



ID: 119296139

25-09-2025

Lisbon to host world's largest multicore fibre terrestrial testbed

TECHNOLOGY || The Lisbon University Institute (ISCTE) is to install the largest terrestrial multicore fibre (MCF) testbed in the world on Lisbon Metro's Yellow Line in a project worth around €2.3 million.

The public transport system network that will soon be headed by parliamentary deputy and management executive Cristina Vaz Tomé, is rolling the project out now, according to Vice-Rector Jorge Costa.

"Despite ISCTE not being recognised internationally, in areas of engineering, we have a very active team of fellows in the area of fibre optics," says Jorge Costa, adding that this project is being developed after the institute

won a European doctorate in the field of optical communications, "in particular in this latest generation of fibre optics technology."

This is a doctorate led by ISCTE in partnership with four other universities and several companies working in the area, with the institute carrying out tests on multicore fibre optics on the ground.

Says ISCTE, the "testbed" is being carried out in partnership with Heraeus Covantics, "a leading German company specializing in high-purity quartz products for fibre optic manufacturing".

"Tests are carried out inside the tunnels of an operating metro line, exposing the cables to vibrations,

temperature changes, humidity, noise, and constant movement," explains Adolfo Cartaxo, technical lead of the project. "This setup offers unmatched conditions to validate new optical cable and multicore fibre technologies in real-world scenarios, at a scale not found anywhere else in the world."

The Lisbon Metro is currently extending the Yellow Line to connect with the Green Line at Cais do Sodré, creating a circular line with new Santos and Estrela stations. Additionally, the Red Line is being extended from São Sebastião to Alcântara, adding new stations to serve the west of the city. There is also a future expansion of the Violet Line to Loures.