

NEW FRONTIERS IN ENVIRONMENTAL MONITORING: SATELLITE TECHNOLOGY AND SUSTAINABILITY



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The current panorama requires an increasingly innovative and technologically advanced approach to tackle global environmental challenges. In this context, new satellite monitoring technologies emerge as a key resource for Earth observation and sustainable management of natural resources. New perspectives open up to explore the most advanced applications in this crucial field for environmental sustainability: Ecomondo 2024 will delve into them in the new dedicated exhibition district "Environmental Monitoring & Earth Observation".

The evolution of satellite monitoring technologies has enabled the development of integrated solutions to monitor water, air, soil and climate simultaneously and accurately. This holistic approach provides a comprehensive view of the state of the environment and enables any critical issues to be quickly identified, facilitating timely and targeted interventions.

The application of artificial intelligence (AI), big data analysis and satellite data is revolutionising the environmental monitoring sector. Advanced processing of data from satellite sensors makes it possible to create predictive models to forecast and mitigate the effects of climate change, representing a real frontier in the fight against global warming and extreme weather events.

Satellite data analysis is at the core of environmental monitoring, allowing trends, identifying patterns and monitoring the evolution of critical environmental phenomena with unprecedented accuracy. Thanks to increasingly sophisticated sensors and more efficient data transmission systems, satellite monitoring is becoming more and more precise and reliable, offering detailed information on the environment with a frequency and resolution, which were unthinkable just a few years ago.

Alongside advanced technologies, there is a growing interest in nature-based solutions. The adoption of nature-based approaches, such as the restoration of natural ecosystems and

sustainable resource management, is proving effective in promoting long-term sustainability and counteracting biodiversity loss.

Spatial planning based on data and earth observation is essential to prevent and mitigate environmental risks. The information provided by satellites enables the development of adaptation and resilience strategies to protect communities and ecosystems from the consequences of climate change.

Finally, the European Union plays a key role in tackling climate change through its adaptation mission. By promoting innovation and collaboration, the EU is supporting the development and implementation of advanced solutions to protect the environment and build a more sustainable future for all.

In conclusion, new satellite monitoring technologies are a valuable asset in the fight against global environmental challenges. With integrated solutions, advanced analysis and a shared commitment, we can protect our planet and create a greener and more resilient future for future generations. Ecomondo 2024 offers an important platform to explore these new frontiers of sustainability and to promote innovation in the field of environmental monitoring and Earth observation.