EPO/ESPI/ESA Patent Insight Report
"Spaceborne sensing and green applications

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OBJECTIVE

- Investigate key trends in the utilisation of remote sensing from space in support of "green" agenda through assessment of patent filing data

WHY PATENTS

- The use of patents enables the protection of novel technical inventions to claim exclusivity on their commercial exploitation. In the high-tech space domain, **patent protection is one of the factors with which government, companies and academia are able to ensure the return on their R&D investment**.
- Patent filing statistics provide **interesting indicators to measure and examine innovation, commercialisation and knowledge transfer trends**.
- Dedicated exploitation of these patent databases and registers **can reveal unique insights into sector trends and support.** Patents provide means **of observing technology trends, key innovators and policies**. **This data can be combined with further public information such as national R&D budgets and specific market studies.**

Europäisches Patentamt
European Patent Office
Office européen des brevets

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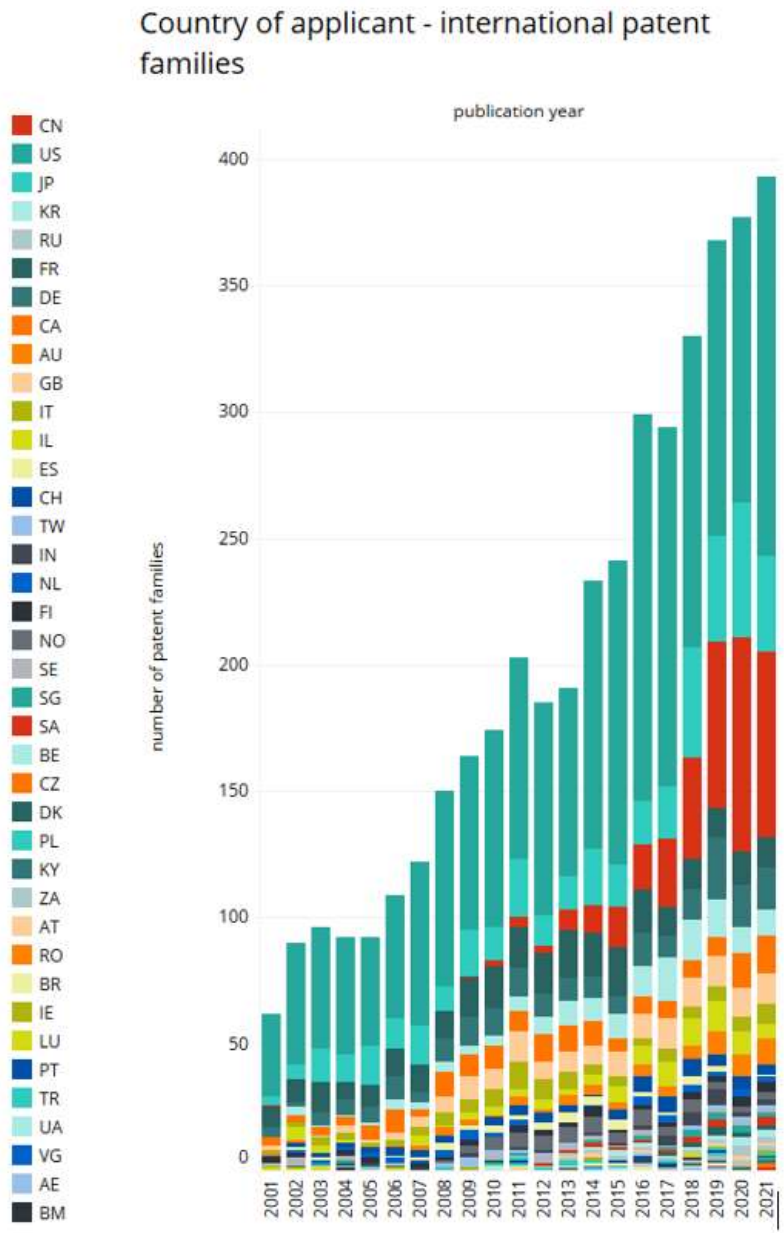
IN COLLABORATION WITH esa



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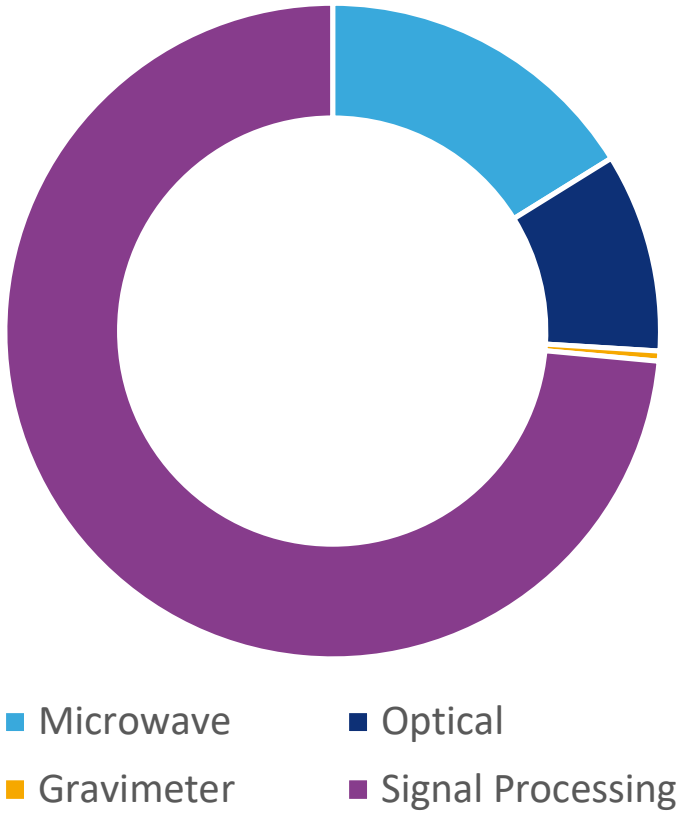
EXAMPLE 1: KEY OBSERVABLES WITH PATENT FILING ACTIVITY

The methodology for this study included elaboration of more than 50 individual observables across land, water and air domains, which were individually elaborated in search queries for retrieval of patent filing data.

Observables with the highest amount of patent filing activity related to green applications of space-borne sensing include a rather diverse set of indicators, such as:

- crop productivity
- land use
- rivers / coastal zones
- water vapour / clouds
- extreme events (floods, earthquakes, tsunamis, volcanic eruptions etc.)

EXAMPLE 2: TECHNOLOGY BREAKDOWN



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Patents also provide a lever for access to finance and to create new partnerships through licensing or technology transfer.

Patent databases therefore contain a wealth of technical information on both patent applications and granted patents, much of which cannot be found in any other source and which **anyone can use for their own research purposes. Patent databases can be accessed free of charge.**

Decision-makers for policy, technology, science, ect. can use patent data as a tool to investigate topics in their interest:

- Climate change patents and industry indicators especially relevant for a specific country or industry domain (oceanic, costal, land, permafrost, forestry, desert, etc.)
- Analysis to find strong and strategic partners in the investigated value chain (i.e. decarbonisation, data analytics, agriculture, etc.)
- Identify opportunities for strategic research in climate change domains

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