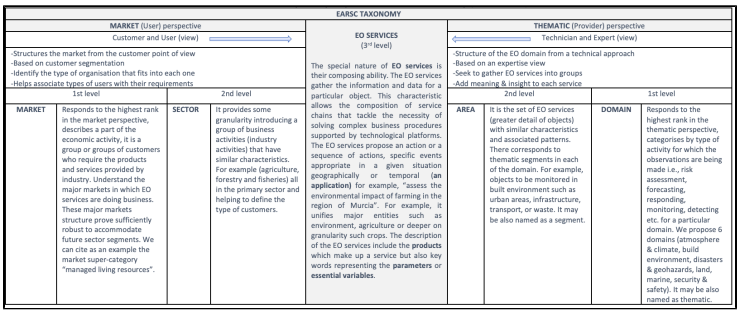
EO Taxonomy

Market View

EARSC's extensive engagement with Earth observation user communities has highlighted the need for a common language to help services providers and users arrive at a mutual understanding of the types of services that can be offered and the benefits that can be delivered. We have developed an Earth observation taxonomy that is not only a process of naming and classifying EO services but additionally a tool to improve the understanding between these communities.



EARSC TAXONOMY							
MARKET (User) perspective Customer and User (view) ⟹ -Structures the market from the customer point of view -Based on customer segmentation -Identify the type of organisation that fits into each one -Helps associate types of users with their requirements				**EO SERVICES** (3rd level) The special nature of **EO services** is their composing ability. The EO services gather the information and data for a particular object. This characteristic allows the composition of service chains that tackle the necessity of solving complex business procedures supported by technological platforms. The EO services propose an action or a sequence of actions, specific events appropriate in a given situation geographically or temporal (**an application**) for example, "assess the environmental impact of farming in the region of Murcia". For example, it unifies major entities such as environment, agriculture or deeper on granularity such crops. The description of the EO services include the **products** which make up a service but also key words representing the **parameters** or **essential variables.**	**THEMATIC** (Provider) perspective ⟸ Technician and Expert (view) -Structure of the EO domain from a technical approach -Based on an expertise view -Seek to gather EO services into groups -Add meaning & insight to each service			
1st level		2nd level			2nd level		1st level
MARKET	Responds to the highest rank in the market perspective, describes a part of the economic activity, it is a group or groups of customers who require the products and services provided by industry. Understand the major markets in which EO services are doing business. These major markets structure prove sufficiently robust to accommodate future sector segments. We can cite as an example the market super-category "managed living resources".	**SECTOR**	It provides some granularity introducing a group of business activities (industry activities) that have similar characteristics. For example (agriculture, forestry and fisheries) all in the primary sector and helping to define the type of customers.		**AREA**	It is the set of EO services (greater detail of objects) with similar characteristics and associated patterns. There corresponds to thematic segments in each of the domain. For example, objects to be monitored in built environment such as urban areas, infrastructure, transport, or waste. It may be also named as a segment.	**DOMAIN**	Responds to the highest rank in the thematic perspective, categorises by type of activity for which the observations are being made i.e., risk assessment, forecasting, responding, monitoring, detecting etc. for a particular domain. We propose 6 domains (atmosphere & climate, build environment, disasters & geohazards, land, marine, security & safety). It may be also named as thematic.

The taxonomy includes a generic and comprehensive definition of available products and how these form the basis for the delivery of the EO services (the combination of e.g. EO products, in-situ data, modelling etc.) to deliver contextualized knowledge to citizens, business, government and other organisations. The taxonomy takes a two-sided approach, describing this common list of services from both the suppliers' and users' points of view. These two views are interconnected in the figure in your right and described in the links below.

- Executive summary
- eoTAXONOMY
- Market/User's EO needs (EARSC taxonomy)
- eoTAXONOMY (extended description)

For more information contact Monica Miguel-Lago

Market View



Thematic View



The chart above show the organisation of all EO services from the user's perspective, i.e. from the market or sector within which any given service would be used. The Market view is organised: • **By Market** – Services are grouped Into **8 main markets**, e.g. citizens, defense & security, infrastructure & transport… • **By Sectors** – Each market is split into a number of more specific sectors corresponding to specific niches within that market to which the services apply e.g. the 'Energy and mineral resources' market contains the sectors 'Renewable energy', 'Oil & gas' and 'Raw materials'. There are **26 sectors** in total. • **By sector composition** - examples are given of the types of organisation that make up the market sector e.g. users in managed living resources refer to human activities exploiting natural organic resources (users in agricultural commodities, trading, agricultural production and horticulture, agricultural services, agriculture machinery, agriculture and rural development policies, etc. This helps define the sector and its EO-related needs.	The chart above shows the organisation of all EO services supplier's perspective. The Thematic view is organised: • I**nto 6 main Domains (or classes)** - This refers to th applications of EO technologies and stems from the d scientific schools from which different approaches hav developed, e.g. marine applications have been develo different community than geohazard or atmospheric p • **By Areas** - These Domains are then split into **32 ther segments (or Areas)** below that showing specialisati those field, e.g. within the Marine Domain we include detection of ships, marine pollution, sea ice… • **By service descriptions and keywords** – a non-exh of keywords are provided for each Area that help to d Area. These keywords are presented in relation to a f verbs that describe the action undertaken in the servi monitor, detect, track, assess… For a full description **EO services**) see either the reduced or extended des linked to above.

Previous EARSC Taxonomy (v2015)