

Security applications using satellite EO data to support the achievement of the UN SDGs

Sergio Albani, Michele Lazzarini, Adrian Luna, and Paula Saameno

EUROPEAN UNION SATELLITE CENTRE, RTDI, TORREJON DE ARDOZ, Spain (sergio.albani@satcen.europa.eu)

The 2030 Agenda for Sustainable Development (ASD), adopted in 2015 by the United Nations General Assembly, defines 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries in a global partnership. Satellite Earth Observation (EO) data make the prospect of a Global Indicator Framework for the SDGs viable, allowing for up-to-date statistical outputs and improved accuracy in reporting by including the geospatial perspective as well as and contributing to more effective situational awareness.

A key international framework for global uptake of satellite EO data in support of SDG attainment is the Group on Earth Observations (GEO). GEO global priorities include supporting the UN 2030 ASD as well as the Paris Climate Agreement and the Sendai Framework for Disaster Risk Reduction. At European level, the EuroGEOSS initiative works to maximize the benefits deriving from the exploitation of European EO resources (e.g. Copernicus) for the wellbeing and security of society, especially by applications leveraging the GEO Global Earth Observation System of Systems (GEOSS).

The 2030 ASD highlights that “sustainable development cannot be realized without peace and security; and peace and security will be at risk without sustainable development”. In this context, the mission of the European Union Satellite Centre (SatCen) becomes twofold relevant in support of the SDGs.

Being an EU Agency with unique geospatial intelligence capabilities, SatCen supports the decision-making and actions of the EU in the field of the Common Foreign Security Policy (CFSP) by providing products and services resulting from the exploitation of relevant space assets and collateral data. As a GEO Participating Organization, SatCen leads the GEO Space and Security Community Activity, and contributes to the advancement towards the attainment of specific SDGs through the activities of its Research, Technology Development and Innovation (RTDI) unit.

The RTDI unit is implementing Earth Science applications to address the SDG targets with a Security component and in line with the EuroGEOSS initiative. These applications use several data sources (satellite EO data together with other geospatial data such as open data, citizen science information and in-situ measurements) to monitor different man-made and natural resources (e.g. built-up areas, water bodies and agricultural fields). The combination and analysis of these inputs gives as output information relevant to the Space and Security stakeholders, enhancing their capabilities in supporting the 2030 ASD. These developments aim at building an operational framework enabling multi-stakeholder participation and improving the adoption of new solutions to support the achievement of the SDGs.