

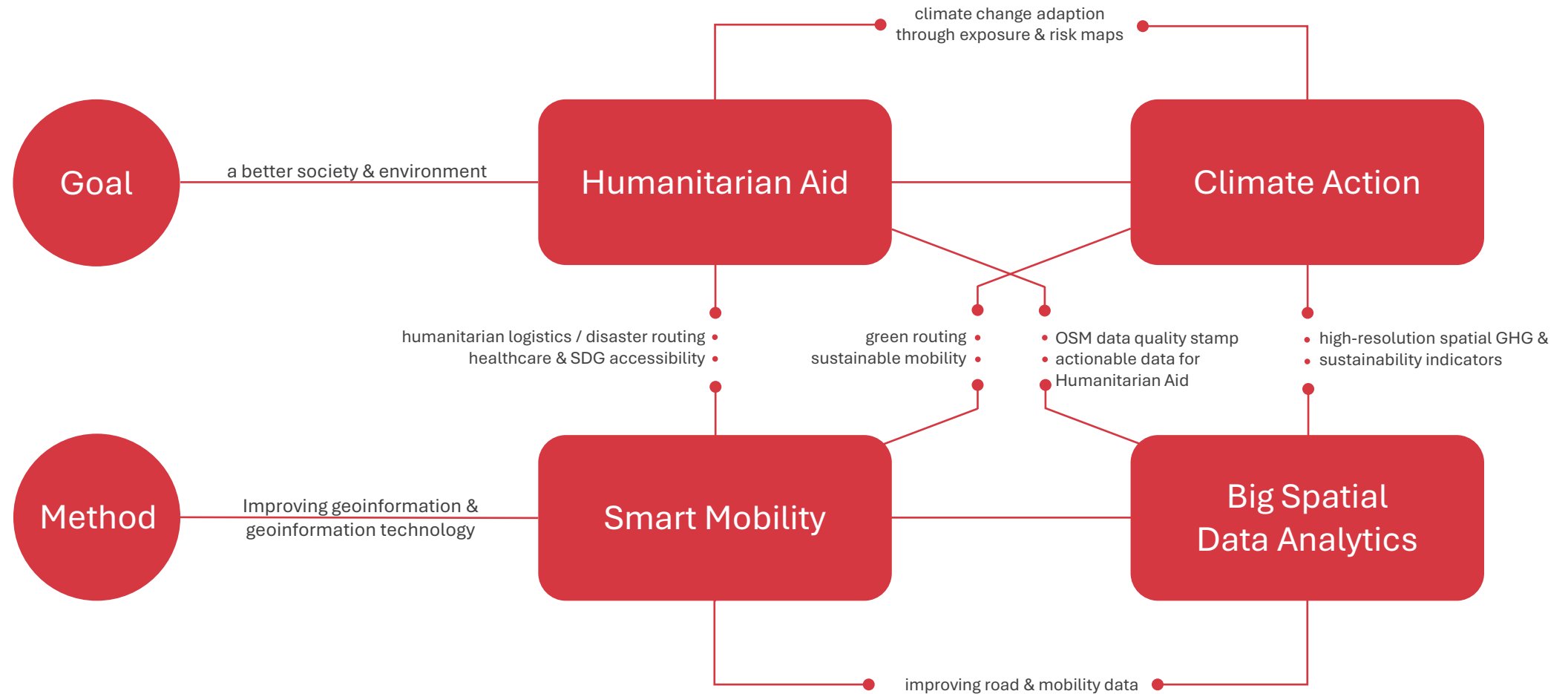
# Climate Action Readiness Indicators by HeiGIT



# HeiGIT's history and mission



# HeiGIT – what we do



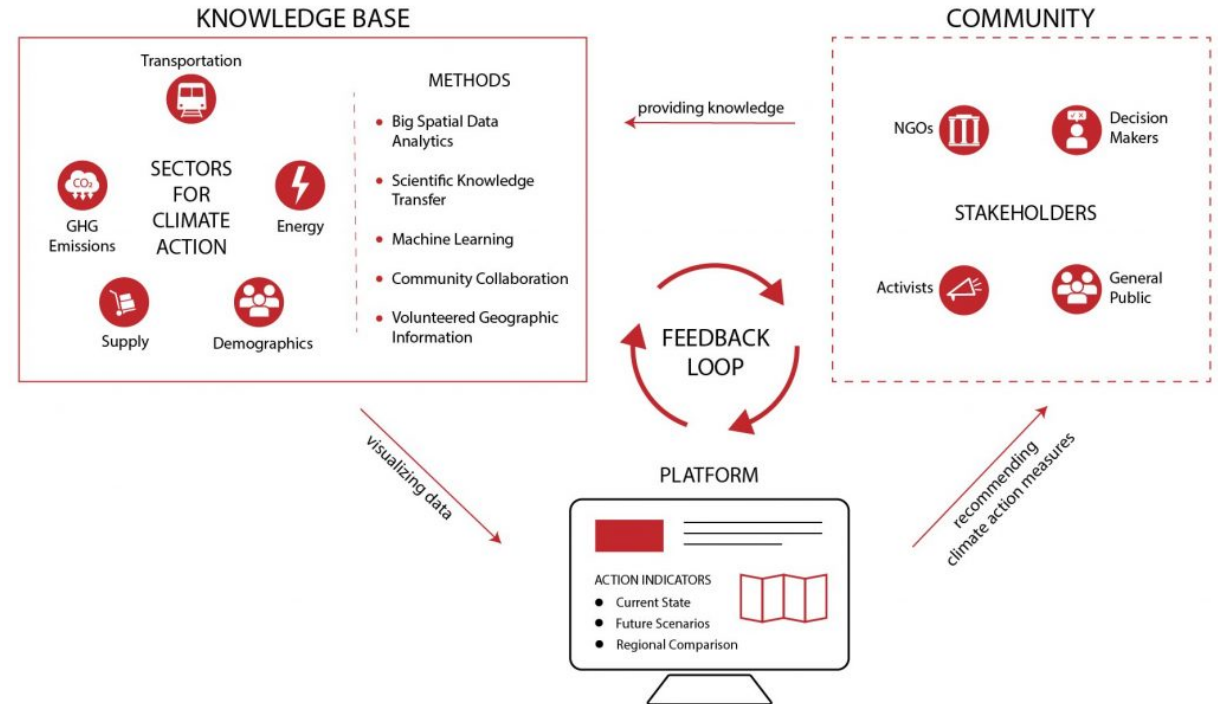
# Climate Action

- The Climate Crisis is one of the most urgent challenges for our society, and its impacts become increasingly severe.
- However, there is a large gap between awareness about climate change and concrete societal actions.
- To close this gap, the Climate Action Team provides actionable data analyses and tools to citizens and decision makers.



# The Climate Action Indicators

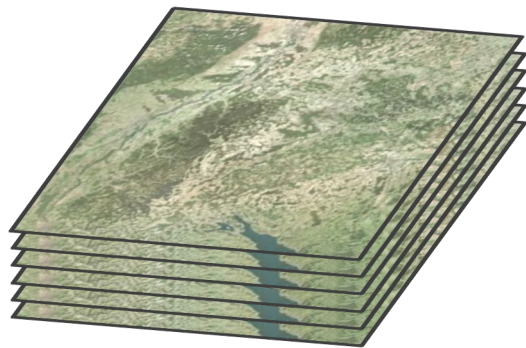
- Easily accessible high-resolution spatial indicators that enable climate action
  - **Estimation of greenhouse gas (GHG) emissions from LULC change**
  - Transportation: e. g. **bikeability, walkability**, public transport
  - Energy: e. g. density of solar or PV-panels
- State-of-the-art methodology and data
  - **ESA Sentinel 1 & 2 data**
  - Volunteered geographic information (VGI)
  - Machine learning



# Land Use/Land Cover (LULC) Utility

**Workflow:** Automatic LULC classification by fusion of deep learning model

**Data:** ESA Sentinel imagery, OSM data, Corine land cover data, elevation data, NoR data

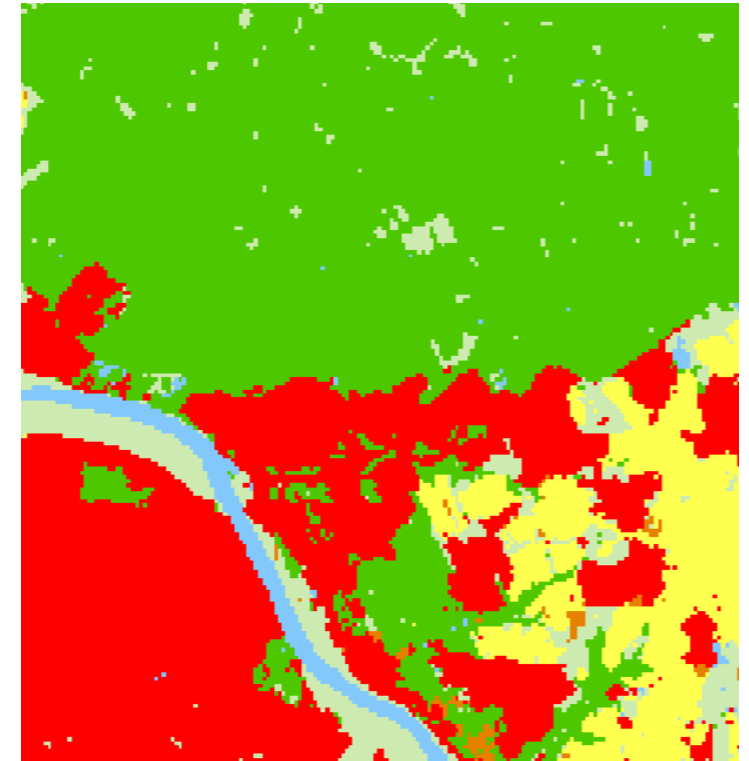


Land  
Cover  
Classes

OSM

AI

Fusion



# Application: LULC Change Emission Plugin

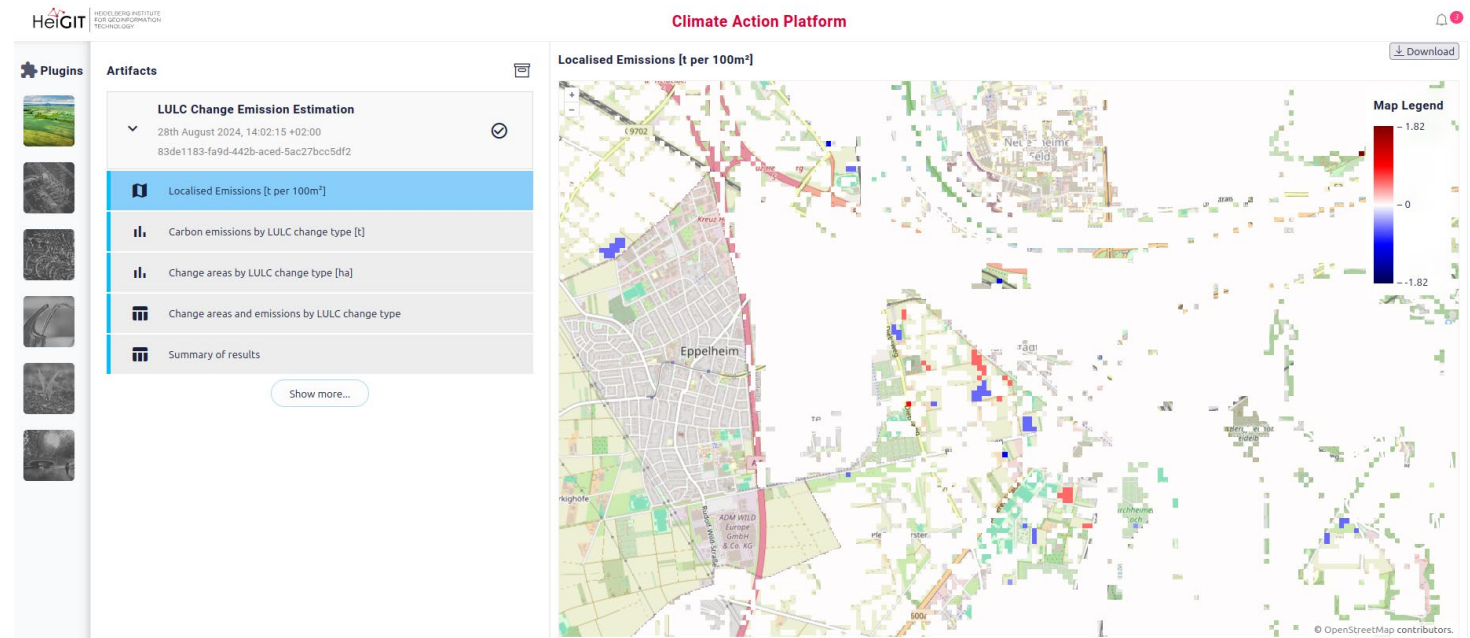
## Objective:

Estimate CO<sub>2</sub> emissions caused by land cover change

**Methodology:** Automated detection of LULC change using the LULC utility and subsequent emission calculation

## Output:

Emission maps and diagrams that give decision makers information on local emission reduction potentials



Climate Action Platform “LULC Change Emission” Plugin: Localized emissions in Heidelberg from 2022-05-17 to 2023-05-31

# Contact us



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Test the indicator.



Contact the Climate Action Team for detailed information: [kirsten.vonelfverfeldt@heigit.org](mailto:kirsten.vonelfverfeldt@heigit.org)

HeiGIT thanks all contributing organizations and people for making this project and its results possible.