European Commission

eIWT - electronic Tools in support of IWT

Operational requirements & use-cases

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Joint Research Centre (JRC)

The European Commission's in-house science service

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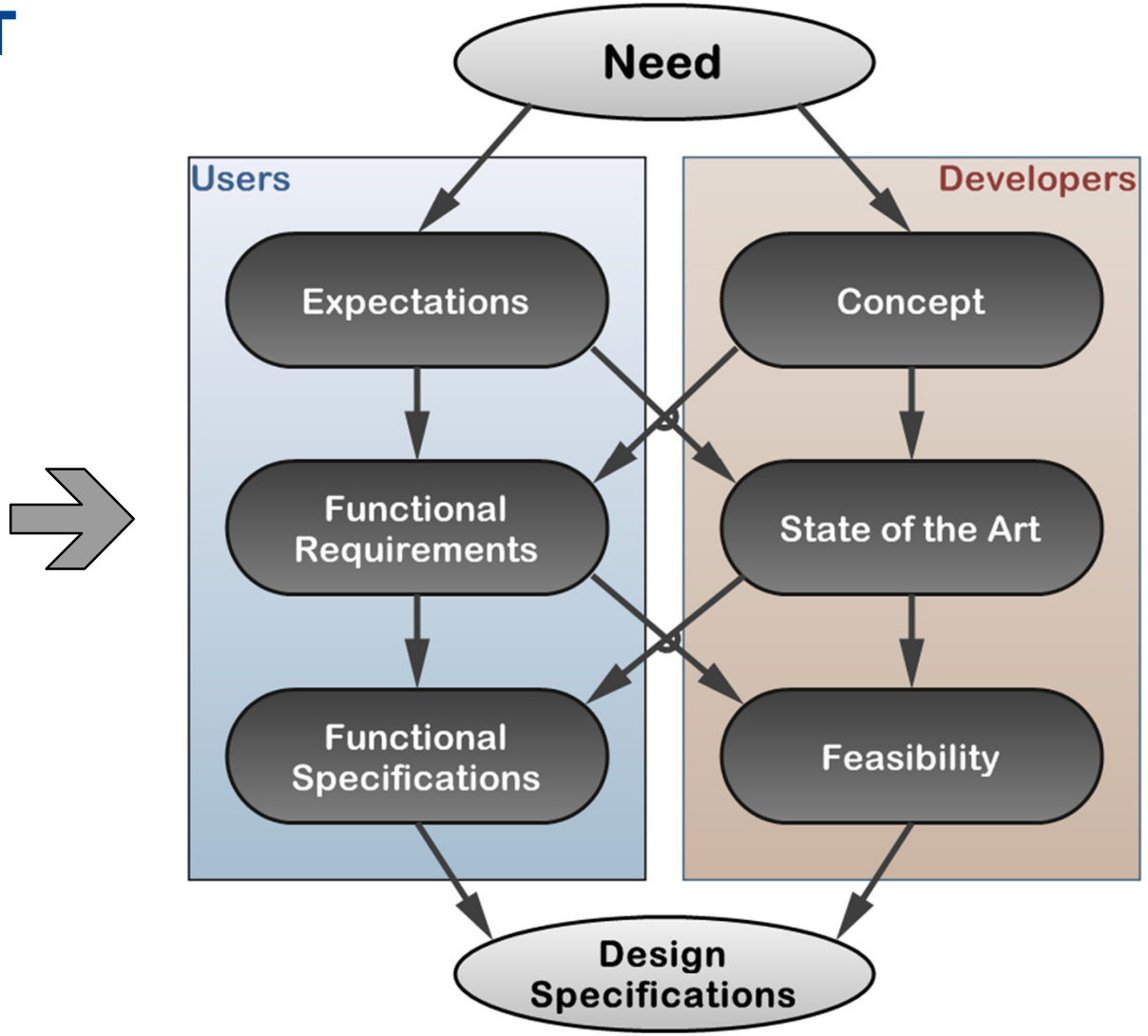
eIWT

- **Generic electronic toolkit supporting IWT**
- **Initial implementation: eSRB and eLBK**

- Eventual additional functions:
  - security
  - navigation,
  - crew qualifications,
  - freight logistics
  - …….

Towards eIWT



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High level objective

The high-level objective of an activity of an electronic tool in support of the professional qualifications (ESRB – electronic service record book) can be:

To ease cross border fluvial transport while improving safety, security, fair competition and good working standards, leading to seamless and secure international goods transportation on inland waters, beneficial for growth and jobs in EU.

- **Efficiency**
- **Fair competition**
- **Descent working conditions**
- **Safety**

Functional objectives

- **Regulatory level: simple, effective, harmonized IWT regulations, etc.**
- **Operational level: efficiency, fairness, safety and security of IWT operations, good working standards, etc.**
- **Technical level: technical effectiveness and efficiency, interoperability, availability, security, cost, etc.**

Possible eIWT architecture

Two basic building blocks:

1. An **electronic Inland Vessel Unit** (eIVU), uniquely associated to a particular IWT vessel.
2. An **electronic Inland Worker's Card** (eIWC), uniquely associated to each IWT worker. It would have two main functions:
   a. Professional ID card: it should be based on some biometric or other features (i.e. picture, PIN, etc.) permitting the identification of the bearer, together with his/her professional qualifications
   b. Electronic service record book (eSRB): it should be based on a non-volatile on-chip memory, where the acquired information would be stored for later use.

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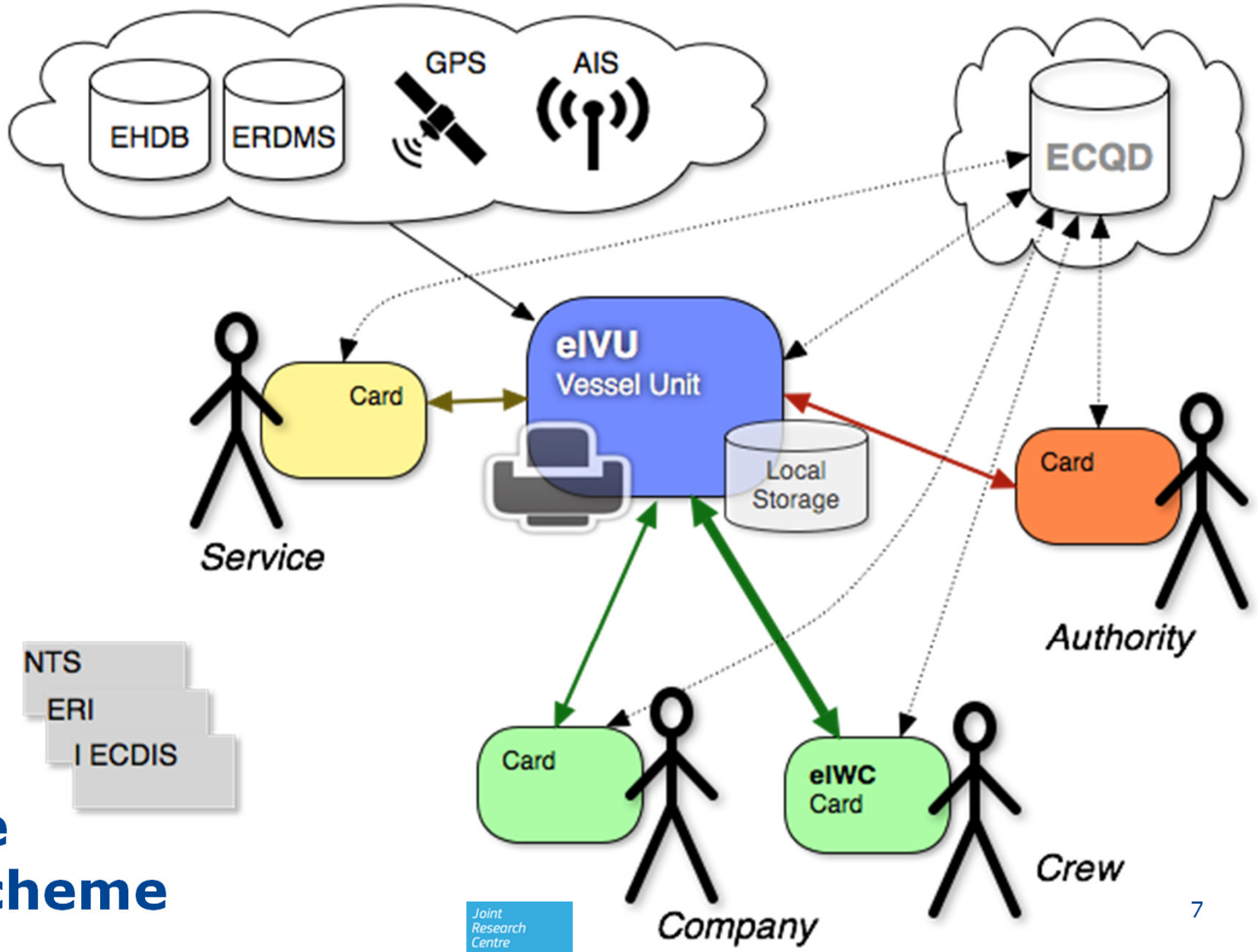
Possible eIWT scheme



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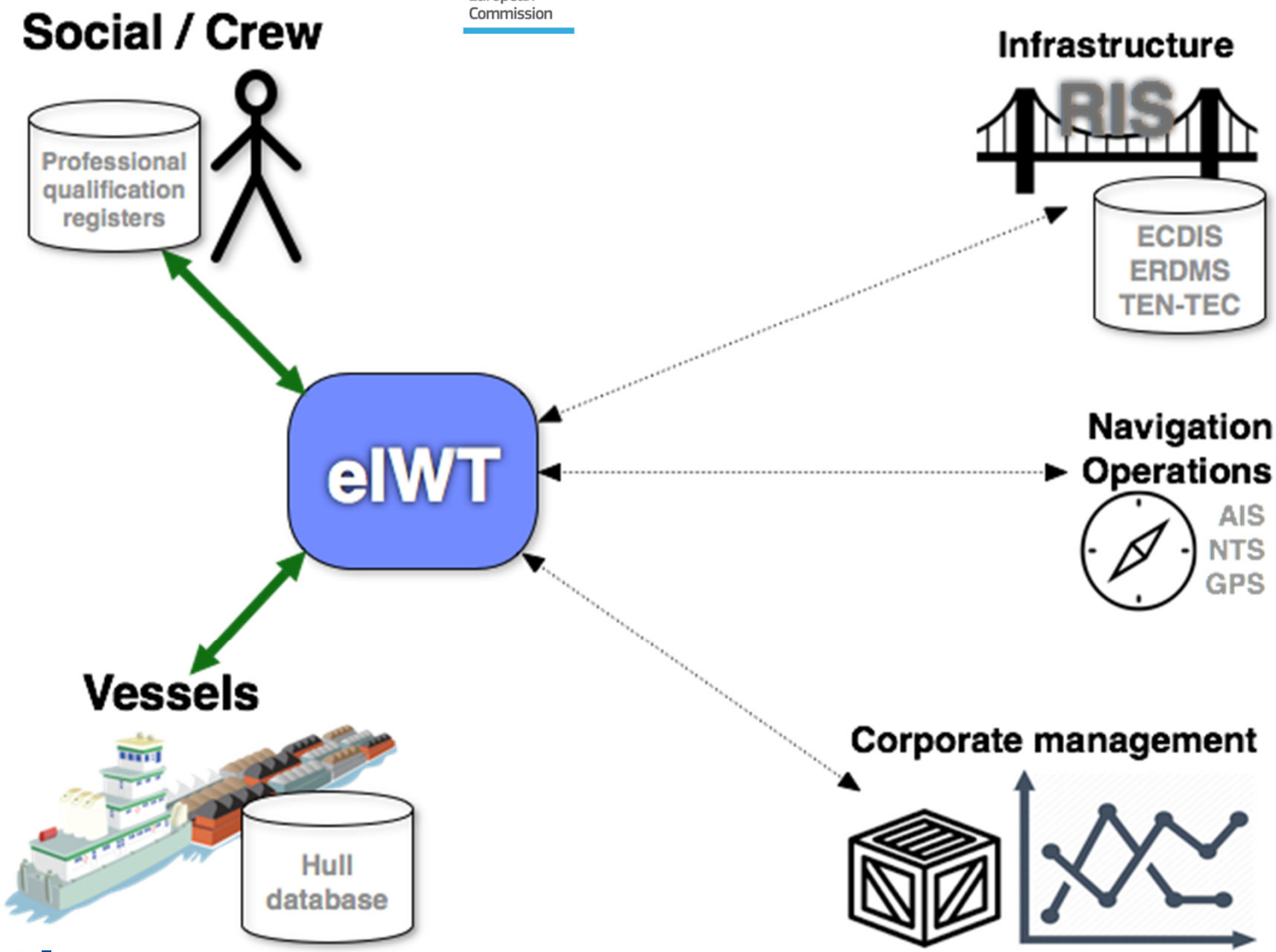

eIWT Interrelations

Detailed use-cases

1. Vessel initialisation & scrapping
2. Crew card initialisation
3. Voyage initialisation & end
4. Crew embarking & disembarking
5. Controls & inspections
6. Qualification upgrade
7. Professional qualification revocation
8. Inland navigation vessel certificate revocation
9. Working time registration

For each use-case

1. Identify the **actors**
2. Identify the **procedures**
3. Derive the necessary **information content**
4. Define the **information placeholders**
5. Define the **information flows**
6. Derive the **functional requirements** for 4 and 5, including availability, security, privacy etc.
7. Propose some **technical options**
8. Elaborate on possible **standards** to be adopted

Use case *Choose between use-cases 1 to 9 above*			
Notes *Any optional remarks on the use-case*			
Actors *Add table rows as necessary*	Name *i.e. boatmaster, boatman, IT technician, etc.*	Category *Choose between: crew, company, authority, service*	Note *Any optional notes on the actor*
Manual procedures *Add as many rows as necessary*	*Break down the use-case in elementary procedures/functions, specially those relevant to SRB and LBK (i.e. in UC #4: Identification of the embarking crew, checking of their professional qualifications, registering the embarkation date/time etc.).* *Assign a NAME at each procedure (left column) and describe it as briefly and accurately as possible (right column).*		
eIWT procedures	*How do you imagine the use-case in the case of a fully functional eIWT system? eIWT functions should cover completely the current (manual) procedures. Additional procedures/functions can be envisaged.* *Assign a NAME at each procedure (left column) and describe it as briefly and accurately as possible (right column).*		

UC Template

Current state & roadmap

UC 1-5 & **UC 9** are almost complete

For each UC:

- *Actors identified*
- *Current (manual) procedures mapped*
- *eIWT procedures defined*
- *Notes & important issues were identified*

Final report on all UC requirements is due by mid June !!

It will be distributed by DG MOVE.B.3 so as to be discussed and amended by stakeholders during a dedicated workshop early September at JRC premises in Ispra, Italy.

Example – UC4

This UC maps what happens when crew embarks and disembarks to/from a vessel. By he terms embarkation and disembarkation we understand the acts of taking and leaving service on-board of a vessel. This is not necessarily linked with a particular voyage.

Actors

1. Boatmaster
2. Crew other than boatmaster
3. Competent authorities

Example – UC4

Current procedures

On crew **embarking**, the boatmaster:

1. Requests the SRB of the embarking crew and checks his/her identity and professional qualifications.
2. Places and keep the embarking crew's SRB in a safe place in the wheelhouse, typically until the end of the service or the term of the labor contract or any other arrangement .
3. Registers the variation in the vessel crew composition in the vessel LBK, [Rhine personnel regulations - Article 3.13].

On crew **disembarking**, the boatmaster:

1. Enters/completes/signs the proper data in the SRB of the disembarking crew, [Rhine personnel regulations - Article 3.06 (6)], with the exception of a disembarking helmsman, in whose SRB (page 10) is written and signed: "does not wish to obtain the skipper's certificate".
2. Registers the variation in the vessel crew composition in the vessel LBK.

Example – UC4

eIWT procedures

On crew **embarking**:

1. The boatmaster requests the crew card (eIWC) of the embarking crew and checks his/her identity. He then inserts it (or sweeps it through) the vessel's eIVU card reader(s). The system checks the validity of the eIWC (in particular if it has been suspended) and reads the crew qualification and data.
2. Optionally, the system uploads a minimum set of data (like crew card number, vessel number, location and time stamp) to the ECQD so as to check for and avoid duplicate or parallel use of the same credentials.
3. The crew embarkation is registered in eIVU and the voyage file. The vessel crew composition in the vessel's eLBK is updated automatically.
4. The boatmaster leaves the embarking crew's eSRB in the eIVU slot or, in alternative (case of unique or proximity reader), he keeps it in a safe place in the wheelhouse until the end of the service, the voyage or the term of the labor contract or any other arrangement.

Example – UC4

eIWT procedures

On crew **disembarking**:

1. The boatmaster controls the service record data in the eIWC of the disembarking crew. In case of a discrepancies, failure of the automatic registration etc., he has the possibility to correct / overwrite the automatic registration. However, this action is recorded on a log file both at the crew card (eIWC) and the vessel unit (eIVU).
2. The boatmaster digitally signs the eSRB (embedded in the eIWC), thus signaling the disembarkation of the crew member.
3. The disembarkation is registered at the voyage file and the variation in the vessel crew composition is written in the vessel's eLBK.
4. On first occasion (i.e. when there is connection) the system uploads the disembarkation information to the ECQD. eSRB's residing at the ECQD are periodically synchronized with the issuing competent authorities' archives. Each competent authority periodically signs the eSRB updates, updating the crew professional qualifications according the rules in place.

Example – UC4

Notes

It is important to note that whatever crew related official (required / prescribed by a regulation) data or information is written both at the vessel unit (eIVU), the Union professional qualifications registry (ECQD) and the crew card (eIWC). The later should be synchronized with the ECQD through regular updates either through a PC at home or while in the eIVU. Crew has always a read-only access to his/her data, both at eIWC and at the ECQD level.

Procedures must be put in place for updating the crew data by the national competent authority if need arises (change of address, change of administrative data or other).

Whatever information regarding the crew is registered during the voyage other than the official ones, as in paragraph above, like working or rest time, corporate etc. are erased automatically on disembarkation.

What is important is to check the information consistency, not the exact vessel positioning or trajectory.

Major legal change

Now:

- Original vessel paper certificates are those kept on board.
- Original crew paper SRBs and certificates are those kept by each crew

eIWT scenarios:

- Original vessel certificates are those kept on at the competent authorities, preferably in electronic form.
- Original crew SRBs and certificates are those kept by the issuing authorities, preferably in electronic form
- Vessel unit or crew card electronic certificates are considered as certified copies obtained and synchronised through the EHDB and the ECQD

Important issues

- **Extend & upgrade EHDB**
- **Set-up correctly an EU registry of IWT professional qualifications (ECQD)**
- **Link to RIS**

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