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Facility of the European Union

**FAIR**way  
Danube



# Pilot activities

## perspective of the waterway administration

FAIRway Danube Advisory Committee  
Brussels 04.12.2019, Lidija Hubalek



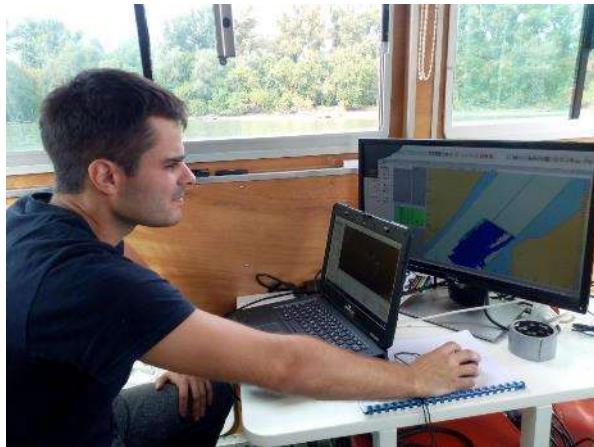
## Croatia – monitoring and water-level forecast pilot

- 1 new surveying vessel in operation since 15.11.2017;
- 9 new/rehabilitated gauging stations in operation between 16.06.2017 and 9.10.2018.



# Objectives of monitoring pilot in HR

**To improve and modernise the waterway administrations' operative tasks regarding the monitoring phase of the management cycle and the subsequent information provision**



- Increase density of gauging network;
- Four new gauges positioned at bottlenecks (Apatin, Mohovo, Sotin, Petreš) → increase accuracy of surveying results;
- Transmission of hydrological data to AVP and user information platforms (hourly);
- Raise the quality of hydrographic data;
- Faster data processing = faster information provision to users (Danube FIS Portal, ENCs, AVP website);
- Adapt internal procedures: using marking vessel as a base for longer surveying tours.

# Status of pilot operation – gauging stations

**Informacije o postaji**

**Osnovni podaci postaje**

Ime	SIGA
Sifra	5183
Tip postaje	Automatska dojava
Vodotok	DUNAV
Sliv	CRNOMORSKI SLIV

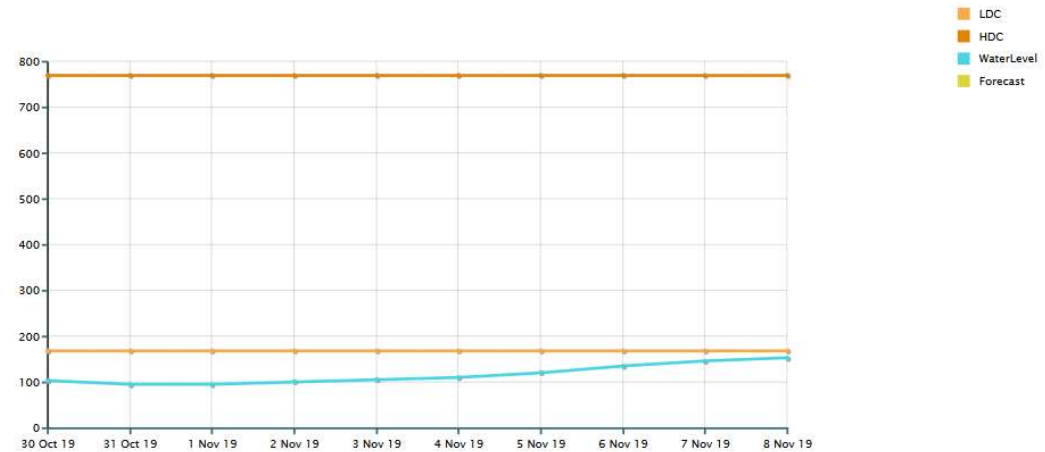
Vodostaj (cm)  
 800  
700  
600  
500  
400  
300  
200  
100  
0

## Gauge information

Tide gauge	Fairway	Rkm	LDC* (cm)	HDC** (cm)	Date and Time of status	Actual water level data (cm)	Map
Vodomjer Siga	Dunav	1412.1	169	770	2019-11-08 11:00:00	154	

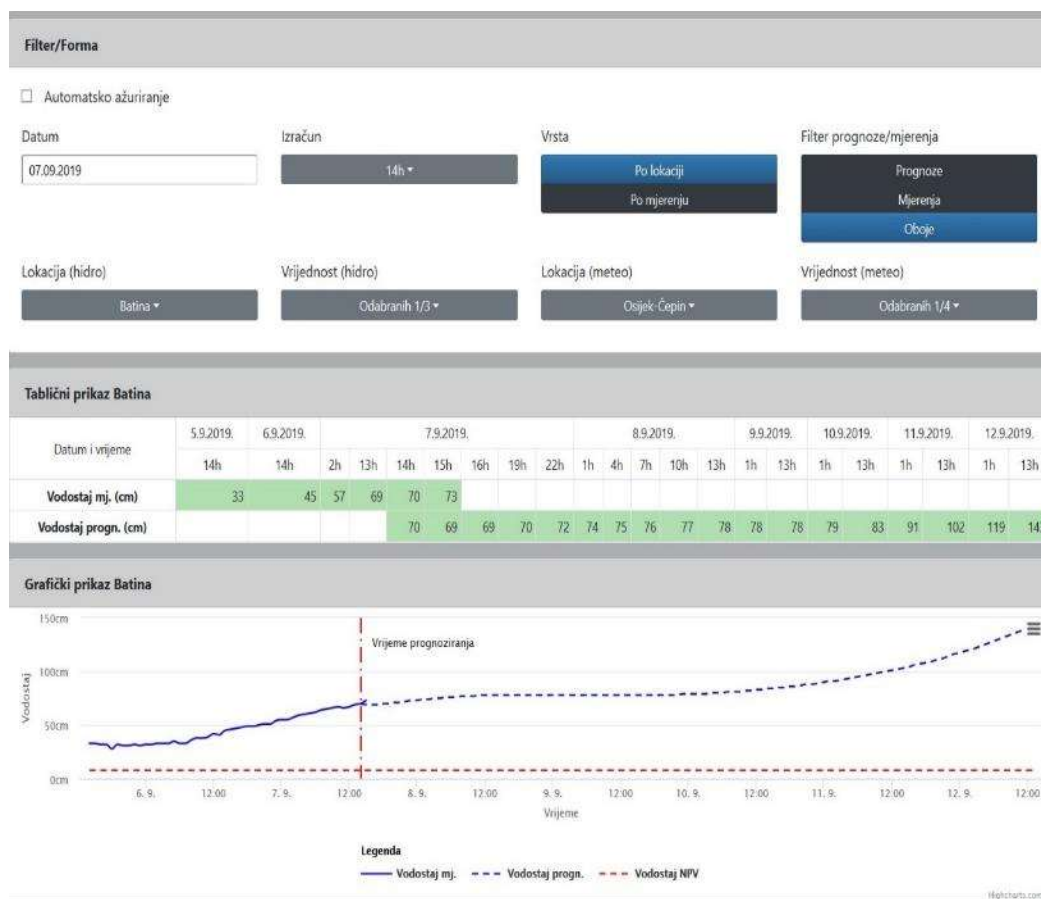
\* LDC: Low water level Danube Commission

\*\* HDC: High water level Danube Commission



# Status of pilot operation

## Water-level Forecast Pilot – 1/2



→ Water-level forecast for 5 days available for gauges:

- Batina;
- Aljmaš;
- Dalj;
- Vukovar;
- Ilok,

→ Internally available at <https://projekt-dunav.ie-zagreb.hr:8443/> as of 30.07.2018.

# Status of pilot operation

## Water-level Forecast Pilot – 2/2

### Waterlevels



→ Water-level forecast for 5 days  
**PUBLICLY** available for gauges:

- Aljmaš;
- Batina;
- Vukovar,

→ Available at  
<https://www.vodniputovi.hr/en/services/waterlevels/>

### Tabular presentation of the water level

Gauge	05.11.	06.11.	07.11.	08.11.	09.11.
Batina	-17	-13	-8	-1	24
Aljmaš	12	20	32	54	90
Vukovar	12	17	27	42	70



## Croatia – marking pilot

- 1 new marking vessel in operation since 20.3.2019.



# Objectives of marking pilot in HR

**To establish a solid and harmonized data basis for management decisions regarding follow-up projects and initiatives:**

- The option of fairway marking should always be exploited to the maximum. Nevertheless, the marking pilot might also reveal the limitations of fairway marking and the need for further measures (dredging, hydraulic structures) which might be proposed in a consolidated “catalogue of measures”.





# Summary and Conclusion

## Challenges/solution

- Lack of qualified staff for hydrographic survey and postprocessing / Sufficient staff with improved qualification by the proper training, working conditions and attractiveness of job;
- Low rate of acceptance of users of the improved/new information provided / dissemination of information to users using different channels of communication;
- Accident of the marking vessel on 22.05.2019, repair under way

## Next steps

- Further training of staff for pilot operation;
- Further harmonization of pilot operation



# Summary and Conclusion



## Impact for users/waterway administration?

- Condition of and changes in the riverbed tracked more detailed and efficient;
- Improved accuracy of surveys;
- More detailed (ENC) charts are provided, including more accurate depth data;
- Increased recording and availability of water level information;
- **Efficient data processing and informing users on the waterway status;**
- Water-level forecast is using for transport and loading decisions, particularly during the low water period;
- Increased marking reaction time in case of triggering events;
- **Fast and efficient restoring of the desired marking system.**

