

## Workshop Invitation

### Holistic Maintenance Concept for Infrastructure Projects

During the workshop we will learn about state of the art in laser-scanning and ground penetrating radar and how these methods can and will be combined with BIM modelling.

This will allow us to discuss models for maintenance and repair strategies – from crack repair to rock bolting systems.

How we can integrate modern concepts and opportunities given by machine learning AI. We will also discuss requirements for quality assurance and documentation.

Do it only once – first time right principle!

### What are our objectives?

- Efficiency, productivity and reliability of plant assets
- Shift from reactive to proactive maintenance procedures
- Quality assurance and continuous monitoring
- Predictive and preventive maintenance
- Minimizing cost for replacements
- Optimized injection procedures with WEBAC products
- RBS – Rock Bolting Systems

### Location

VersuchsStollen Hagerbach AG  
Polisstrasse 1 • 8893 Flums Hochwiese  
SWITZERLAND  
[www.hagerbach.ch](http://www.hagerbach.ch)

# Workshop Schedule

## Day 1 • March 20, 2019 • 12.00 h – 17.00 h

- 12:00 h Meeting point “Hagerbach Test Gallery”
- 12:30 h Lunch
- 13:30 h
- Amberg inspection tool, artificial intelligence as recognition of defects  
**Oliver Schneider, Amberg Technologies AG**
  - Non-destructive testing and surface examination using GPR  
**Dr. Daniela Hofmann, DB Engineering & Consulting GmbH Technologiezentrum**
- 14:30 h Coffee break
- 15:00 h
- Crack injection of concrete lining
  - Waterproofing as emergency or as proactive measure
  - Filling of voids/cavities, consolidation grouting  
**Markus Schmidtke, Harald Schmitt, WEBAC-Chemie GmbH**
- 15:45 h Coffee break
- 16:00 h
- Live injection demonstration with WEBAC  
**Stephan Delarue, Maurice Leise, WEBAC-Chemie GmbH**
- 17:00 h End of day one
- 19:00 h Dinner

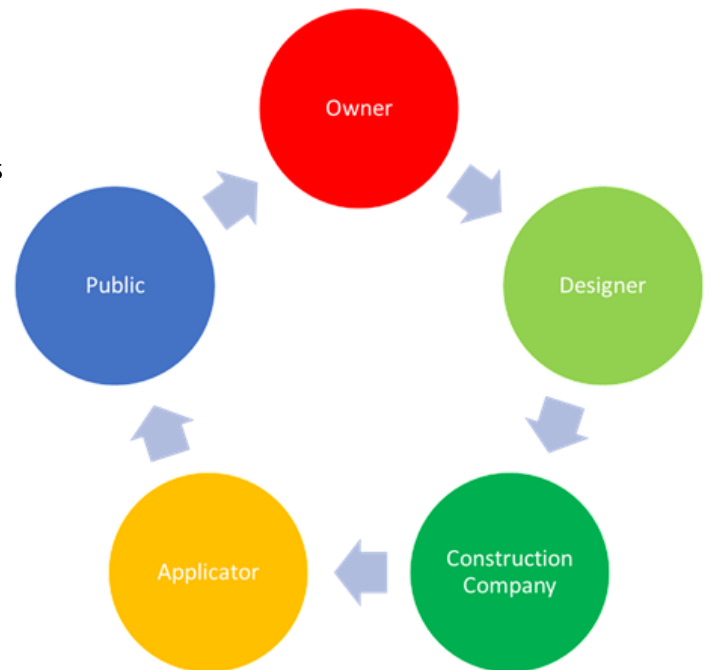
## Day 2 • March 21, 2019 • 8.30 h – 15.00 h

- 08:30 h
- RBS Rock Bolting Systems  
**Simone Rossetto, GeolSA**
- 09:00 h Live demonstration
- WEBAC table top experiments  
**Dr. Simon Prescher, WEBAC-Chemie GmbH**
  - WEBAC anchor injection  
**Stephan Delarue, Maurice Leise, WEBAC-Chemie GmbH**
- 11:00 h Coffee break
- 11:15 h
- Defect categories and repair procedures  
**Bo Tevede-Jensen, NIRAS Consulting Engineers**
  - Live demonstration mobile mapping systems  
**Amberg Technologies AG**
  - Presentation case studies – tunnel inspection and BIM  
**Amberg Engineering**
- 12:30 h Lunch
- 13:30 h
- Scanning, first choice as inspection tool  
**Michael Buri, Amberg Technologies AG**
- 14:00 h Summary
- 15:00 h End of workshop



## Target group?

- Owner of large infrastructure projects
- Design company
- Construction company
- Applicator



## Please register!

If you have any questions, please contact

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