

OUR 5 AWARD-WINNING INNOVATIONS



Innovation Awards
Soletanche Freyssinet 2023



Category: **Management & Digital**

Geographical area: **Americas**

3D DEFECT MAPPING AND TRACKING

TUNNEL LOUIS-HIPPOLYTE LAFONTAINE (CANADA)

BACKGROUND

Need to quantify and detail the repairs of an initial estimate of 8,000 repairs to be planned and ensure quality monitoring of the entire rehabilitation project.

SOLUTION

- 1/** 3D capture of the tunnel using a 3D capture trolley designed for the site. Multi-acquisition to provide a before and after chronology.
- 2/** Use of beMap, our online 3D rendering software, which allows the section to be repaired to be measured and marked directly on the images.
- 3/** Beyond Asset, our digital repair tracking tool (including associated tasks such as inspection stages).

INNOVATION

This is the first project where the three elements mentioned above are combined and communicate with each other. Other similar offerings to date either require extensive manual integration or only include one of the three components used in this project.





Category : **Engineering & Technologies**

Geographical area: **France**

DIGITAL INSPECTION WITH AUTOMATIC DISORDER DETECTION

NEXT GENERATION INSPECTION

Reliably and comprehensively detect the presence of defects in a structure without need for traditional visual inspection.

- 1/ Scan the entire structure with a digital sensor.
- 2/ Create 2D, 3D or 360° inspection media.
- 3/ Automatically highlight anomalies or defects in the structure using the artificial intelligence of our Cameleon tool.
- 4/ Interpret and qualify the severity of the anomalies or defects (Sixense expert).

PROVIDE SAFE AND RELIABLE INFORMATION

- Reduce disruption to the operation of the structure (by limiting the need to use aerial platforms or rope access technicians).
- Improve our teams safety by using digital sensors.
- Time savings of 30% to 70%, depending on the structure being inspected.
- Enable digital asset management (archive of the state of the structure at a given moment).
- Increase the completeness and reliability of the survey (not related to the inspector's judgement).



Category: **Site know-how**

Geographical area: **Asia and Oceania**

4DVIB, SOLUTION FOR REMOTE DYNAMIC MONITORING OF STRUCTURES

SINGAPORE FERRIS WHEEL

Our 4DVib solution uses **interferometric radar technology** to **measure remote and high frequency displacement** of structures to provide:

- High frequency displacement measurements of structures,
- Vibration measurements,
- Determination of natural frequencies.

This solution **saves time** and eliminates the need to intervene on the structure, for **greater safety** and speed.

This innovation was used to monitor the Singapore Ferris Wheel. Faster and with less intervention and downtime, the 4DVib solution did not result in any operational stoppages. The replacement cables were inspected with 4DVib as soon as they had been installed.



Category: **Site know-how**
Geographical area: **Europe**

CYCLOPS MOBILE

AUTOMATISATION :

Automated solution for vertical movement of a precision measuring device (Cyclops) over a linear distance of up to 50m. This device replaces several Cyclops on the same vertical axis or the daily manual measurements made by a technician in an excavation or pit.

SAFETY AND TIME SAVINGS:

- Greater team safety thanks to fewer on-site interventions.
- Requires no more maintenance than a fixed Cyclops.

This solution has been patented in France



Category: **Marketing & Business Development**

Geographical area: **Asia and Oceania**

BEYOND MONITORING

DIGITAL REAL-TIME MONITORING PLATFORM.

BACKGROUND

This digital platform replaces our historic data integration and visualisation software (Geoscope), which has been developed and maintained for over 25 years.

SOLUTION

Beyond Monitoring is a software platform, accessible online or via an application, for the real-time management of data from client sites. It is a decision support solution that enables geotechnical, environmental and structural risks to be anticipated and controlled.

INNOVATION

Beyond Monitoring integrates all types of data from a variety of sources and formats, including third-party services. The solution also enables automatic curve correction following a jump in values or measurements from a smartphone.

To find out more



sixense-group.com

