

Gabčíkovo locks operation and maintenance

Project No. : 2015-SK-TM-0151-W

Beneficiary: Ministry of Transport of the Slovak Republic

Implementing Body:
VODOHOSPODÁRSKA VÝSTAVBA, STATE ENTERPRISE

EC contribution: EUR 122 965 250

Realization of the Action: 02/2016–12/2023

Project co-financed by the Connecting Europe Facility (CEF) of the European Union.



Co-funded by
the European Union

Objectives of the project

- Increasing the degree of operational reliability
- Increase the navigability capacity
- Improvement of navigability of the waterway
- Increase in the quality and safety of shipping
- Improvement of the operational and management system



Project target values

- 365 days a year with at least one lock chamber in operation
- Reduction of the waiting time for a lock chamber overflow to 22 minutes (pre-project average 45 minutes)
- 94% of days per year with both lock chambers in operation
- 94% of days per year with a fairway depth of at least 2.5 m (in cooperation with SVP)
- 0 accidents caused by Lock chambers operator

Current state of Lock chambers operation

Right Lock chamber (RLCH) - in operation from 11/2021 after completion of Innovation and Modernisation (IaM)

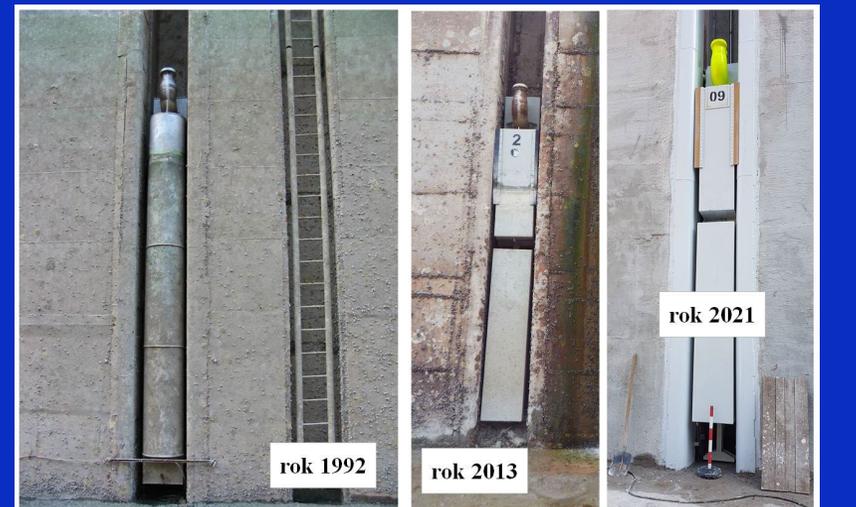
- End of warranty period RLCH - end 10/2026

Left Lock chamber (LLCH) - in operation from 12/2023 after completion of IaM

- End of warranty period for LLCH - second half 12/2028

IaM of Lock Gabčíkovo

- Replacement of upper and lower gates
- Dynamic protection
- New distribution systems
- Replacement of grooves and bollards
- Modification of the channel system
- Reconstruction of expansion and working joints in channels and on walls of chambers + remediation of all concrete structures
- Replacement of all control valves, covers and temporary barriers (weirs)
- Control, safety and information system
- Modernization of the substation
- Comprehensive renovation of the foundation + sealing of expansion joints in the front area of the inlet structure
- Etc.

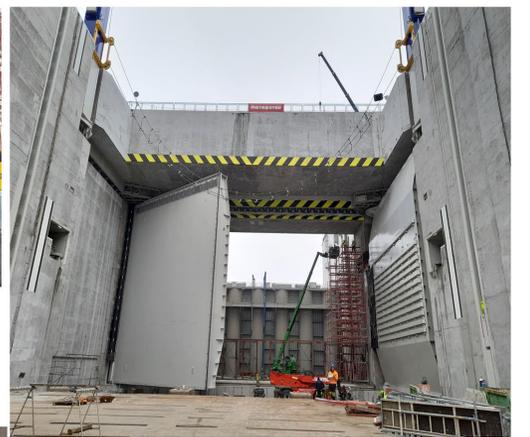


IaM of Lock Gabčíkovo

Segment and back-up flap of the upper gate



IaM of Lock Gabcikovo Lower Gate



Pravá PLK



rok 2006

rok 1994



rok 2004
Dolné vráta pravej PLK

Eavá PLK



rok 2004
Dolné vráta ľavej PLK



rok 2007



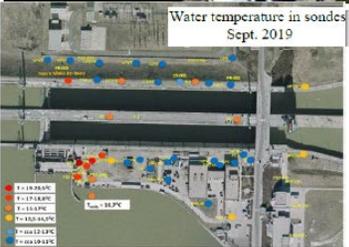
rok 2023

IaM of Lock Gabčíkovo

Injection of degraded gravel – bottom of Lock chambers channels + Remediation of expansion joints



IaM of Lock Gabcikovo Inlet object



**REMEDICATION OF VERTICAL
AND HORIZONTAL EXPANSION JOINTS**



IaM of Lock Gabčíkovo Dynamic Protection



IaM of Lock Gabčíkovo Expert Control System

Expert Control System – developed and installed

- Part Simulation model
 - for the purpose of manipulation and distribution of the discharge on Waterworks Gabčíkovo, management of the critical sections on stretch Devin - Komarno
- Part Optimization model
 - for the purpose of safe manipulation and filling in/out of the chambers
 - filling in
 - filling out
 - summer regime
 - winter regime

Planned operational checks resulting from the Lock chambers operating regulations

- Operational inspections for each lock chamber 4 times per year - during these inspections, the Lock chamber will not in operation during the inspection itself with no restrictions on navigation through the lock chambers
- Length of each quarterly inspection 5 days, max 8 hours per day - depending on activities being carried out & flexibility
- During the inspection the following activities will be carried out with the participation of divers:
 - Frame handling - 24 positions - 4 times a year
 - bubble check - 2x per year
 - outlets and inlets inspection, cleaning - 1x per year
 - checking of screens on inlets, cleaning - 1x per year
- Inspections before the expiry of the warranty period of each Lock chamber (right and left) - larger scale inspection - dry dock required

Planned outages of the chambers in period 2026-2028

Outage of right lock chamber

- already done in period 16.-27.2.2026

Outage of left lock chamber

- Planned in period 6.3.-3.4.2026

Outage of right lock chamber

- Planned in period 11/2026 – 3/2027

Outage of left lock chamber

- Planned in period 1-3/2028

Planned future steps and communication

- Operation of both lock chambers in parallel as best as we can do
- Implementation of dry docks due to "major inspections" and removal of "larger scale failures" - to be implemented in the off-season of passenger cruise vessels
- Regular communication and information to individual committees and stakeholders
- Information regarding planned Lock chambers outages well in advance - at least 1 month in advance request to the Transport Authority (TA) and information to the Ministry of Transport (MoT)
- Submission of planned activities for the year ahead to the TA and information to the MT
- Active participation of the VVB representative in hydrotechnical expert group meetings within the Danube Commission and informing about the current status and future plans
- Regular reporting to the MoT at least 4 times a year and subsequently the MoT will report further

Questions and discussion

Thank you for your attention

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