



FIG Working Week 2012

Rome, Italy 6–10 May

Knowing to: Manage the territory
Protect the environment
Evaluate the cultural heritage



Analysis of Possibilities to Utilise Results of Laser Scanning in Technical Inspection of Water Dams

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- 1) Warsaw University of Technology
- 2) Jagiellonian University

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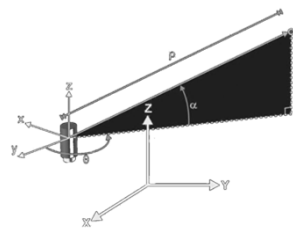
The main aim of the project: usefulness of laser scanning in technical inspection



Leica Scan Station 2



RIEGL VZ-400



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Location:

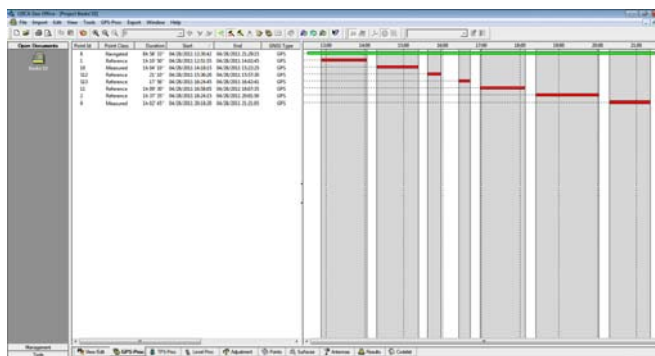
- on 172.8 km of Wislok river (Poland)
- The dam was provided for use in 1978
- Length: 174 m
- Maximum height: 38.2 m
- Volume of a concrete used for construction: about 70 000 m³
- 14 independent, expansion-jointed concrete sections:
 - 12 deaf sections with a width of 12m,
 - 2 overflow sections with a width of 15 m
- Creager's type of a surface overflow
 - two overflows of 11.20 max 2.60m sections hatches closed with a height of 2.60 m controlled by a hydraulic drive



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Measurements:

- Classical
 - Leica TCRP 1201+
 - Leica TM 30
- GNSS
 - Leica System 1200
 - Leica System 500



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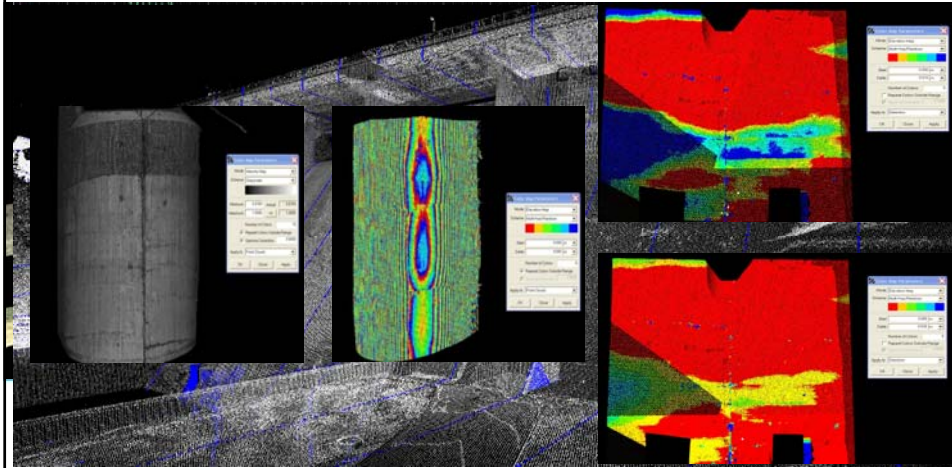


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Conclusions:

- scanning technology is still only a supplement to the conventional and photogrammetric methods of measurements
- the specific character of hydrotechnical facilities require to develop their own methodology of measurements using laser scanning technology
- the ability to assess the moisture of outer content layers of concrete
- research on the potential use of scanning results for evaluation technical condition of concrete
- need for further research and development of the technology in the technical inspection of dams

Thank you !

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