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URBAN GROWTH MONITORING WITH COPERNICUS DATA

>>> A few years later

In the past few years, technical achievements and possible economic advantages of this urban growth monitoring use case have been noticed. Currently, the valorisation of such benefits is under investigation, specifically the possibilities to raise the application's Technology Readiness Level (TLR), to upscale the service with the involvement of users, to measure and monitor the effect of territorial and urban policies in response to effects of climate change.

Nadine Tholey | ICube-SERTIT



BENEFICIARIES	ICube-SERTIT	Haut-Rhin department in the French Grand Est region (along the French - German border)	GIS Technical staff (public technical agencies); Urban planners and Architects	Citizens and Society
	SERVICES	TIER 1: SERVICE PROVIDER	TIER 2 PRIMARY USER	TIER 3 SECONDARY USER
	Sentinel-2; Contributing Missions (such as Pleiades and SPOT6-7)	Urban growth monitoring service; Urbanization evolution per municipality; Specific indicators and environment profile diagnostics	Monitoring of the development of new constructions within authorised built up areas; More sustainable territory management (solutions for land-consumption issues)	Improvements in public awareness regarding the developemnt of built environnement

Value chain definition following SeBS Methodology - <https://earsc.org/sebs>

The space-based solution

This Copernicus-based solution was produced by a scientific entity for a for a Public Administration. From technical perspective, the solution is now more accurate and reliable: it provides products at a higher spatial and temporal resolution over an increased geographical coverage.

The Usage Maturity Level

Over the past few years, the solution remained at the same UML. The main reason for this is because during the last period, there was no need to perform further investigations.

Thematic Area



TERRITORIAL MANAGEMENT AND URBAN PLANNING

Region of Application



HAUT-RHIN

Sentinel mission used



S2

Copernicus Service used



-

Usage Maturity Level



3

Overall benefits

ECONOMIC



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

ENVIRONMENTAL



- Reduced depletion of natural resources
- Improved monitoring of urban growth facilitates decision making in urban and territorial planning related to preservation of environment

REGULATORY



- There were improvements in the policy monitoring capabilities of the PA in charge
- The solution has facilitated or improved the compilation of institutional reports by the PA
- The solution has improved the PA's capabilities to detect and assess non-compliances

INNOVATION



No noticeable additional modification/impact on the functioning of the public administration nor on the lives of the citizens since 2018.

SCIENCE



- The solution has helped to improve understanding about a specific topic of interest traditionally not related to Earth Observation (EO)
- There was an increase in technical/scientific expertise related to Copernicus/EO within the PA

SOCIETAL



- There have been improvements in public awareness

Benefits classification following SeBS Methodology - <https://ears.org/sebs>

Interesting facts...

This solution illustrates how Copernicus and EO-derived information related to urban growth monitoring could stimulate cross-border concentration in the urban planning decision making process and support more effective implementation of European and national environmental policies (e. g. preservation of natural space, limitation of urban sprawl).

Outlook to the future

French Grand Est region shares border with Belgium, Germany, Luxembourg and Switzerland. Possibilities for a trans-national approach and extension are under investigation, especially for cross-border highly urbanized areas, facing similar challenges in urban planning and territorial management.

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ABOUT COPERNICUS4REGIONS

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