

Wir machen Schifffahrt möglich.

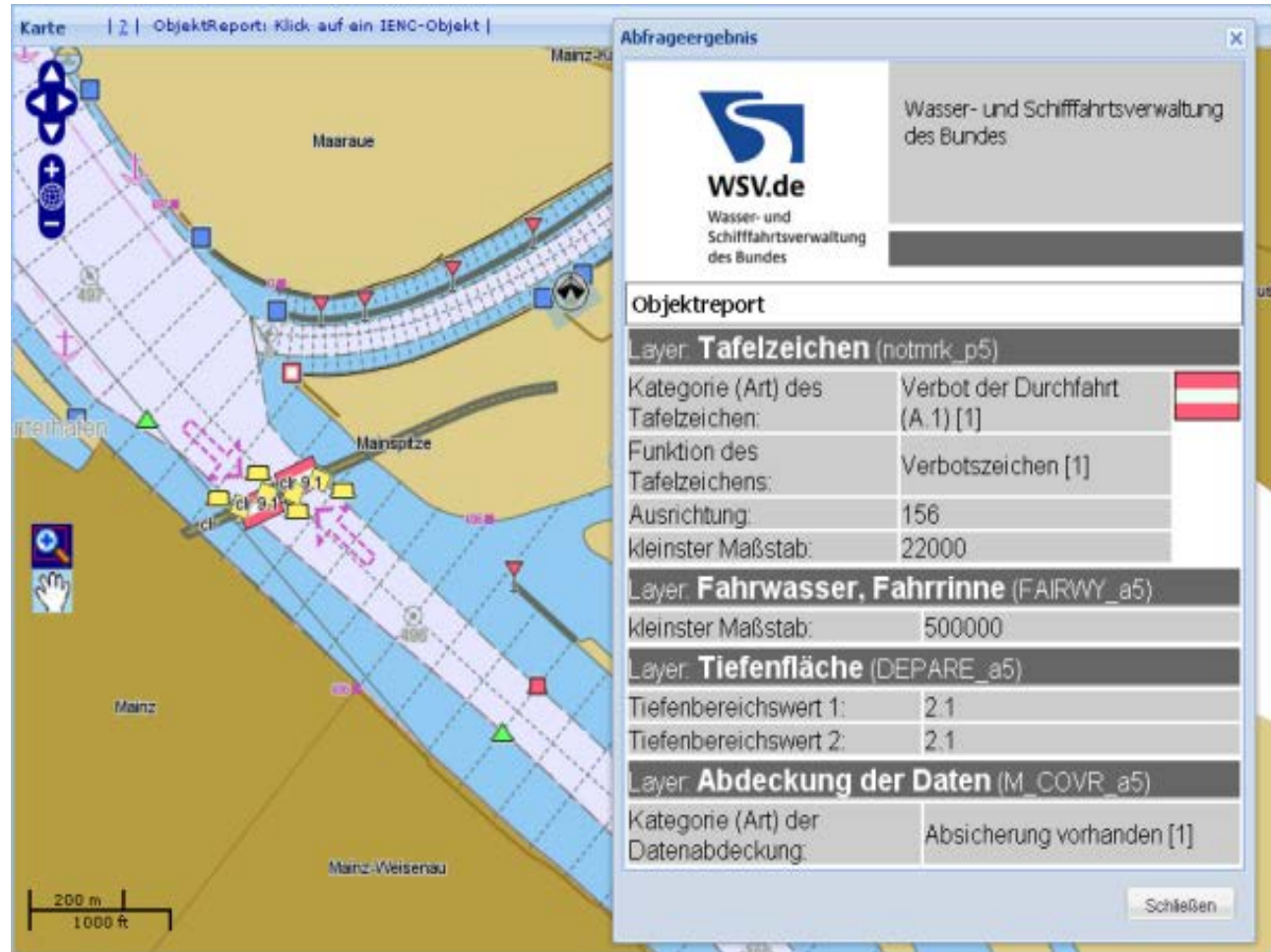
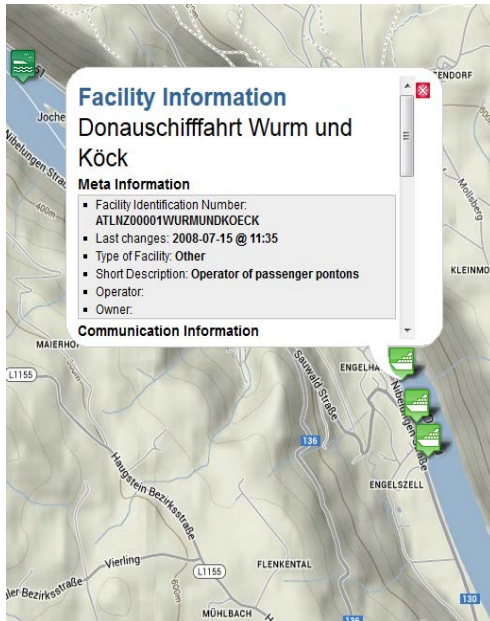


**WSV.de**

Wasser- und  
Schifffahrtsverwaltung  
des Bundes

# German IENC Web Mapping Service (WMS)

[http://wsvmapserv.wsv.bund.de/ol\\_ienc/](http://wsvmapserv.wsv.bund.de/ol_ienc/)



# German IENC Web Mapping Service (WMS)

Applications, benefit and disadvantages

## Content:

### The German IENC-WMS

- Technical aspects and functionality

### Benefit and disadvantages

### Applications

- “Noticemark Database”, an national example
- “Interactive map of the Danube Commission”, an international example

### Conclusion

Source: <http://www.opengeospatial.org>

## University &amp; Research



# German IENC Web Mapping Service (WMS)

## Technical aspects and functionality

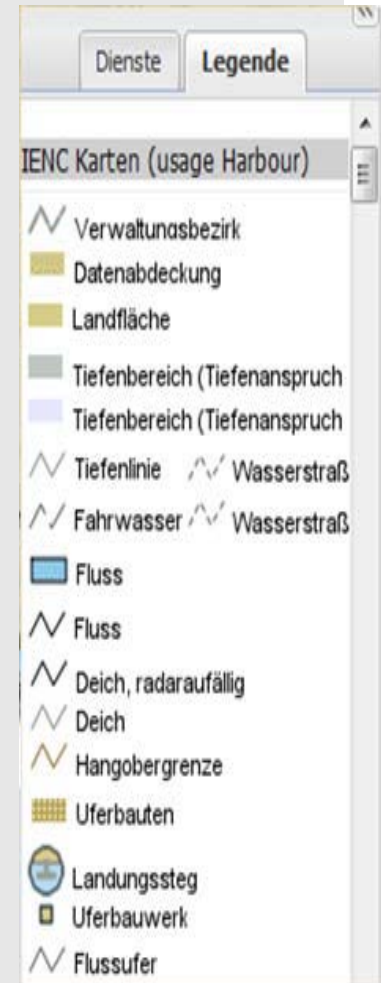
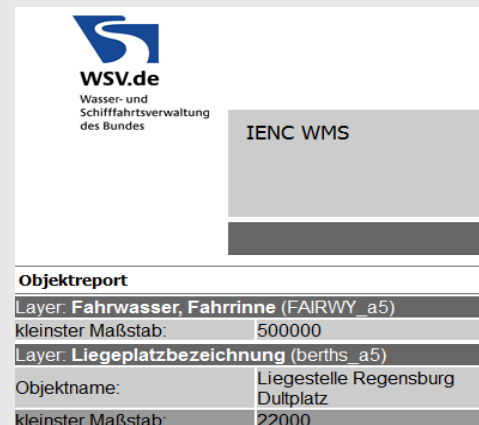


A Web Mapping Service defines Requests and Responses as an Interface:

### Request

### Response

|                  |   |
|------------------|---|
| GetCapabilities  | Description of the service  |
| GetMap           | Map-tiles in Raster-Formats (JPEG, PNG, TIFF) in the requested area |
| GetFeatureInfo   | Attributes of the requested spatial objects (text or xml)           |
| GetLegendGraphic | Legend of the map   |



# German IENC Web Mapping Service (WMS)

Technical aspects and functionality



Link to: [http://wsvmapserv.wsv.bund.de/ol\\_ienc/](http://wsvmapserv.wsv.bund.de/ol_ienc/)

# German IENC Web Mapping Service (WMS)

## Benefit and disadvantages



### Benefit

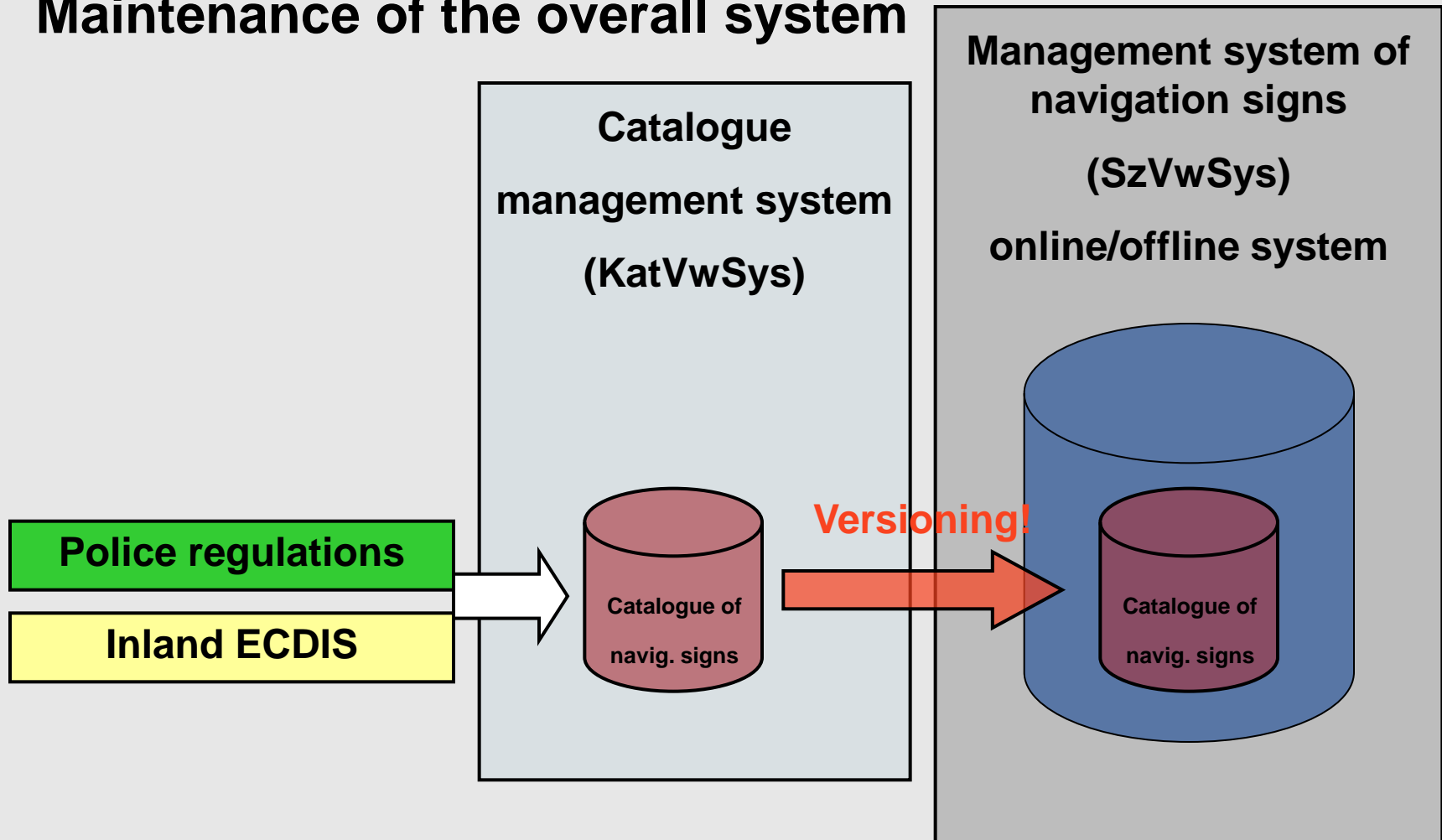
### Disadvantage

|  |  |
|--|--|
| Online, on demand available, Only the current version exists, because it's a transient data stream, no file. | But only online, you need net access. In the background you need an infrastructure.  |
| It's a standard so everyone can rely on the structures and services.   | You have to use the standard, you are not flexible.  |
| It can be realized with high performance.  | You need the corresponding net and server capacity.  |
| It can be realized with high availability.   | 90% availability is cheap and easy to reach, 99,7 % not, 100% never.<br><br>You need the corresponding personal and financial resources. |

# German IENC Web Mapping Service (WMS)

“Notice mark Database”, an national example

## Maintenance of the overall system





Wir machen Schifffahrt möglich.

# German IENC Web Mapping Service (WMS)

“Notice mark Database”, WMS as background map for placing



https://sz-db-integration.wsv.bvbs.bund.de/ivu-locate-szdb-szvwsys/sz\_anzeigen\_bearbeiten.jsf

Meistbesucht Erste Schritte Vorgeschlagene Sites Web Slice-Katalog

Sie sind hier: Startseite SZ-DB > SZ anzeigen/bearbeiten > Schifffahrtszeichen auswählen > Schifffahrtszeichen anzeigen > Schifffahrtszeichen bearbeiten

1. Attribute des Schifffahrtszeichens anpassen  
2. Koordinaten des Schifffahrtszeichens anpassen

**SZ-DB**

Wasser- und Schifffahrtsverwaltung des Bundes

SZ-DB

Aufgaben

SZ anzeigen/bearbeiten

SZ erstellen

Offline Daten

Report erstellen

DBWK2/IENC

WADABA

Fachadministration

Benutzereinstellungen

A6, Ankerverbot  
0401 Donau KM 2381,224 Ufer: rechts

Speichern Abbrechen

Infofelder Stammdaten Position Subobjekte Zusatzzeichen

BWaStr: 0401 Donau  
BWaStr-Km:  
BWaStr in Karte anzeigen

Koordinatensystem:  
Gauss-Krüger 4 (DHDN Bessel 1841)  
Rechtswert: 4505726.888537741  
Hochwert: 5432386.8645332  
Koordinaten in Karte anzeigen

Drehwinkel in °: 238  
Drehwinkel in Karte anzeigen  
Drehwinkel zurücksetzen

Platzierungsoffset:  
Delta-X: -16.22  
Delta-Y: 43.31  
Platzierungsoffset zurücksetzen

Ihre Anmeldung

Versions-Informationen



Wir machen Schifffahrt möglich.

# German IENC Web Mapping Service (WMS)

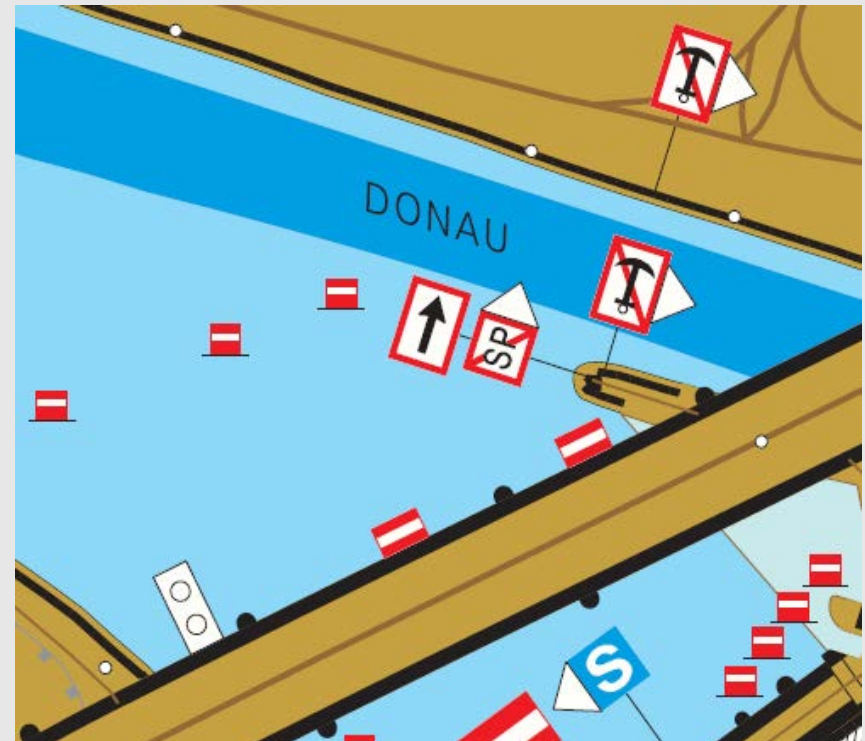
“Notice mark Database”, Problem: automatically visualizing



Reality



Vision



Wir machen Schifffahrt möglich.

# German IENC Web Mapping Service (WMS)

“Interactive map of the Danube Commission”



The screenshot displays a web mapping interface for the Danube River. A map of the Danube River is shown, with a popup window titled "Facility Information Schleuse Nussdorf" (Lock Nussdorf) open. The popup contains the following information:

- Meta Information**
  - Facility Identification Number: ATVIE00002LOCKS00006
  - Last changes: 2008-07-15 @ 13:21
  - Type of Facility: Lock
  - Short Description:
  - Operator: via donau
  - Owner:
- Communication Information**
- Address of Facility**
  - Street: Am Brigittenauer Sporn 8

The map shows the Danube River flowing through Vienna, with labels for "DISTRICT VIENNA XXI - FLORIDSDORF" and "DISTRICT VIENNA XXI - BRIGITTENAU". The map includes a scale bar and a compass rose. The Google logo is visible in the bottom left corner.

On the right side of the map, there is a legend titled "Base Layer" and "Overlays". The "Base Layer" includes Google Physical, Google Streets, Google Satellite, and Google Hybrid. The "Overlays" section lists various facilities and features, each with a checkbox:

- ☒ D4D
- ☒ Airport
- ☒ Border and customs
- ☒ Bridge
- ☒ Bunker
- ☒ Bunkerstation
- ☒ Drinking water
- ☒ Ferry
- ☒ Ford / Constricted section
- ☒ Lock
- ☒ Marina
- ☒ Pier for passenger shipping
- ☒ Pilot station
- ☒ Port authority
- ☒ Port of refuge
- ☒ Radio calling-in point
- ☒ Refuse dump
- ☒ Shipyard
- ☒ Signal station
- ☒ Train station
- ☒ Turning basin
- ☒ Water police
- ☒ Waterway gauge
- ☒ Waterway management

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# German IENC Web Mapping Service (WMS)

“Interactive map of the Danube Commission”



Link to: <http://www.d4d-portal.info/dk/>

## Acquisition of extended information

- Attributes of IENC Features from:
  - Object names (OBJNAM and NOBJNM)
  - Aggregates, locks and bridges (C\_AGGR)
  - Text descriptions, berth's, locks (TXTDSC)
  - Picture reports (PICREP), bridges

```
- <openecdis:facility xsi:schemaLocation="http://ienc.openecdis.org/facility_editor/data/xsd/
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:openecdis="http://www
  <openecdis:version>2</openecdis:version>
  <openecdis:last_edited>2008-07-15 @ 10:55</openecdis:last_edited>
  <openecdis:id>ATASC00001LOCKS21628</openecdis:id>
  <openecdis:name>Schleuse Aschach</openecdis:name>
  <openecdis:type>Lock</openecdis:type>
  <openecdis:operator>via donau</openecdis:operator>
  <openecdis:owner>Verbund-Austrian Hydro Power AG</openecdis:owner>
- <openecdis:communication_information>
  - <openecdis:address>
    <openecdis:street>Schopperplatz 16</openecdis:street>
    <openecdis:postcode>4082</openecdis:postcode>
    <openecdis:city>Aschach</openecdis:city>
    <openecdis:country>Austria</openecdis:country>
  </openecdis:address>
  - <openecdis:contact>
    <openecdis:phone>+43 504321 6610</openecdis:phone>
    <openecdis:fax>+43 504321 6615</openecdis:fax>
    <openecdis:email>schleusenaufsicht.aschach@via-donau.org</openecdis:email>
```



# German IENC Web Mapping Service (WMS)

## Conclusion



### The experience with the German IENC-WMS shows:

- There is a need for a background map which contains the waterway and shipping topic and covers a waterway network over all borders.
- The IENC data model offers a lot of optional attributes which can be used for providing information beyond navigation e.g. for voyage planning and routing.
- The presentation of the notice marks in the map should be improved. This could be reached by additional offset attributes (dx, dy).
- IENC Web Mapping Services can not yet be used for navigation onboard. The availability is insufficient by the lack of infrastructure for providing a fast Web access.

**Thank you very much for your attention!**

