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Study on
Good Navigation Status

Workshop ´17, Budapest
08.06.2017




Definition of “Good Navigation Status”

“Good Navigation Status (GNS) means the state of the inland navigation transport network, which enables **efficient**, **reliable** and **safe** navigation for users by ensuring **minimum waterway parameter values** and **levels of service**.”

Moreover, GNS is to be achieved considering the wider socioeconomic and environmental **sustainability** of waterway management.

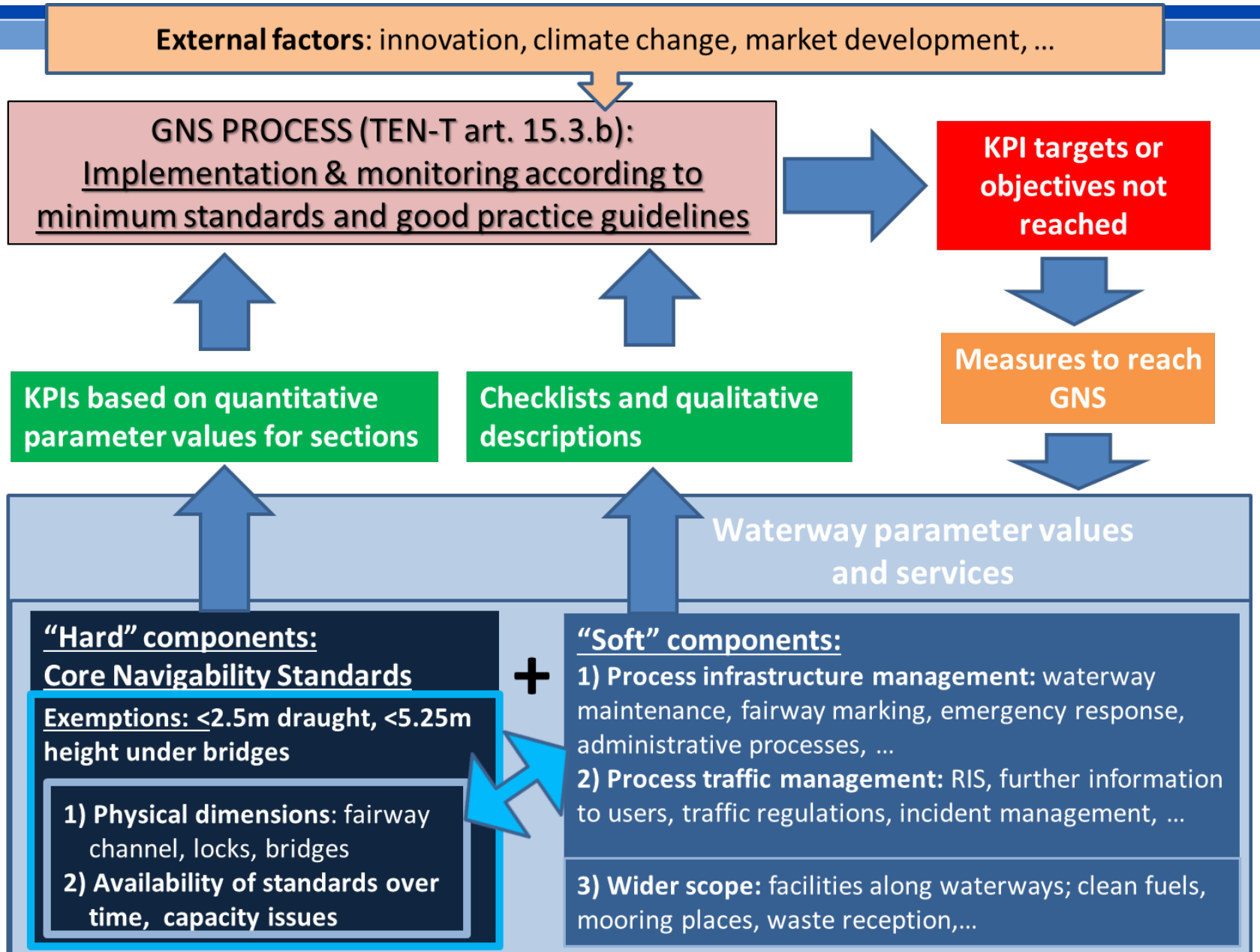
Background of GNS concept

- **What is important for Good Navigation Status?**
  - Reliability and predictability of transport
  - Maximising payload on board, economies of scale
  - Minimising waiting times
  - Sustainability
  - Safety

- **Article 15 b:** "Rivers, canals and lakes are maintained so as to preserve good navigation status"

  → key focus **physical waterway infrastructure**

GNS concept - outline



Minimum standards for GNS development

Process to develop GNS I

Proposed minimum standards (I/III), 6 steps:

1. **Identifying waterway sections** for which GNS will be defined (TENtec) system and **data collection**.

2. Analyses and i**dentification of bottlenecks** in a coordinated way between waterway managers (all levels), with consultation of the various stakeholders, taking systematically consideration of:

a) The minimum TEN-T requirements; CEMT class IV compliance

b) International standards (e.g. AGN) and national agreements

c) The transport performance, potential demand and user requirements

d) Status of soft components by means of checklists and users consultation

e) Taking into account possibilities of innovation and technological developments

f) Local conditions as regards the waterway sections such as the hydrology, hydro-morphology, impact of extreme weather events, climate change

Process to develop GNS I

Proposed minimum standards (II/III), 6 steps:

3. **Development of measures** in a coordinated way between waterway managers taking into account the international and national agreements, transport benefits, environmental laws and further uses of a waterway.
For regular maintenance works, the measures will be clear already and no heavy process is needed. However, measures for structural upgrading of waterways shall address:

a) For big projects to structurally upgrade the waterway, the costs and benefits of measures shall be taken into account from a neutral and broad socio-economic perspective. The economic analysis from the viewpoint of navigation and potential transport development to build the case and subsequently take into account further relevant dimensions for the waterway such as other uses and environmental legislation which may have an impact on the possible targets.

b) The applicable environmental law and where possible creating synergies ("working with nature") linking to for example the Water Framework Directive

c) Further uses of a river, lake or canal; application of a cross-sectoral approach.

Process to develop GNS I

Proposed minimum standards (III/III), 6 steps:

4. **Document the current status** of the waterway sections (notably the bottlenecks) and communicate status and **planned measures to the involved users** of the river, lake or canal by the waterway managers and **discussing them jointly before realisation**

5. **Implementation of remediating measures** in case of deviation (solving bottlenecks), targeting full compliance by 2030.

6. **Regular monitoring** of status of the inland waterway sections as regards the GNS ”hard” and “soft” components parameters and KPIs for GNS and the progress, in order to update the bottleneck identification (see step 2).

=> Targeting a **continuous improvement process and pro-active implementation**

Discussion points

- Transport potential assessment, common methodology ? Link to Lot 1?
- When is a CBA useful and needed?
- How to ensure quality, a common methodology and assumptions for the CBA and comparable results?
- User consultation; minimum requirements (representativeness, frequency)?
- Link to WFD and GNS measures, input 29/30 June.

KPIs and monitoring

KPIs for GNS “hard” components

Waterway parameters

- **Draught** of vessel (→ **depth** of fairway channel**)**
- **Beam** of vessel (→ **width** and **curve radius** of fairway channel)
- **Height** of vessel (→ **air clearance** under bridges and other infrastructure)
- **Length** of vessel (→ **curve radius** of waterway and **size of locks)**

KPI: Navigation Reliability of a specific (TENtec) section

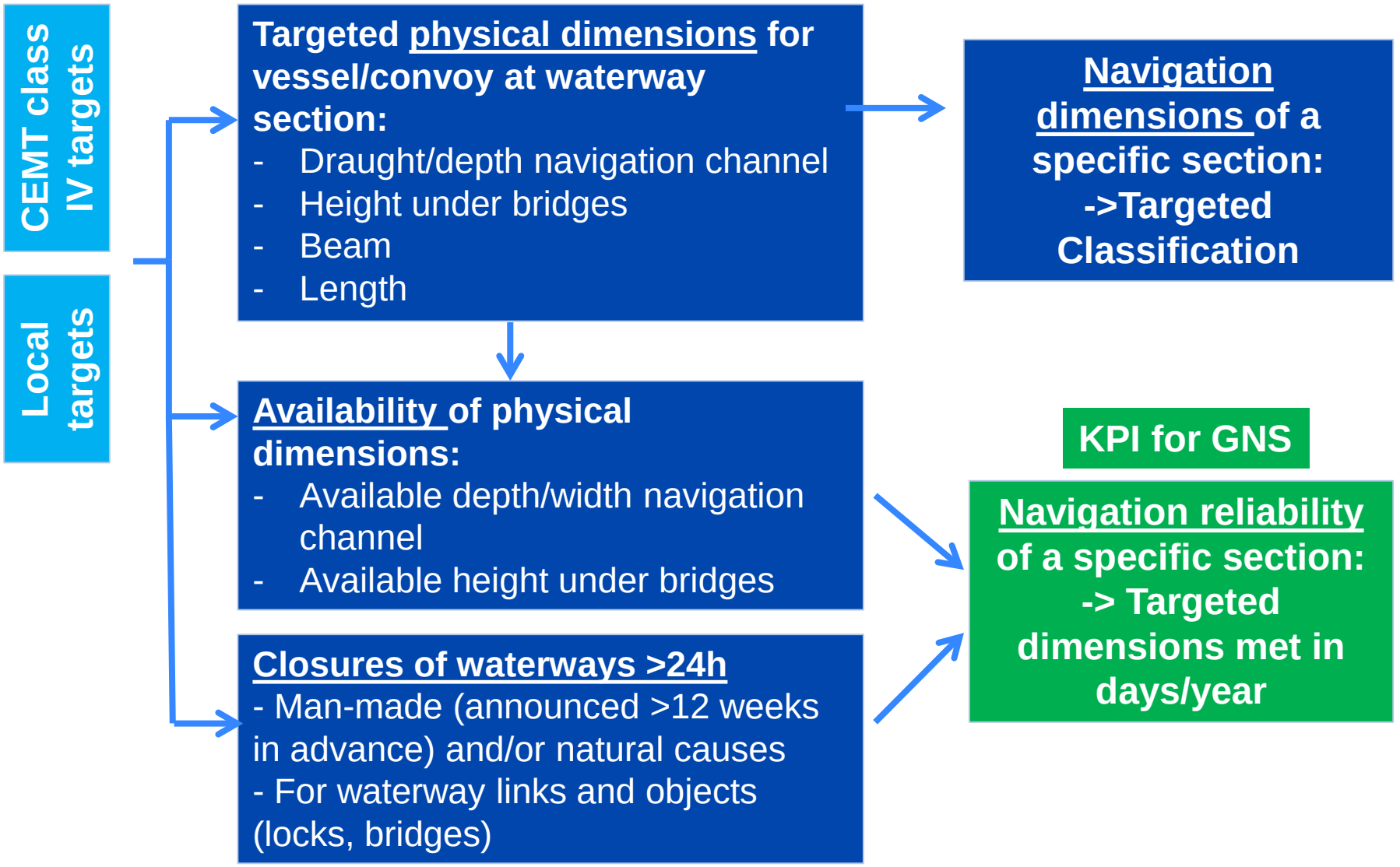
- **Availability of the physical waterway infrastructure:**
  yearly score on reaching the targeted infrastructure dimensions:
  days per year all targets are reached and waterway is not closed

KPI: Waiting times

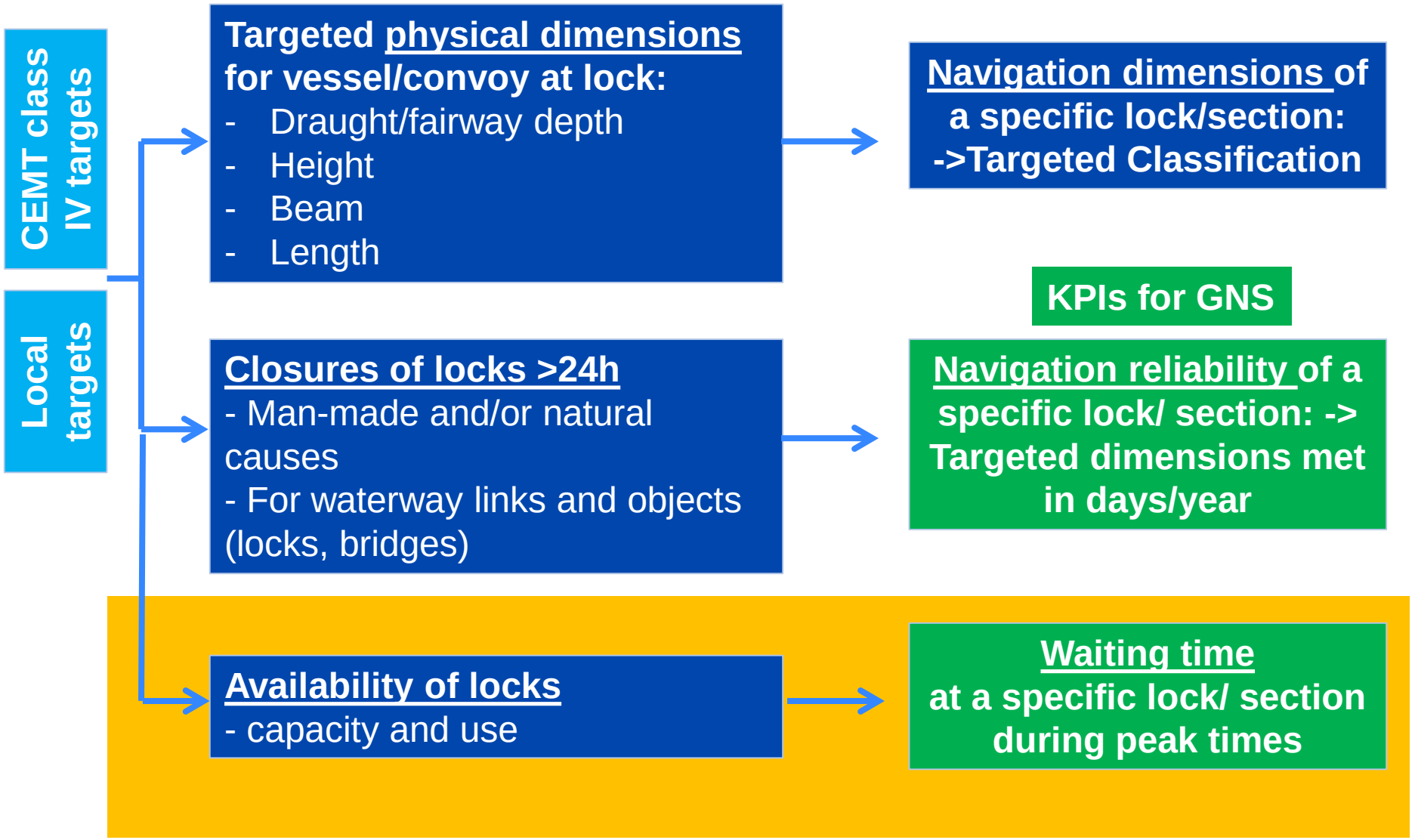
- **Capacity/use of locks, ship lifts, moveable bridge:**

  Average waiting time of vessels

KPI Navigation Reliability



KPIs - lock


CEMT class IV targets
Local targets
Targeted physical dimensions for vessel/convoy at lock:
- Draught/fairway depth
- Height
- Beam
- Length
Navigation dimensions of a specific lock/section: ->Targeted Classification
KPIs for GNS
Closures of locks >24h
- Man-made and/or natural causes
- For waterway links and objects (locks, bridges)
Navigation reliability of a specific lock/ section: -> Targeted dimensions met in days/year
Availability of locks
- capacity and use
Waiting time at a specific lock/ section during peak times

Remarks

- KPIs already included in TENtec Loop I
- Concern of stakeholders:
  - GNS monitoring and reporting <> the administrative burden for MS
  - TENtec sections are not always logical
  - generating added value, new information?

  ⇒ maximising use of available sources notably RIS (FIS, NtS) proving new information, especially on dynamic parameters (reliability)

  ⇒ However, no full coverage of RIS Directive in EU
- Differentiation needed => regional GNS development
  - creating added value of the GNS concept for 'mature' areas like NL and Rhine requires a different focus / topics compared to Danube or Elbe/Oder rivers.
  - Canals are quite different compared to free flowing rivers

Remarks

- Need for more elaboration and more tailor-made / regionalised GNS approaches (e.g. free flowing rivers), bottom-up processes to develop GNS

- Development time is needed for further elaboration and understanding and tailor-made approaches, in particular if infrastructural measures are needed to reach the Good Navigation Status in 2031.

- Follow-up of the study from 2018 onwards, e.g. voluntary approaches co-funded by EC and GNS initiatives pushed by means of CEF funding taking into account GNS standards (carrot)

First results of Network Assessment

Network Assessment

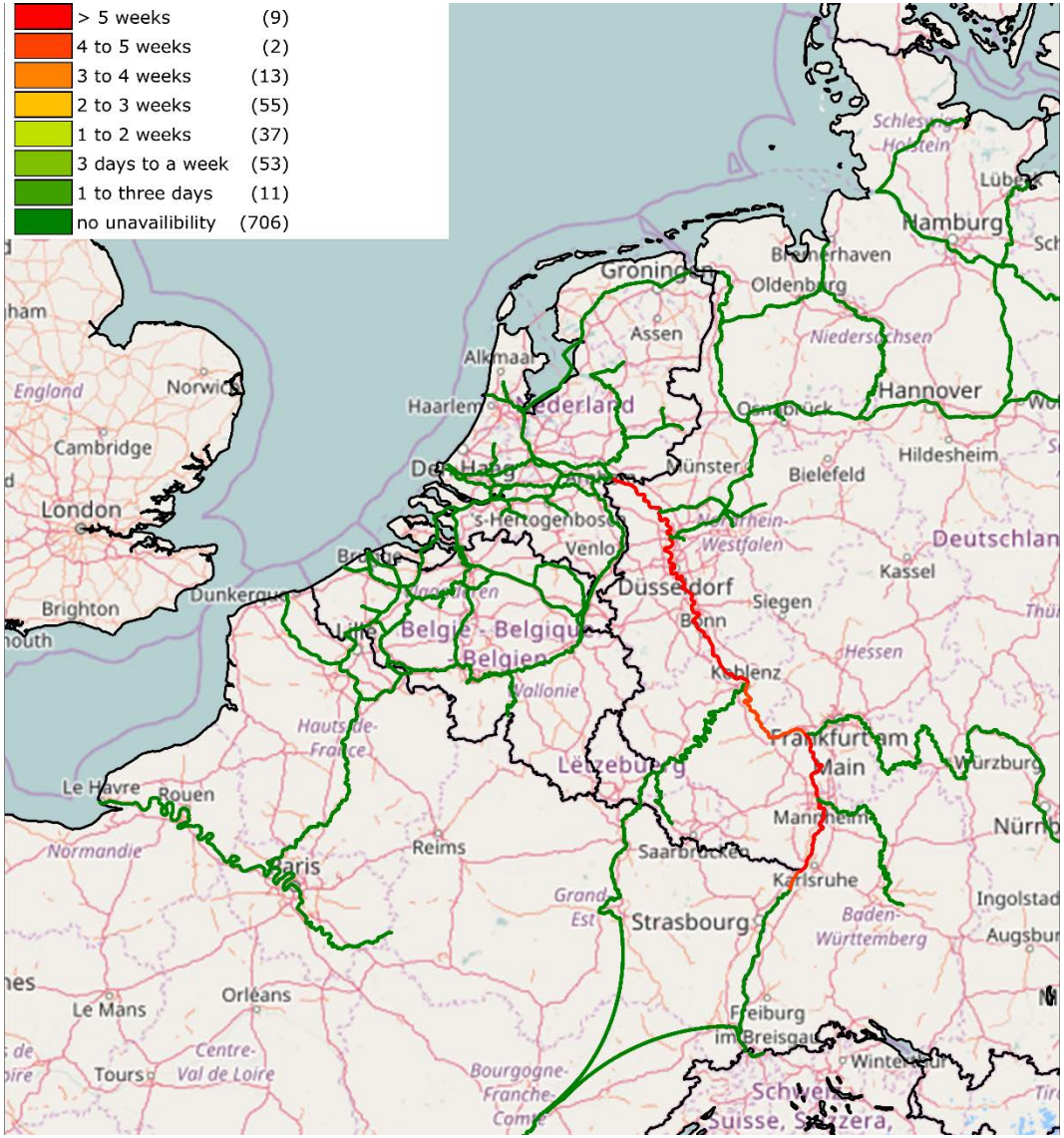
- First draft output from TENtec Loop I contractor received (today)

- KPIs:
  - Low water situations
  - Planned closures
  - Unplanned closures
  - Number of days not reching minimum draught or waterway closed

- Geographic scope:
  - The Netherlands,
  - Germany
  - Belgium
  - France

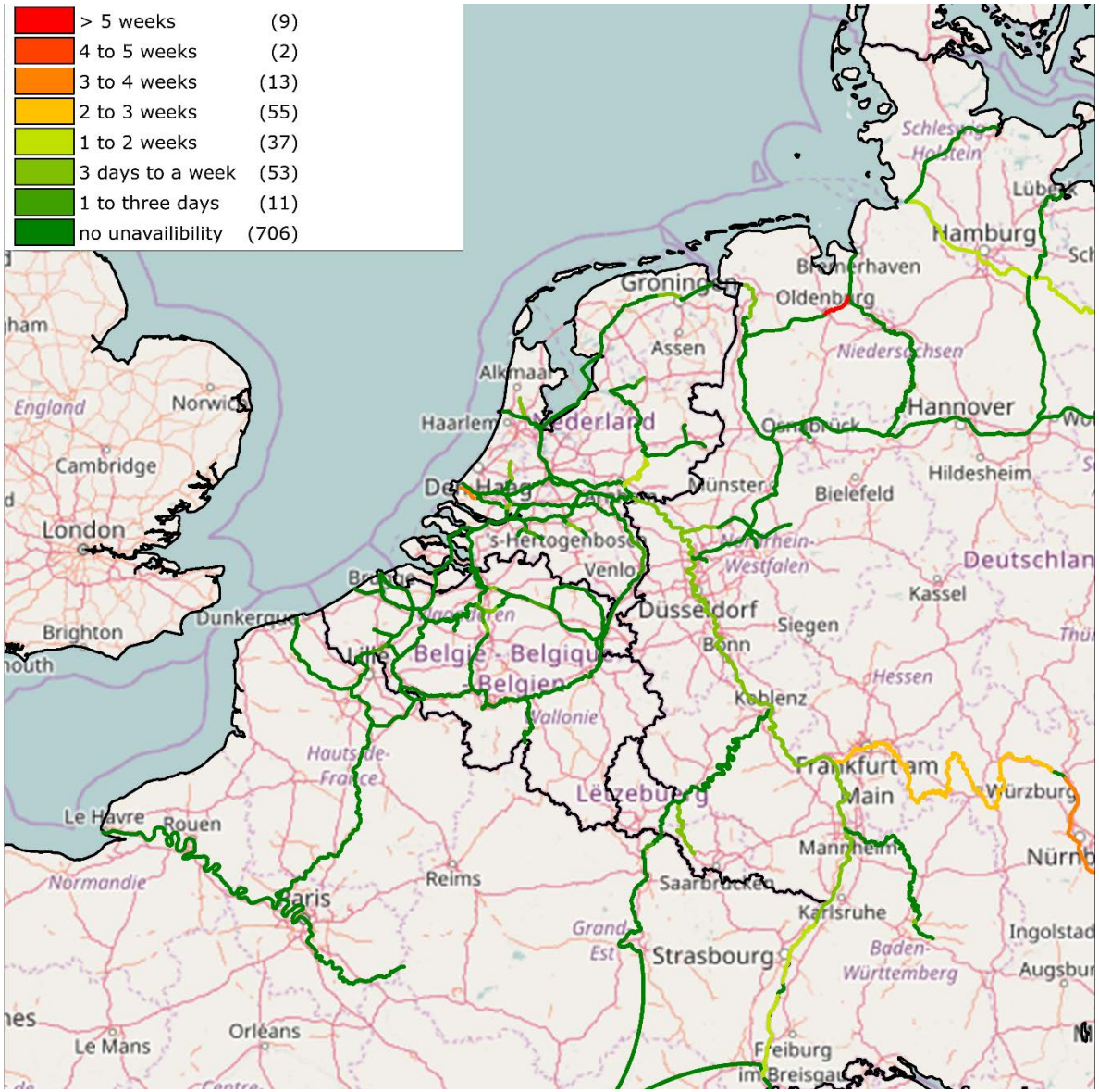
Network Assessment

Low water



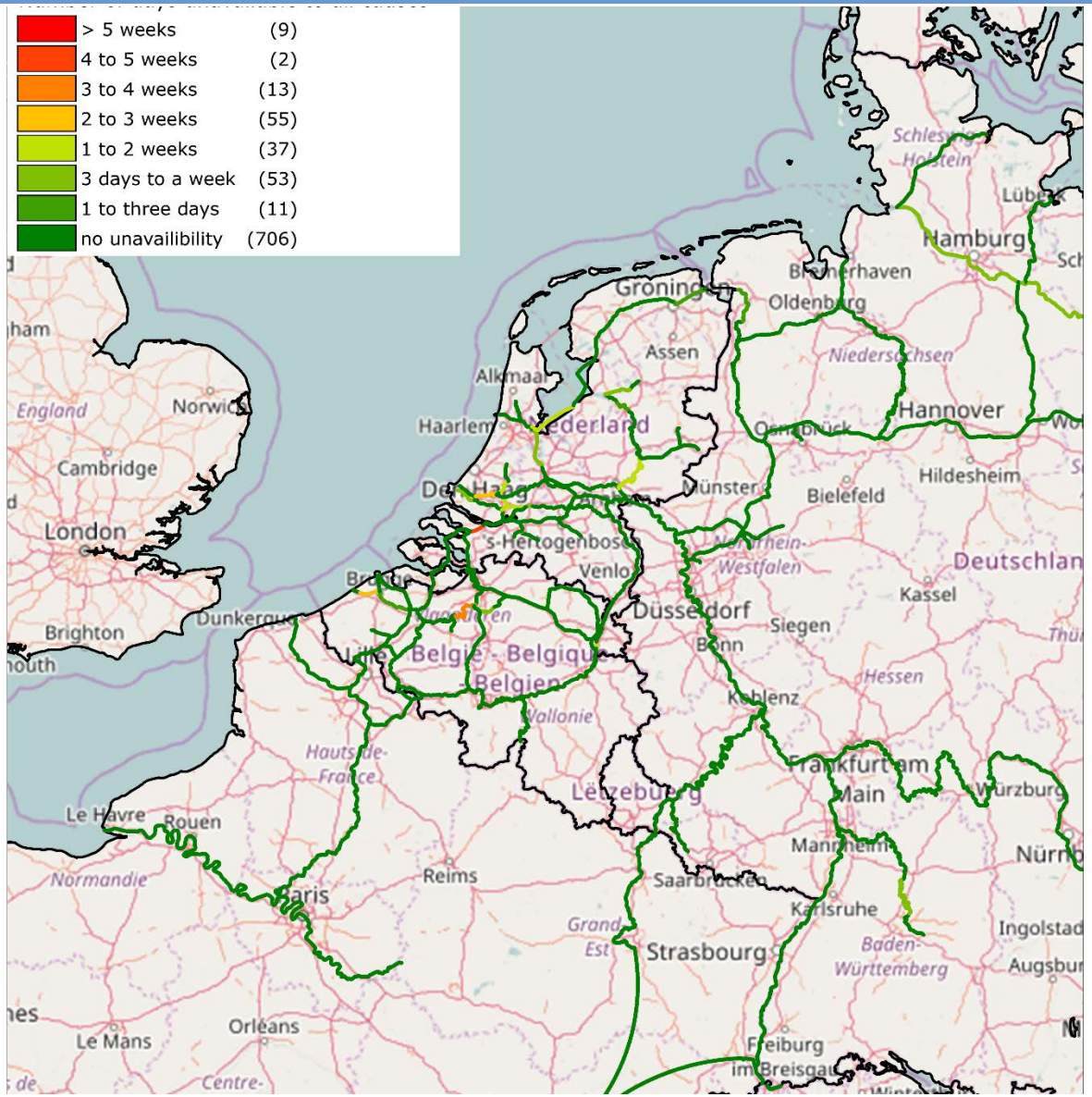
Network Assessment

Planned closures



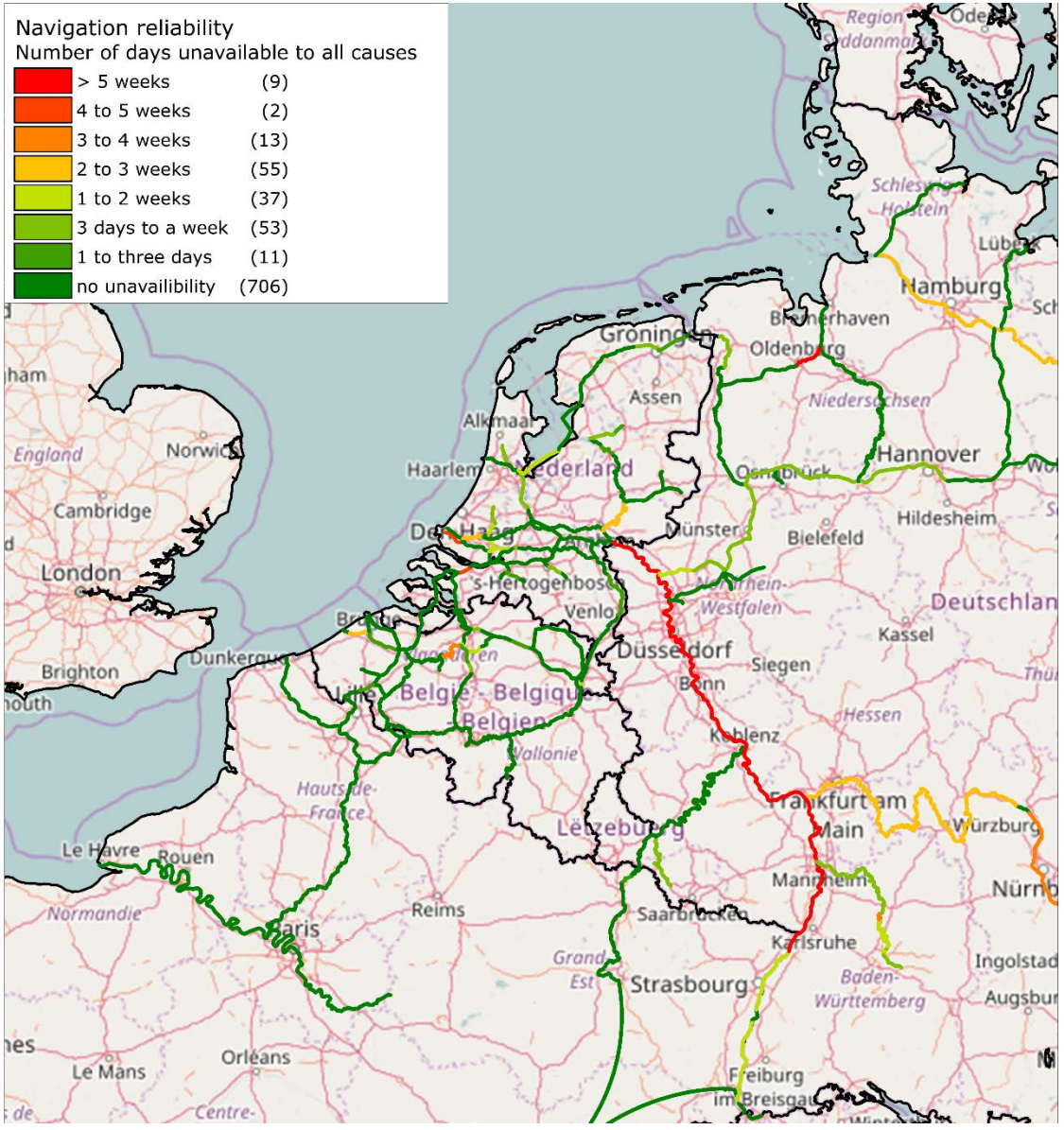
Network Assessment

Non planned closures



Network Assessment

Reliability KPI



Network assessment

- Check on draft data
- Filling in the gaps:
  - Danube area
  - Isolated waterways
- Validation and discussion with waterway managers
- Results to be discussed at 12th July meeting
- Finalisation by August, depending on arrival of TENtec Loop I data

Working document GNS Guidelines

Working Doc GNS guidelines

- WORK IN PROGRESS!
- Feedback and input by:
  - Steering Group GNS study
  - CCNR and DC sec
  - Industry representatives
- Final check at Pan European expert group meeting 12th of July
- Finalisation by July 2017