European Commission

European Big Data Hackathon 2025

Earth Observation: from Space to European Statistics

Brussels, 6–11 March 2025

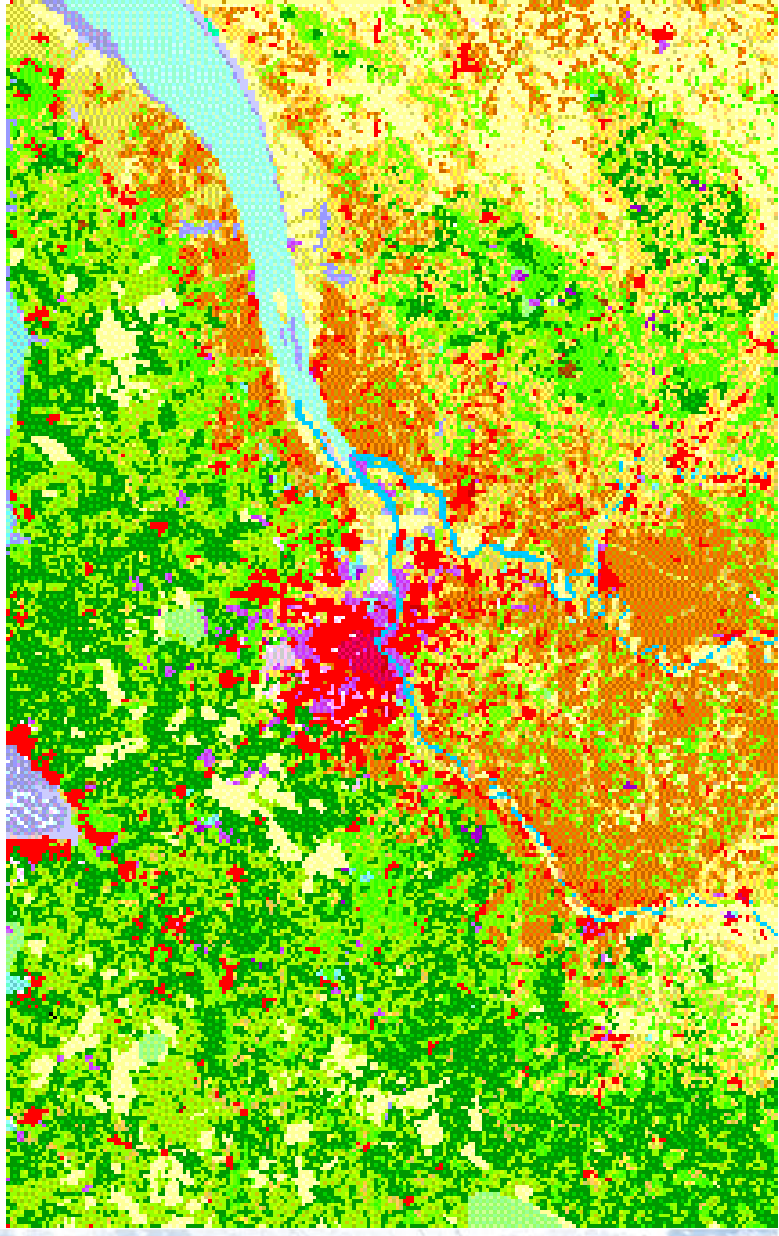
eurostat

STATBEL
Belgium in figures

Corine Land Cover Change Tracker (CLC-CT)

Yearly change detection in Corine Land Cover classification

Team Belgium NSI



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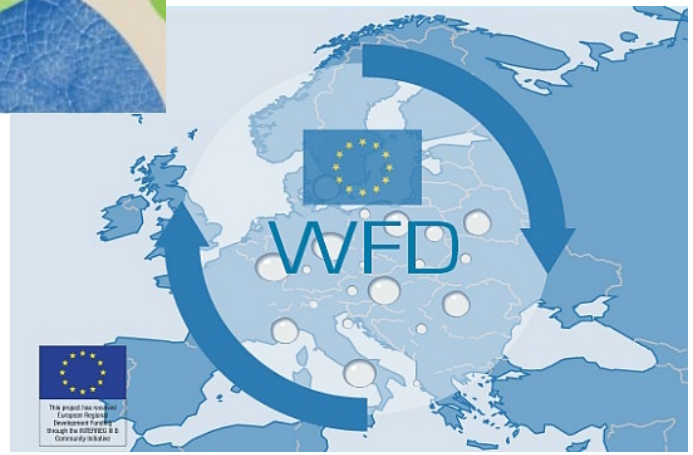
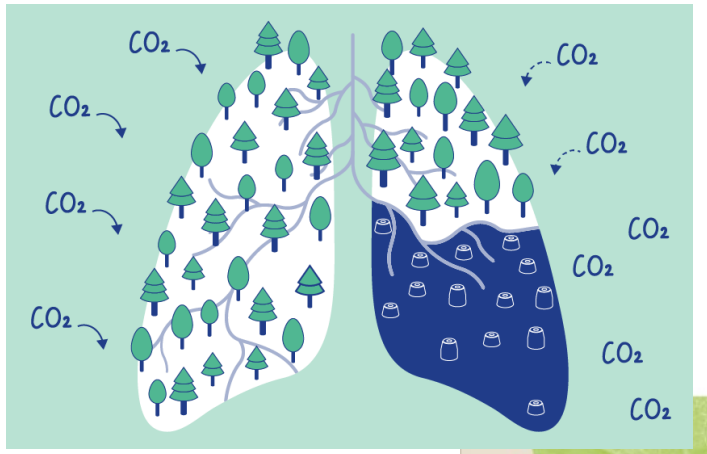
Needs and policy adressed

Rapid monitoring of soil cover and environmental changes

Water Framework Directive





Land Use, Land-Use Change, and Forestry (LULUCF) Regulation

SDG's actionable

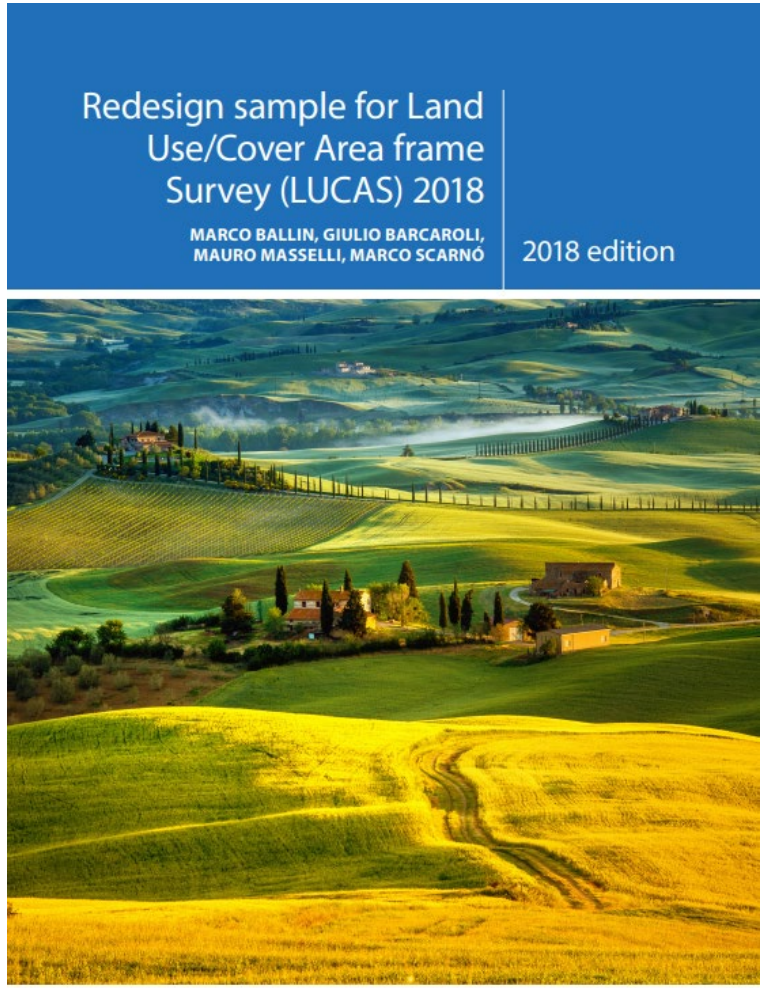
Innovative solution

Focus on change detection

➔ Useful to prioritise where surveyors should be sent to

⊕ Collection efficiency

⊖ Collection burden



Process Flow

01

DATA

- Corine Land Cover 2018
- Sentinel 2 L2A

02

DATA PROCESSING

- Grid matching
- Classification model

03

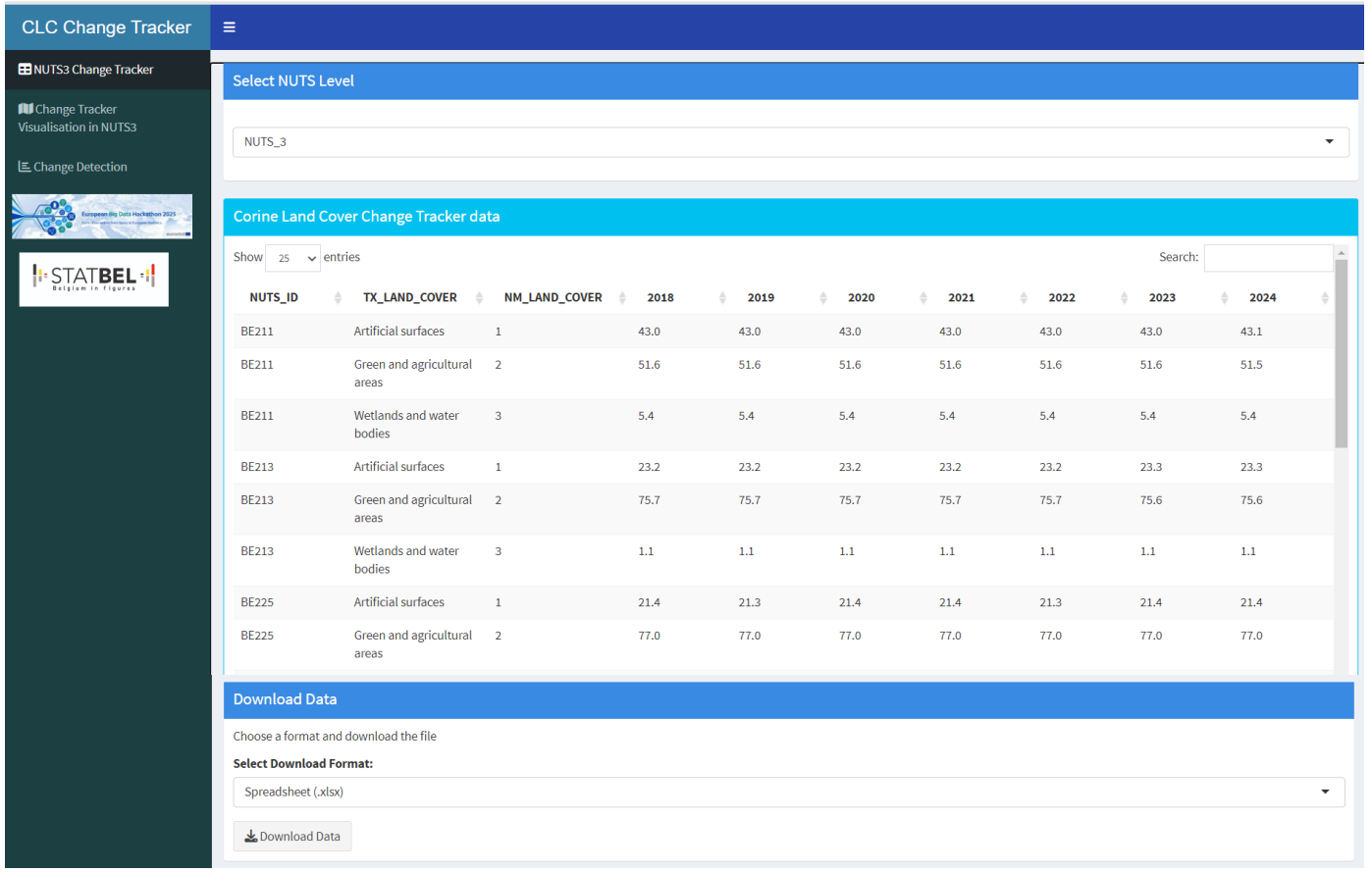
DASHBOARD

- Downloadable data in NUTS 3
- Potential land cover change spotted

Dashboard output

1. Flash Estimates available at NUTS 3

(similar to lan_lcv_ovw published by Eurostat in NUTS 2)

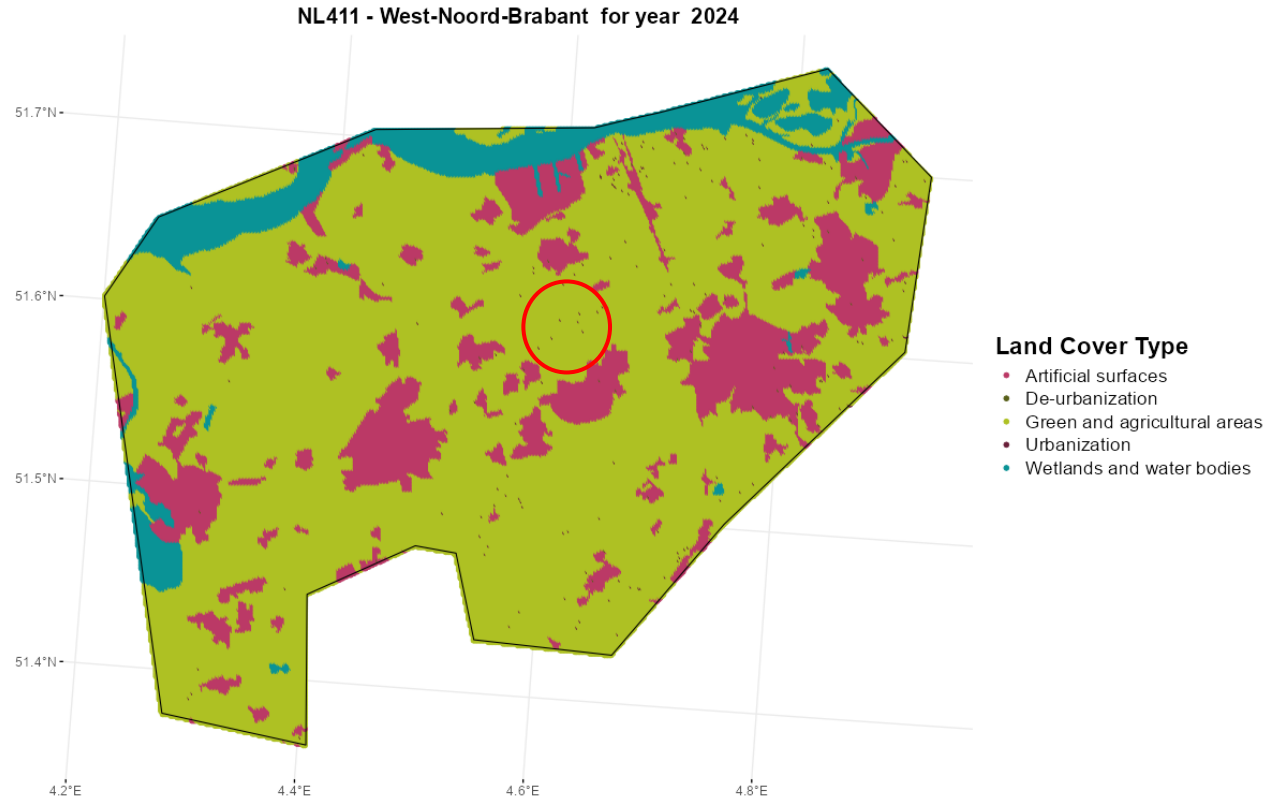


Dashboard output

2. Inventory of potential changes and visualisation

Dashboard output

2. Inventory of potential changes and visualisation

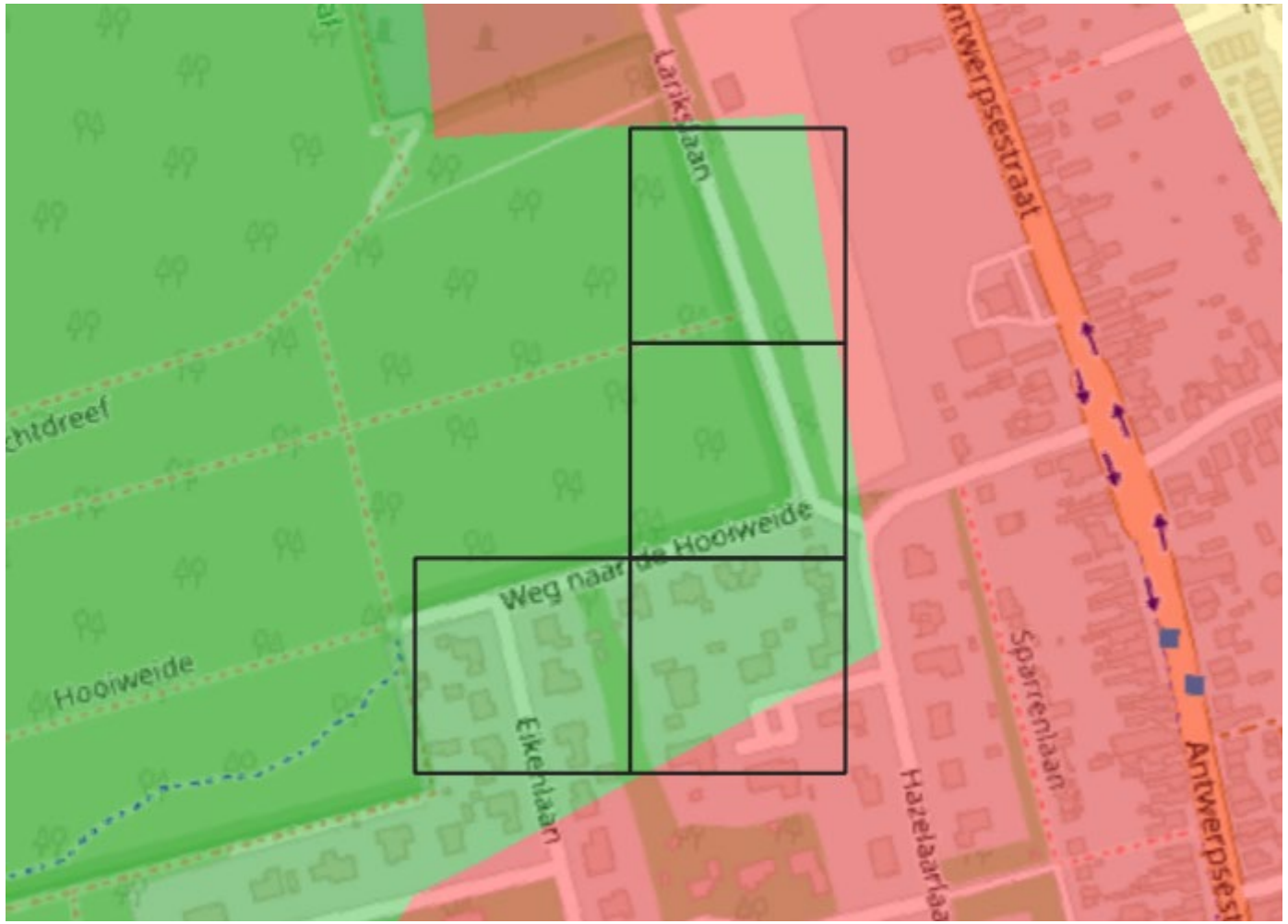


Example

1. Corine Land Cover detects artificial infrastructures (red) and green areas

2. Detection of potential changes (cells)

3. Rapid human reclassification of the bottom cells



Further development

1. Improvement of classification modelling through validation using extended time series and broader spatial coverage

2. Integration of more detailed land cover classification

3. Scalable at local administrative unit level

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Needs and policy adressed

Rapid monitoring of soil cover and environmental changes

EU Green Deal

EU Biodiversity Strategy 2030

Land Use, Land-Use Change, and Forestry (LULUCF) Regulation

Water Framework Directive

Dissemination and precision

Last Corine Land Cover = baseline

Sentinel 2-L2A images = observe changes

Simple classification model = change or no change