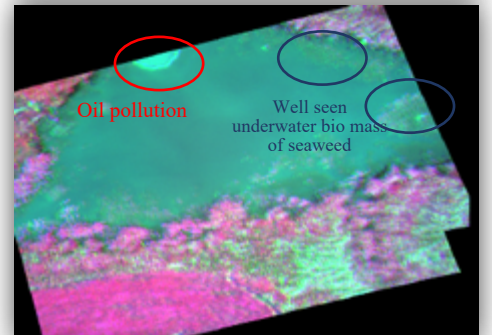
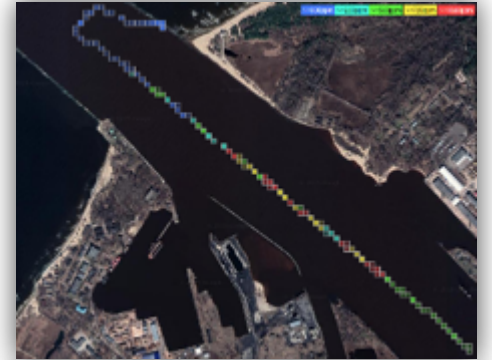


Application offers excellent capabilities for wide variety of needs in the automotive and transport ecosystem. Instrumental in helping to maximize the safety, efficiency and sustainability of road transportation.

Pilot project «Automated detection and UAV monitoring»

- Air emission control and analysis testing in cooperation with State Environmental Service.
- Oil pollution monitoring and solution based on automated analysis.
- 5G solution tests with LMT - a drone with artificial intelligence to determine pollution. The project uses a nascent drone traffic management platform.

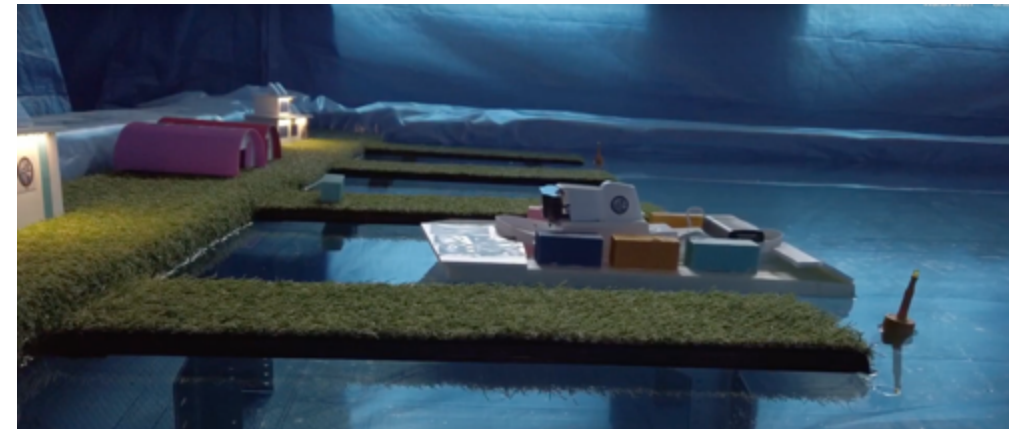
Video: [LMT 5G Drone traffic management](#)



5G technology allow us to exchange the BIG data transmission and make analysis in Real time.

Unmanned Surface Vehicle

- USV “Viktorija” Home port - Rīga By “Digi Creative” Ltd. being tested during projects “Insta Green Travel” and “Remote Shipping” for the Ports needs:
 - Oil Spill monitoring, readiness, response and liquidation;
 - Hydrographic purposes;
 - Safety and security;
 - Search and rescue.



5G and High speed ship-shore network - Higher performance and improved efficiency empower new user experiences and connects new industries.

Vessel Traffic modern integrated System

- VTS system to be based on **central Geographic Information System** with separate layer and access rights.
- High speed ship-shore network connectivity to enable advanced online port services. Pilot is **underway** in cooperation with local internet carrier DolphNet, to provide high speed network coverage for approaching ships.
- Services for ships e.g. with pushing forecast, updating ECDIS maps etc.
- Working in cooperation with Latvian maritime academy regarding new initiative **Maritime Autonomous Surface Ships (MASS)** and **Maritime Cyber Security**.





Thank you for your attention!

Paldies par uzmanību!

