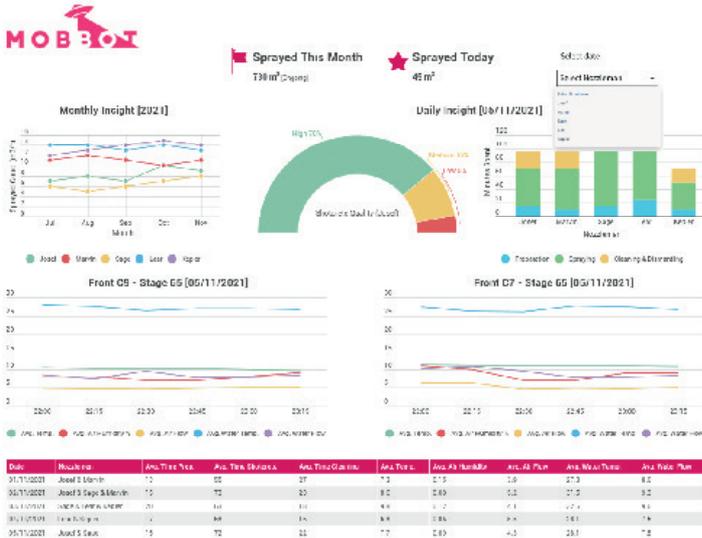


# DASHBOARD FOR SHOTCRETE

## WITH INFRATUNNEL IN HONGRIN TUNNEL, SWITZERLAND



## BACKGROUND

Spraying equipment has not changed much since 30 years. The production flow and productivity are constantly searched but the tools to manage the process and the machines remain almost unchanged. There are many different causes that impact the construction time overruns, such as, geology, presence of water, concrete quality fluctuations, and human-machine interactions. The spraying process

is still very dependent on the nozzleleman know-how and oral communication between stakeholders.

## CHALLENGE

InfraTunnel wants to improve their productivity being impaired by many different challenges: a lack of visibility and transparency on operations, lack of traceability with machine use of activator, numerous stakeholder interactions and

nozzleleman qualifications. Quality results, rebound and logistics of waste depend highly on the qualifications of the nozzleleman leading to differences between shifts. Rebound are close to 20%, if not more. In case of interruption and overconsumption of accelerator, discussions with stakeholders are time consuming due to this lack of transparency.

## BENEFITS

Project managers do not have to fetch, check and compare data/values of shotcreting machines. All data is accessible from the online dashboard and can be retrieved directly from their office.

Engineers and supervisors recorded data regarding their operations and transparent information about the efficiency of their equipment remotely.

## SOLUTION

Mobbot installed sensors on shotcrete machines selected by InfraTunnel (sensors can be installed on any kind of shotcreting machines). Data are collected in a continuous mode and sent to an online customized dashboard, accessible from any device at any time and allowing real-time data control. Important, relevant information and indicators are published on the dashboard, allowing the Project Manager to:

- Identify potential problems regarding the spraying process, progress, consumption, and benchmarking teams' performance by session.
- Provide insightful information regarding the operation of the machines pressure and flow of liquids (water, accelerator, air) as well as key information to discuss with their equipment supplier and admixture and concrete suppliers.
- Better tracking of working hours, volume used of concrete for quantity billing, shift and nozzleleman efficiency as well as machine use parameters to better plan and program maintenance procedures.
- Present real-time parameters to spraying team for an improved quality of concrete and faster learning loop.
- Identify potential problems related to undersized equipment.

**PRODUCTIVITY IMPROVEMENT**

**REDUCTION OF WASTE**

## PARTNERSHIPS

