



Cyclops

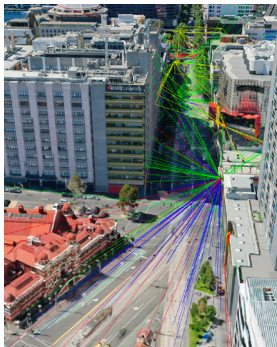
Automated 3D topographic monitoring of structures and surfaces

YOUR CHALLENGES

- Obtain **reliable** and **precise measurements** to manage **civil engineering** construction risk
- Monitor **movements** of **soil, structures** and **infrastructure**
- Follow **3D deformation** of structures



OUR SOLUTION



Cyclops is a **proven geodetic solution** for **continuous automated 3D monitoring** of structures and surfaces, providing:

- **remote, automatic, 3D movement measurement** with sub-millimetric accuracy
- the possibility to **group theodolites** within globally unstable areas to deliver guaranteed nominal accuracy

Cyclops is Sixense's world **leading** automated topographic measurement **solution** in terms of projects completed and **result quality**.

THE BENEFITS

- **A solution for a multitude of different situations and applications:**
Standalone or networked system, with or without prism, fixed or mobile, and installed within the zone of influence, but referenced outside it.
- **A system capable of coordination with the different phases of complex monitoring programmes:**
Adaptable following work phases.
- **Our experience and constant quest for data quality allow us to:**
achieve superior levels of reliability and accuracy.



• Our reputation for excellence is built on our client's satisfaction.

• The worldwide specialists in accurate and useful measurements.

• Expertise in measurements + structural expertise + competence in site interventions: Our teams understand your requirements and can develop optimised solutions for your project.

CONTACT US

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Cyclops

3D topographic monitoring
of structures and surfaces

TECHNICAL PRINCIPLES

Our Cyclops system has the ability to control the latest robotic theodolites to remotely monitor movements in three dimensions and/or perpendicular to a surface with sub-millimetric accuracy. Our applications include the option to group theodolites together in order to cover larger surface areas and guarantee delivery of the required level of accuracy.

The Cyclops system can be configured to undertake readings in automatic, semi-automatic or manual modes, allowing to be adapted to individual monitoring scenarios and change as required as monitoring requirements evolve: frequency of acquisition, energy saving, changing visibility, changing area of influence, safety requirements etc.



APPLICATIONS



Any project or structure affected by 3D deformation:

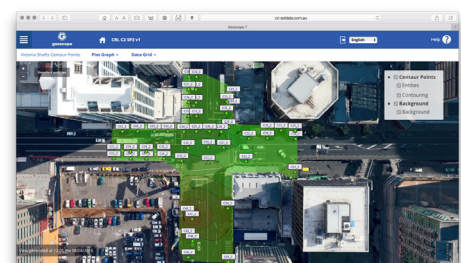
- absolute : 3-dimensional monitoring
- relative : distance monitoring, differential settlement, inclination, etc.
- **Structural and/or site deformation or movement:** buildings, bridges, dams, landslips, mines, rail tracks, etc.
- **Tunnel convergence, excavations**
- **Surface deformation** of roads, pavements, etc.

SPECIFICATIONS & LIMITATIONS

- **Real time measurements** processed automatically permitting **instantaneous result** and **analysis**.
- The results of each measurement point are independent from each other, and only depend on the automatic referencing process of each Cyclops.
- The total stations undertake optical measurements the measurement points must therefore be visible by the instrument
- In order to deliver accurate and repeatable absolute 3D deformation monitoring results, the reference point system is fundamental.

ASSOCIATED TOOLS AND SERVICES

- Intelligent **alarms**
- A turnkey service from installation to provision of **pre-processed data** in an accessible webspace
- **Geotechnical** and **structural** expertise needed to interpret measurements in ways that meet your requirements more accurately
- **Data quality control** and monitoring is optimised through **proactive maintenance** to ensure that **measurements** are **accurate** and **useful**



REFERENCES

- Grand Paris Express, France
- Mucem, Marseille, France
- Crossrail, London, UK
- Sagrada Familia, Barcelona, Spain
- Melbourne Metro, Australia
- Tunnel SR - Alaskan Way Seattle, USA

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