Balancing the needs of navigation and environment

Warsaw University of Technology, 22 June 2018

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Agenda

- ✓ The Danube River Basin
- ✓ Danube Navigation
- ✓ Transboundary water management
- ✓ Conflicting interests in water use
- ✓ Answers and solutions
- ✓ Conclusions

The Danube River Basin

800 000 km^2, 2900 km, 6500 m^3/s, 85 Mio PE, **19 countries**

Danube Navigation in numbers

ICPDR IKSD

Transport volumes

9.1 million tons (+5.5%)

- Import: 4.3 million tons (–0.6%)
- Export: 2.0 million tons (+12.0%)
- Transit: 2.2 million tons (+19.5%)
- Domestic: 0.6 million tons (–10.5%)

Transport performance

9.3 billion tkm (+11.3%)
8,448 loaded journeys (–2.4%)

- Within Austria: 2.0 billion tkm (+8.7%)
- Outside Austria: 7.3 billion tkm (+12.0%)

Waterside transhipment at Austrian ports and transhipment sites

7.5 million tons (+0.6%)

- Ores and metal waste: 2.4 million tons (+4.1%)
- Petroleum products: 1.5 million tons (+1.8%)
- Crude and manufactured minerals, building materials: 1.1 million tons (–2.2%)
- Metal products: 0.8 million tons (+34.2%)
- Fertilisers: 0.7 million tons (–8.3%)
- Agricultural and forestry products: 0.6 million tons (–5.1%)
- Other goods: 0.4 million tons (–26.6%)

Vessel units locked through Austrian Danube locks

93,298 vessel units[2] (+3.5%)

- Freight transport: 51,603 units (+1.6%)
- Passenger transport: 41,695 units (+6.0%)

Passenger transport (including estimation)

1.2 million passengers (+5.1%)

- Liner services: 705,000 passengers (+5.2%)
- River cruises: 415,000 passengers (+7.8%)
- Non-scheduled services: 110,000 passengers (–4.4%)

Accidents

23 traffic accidents with damage

- Personal injuries: 0 death, 2 slightly injured
- Damage to property: 5 ship to ship, 1 grounding incident, 17 incidents with damage to riverbanks and facilities, 0 ship sunk

Availability of the waterway

366 days
15 year average: 357 days

- Closures due to high water: 0 days
- Closures due to ice: 0 days

[1] Changes from 2015 are given as percentages in brackets.
[2] Convoys and individual vessels.

Source: Statistics Austria; Supreme Navigation Authority at the Federal Ministry for Transport, Innovation and Technology; Federal Office of Transport; miscellaneous passenger transport operating companies; viadonau

SWOT analysis Danube Navigation

ICPDR IKSD

STRENGTHS

- low transport costs
- ability to convey large quantities of goods per unit
- environmental friendliness
- safety
- availability around the clock
- low infrastructure costs

WEAKNESSES

- dependence on variable fairway conditions
- low transport velocity
- low network density, often requiring pre- and end-haulage

OPPORTUNITIES

- spare capacity of the waterway
- rising demand for environmentally friendly transport modes
- modern and harmonised cross-border information services (RIS)
- cooperation activities with road and rail
- international development initiatives (e.g. NAIADES, Strategy for the Danube Region)

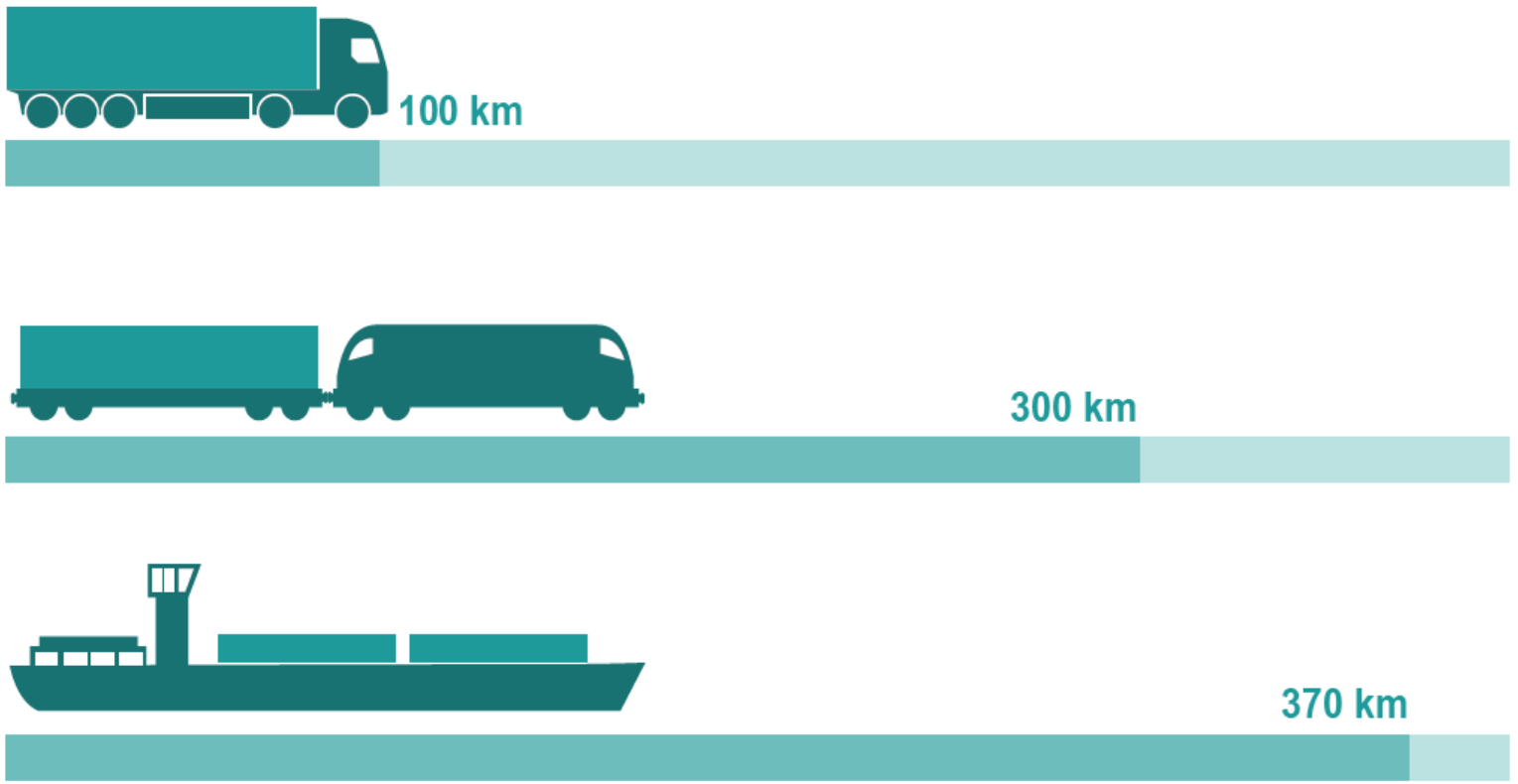
THREATS

- inadequate maintenance of the waterway in some Danube riparian countries
- high requirement for modernisation of ports and fleet

Source: via donau

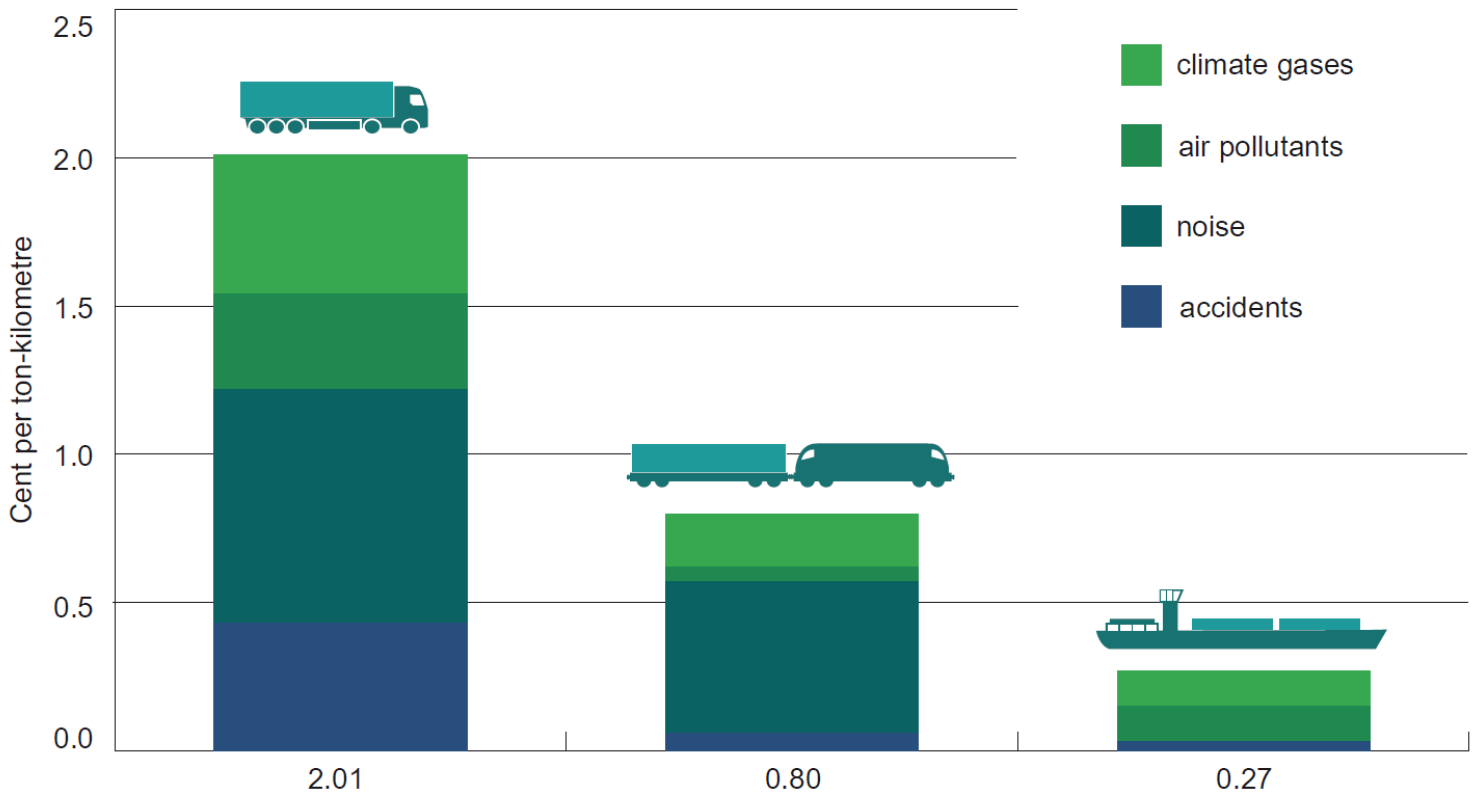
SWOT analysis of Danube navigation

Energy needs IWT



Source: via donau

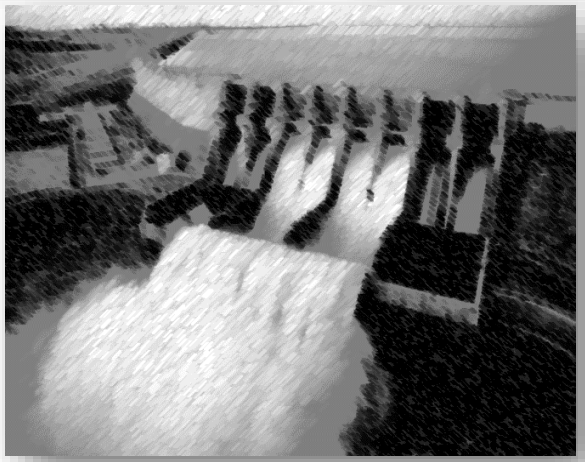
Transport distances for one ton of cargo requiring the same amount of energy



Source: PLANCO Consulting & Bundesanstalt für Gewässerkunde 2007

The sum of external costs for inland vessels is by far the lowest (average values for selected transports of bulk goods)

Human activities and their impact on the Danube



Water **pollution**, **hydromorphological** alterations

ICPDR at a glance

- ✓ **Most international** river basin organisation in the world
- ✓ **Cooperation** of 14 countries & the EU
- ✓ Serving almost **90 million** people
- ✓ Role **model** for transboundary cooperation
- ✓ **Champion** of water-resources management

Role of the ICPDR

Danube River Protection Convention (29 June 1994, Sofia, Bulgaria)

Sustainable & equitable use of water

Protection of water & ecological resources

Reduce nutrients & hazardous substances

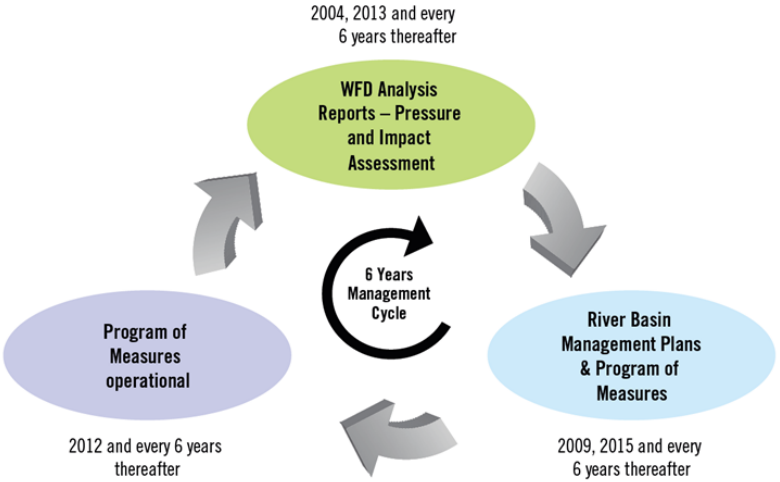
Manage floods & ice hazards

- ✓ **ICPDR**: platform for **transboundary cooperation** on water management:
- ✓ Implementation of the **DRPC**(1998)
- ✓ Coordination of the implementation of EU **Water Framework** Directive (2000) & EU **Floods** Directive (2007)

EU Water Framework Directive (WFD) - Key Principles

- ✓ **Integrated water management**, taking into account and addressing all pressures and impacts
- ✓ Management unit is the **hydrological river basin**
- ✓ Achievement of **environmental objectives** (good water status/potential) is a **legal requirement**

Main implementation steps for the EU Water Framework Directive *FIGURE 1*



- ✓ Development of **River Basin Management Plans including Programme of Measures** for achieving WFD objectives
- ✓ **6 years management cycles**
- ✓ **Public participation requirements**

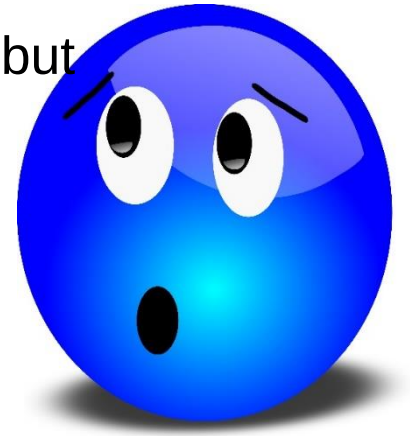
Water: diversity of uses, aspirations and impacts

Water is an **interdisciplinary** and **cross-cutting** issue

Rationale

…Since 2000 & the WFD

- ✓ **Growing concern** on how to ensure sustainable water protection and non-deterioration of Danube Basin water bodies & Natura 2000 if major infrastructure projects will be built?
- ✓ How to move **from confrontation and misunderstanding to reconciliation, cooperation** and ultimately **win-win situations?**
- ✓ Are there **ways to guide infrastructure development** in such a way that it **will not conflict with river protection** but **support** it?



One answer: Cross-sector dialogue 2007

A **Stakeholder process** :

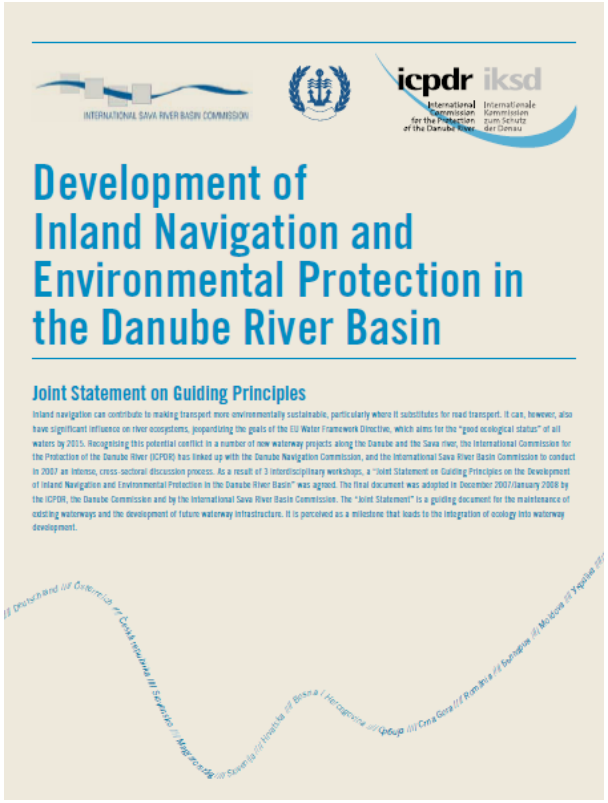
- ✓ 12 basin governments
- ✓ 22 industry and environmental interest groups
- ✓ 3 workshops

A **Result**: **Commitment** by 3 **River Commissions**

- ICPDR
- Danube Commission
- Sava Commission

2007 Joint Statement

- ✓ **Joint Statement initiative** was **launched in 2007 by the ICPDR** in cooperation with the Danube Commission and the International Sava Commission
- ✓ Joint Statement summarises **principles and criteria for environmentally sustainable inland navigation** on the Danube and its tributaries
- ✓ **Regular meetings** with cross-sectoral discussion process



A guiding document

"Joint Statement on Guiding Principles for the Development of Inland Navigation and Environmental Protection in the Danube River Basin"

A guiding document for:

- ✓ The development of the "**Programme of Measures**" requested by the EU Water Framework Directive,
- ✓ The **maintenance** of the current inland navigation,
- ✓ **Planning and investments** in future infrastructure and environmental protection **projects**

Key principles

- ✓ **Integrated** planning process from the start via interdisciplinary teams to achieve joint planning objectives:

Environment + Water management and transport

- ✓ **Minimize** the **impacts** of engineering interventions, use non-structural measures
- ✓ **Apply** EIAs with **public input**
- ✓ **Respect** the WFD's river basin management plans 2009 and goals to protect / restore ecology and reduce negative impacts
- ✓ **Define** goals for IWT and the river/floodplain ecological integrity
- ✓ Use **best practice** to achieve the required objective.

Joint Statement take home messages

This is our experience on how the process was organised for a “civilized” dialogue between **three partners**:

1- The **economic sector**: navigation

2- **Regulators** from **water and environment**: WFD, Natura 2000, Nature Directives

3- **NGO communities** who are concerned about the environment.

→ **Tool** to learn how to conduct **proper stakeholder participation** in **design and implementation** of navigation projects.

Another answer:
The Platina MANUAL

“Platform for the implementation of the EU NAIADES action programme”

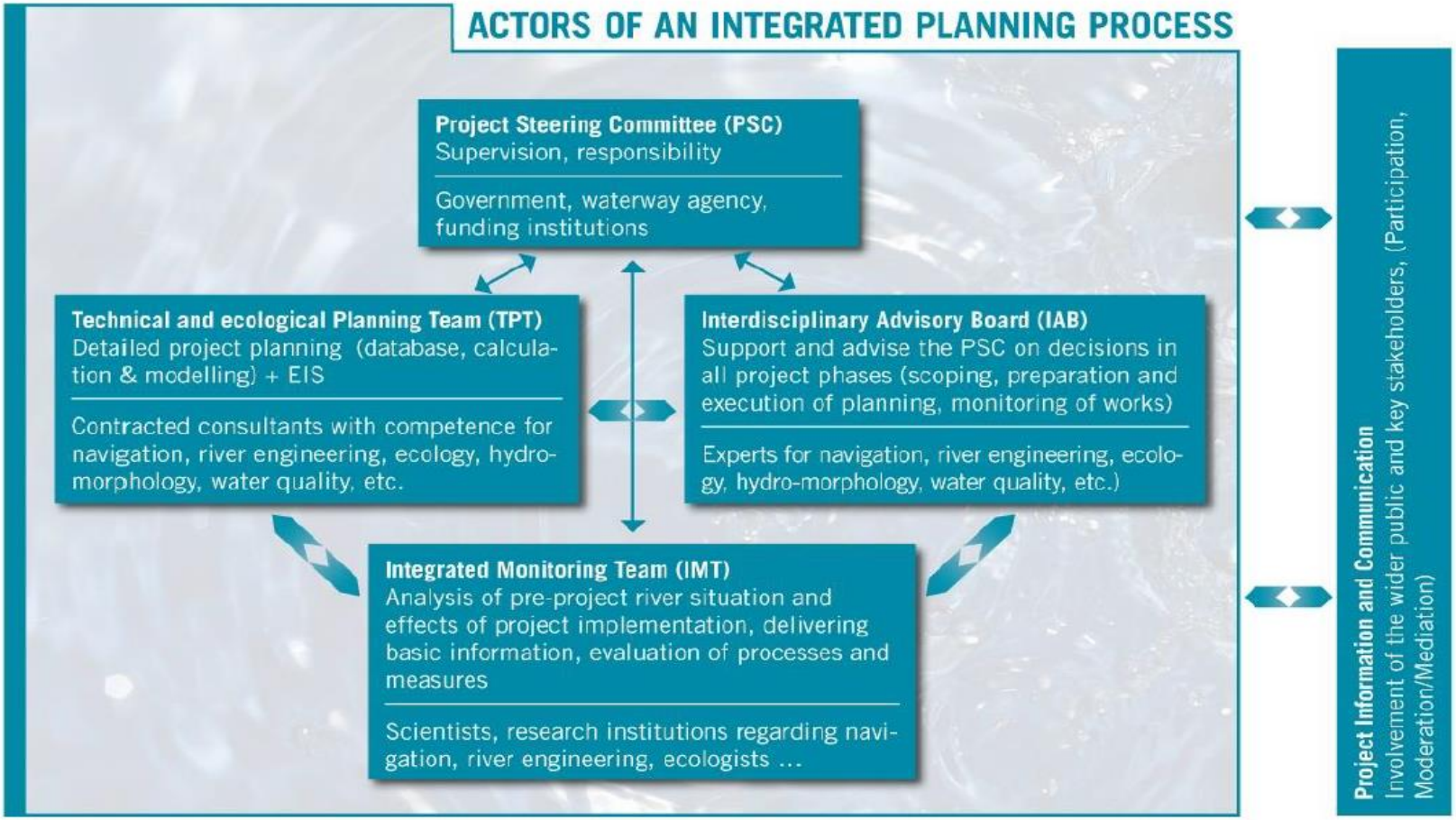
- ✓ Stems from the **Platina Project**
- ✓ FP 7 Research (**22 partners**) project to develop capacities around the five NAIADES action areas
- ✓ **SWP 5.3**: Preparation of an **IWT Planning Manual**
- ✓ Following 2 stakeholder workshops: a **user-friendly manual**

The Platina MANUAL: objectives & contents

- ✓ Illustrate the Joint Statement with its principles & criteria.
- ✓ Present new legal framework conditions for river management.
- ✓ Present new approaches in integrated planning.
- ✓ Provide a general practical guidance for integrated planning.
- ✓ Provide examples for ecology-oriented waterway and river bed engineering

- ❑ **Part A Introduction and Background**
- ❑ **Part B Model for an Integrated Planning Process**
- ❑ **Part C Frameworks for Practical Application**

Actors & Stakeholders



Yet another answer: METEET

"Mixed Environment Transport External Expert Team on integrated planning of inland waterways transport (IWT) Projects, including inland waterway transport and environment experts."

The Joint statement has brought improvements however…

- ✓ The **environmental situation** of many sections of the Danube (lower Danube) remains **problematic**
- ✓ **River ecosystems** suffer from pollution, eutrophication, morphological alterations **due to different uses including inland navigation**, poor maintenance and legacy of heavy industries along the banks.
- ✓ **Remaining concerns** from **NGOs and local stakeholders** about the **impact of planned IWT projects** (many of them EU supported) on the ecosystems and long term sustainability of the river

METEET: Tackling new issues

- ✓ Some administrations still lack the **technical expertise**
- ✓ The need for a for **multi-disciplinary approach** is ever clearer
- ✓ **Contributions** are required by specialist in river eco-systems,
- ✓ **Water management experts and authorities** in charge of enforcing and monitoring environmental requirements for safe and clean navigation **need to address ecological challenges**
- ✓ **Increased capacity building** in both transport and environment administrations must be ensured
- ✓ Missing **effective cooperation and dialogue** between administrations is often behind the difficulties found in some of the projects

Key principles

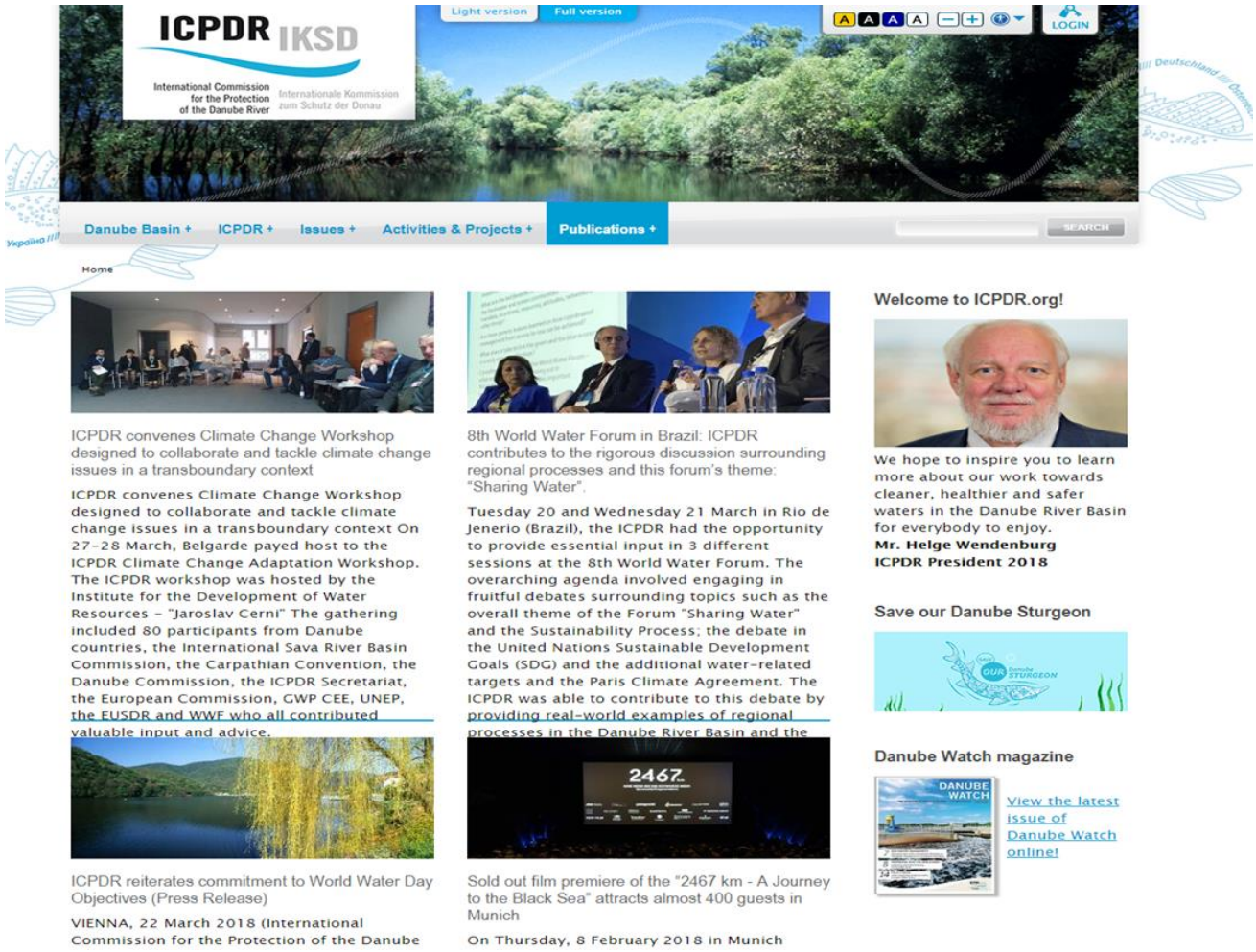
- ✓ Provide **support in addressing the environmental issues** that may arise during planning and implementation of inland waterway transport projects **in the Danube Region**
- ✓ Beneficiaries are **local, national and international IWT planning bodies** (usually governments with their agencies), **officials and employees** of Ministries of Environment and Transport
- ✓ Based on the **Joint Statement**
- ✓ **Project set-up**: DG-MOVE, DG-ENV, DG-REGIO, Danube Commission, ICPDR
- ✓ International Sava River Basin Commission has **observer** role

→ Aims at **providing guidance and advice** to competent authorities for developing **sustainable strategies, plans and projects** in the field of inland navigation **taking into account European Environmental Legislation** from the start

Summary and Conclusions

- ✓ Modern waterway management is one part of a sustainable river management.
- ✓ It requires a much **more comprehensive planning and monitoring** than in the past.
- ✓ Key is to observe *early* and **integrate *in time* environmental (and other river use) requirements** into infrastructure projects.
- ✓ **Involvement** of competent stakeholders reduces planning risks
  Planning objective is to develop good solutions (win-win results)
- ✓ The *Joint Statement* and the *Platina Manual* are general tools based on a respectful dialogue
- ✓ *METEET* continues and builds on the work of both.

Further information



See you soon at
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