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A MAP OF EARTH OBSERVATION DATA APPLICATIONS FOR CITIES

Abstract

Sustainable Development Goal 11 is focused on cities, supporting more than half of the world's population. Cities are hubs for ideas, commerce, culture, science, productivity, social development and much more. Cities enable people to advance socially and economically. However, many challenges exist to maintaining cities in a way that continues to create jobs and prosperity without straining land and resources.

Earth Observation (EO) and GNSS data support many of the world cities' challenges. It supports urban mapping and infrastructure monitoring to help plan and manage a diverse and wide range of city services and structures. EO and GNSS-based services create smarter, sustainable and liveable cities by optimizing challenges like traffic management, energy consumption, water availability, heat distribution, and improving urban mobility, and monitoring air pollution, among others.

One of the key problems in applying space data solutions to cities is the fragmentation on both sides of the market. Although many space data solutions exist, these are often developed to solve a single problem, or small set of problems, often for a specific geography or individual city, even though space data applications typically apply to any place on the globe.

On the demand side of the market a similar fragmentation exists between cities or regions. So even though city managers in different cities have very similar problems, these are often solved by each city individually, without much interaction with other cities or regions. This is a problem between cities across countries, and even between cities within the same country.

This paper aims to support the user uptake of space data for cities by mapping available solutions at international, national, local and commercial scale. The inventory of these applications underlying this paper will then be translated into a searchable website, available to anyone looking for solutions, and promoted to relevant potential users. Currently such inventory does not exist.

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