

ASSESSING THE MATURITY OF NATIONAL EO CAPACITIES

THE EU-FUNDED GEO-CRADLE PROJECT HAS ESTABLISHED A SET OF 'MATURITY CARDS' TO DETERMINE HOW ADVANCED A COUNTRY'S EARTH OBSERVATION ACTIVITIES ARE. **MÓNICA MIGUEL-LAGO** EXPLAINS HOW THEY WORK – AND WHAT THEY REVEAL

Earth observation (EO) is increasingly used around the world to tackle key societal challenges. To maximise its impact, decision-makers and other members of the value chain require reliable data about the state and progress of different aspects of EO activities.

The EU-funded H2020 GEO-CRADLE project (geocradle.eu) has established an analytical tool to measure the current EO capabilities of a country and their evolution over time.

A set of indicators have been defined across three main fields – Capacities, Cooperation, and National Uptake and Awareness – to assess EO maturity levels. These indicators concern aspects such as the presence of a designated space authority (in connection to the coordination of EO activities, too), the quality and scale of technical capacities and infrastructure (such as in situ networks, ground-based facilities, own space-borne assets, modelling capabilities and data exploitation platforms), the overall scientific output (including the number of publications and courses related to EO), the maturity of the private sector (including the number of companies, employment figures and existence of clusters).

These 'maturity cards' were tested with 11 countries from the Balkans, Middle East and North Africa, and were shown to be independent, reliable, robust and replicable ways to assess the state and progress of different aspects of national EO activities. They are a powerful tool for highlighting



strengths and weaknesses, communicating identified gaps, understanding the level of uptake of key initiatives such as Copernicus and GEO, and guiding future EO activities.

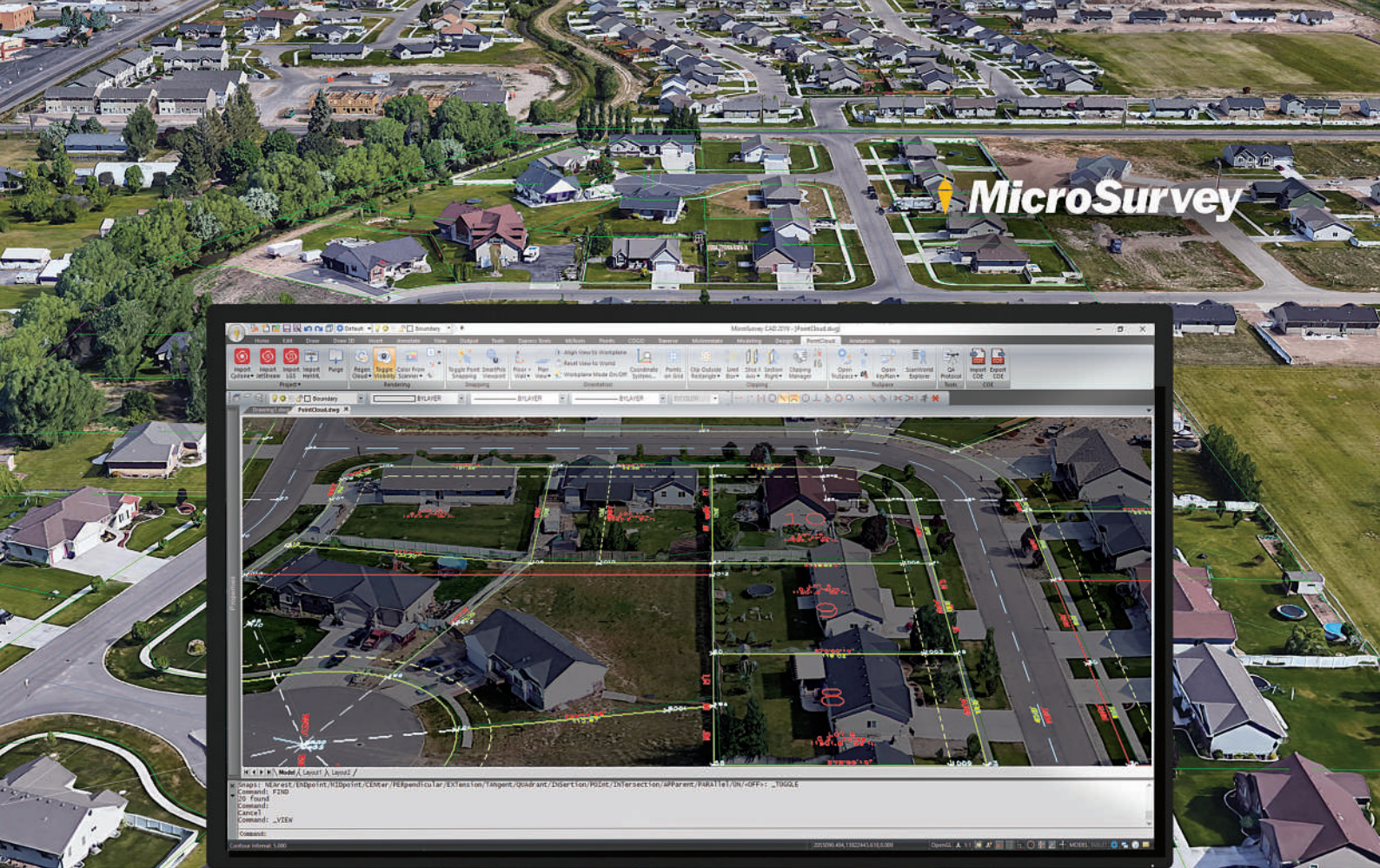
Looking at an aggregate of all the selected indicators of the data collected, as well as comparing individual indicators across countries, we observe large discrepancies in the maturity levels. The EO sector develops as a system, wherein investments and connectivity among the actors in the ecosystem drive its overall maturity. Thus, we

observed stark differences when it comes to how advanced national EO-related infrastructure is. In most countries the EO sector is dominated by public sector bodies. In contrast, the academic sector is performing at a higher level.

The GEO-CRADLE maturity cards show high levels of maturity in Greece and Israel and the lowest levels in Albania and FYROM. Consequently, the current results reflect the impact of long-term investment in EO activities, driven by a national strategy, such as in Israel, or European funds, such as in Greece, Romania and Serbia. Moreover, gaps resulting from limited or discontinued involvement in international collaboration, such as in Albania, are fully captured.

The maturity cards also confirmed that the comparison of country performance is a complex process – a single set of indicators cannot be used to uniquely decide the maturity of a country. Rather, the assessment we have performed provides the basis to substantiate a first-order 'defensible' level of maturity, by supplying a chain of semi-quantitative evidence that can be used to support the assignment of given 'scores' against the different indicators.

Mónica Miguel-Lago (EARSC) is executive secretary at EARSC (www.earsc.org)



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