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**International Institute
for Applied Systems
Analysis**

SCENT Showcase
June 20 | Athens

An Overview of the LandSense Citizen Observatory and the WeObserve Ecosystem



@LandSense
@WeObserveEU

Motivation

- Uncovering the potential of citizen science and earth observation to improve the way we see, map and understand the world
- Improving the quality of Earth Observation-based Land Use & Land Cover (LULC) maps/products
- Demonstrate the value of satellite data to citizens while promoting environmental stewardship



Participatory process

- EO-based mapping has a conventional top-down approach
- It is possible to involve citizens and interested experts to crowdsource the needed information using a more participatory approach
- At the intersection of EO and CS domains, we can engage people in various tasks (i.e. ground-based observations and on-line interactive mapping)





LandSense

A Citizen Observatory and Innovation Marketplace
for Land Use and Land Cover Monitoring

Connecting citizens with satellite imagery to
transform environmental decision making

September 2016 → August 2020

LandSense.eu



18 Partner Institutions
9 Countries



This project has received funding from the
European Union's Horizon 2020 research and
innovation programme under grant agreement
No 689812



LandSense Themes

LandSense technologies are deployed across various themes to illustrate the potential of Citizen Observatories to tackle environmental challenges



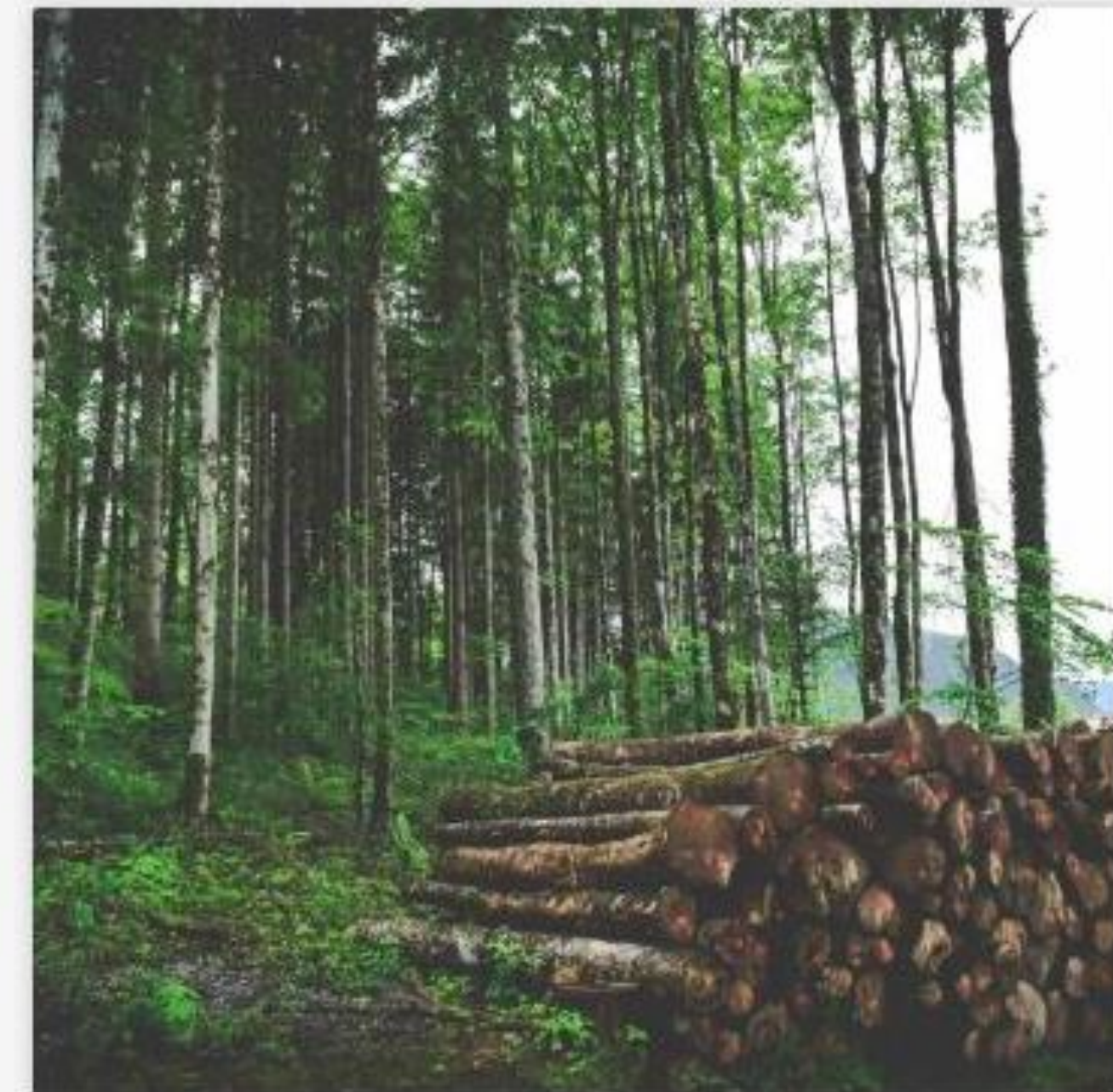
URBAN LANDSCAPE DYNAMICS

*Austria, France, Germany,
Netherlands*



AGRICULTURAL LAND USE

Serbia



FOREST & HABITAT MONITORING

Spain, Indonesia

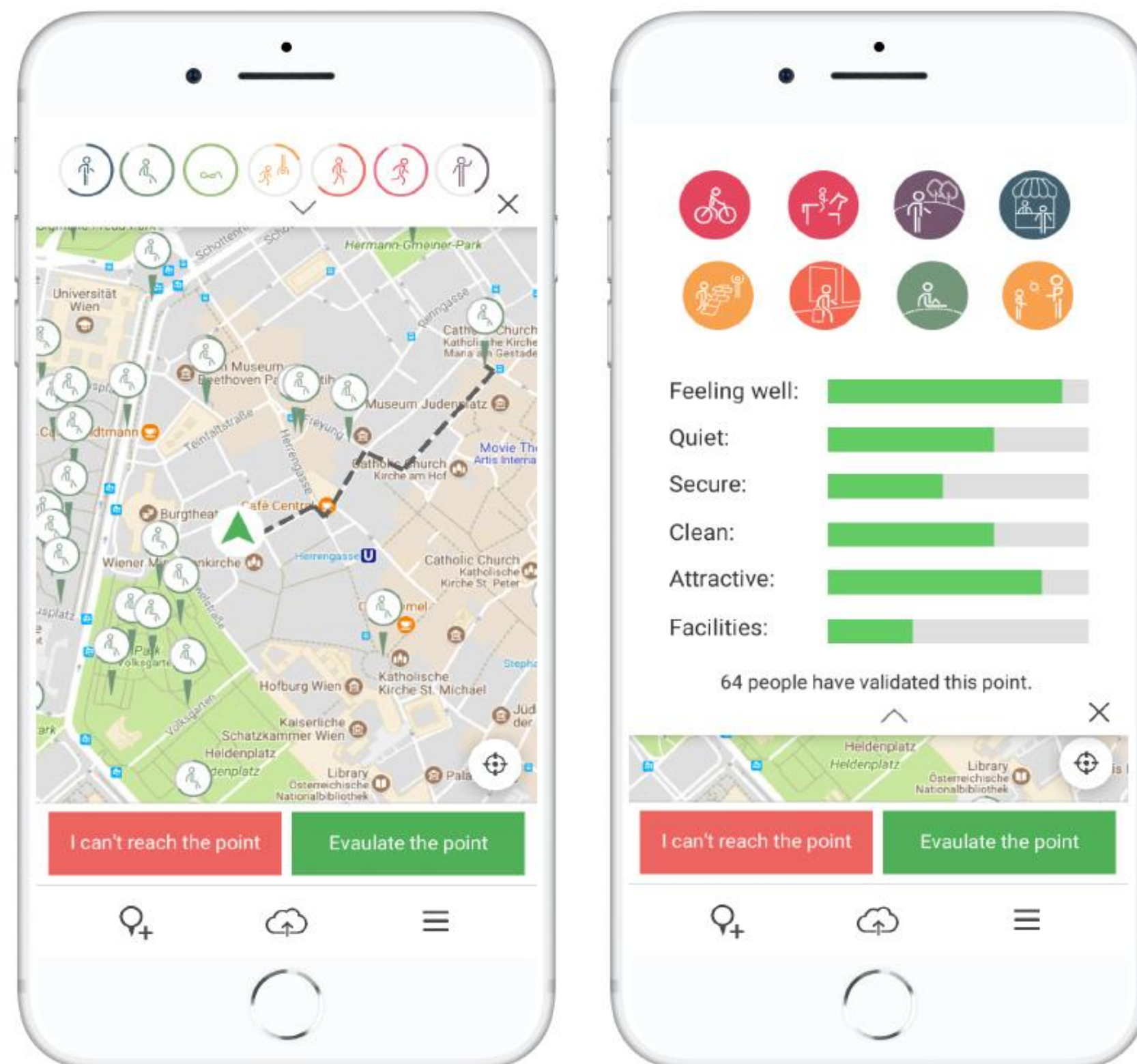
1

Participate as a citizen scientist

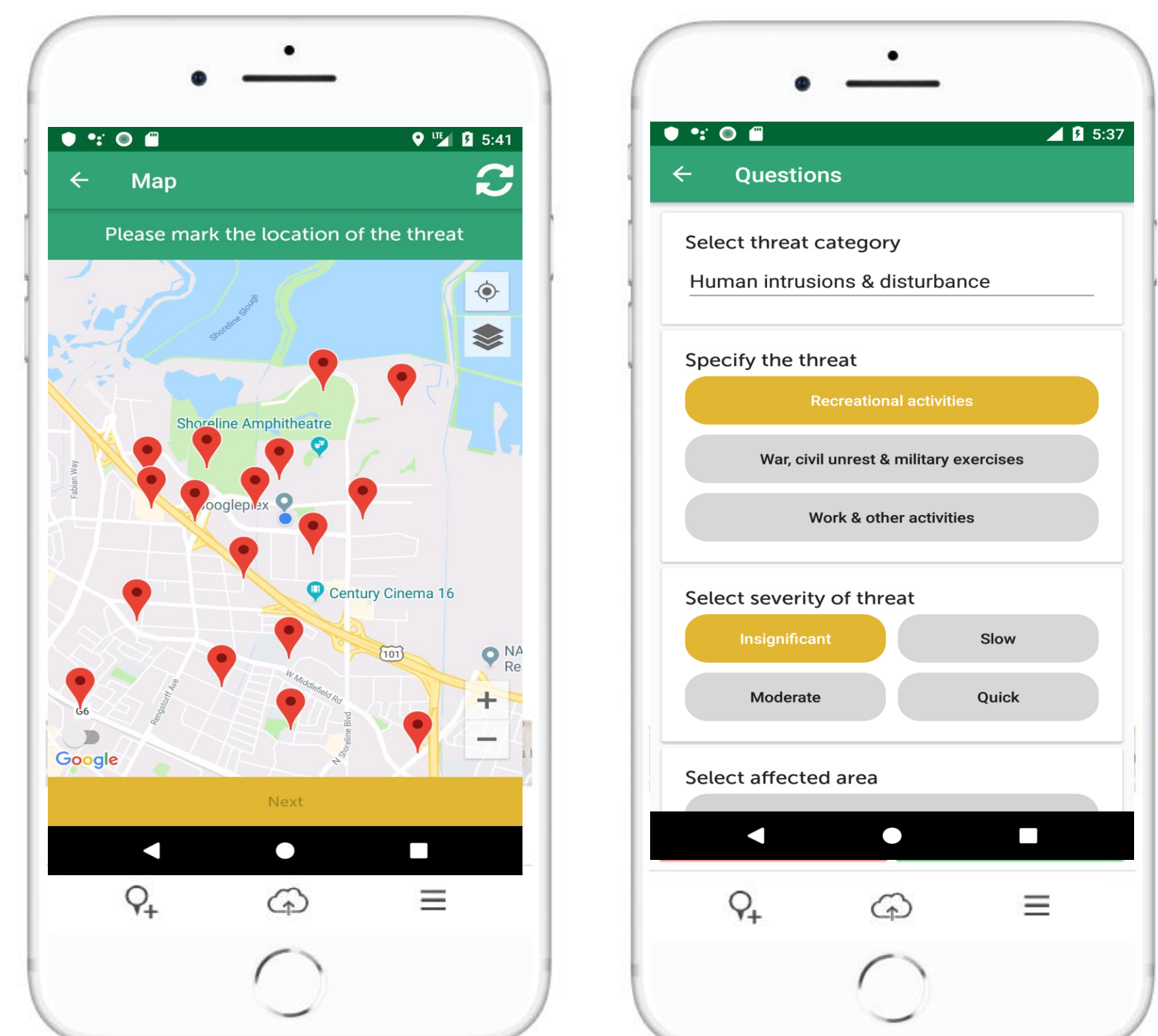
Ground-based observations



Urban green space monitoring in Vienna & Amsterdam



Biodiversity threat monitoring in Spain & Indonesia

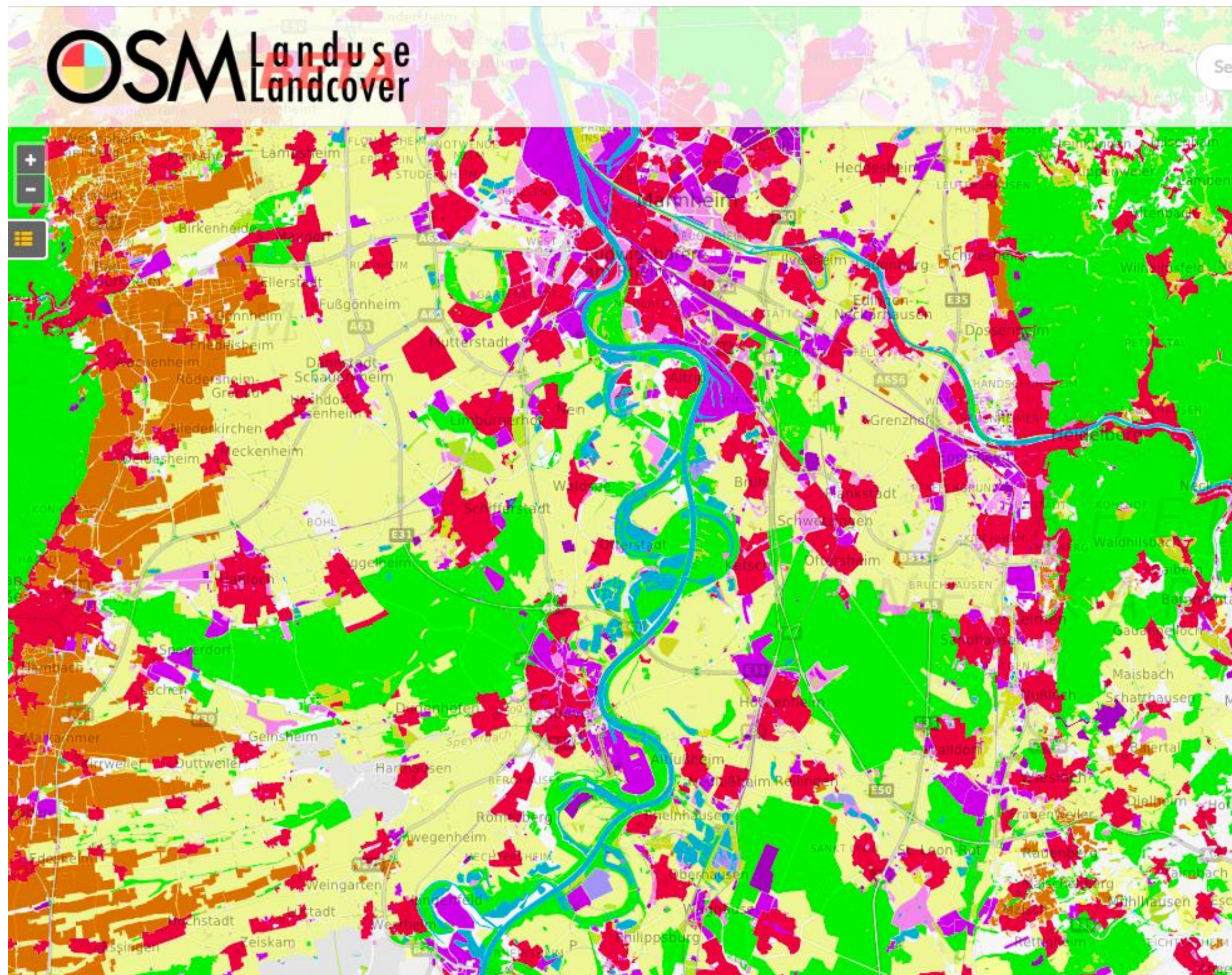


1

Participate as a citizen scientist

Online interactive mapping

Validation of OSM LandUse Map via a series of mapathons across Europe



Classify the object:

<input checked="" type="checkbox"/>	Urban fabric (11)
<input type="checkbox"/>	Skip (99)
<input type="checkbox"/>	other land use (100)

Comment

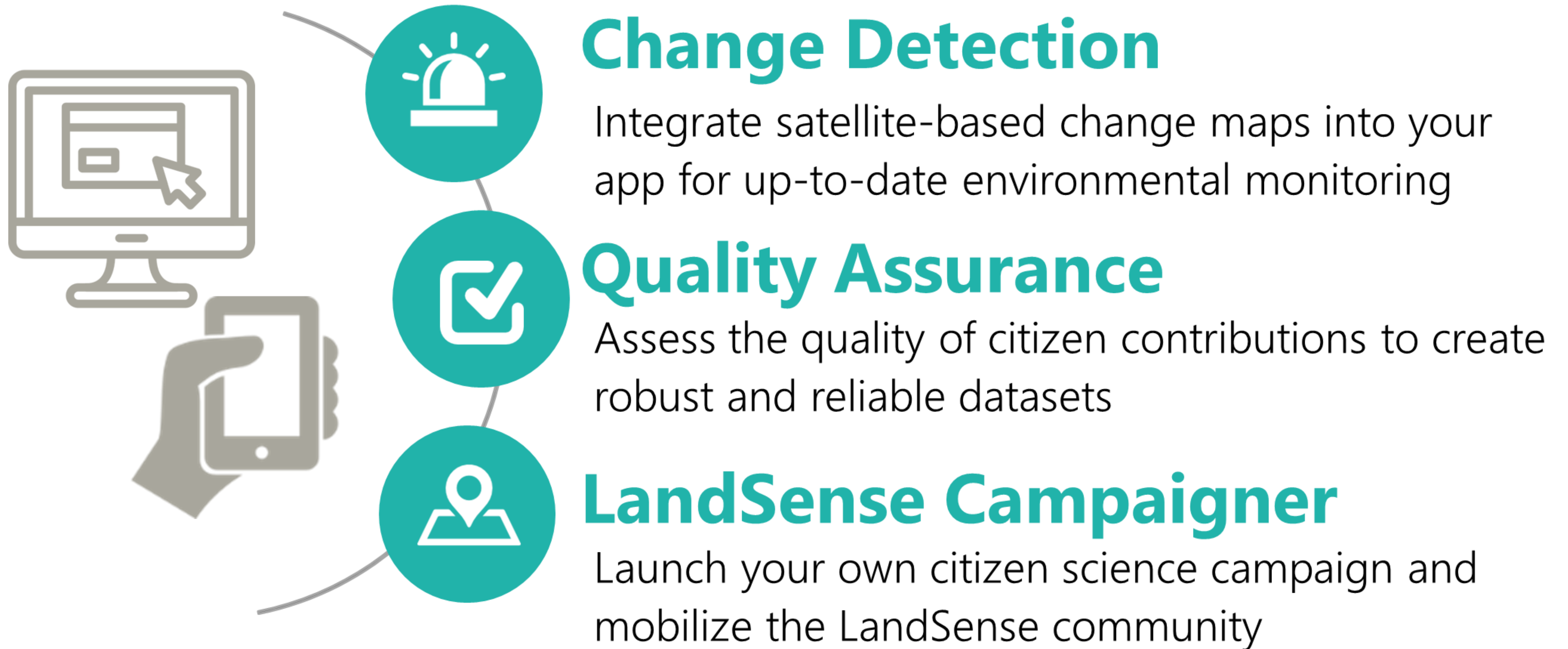
Submit

Sample Information

Sample Item ID 136944
Validated by
Timestamp –
Bing imagery date 07 Aug 2010 GMT

[Download sample \(kmz\)](#)

2 Register your app & exploit LandSense Services



LandSense Federation

**Single-Sign-On with LandSense partners, Google, Facebook,
Academic Federations via eduGAIN**



LandSense Authorization Server

GDPR compliant broker for authentication statements



Authenticated Login
(No personal data)



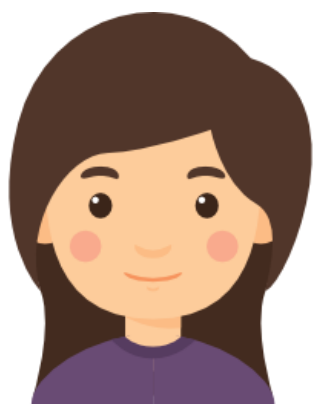
Promotes anonymous contribution



Cryptonym Login
(No personal data)



Promotes anonymous contribution
but allows aggregation



Login (includes personal data)
i.e username, email address



Promotes GDPR-compliant identified
contribution



An Ecosystem of Citizen Observatories for Environmental Monitoring

WeObserve at a glance

- **Starting Date:** 01/12/2017
- **Duration:** 36M
- 7 partners
- 4 running COs
- **Learn more:** www.weobserve.eu
- **Join us:**



WeObserveEU



WeObserveEU



WeObserveEU



info@weobserve.eu

- **Coordinated** by the **International Institute for Applied Systems Analysis (IIASA)**

Dr. Steffen Fritz (fritz@iiasa.ac.at)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769926



**Move citizen science into the mainstream
by building a sustainable ecosystem of
citizen observatories and related activities**



Overview



KEY CHALLENGES TO MAINSTREAMING CITIZEN SCIENCE



AWARENESS

- Generating awareness to build and sustain a critical mass to support citizen science initiatives.



ACCEPTABILITY

- Showcasing the added value of citizen-driven science to decision and policy makers.



SUSTAINABILITY

- Creating an ecosystem that can support and scale-up citizen science to various sectors.



Key instruments and outcomes



Communities of
Practice

Knowledge Platform

MOOCS



Increase geographical
coverage

Stimulate citizen
science actions

Foster participatory
governance

Communities of Practice



Communities of Practice

3 CoPs Kick off Workshops , June 2018



Geneva

Forum #1 & SDG CoP Launch, Dec 2018



Venice

Forum #2, EGU April 2019



Vienna

All four WeObserve CoPs have formed stable groups of practitioners, with a clear focus on their respective themes


- Monthly telcos
- 3 F2F meetings



Massive Open Online Courses (MOOCs)



October, 2019

- 
- ✓ Combine multimedia educational materials;
 - ✓ Social peer to peer online learning for a highly engaged community;
 - ✓ Participation numbers at scale with no limits;
 - ✓ Are open access to international learners from all over the world;

Aims:

1. Deliver a novel learning journey in the area of environmental and citizen sensing
2. Develop the knowledge of how to replicate and deliver a Citizen Observatory;
3. Provide skills training to scale up and engage people in participatory science.

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