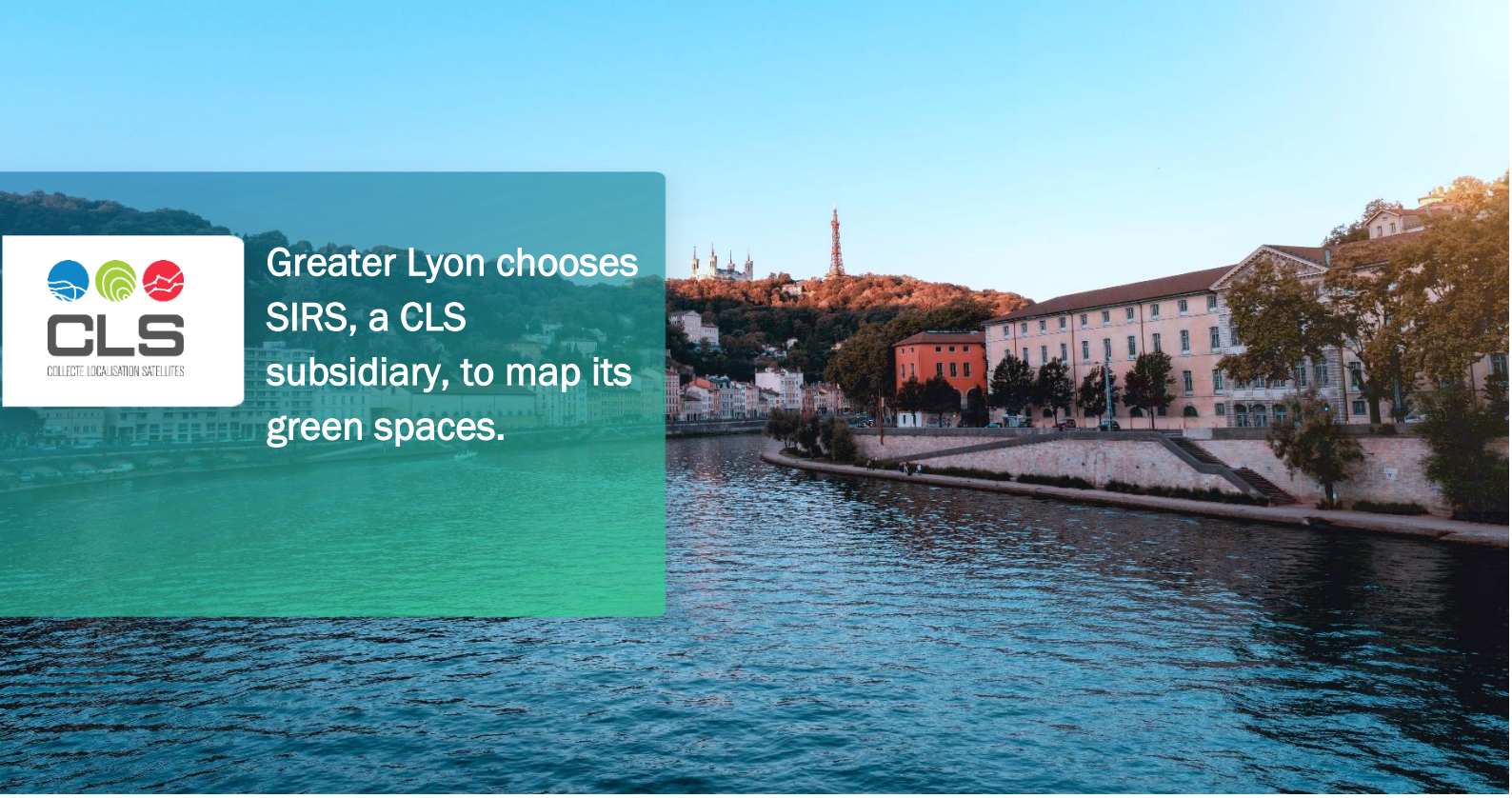

# Greater Lyon chooses SIRS, a CLS subsidiary, to map its green spaces.

## Press release

Summer 2019 in France was the third hottest on record since 1900. Green spaces play a key role in keeping local temperatures down and residents comfortable. But what's the best way to manage, preserve, and expand them? Greater Lyon has launched an innovative project aimed at mapping its green spaces to improve their management. It chose SIRS, a subsidiary of CLS specializing in geographic data for over 30 years, to help with this endeavor. What's new about this project? SIRS used deep learning to automate processing of the mass of data (350 GB of LIDAR data, 700 GB of 2015 RGB, with an IR resolution of 8 cm) and speed up its analysis. In nine months, it was able to generate a precise, comprehensive, homogenous set of qualitative maps (reliability > 92%). This information is a strategic land use planning tool that helps the city track green space distribution and urban spread, plan greening projects, and initiate offset measures to protect biodiversity and natural habitats.

### Greater Lyon: Ecological land use management

Greater Lyon comprises 59 municipalities spread over 533 km². To better manage expansion and improve quality of life for its 1.4 million inhabitants, it hired SIRS to map and characterize the city's vegetation as part of its urban and habitat planning review process.

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## SIRS: An innovative solution

To carry out this mission, SIRS, a geographic database and deep learning expert, had to develop new methods.

“To meet the needs of Greater Lyon, we developed an automated process for cross-analyzing aerial infrared images—enabling us to ‘see’ the vegetation—with LIDAR layers to estimate its height,” explains Konrad Rolland, who heads up the local and regional communities unit at SIRS. “The data is then enriched through the careful work of photoanalysts, who amend the initial automated maps and accurately identify plant cover such as trees, shrubs, lawns, thickets, wet meadows, marshes, hardwoods, softwoods, etc.”

**In only nine months**, SIRS was able produce very large scale (1/2000) maps of the entire Greater Lyon area, including **over 200 km² of green space**. One of the advantages of this method is that it is repeatable so that changes can be regularly tracked.

David Zenovelli, an expert in geographical information systems at Greater Lyon’s land use strategies and urban policy department, explains: “SIRS’s work, checked and approved by the ecological auditor, ECOSPHERE, enables Greater Lyon to update and improve its knowledge of the vegetation in the city and surrounding area. We use the data generated by SIRS to produce 3D maps, which provide detailed information on plant cover. This information helps us manage our greenways and better understand issues related to greenspace and hydrological networks. It is a strategic tool for planning land use, tracking urban spread, and implementing offset measures to protect biodiversity and natural habitats.”

Protecting its 90,000 trees and 12,000 hectares of greenspace is a priority for Greater Lyon. The expertise SIRS brings to the table enables Greater Lyon to take an innovative approach to managing its green space and learn more about the plant cover in its urban and periurban areas.

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## About Greater Lyon

Greater Lyon is an urban community created on January 1, 2015. It is unique in France and is the result of a merger between the Urban Community of Lyon and the Rhône Department.

It comprises 59 municipalities and has a population of 1.4 million. It works to encourage innovation, boost the local economy, develop a more united and balanced urban community, and improve quality of life for all its residents.

## About SIRS

An expert in analyzing and using geographic and Earth observation data, SIRS generates, tracks, analyzes, and provides temporal and spatial land use data for local and regional communities. Its staff of 50 geographers, land use planners, environmental experts, and GIS specialists has mapped over 50% of the cities in France over the past 30 years.

## About CLS

CLS, a subsidiary of CNES, ARDIAN, and IFREMER, is a global company that has provided cutting-edge Earth observation and monitoring solutions since 1986. Its mission is to deploy innovative space-based solutions to understand and protect our planet and manage its resources sustainably. CLS employs 720 people at its headquarters in Toulouse, France and its 25 other sites around the world. The company works in five strategic areas: sustainable fisheries management, environmental and climate monitoring, maritime surveillance, fleet management, and energy & mining.

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