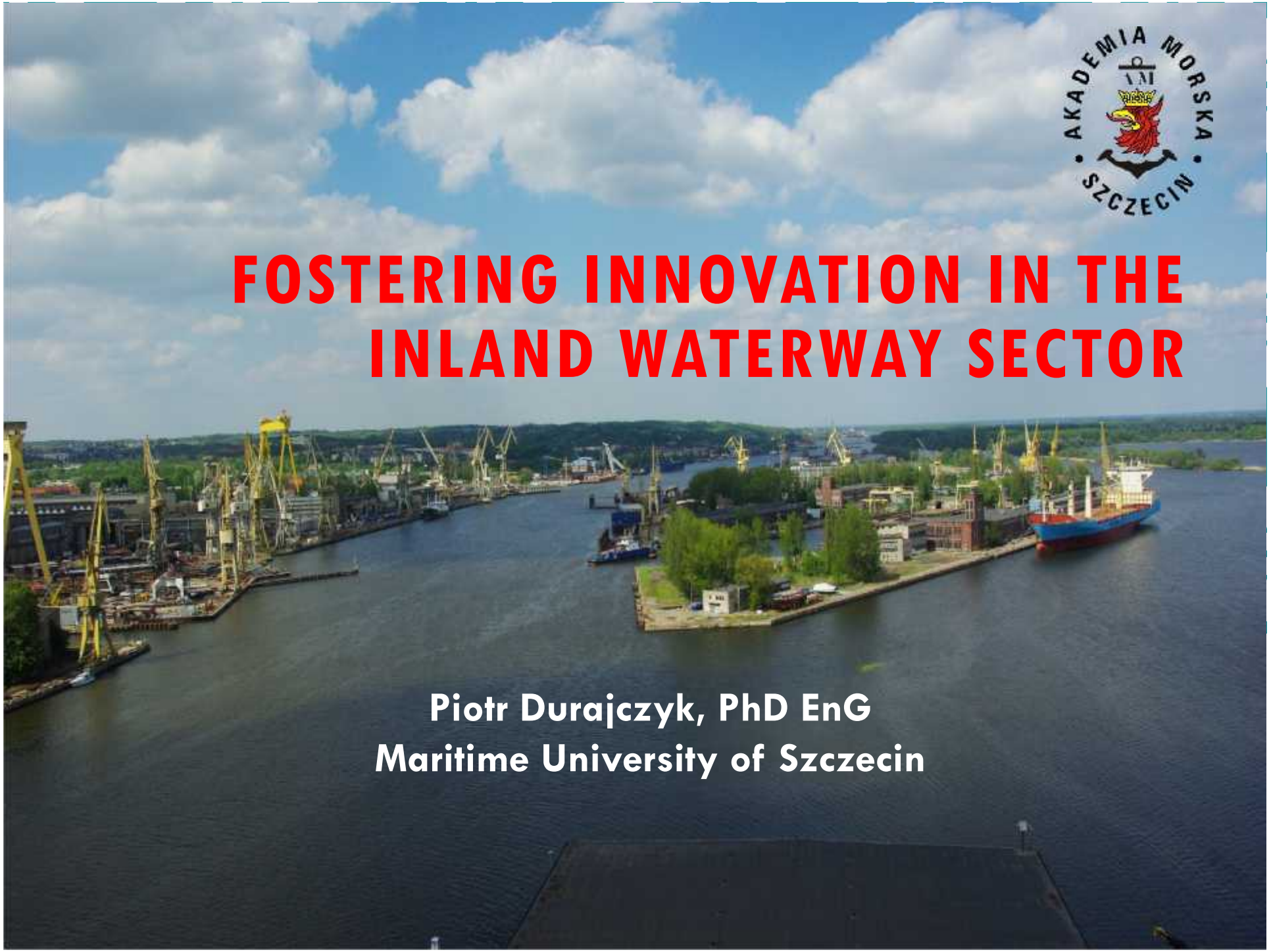

FOSTERING INNOVATION IN THE INLAND WATERWAY SECTOR

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Digitalization of inland waterway transport

Inland waterway transport **needs to be digitalised** in order to reach its full potential and to play more significant role in the European transportation and logistic chains.

Inland shipping is no longer only about the physical ability to transport goods from one point to another.

Traditionally, **digitalisation relates to River Information Services** (RIS) whose services focus on traffic management and waterway management.

Recently digitalisation is reaching other areas of IWT, i.e. integration in the logistic chains, development of digital documents and new databases.

New databases contain digital information concerning:

- Vessels and their characteristics
- Waterways characteristics (infrastructures)
- Crew and qualifications

River Information Services

RIS system is an instrument for the organization and management of inland waterway transport.

The system is use:

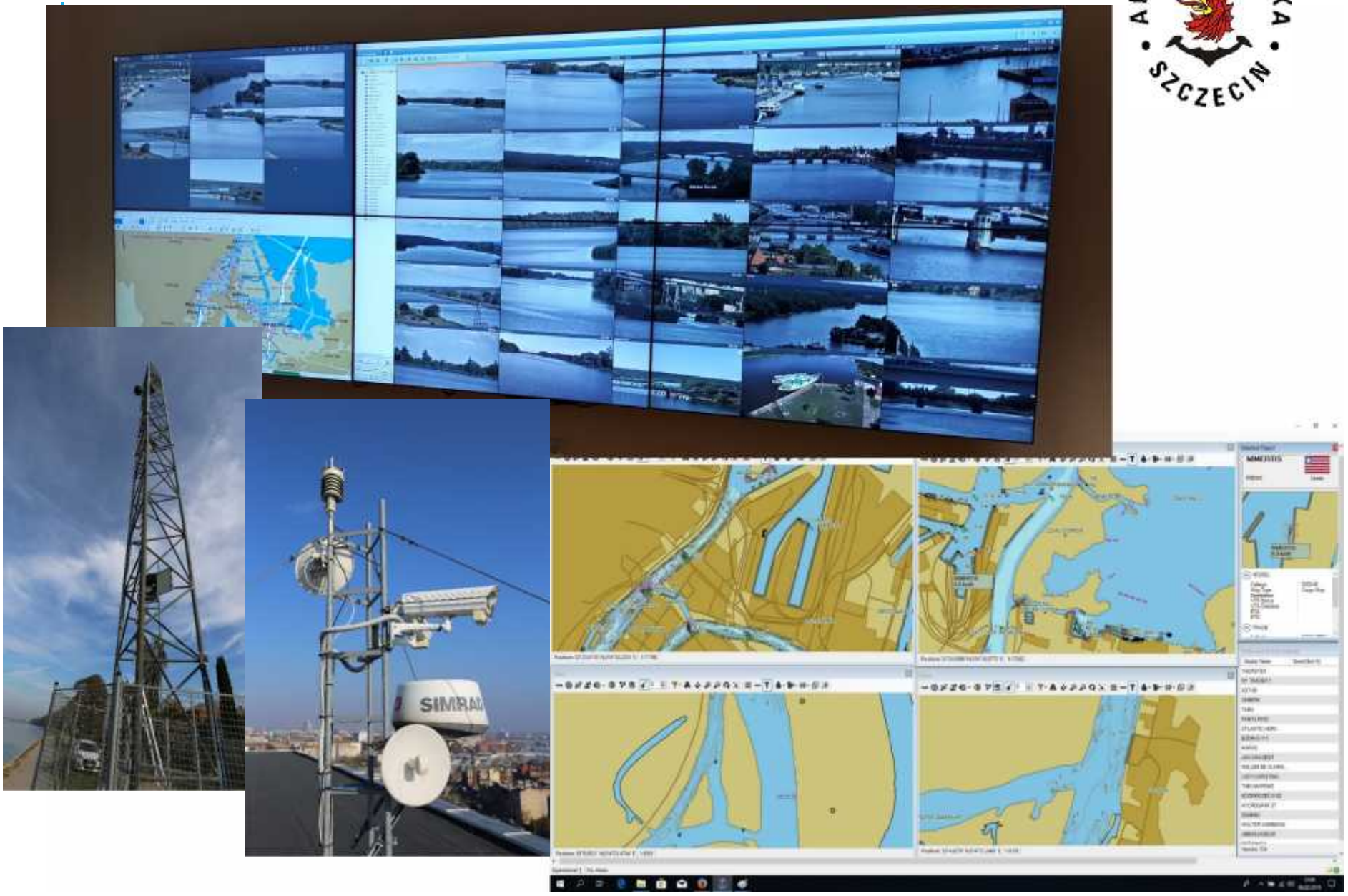
- to optimise traffic and transport flows
- to increase the navigation safety and effectiveness by providing up-to-date information both to skippers – who based on it can make decisions concerning cruise parameters (e.g. velocity) – and to ship owners who can plan the use of their fleet more effectively.
- to enhance the flow of information between the managers/supervisors of the waterway and its users,
- to improve enforcement of the law
- to support the gathering statistical data.

Implementation regulated by the UE law and the law of individual countries: therein **Directive 2005/44/EC** of the European Parliament and of the Council of 7 September 2005 on harmonised river information services (RIS) on inland waterways in the Community

Services

1. **Vessel Tracking and Tracing – VTT:** for constant monitoring of water traffic and transferring information to RIS users.
2. **Notices to Skippers – NtS:** provision of information about traffic and waterways, water levels, weather reports, and in winter – ice reports (in 23 european languages)
3. **Inland Electronic Navigational Charts – IENCs:** an IENC map contains all the information necessary for a safe navigation. Thanks to having additional information at its disposal, it improves the quality of navigation
4. **Electronic Ship Reporting – ERI:** idea behind is to offer a simple way of reporting information about cruises, load, passengers and the crew. The ERI system collects, stores and spreads reports concerning the cruise and the load and allows the authorities to access their electronic form.

RIS CENTER



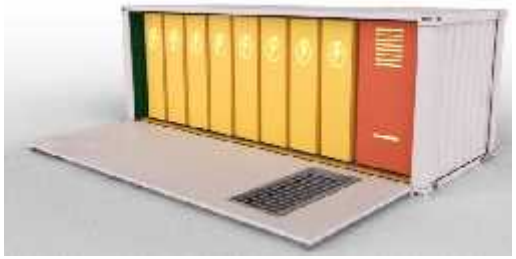
More effective administration

New digital tools for better processing of crew-, voyage- and vessel- related documents **on national and european level**:

- Digital documents and electronic documentation workflow
- European Reference Data Management System (ERDMS)
- European Hull Database (EHBD)
- European Crew Database (ECDB)
- Vessel Logbook
- Service Record Book

Clean and automated/autonomous vessels

- **Greening of the fleet** is important in order to improve the quality of the environment, reduce greenhouse gases and reduce noise levels.
- Directive (EU) 2016/1629 of 14 September 2016 has created new technical requirements for inland waterway vessels.
- **New constructions and types of vessel need to be introduced to the market** to comply with the next generation of regulatory emissions required for EU inland waterway vessels. New generation of greener vessels should be **available in the 2020** (Caterpillar Marine).
- **Future technologies** :
  - In the short term: **automated technologies and reduced crew** on board for some manoeuvres, particularly short distances, and the desire to innovate will continue apace
  - It the long term: **development of autonomous ships (?)**



Challenges for the future of IWT

1. Aging infrastructure and insufficient navigation conditions
2. Digitization and automation of IWT infrastructure
3. Greening the fleet
4. Development of automated and autonomous vessels and its impact on safety technical requirements and crew qualification requirements

THANK FOR YOUR ATTENTION!

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