

## Press Release

# INGV AND FIBERCOPI PARTNER TO MONITOR SEISMIC AND VOLCANIC ACTIVITY VIA FIBRE OPTICS

*Trial launched to enhance nationwide surveillance activities*

*Rome, 26 February 2026* – The National Institute of Geophysics and Volcanology (INGV) and FiberCop have signed a Memorandum of Understanding to use fibre optics as a distributed sensor for seismic and volcanic monitoring. FiberCop – the operator of Italy's most advanced and extensive digital infrastructure – is providing the Institute with access to its fibre network for research and natural hazard monitoring, supporting the development of advanced geophysical surveillance systems. This initiative aligns with INGV's broader commitment to improving geophysical observation techniques by integrating innovative methodologies with existing instruments.

The MoU marks the start of a new phase of research and testing that positions the network not only as a provider of digital connectivity in Italy but as an innovative instrument to enhance safety and environmental risk prevention. It also represents a unique opportunity to integrate geophysical monitoring into existing digital infrastructure. By leveraging Distributed Acoustic Sensing (DAS) technology, previously trialled on the island of Vulcano, cables can be converted into a dense network of vibration-sensitive sensors capable of detecting seismic and volcanic events, including in subsea or hard-to-access environments.

During the trial conducted by INGV and international partners, over 1,400 seismic events were recorded within a single month, providing a diverse range of signals that enabled a detailed study of the island's hydrothermal system. The use of artificial intelligence and high-performance computing facilitated the analysis of over 20 terabytes of data, opening new avenues for volcanic surveillance and emergency management.

Under the terms of the agreement, FiberCop is providing INGV with sections of dark fibre to bolster geophysical observation in sensitive areas. The objective is to help establish a permanent, high-precision distributed monitoring system to complement

### **FiberCop S.p.A**

Sole shareholder company, part of the Optics Holdco Group – Management and coordination by Optics Holdco S.r.l.

Registered office: Via Marco Aurelio, 24 - 20127 Milan, Italy

Share capital €17,835,900.00 (fully paid-up)

Tax Code/VAT No. and registration with the Milan-Monza-Brianza-Lodi Business Register: 11459900962 - REA Milan

No. 2604085 – Certified email (PEC): [fibercopspa@pec.fibercop.it](mailto:fibercopspa@pec.fibercop.it)

and enhance traditional sensor networks, particularly in high-risk seismic and volcanic areas.

Data acquisition and analysis are currently underway using a fibre optic cable crossing the active seismic area of the Phlegraean Fields, spanning approximately 20 km from Bagnoli to Bacoli. The distributed structure of DAS measurements involves a high density of sensing points (every 5 metres), which improves the detection of minor events, especially during seismic swarms. INGV has developed an application for real-time data analysis and event detection using Artificial Intelligence.

*"FiberCop's network is a widespread system that enables digital connectivity, designed to ensure reliable and high-performance communications, and capable of assuming an even broader role by becoming an advanced platform for seismic and geophysical monitoring," said Massimo Sarmi, Chairman and CEO of FiberCop. "The agreement with INGV represents a strategic step in enhancing our infrastructure as a resource for local communities and reinforces our vision of a digital ecosystem that combines innovation, sustainability and responsibility, positioning fibre optics as a key element for the resilience and progress of the country."*

*"The signing of the Memorandum of Understanding between our Institute and FiberCop represents a significant opportunity to strengthen and enhance the effectiveness of geophysical observation techniques", said Fabio Florindo, President of the National Institute of Geophysics and Volcanology (INGV). "Ensuring a widespread, integrated, and efficient monitoring system, particularly in areas at higher seismic and volcanic risk, is a priority for us, also by adopting innovative methodologies to complement traditional observation instruments."*

Through this initiative, FiberCop is leveraging its network for the benefit of local communities, evolving its fibre infrastructure from a transmission medium into a monitoring tool via Fibre Optic Sensing. In collaboration with universities, research institutes, and European projects, the company is exploring new applications to detect temperature and mechanical variations across the network, developing solutions that integrate technology, sustainability, and safety.

The agreement forms part of a wider research and testing framework aimed at evaluating and implementing innovative technologies to support safety and risk prevention. In this context, the use of fibre optics represents a significant enhancement to existing infrastructure, opening new possibilities for nationwide environmental and natural hazard monitoring.

**INGV Press Office - [ufficio.stampa@ingv.it](mailto:ufficio.stampa@ingv.it)**

Marco Cirilli – Head of INGV Press Office – mobile: +39.347.0970621- e-mail: [marco.cirilli@ingv.it](mailto:marco.cirilli@ingv.it)

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**ISTITUTO NAZIONALE  
DI GEOFISICA E VULCANOLOGIA**

Serena Savelli – INGV Press Office – e-mail: [serena.savelli@ingv.it](mailto:serena.savelli@ingv.it)

Web: <https://www.ingv.it/>

**FiberCop Media Relations**

Email: [media.relations@fibercop.com](mailto:media.relations@fibercop.com)

Web: [fibercop.com](http://fibercop.com)

LinkedIn: <https://www.linkedin.com/company/fibercop/>

Instagram: [fibercop\\_official](https://www.instagram.com/fibercop_official)

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