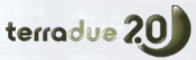
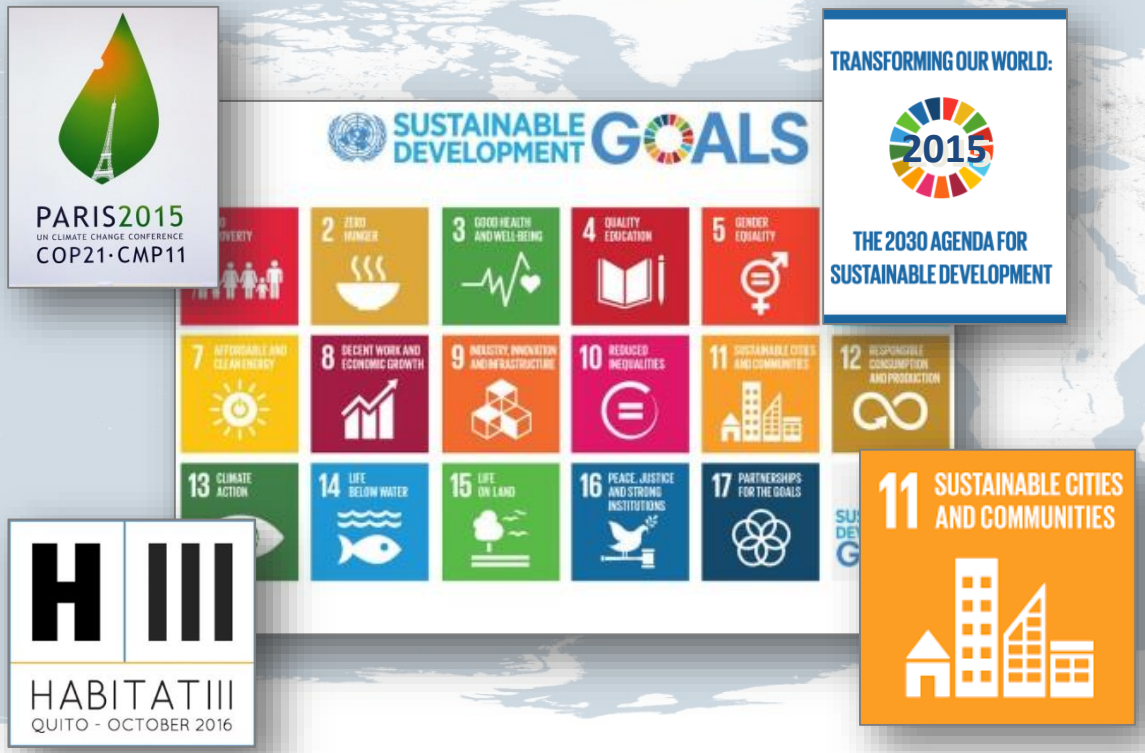
UrbanTEP

UrbanTEP – Data Products, Processing Capabilities, Data Analytics and Visualization Tools for Urban Monitoring

Felix Bachofer, Martin Boettcher, Carsten Brockmann, Thomas Esch, Stefanie Feuerstein, Pedro Goncalves, Mattia Marconcini, Mwaniki, Dennis, Michal Opletal, Fabrizio Pacini, Tomas Soukup, Vaclav Svaton, Zhiyuan Wang



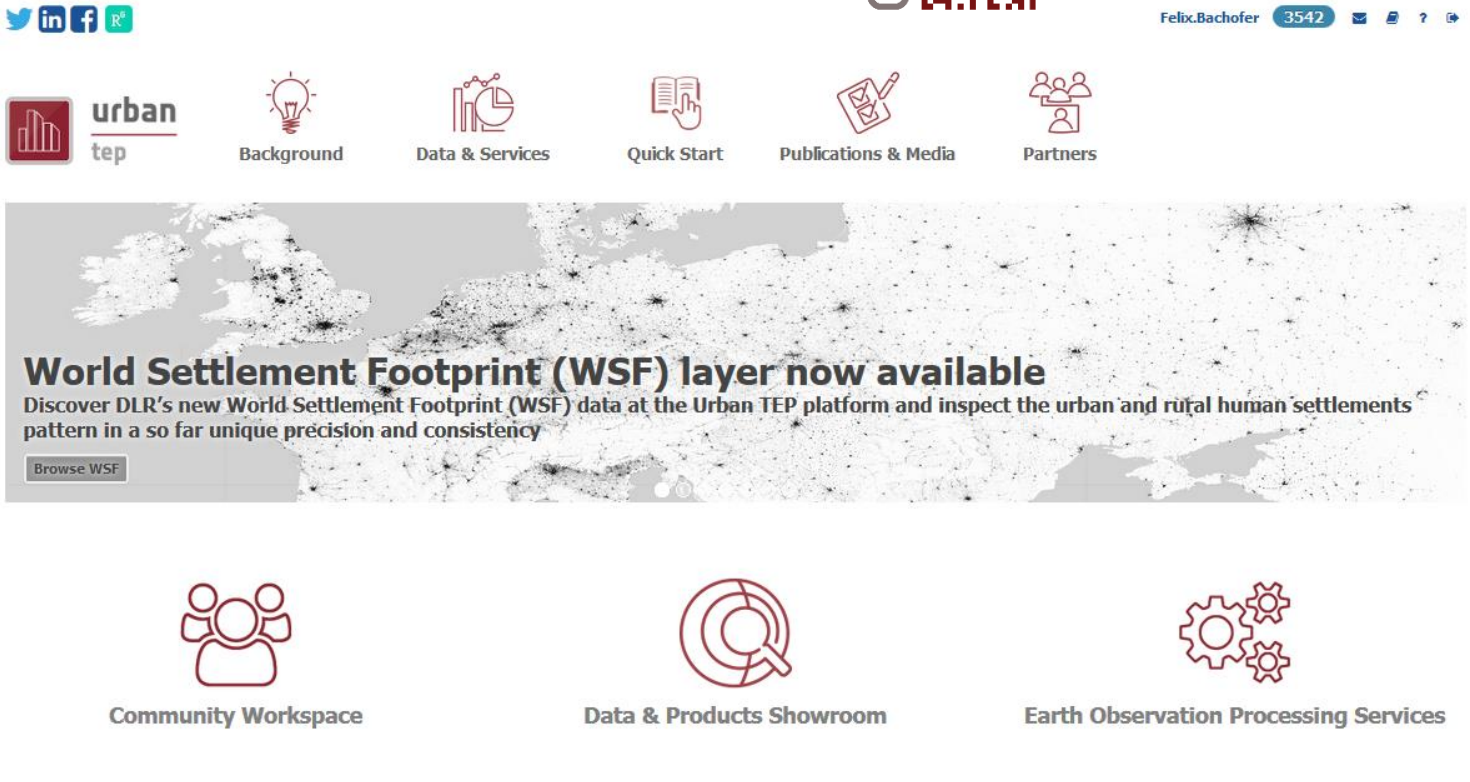
Motivation



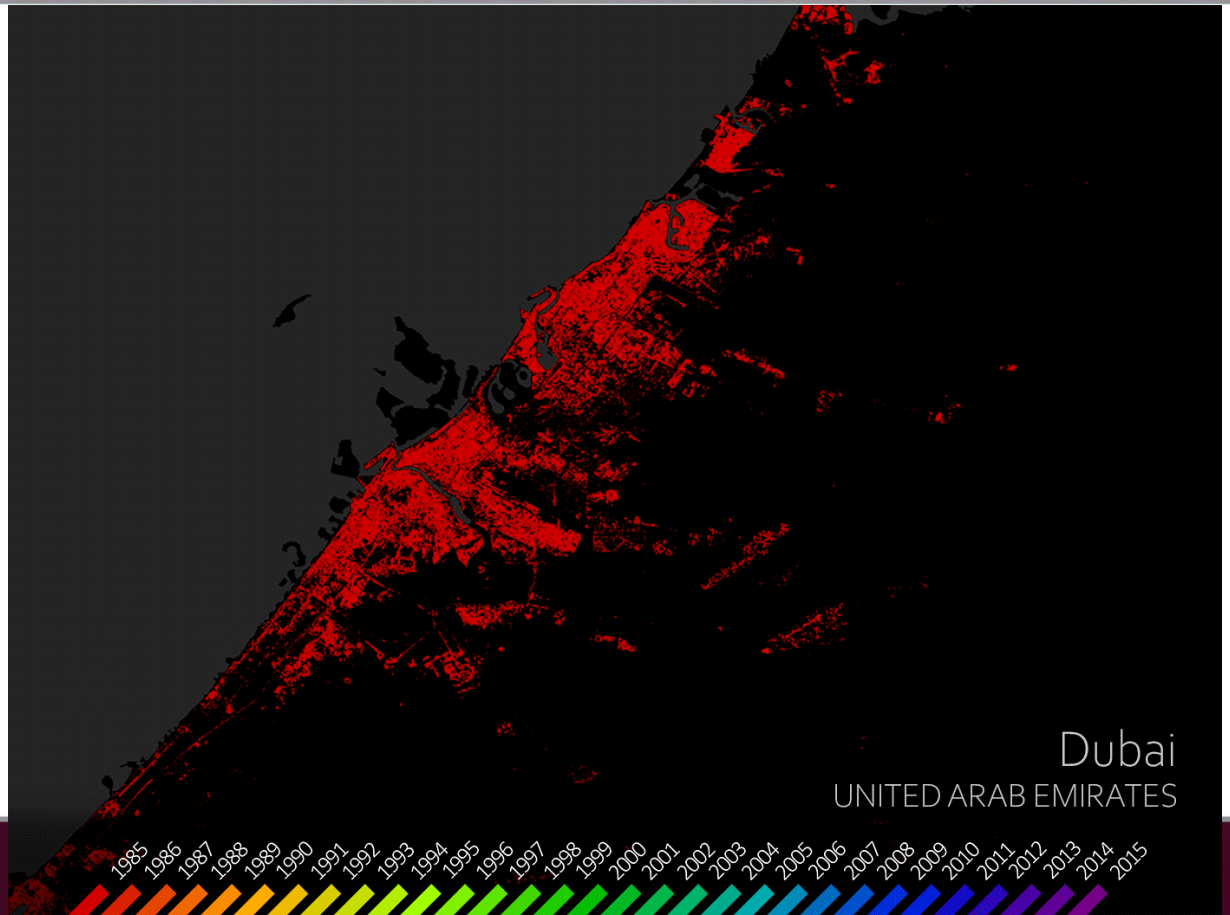
Urban Challenges

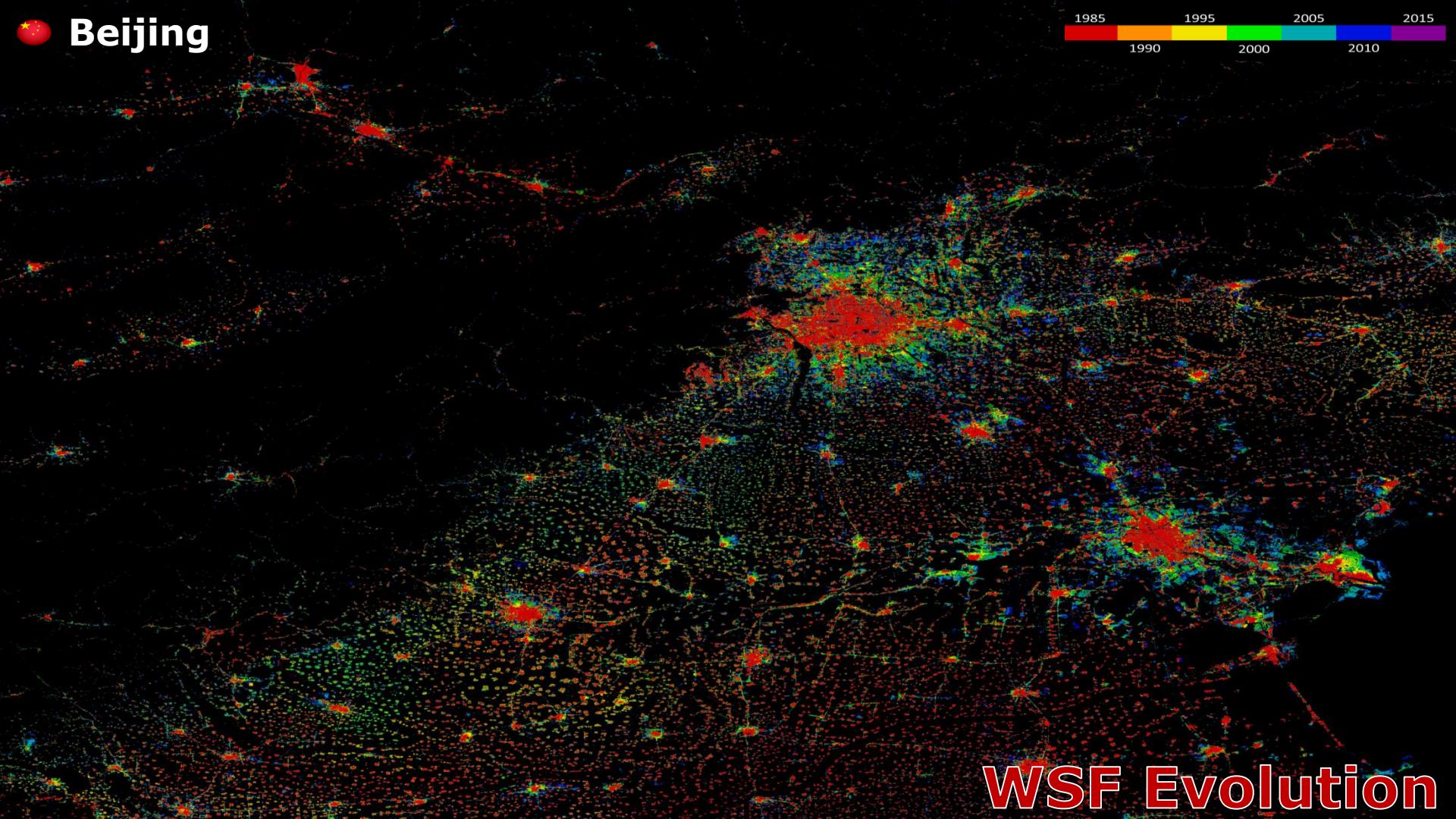
- Water
- Energy
- Waste
- Air pollution
- Climate
- Food
- Risk adaptation and mitigation
- Growth management
- Living conditions
- Basic services
- Transportation
- …

Platform urban-tep.eu



Unique Data Portfolio




Beijing
1985
1990
1995
2000
2005
2010
2015
WSF Evolution

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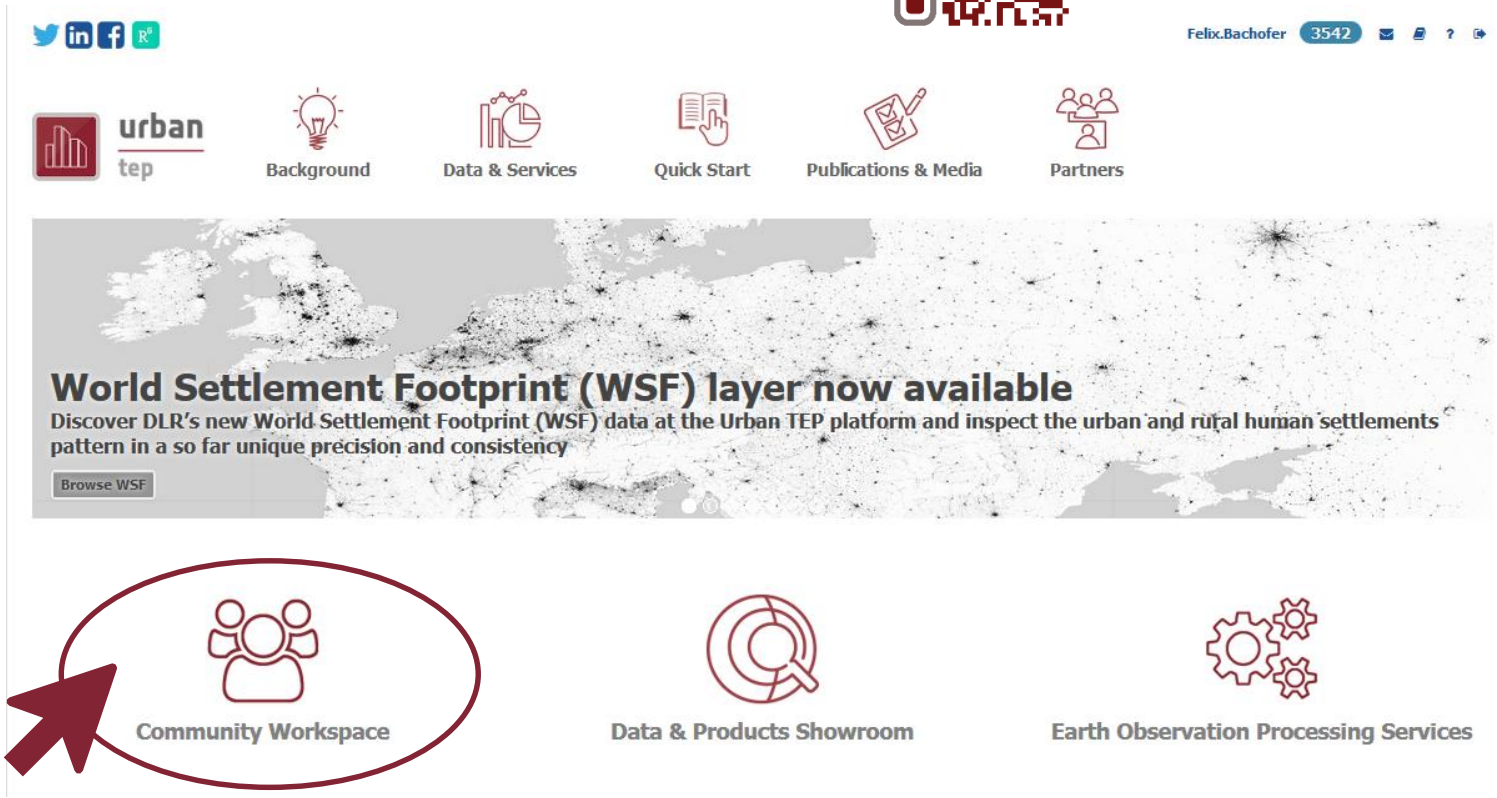

Community Workspace

EO4SD-Urban

An ESA project aimed at deriving key geo-information products from Earth Observation data in support of urban development programmes.

16 members
public
Enter

The Sustainable Development Goals are th
future for all. They address the global cha
inequality, climate, environmental degrada
interconnect and in order to leave no one
and target by 2030. Click on any specific

15 members
public

FloodAdaptVN

by DLR (project lead) and funded by the German Ministry for Education and Research (BMBF)

This community represents the FloodAdaptVN research consortium. The project aims at investigating both entry points for and barriers towards the implementation of ecosystem-based solutions for disaster risk reduction (DRR) and adaptation as well as exploring climate risk insurance solutions. Study area is Central Vietnam with a focus on the Hue coastal urban region and its hinterland. Earth observation based products, as well as geospatial analysis and modelling, provide important contributions to various aspects of the complex situation in the study region.

4 members
private
Enter

The German Aerospace Center (DLR) is th
the Federal Republic of Germany. Its exte
aeronautics, space, energy, transport, sec
international cooperative ventures. In add
agency, DLR has been given responsibility
implementation of the German space prog
of Germany's largest project management

4 members 1
private

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Felix.Bachofer 2989

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Background | Quick Start | Publications & Media | Partners

Communities

All communities
Leave community

Starter users

Starter community where you can find applications and resources for managing your workspace and your data in the Urban TEP.

Overview | Members | Applications | Activities | Wps services

Community Applications

Analyze State of Global Urbanization in 2015

World Settlement Footprint 2015 (WSF-2015) generated by the German Aerospace Center (DLR) is the first map using mass collections of both radar and o...

Jul 6th 2019 — Open App

Sustainable Development Goal 11.3.1

Demo application showing the information about the Sustainable Development Goal 11.3.1 for Cambodia, Laos, Thailand and Vietnam.

Jul 6th 2019 — Open App

Expert

Test my processor

by Terradue

Test my processor application allows an expert user to discover and test its newly deployed processing service.

Mar 18th 2019 — Open App

Data Collections

My Storage
My index

Members (239)

4 Content Authority
235 End Users

Useful links

- Product Portfolio
- Visualization and Analytics Toolbox
- Create Your Own Application in Visat
- Earth Observation Processing Services
- Webinar Recordings
- Processing Tutorials
- All Video Tutorials
- Propagation Videos Applications

Top discussions

Go to discuss

About the Starter users category
2 months ago 25 views

Quick Start of the Platform
2 months ago 319 views

Learn to use Climate-Fit Services
2 months ago 47 views

Discriminate Between Urban and Rural

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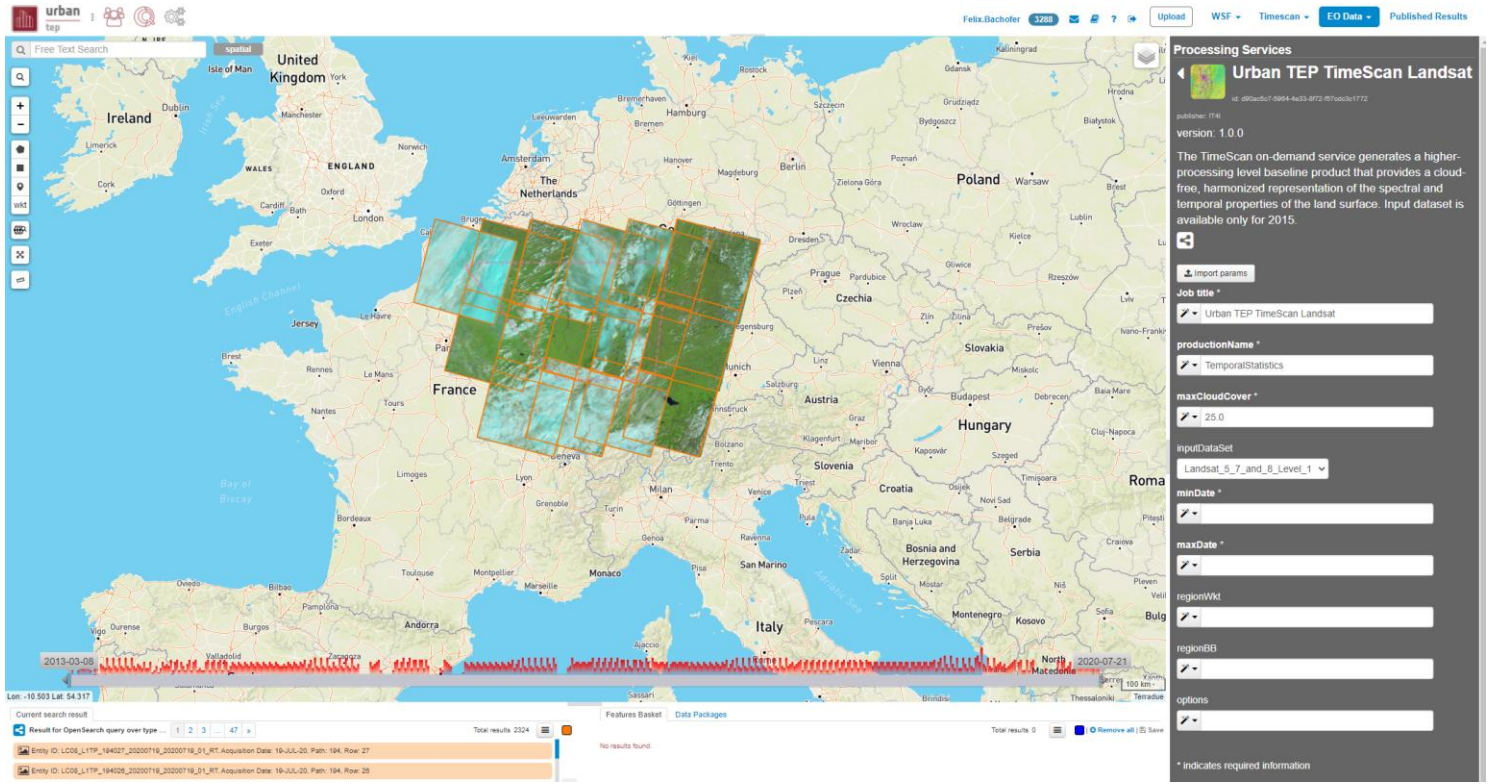
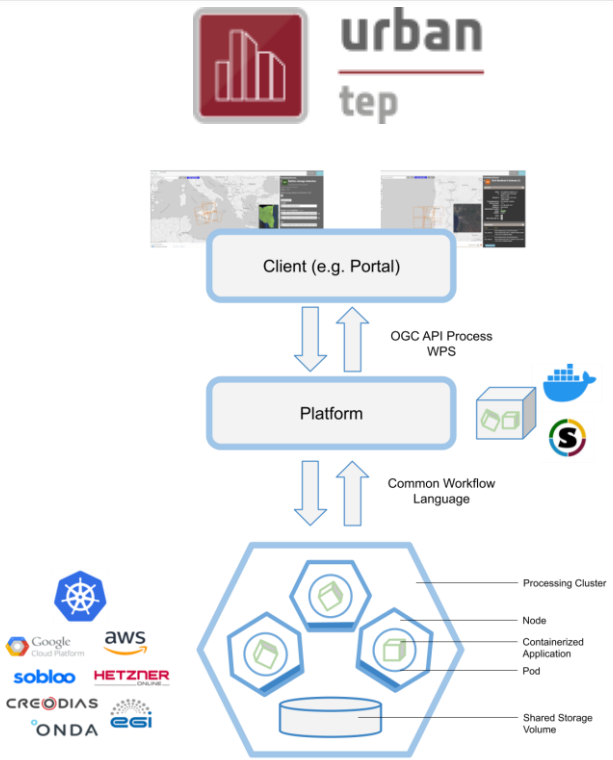
On-Demand EO Processing Services



Bring your own algorithm

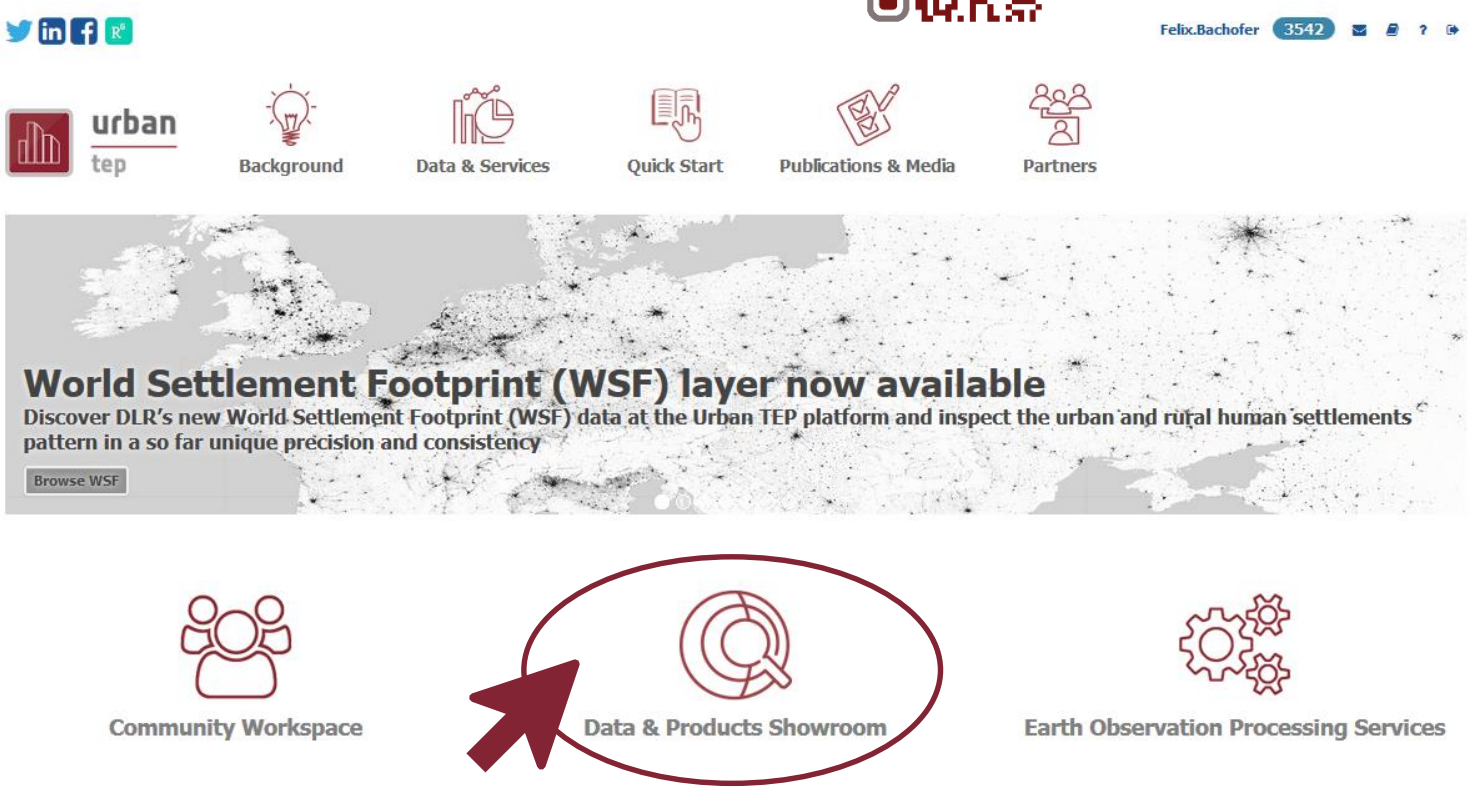


New OGC Best Practice for EO Application Packages

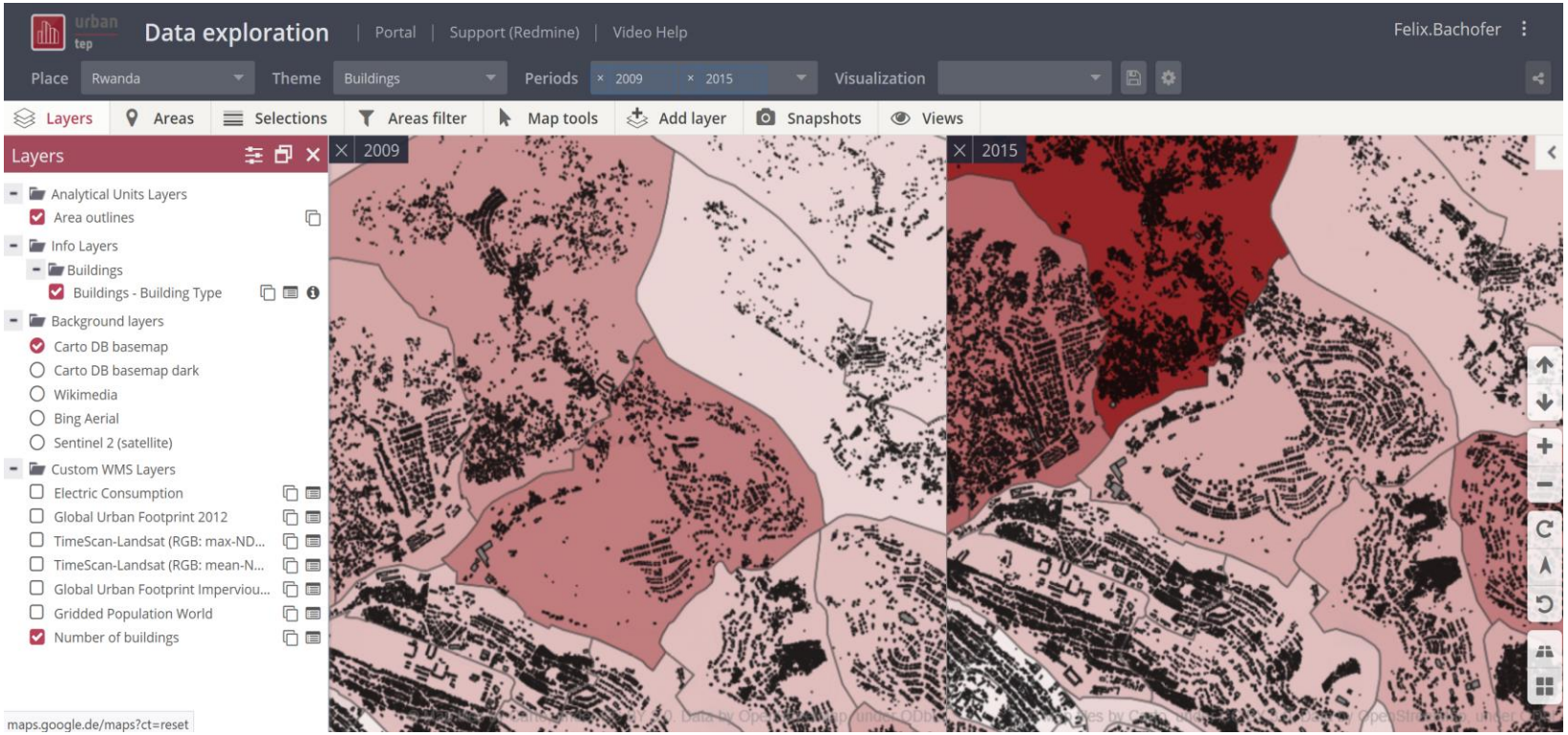
Open Geospatial Consortium

- The application (e.g. Python, shell script, C++) is containerized and registered in Container Registry
- The input and output interface of the application and the orchestration of its command-line tools are described with Common Workflow Language (CWL)
- The Platform converts the OGC API Processes requests in a CWL execution request in the computing resources of the selected provider
- The portability of the application is guaranteed (deployable in multiple Clouds without lock-in)

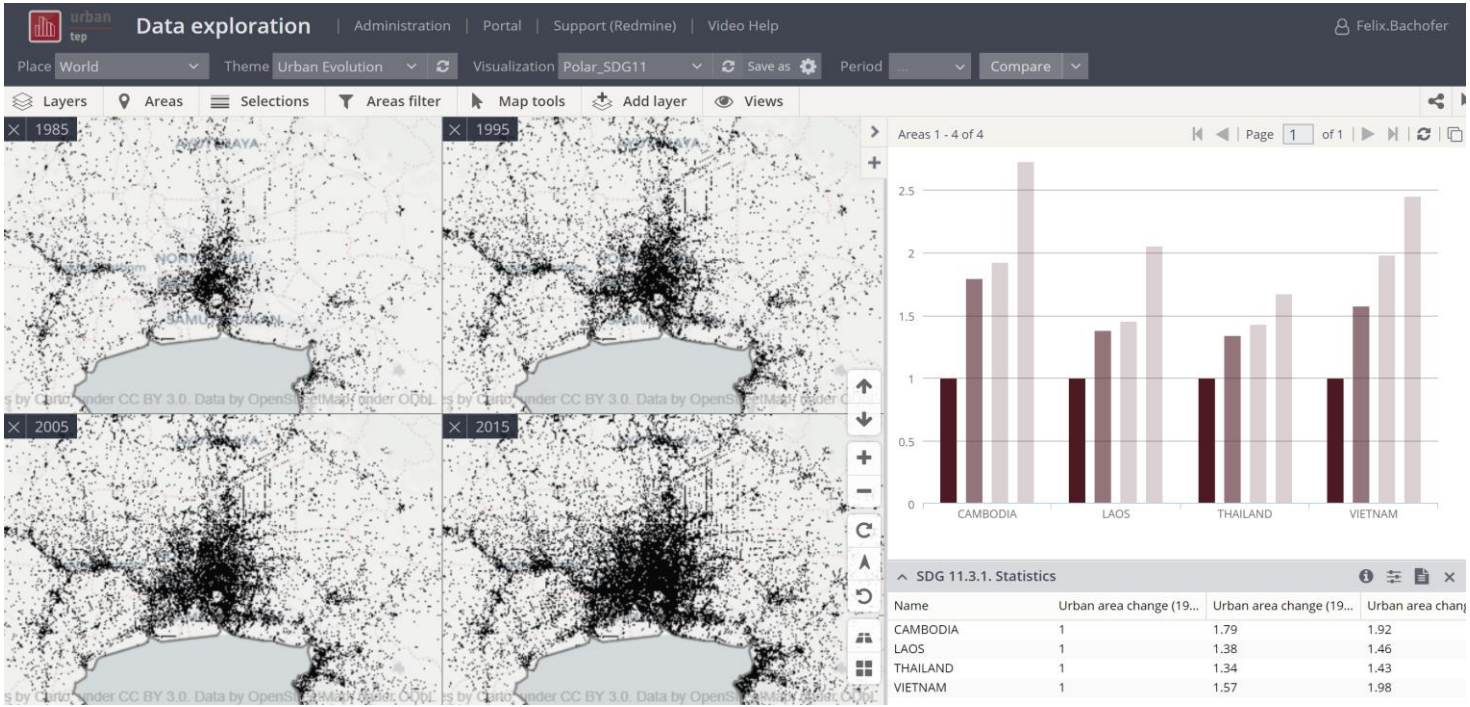
Platform urban-tep.eu



Kigali / Rwanda – Urban Monitoring



SDG 11.3.1 - SE-Asia



Map: WSF Bangkok 1985, 1995, 2005 and 2015.
Bar Chart & Table: SDG 11.3.1 Indicator: Population Change normalized by Settlement Area Change.

The higher the ratio the more unbalanced the development between population and settlement area.

Storylines

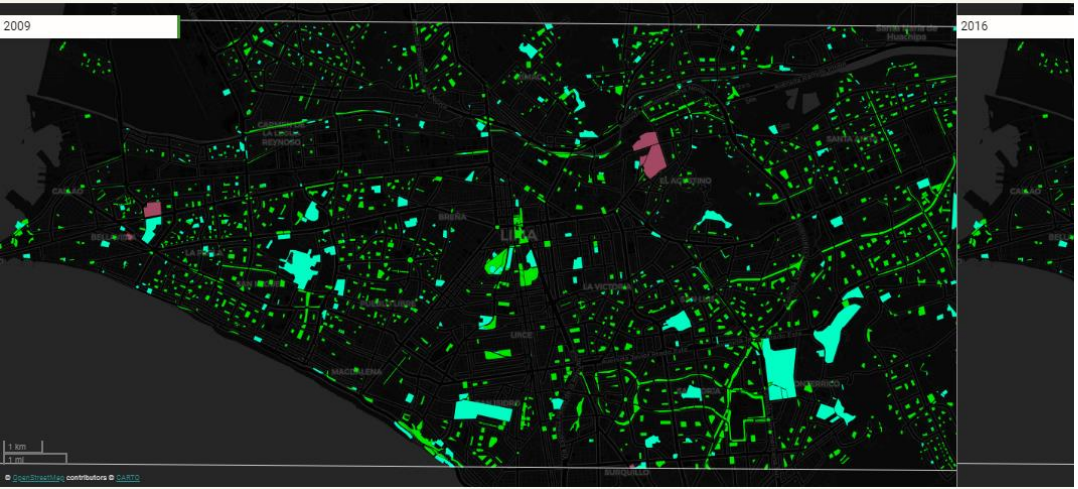
Mapping and monitoring of urban green areas

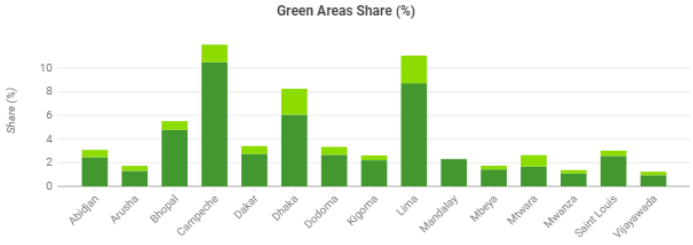
How green, open and public spaces are defined – opportunities and limitations.

Lima

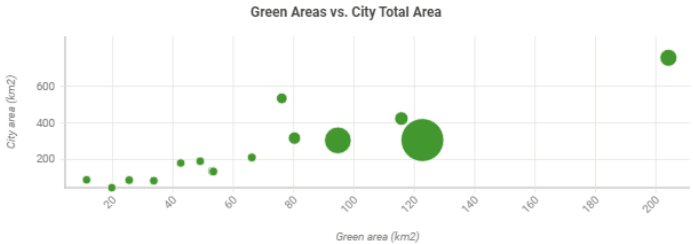
Distribution of artificial green areas (consisting of two classes) in the current year is presented in the map format. Pick the city from pull-down menu in the top-left corner to display the map for respective city. Status in former time horizon (as mapped using archived imagery) and cha can be presented in the same manner to show spatially explicit patterns of either uptake (formation) of former green areas by other classes or their co sprawl or infilling.

Green Areas Distribution



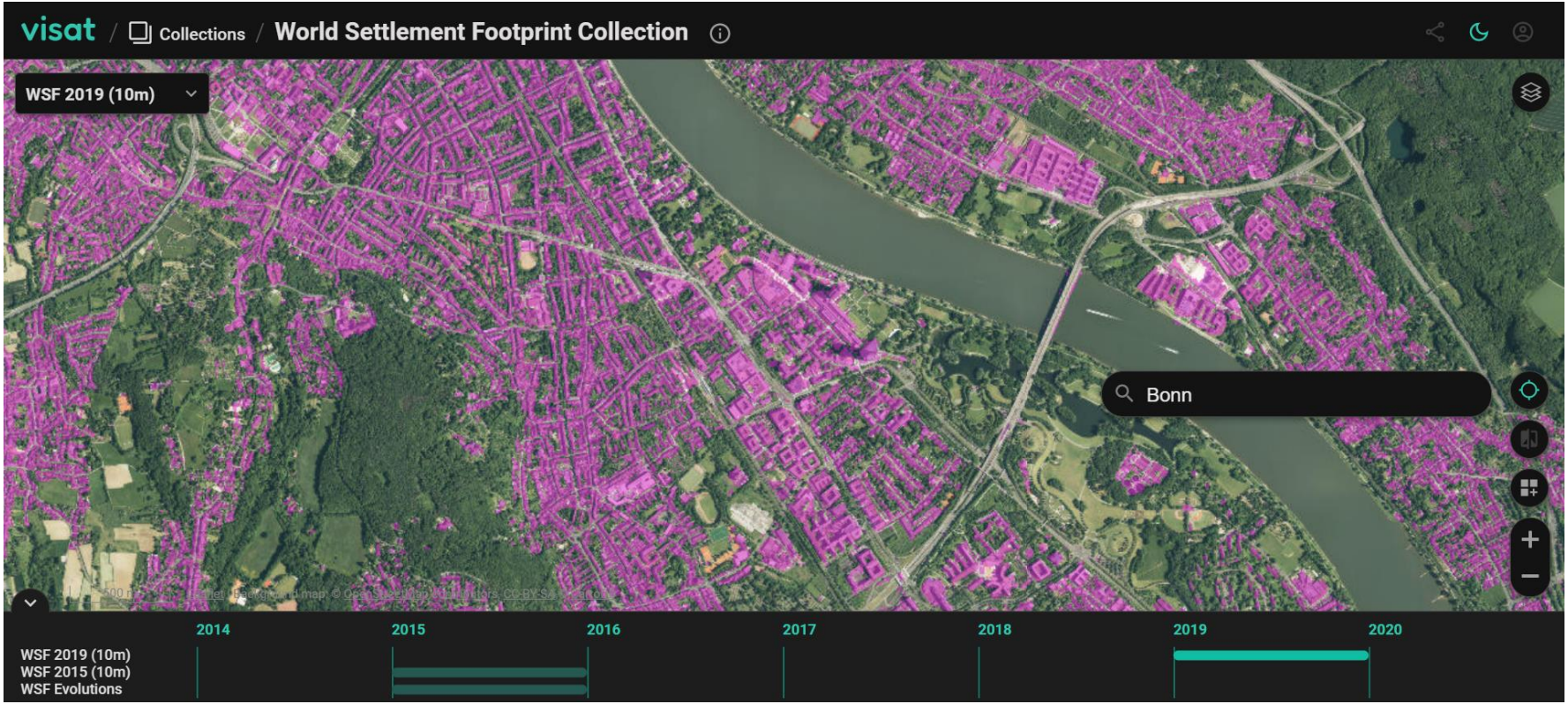


Graph shows comparison of relative metric: share of artificial urban green areas on total area of the city; and on total area of artificial urban areas (urban fabric).



Scatter plot facilitates identification of clusters depending on relationship between total size of the cities and total area of their green areas. The bubble size represents population as of 2018 / 2019 (source: United Nations, 2018; World Population review, 2019).

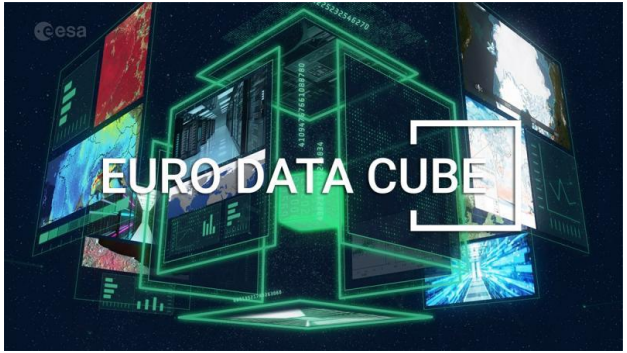
Visat 2.0 – WSF Bonn



What’s next?

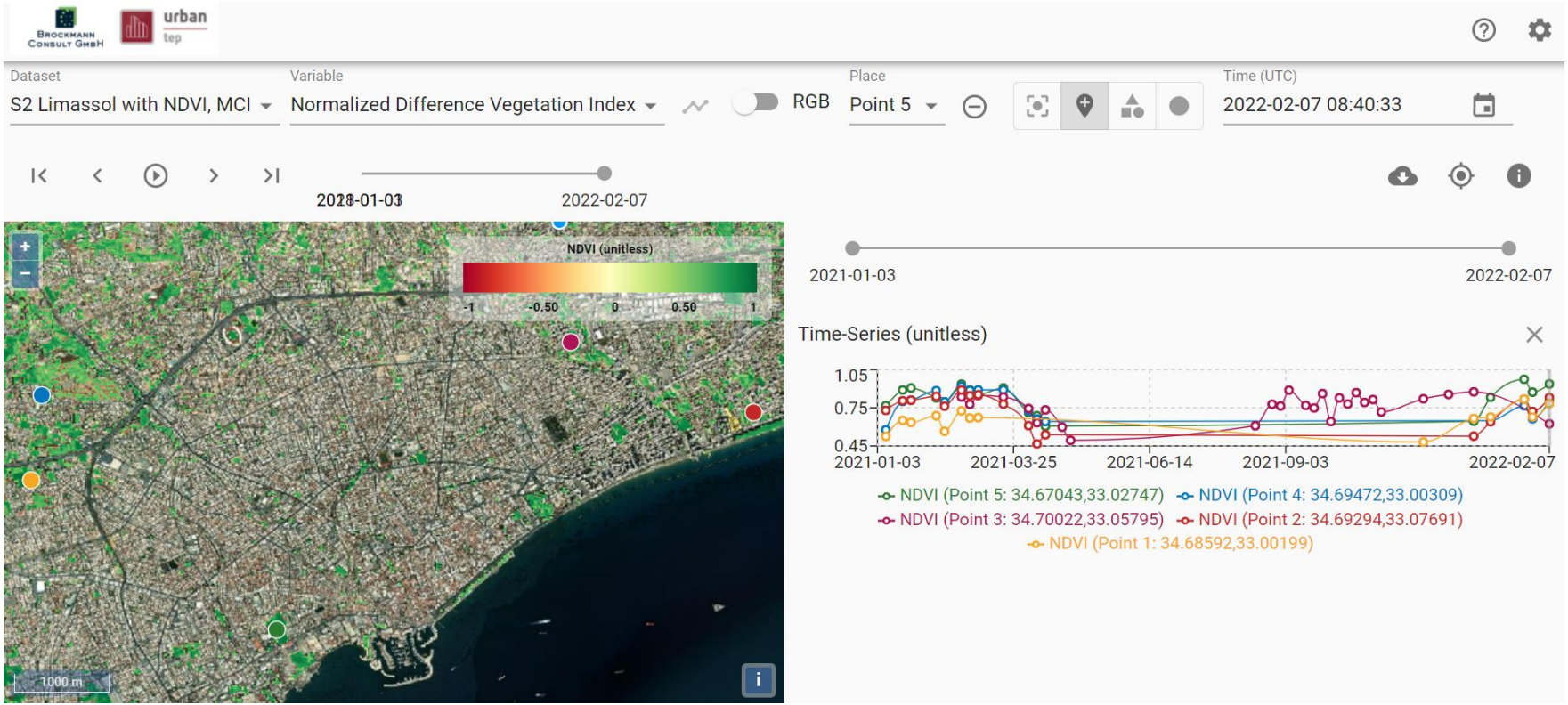
Next steps and NoR

UrbanTEP introduces the concept of City Data Cubes, coming with the integration and use of Euro Data Cube (EDC) API services for the development of city monitoring tools, using multi-temporal urban data collections from different satellite sensors. “City Data Cubes” for are foreseen for applications that require fast and easy access to satellite datasets (e.g. Sentinel-1, Sentinel-2, Sentinel-3, Sentinel-5P, Landsat) via EDC Sentinel Hub APIs and/or high-level datasets via EDC Xcube/GEODB APIs.

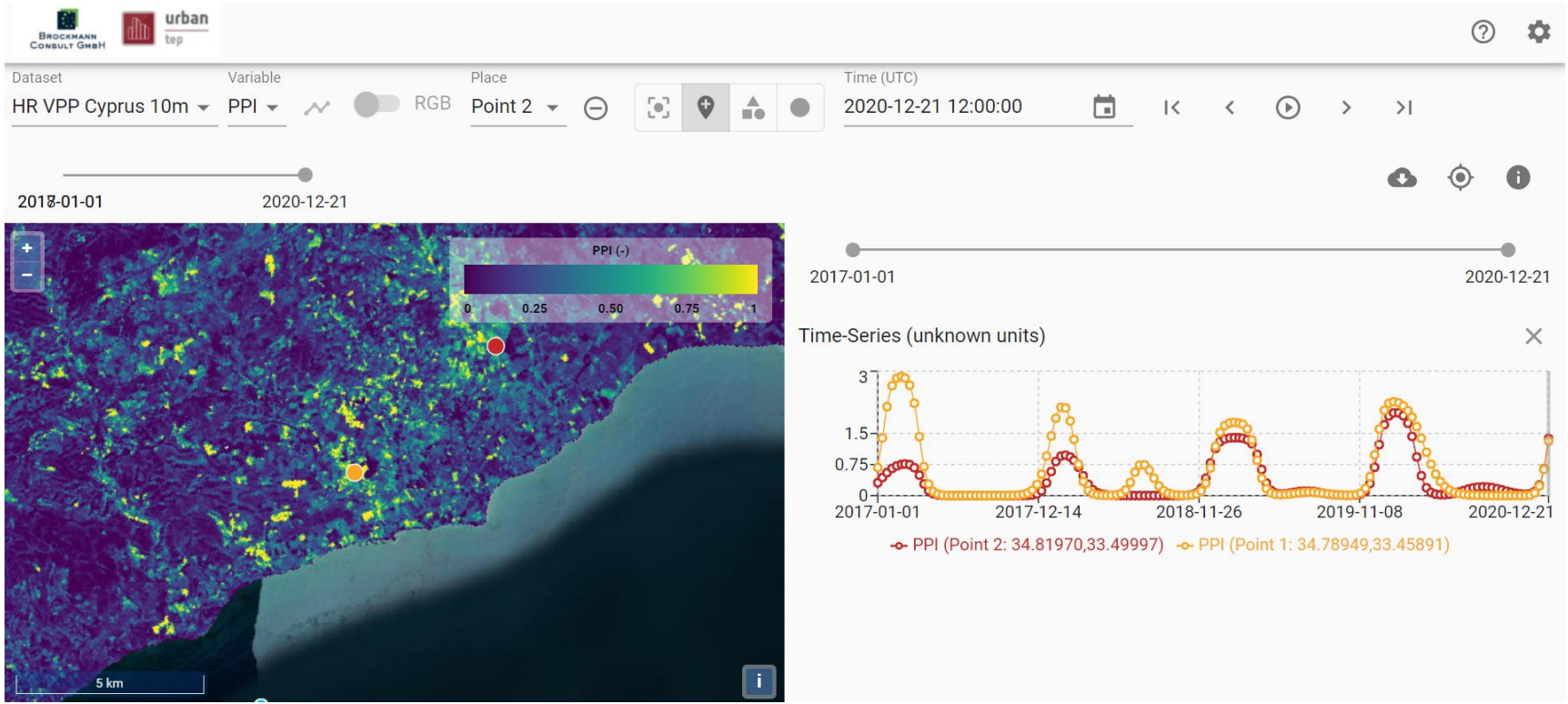


Sinergise

Xcube NDVI Limassol



Xcube Plant Phenology Index (PPI) - Limassol



NoR

The EO Network of Resources (NoR) initiative promotes the use of European resource and platform services to facilitate a simplified and efficient exploitation of EO data in cloud environments. Application for funding of data access and processing can be done via:

https://nor-discover.cloudeo.group/

Contact us for specific service offerings!

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German Aerospace Center (DLR)
German Remote Sensing Data Center (DFD)

Dr. Felix Bachofer
Felix.Bachofer@dlr.de

DLR