

Space-based systems for resilient and low-emission societies

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ESA Member States and domains of expertise



space science



human spaceflight



exploration



earth observation



launchers



navigation



operations



technology



telecommunications

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Future constellations & resiliency of space systems



- Will depend on Member States at ESA and in the EU
- Commitment by EU to ensure continuity of Sentinel family (continuity of observations)
- New Sentinels being studied to complement the constellation
- Continuity of Galileo constellation – next generation prepared
- Support to telecommunication industry for the development of the new competitive European satellites



Resiliency of space systems not enough

- Resiliency of space systems alone (without usage) is not resiliency
 - Quantity of data available for free: not useful as such
 - Dozens of applications developed in support of resilient and low-emission societies
 - Also technology transfer and support to start-ups contribute to global resiliency
- Need to identify what is available



ESA & Global Challenges



Use of ESA technology for humankind's development

Development of a wide range of space programs that provide useful contributions for sustainable development

Raises awareness on space capability to help stakeholders achieve the Sustainable Development

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Hurricane Matthew



- Informing populations
- Putting installations in safety mode
- Damage evaluation





Banking systems





SWAYFOREDU2



➔ Realization of a cluster of 12 satcom-enabled schools in the rural areas of South Africa (Mpumalanga) and 1 school (3 classes, about 75 students) and Italy (Basilicata Region) for the development of competences in IT and in the environment.

SUPPORT TO E-LEARNING AND SPECIALISED LEARNING



Develop awareness amongst local youth, as well as amongst the wider community members, of the importance of preserving their local wildlife heritage and to adopt a more sustainable approach to daily living. This is crucial for Singita and SA government to



Models for sustainability - technology





Proposed recommendations – short term



- Identify main challenges faced by countries to:
 - Improve SDGs associated to low-emission and resilience
 - Measure the progress made (using space assets or technologies)
- Map the space applications, services and technologies that can support the improvement of low-emission and resilient societies (part of ESA catalogue and UNOOSA Space Solutions Compendium)
- Establish a relay between the developing countries and the space applications and service providers to inform on what is available to support the development of low-emission and resilient societies.



Proposed recommendations – medium term



- Study and promote space tools allowing to support disaster risk reduction and preparedness (agriculture, water, education, infrastructure...)
- Develop capacity-building for the treatment of big data (data analysts and integrators) integrating space and ground information
- Organise brainstorming events between “users” and space experts to imagine future applications or tools that could support the achievement of a lower-emission and better resilient society



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