HARMONISED EUROPEAN LAND MONITORING

OPTIONS FOR COLLABORATION WITH EFGS

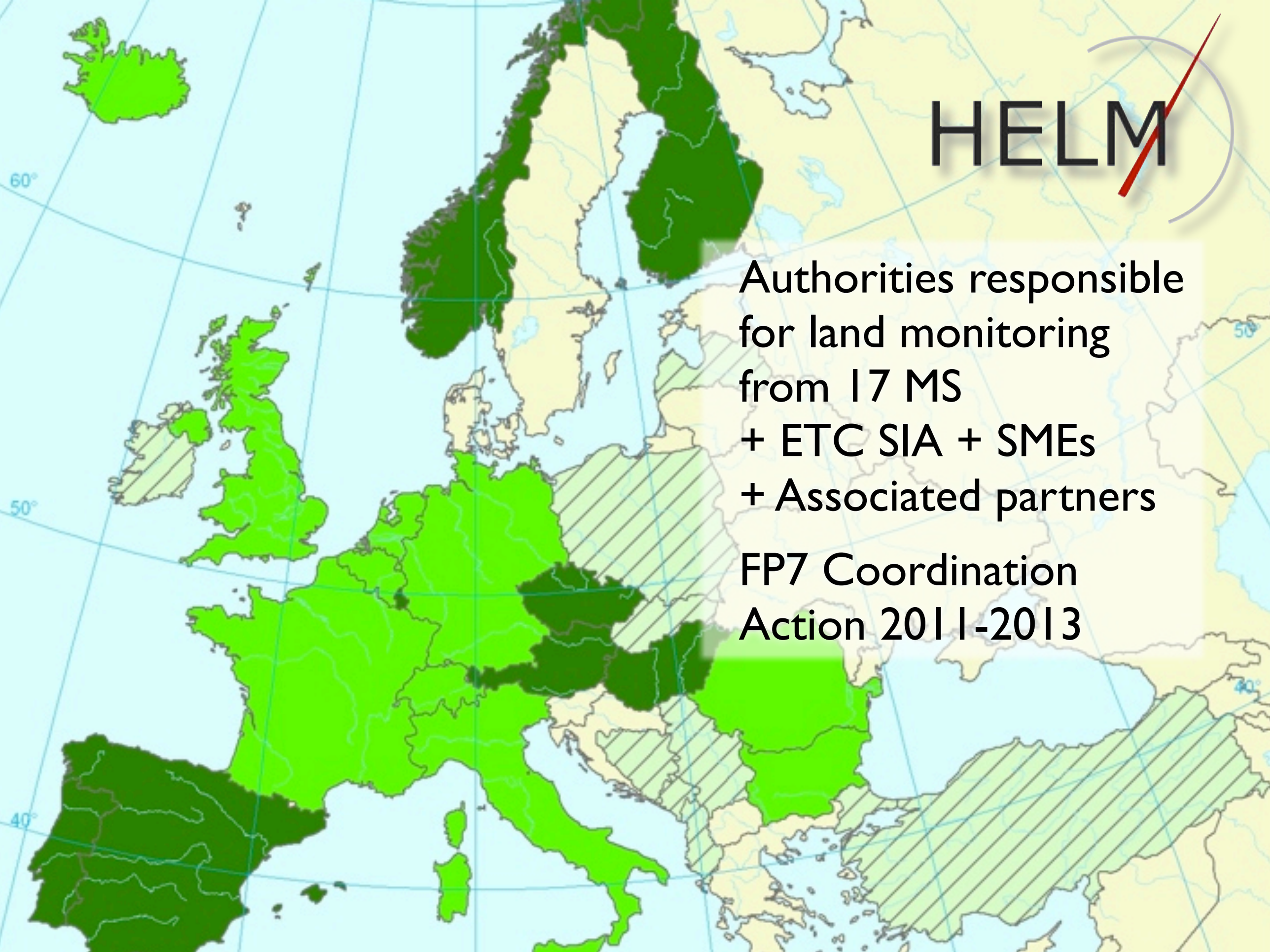
Herbert Haubold
Environment Agency Austria

EFGS Conference, Lisbon, Portugal, 12-14 October 2011

We live on the land surface

Land Use and Land Cover (LULC) fundamental surveying effort: state of environment, key societal determinant

Nevertheless, land monitoring in Europe inadequately organised: Duplications, lacking interoperability, insufficient involvement of MS, competencies ambiguously defined



Authorities responsible
for land monitoring
from 17 MS
+ ETC SIA + SMEs
+ Associated partners

FP7 Coordination
Action 2011-2013

Roadmap towards integrated European land monitoring system based on bottom up aggregation of data to take advantage of local knowledge and resources

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Centrally supplied support and top down data provision to take advantage of economy of scale

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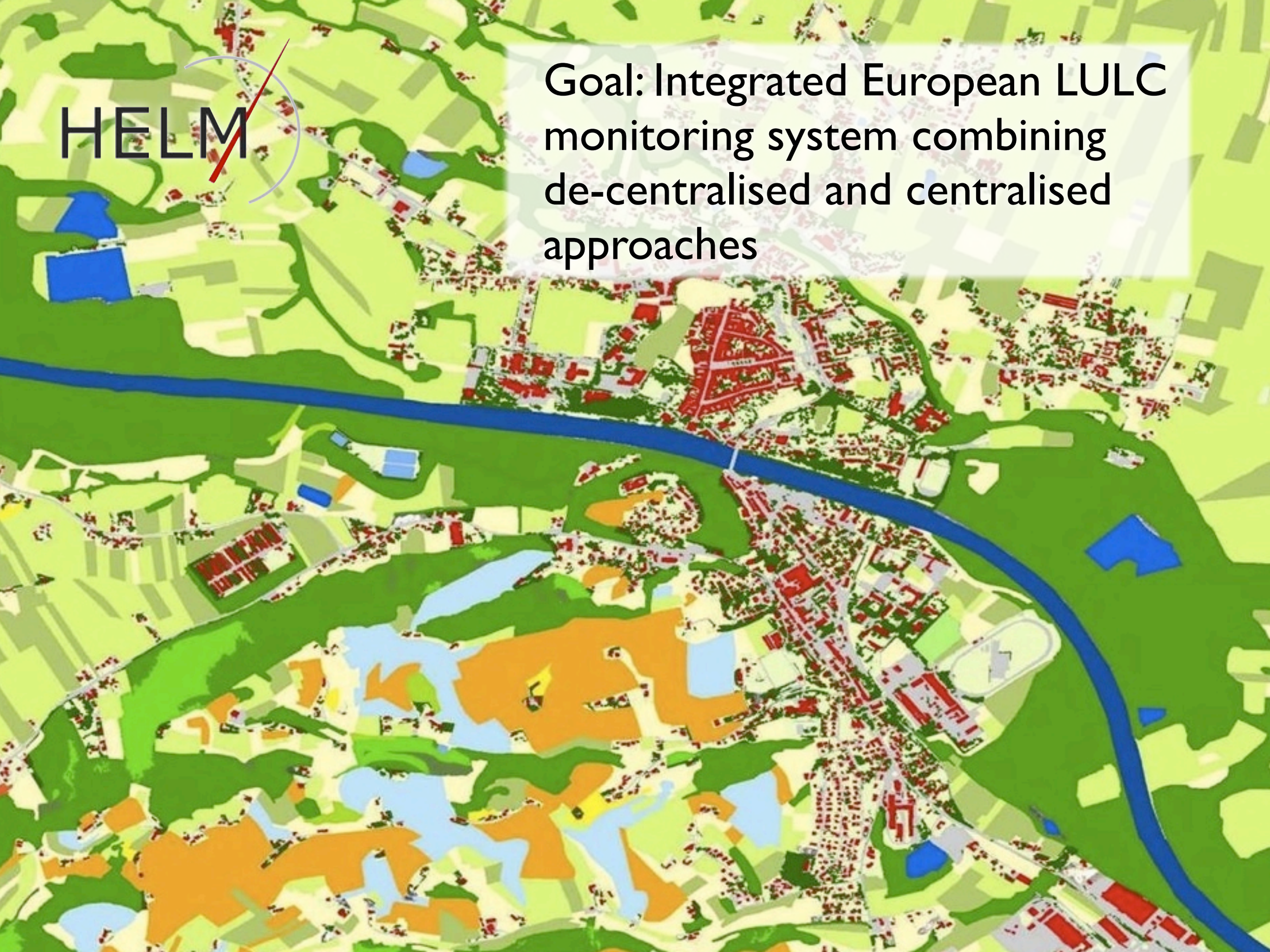

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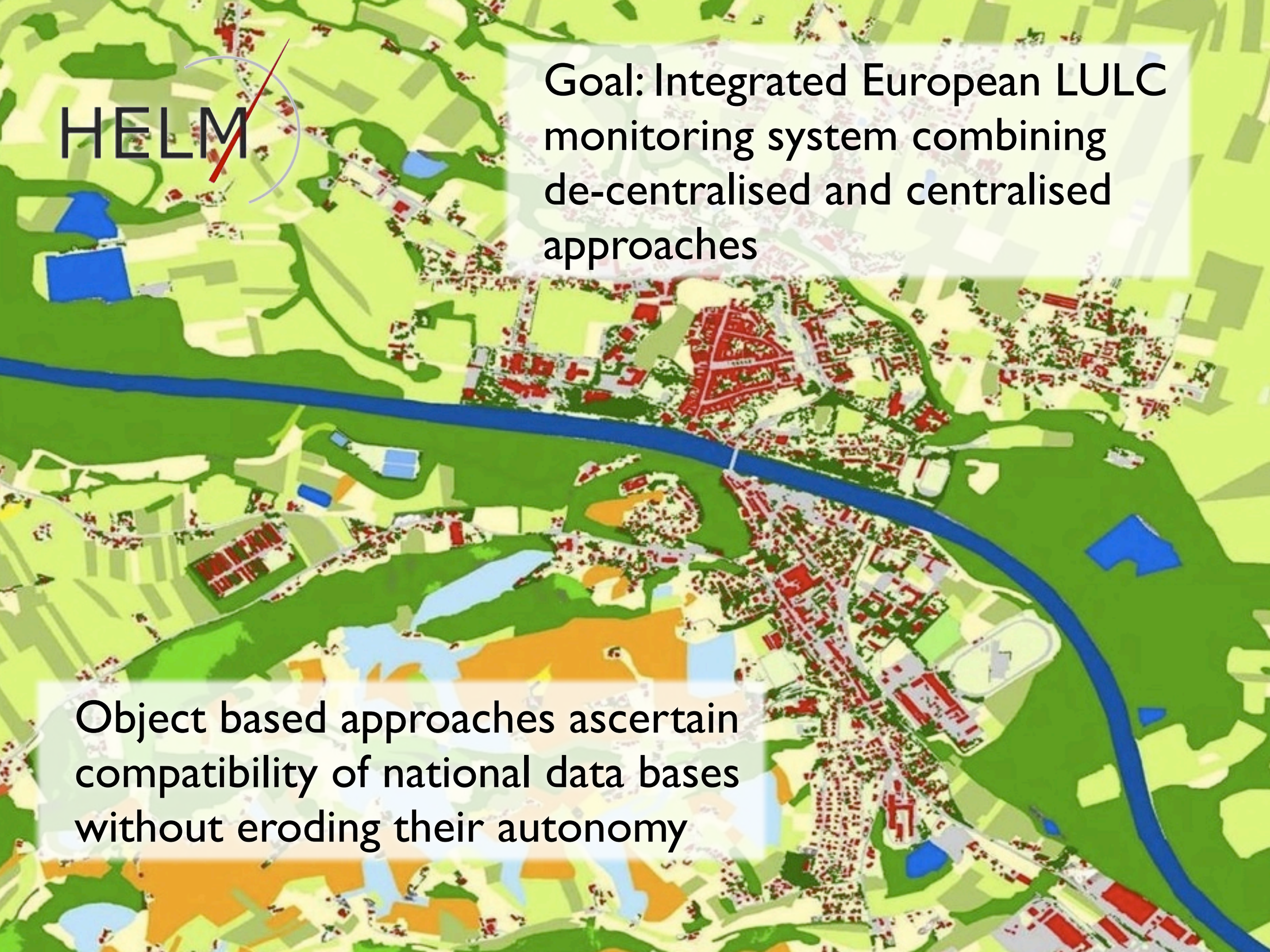
Goal: Integrated European LULC monitoring system combining de-centralised and centralised approaches



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Goal: Integrated European LULC monitoring system combining de-centralised and centralised approaches

Object based approaches ascertain compatibility of national data bases without eroding their autonomy

Participatory approaches to work out widely accepted orientations on strategic matters (eg accepting some mutual dependency) and on societal implications of land monitoring

Solving operational issues, including who-is-who in land monitoring, tasks to be addressed together, common needs and requirements

Exchanging empirical knowledge and best practices on already achieved bottom up co-ordination

Agreeing about applied/technical approaches, such as synchronisation, generalisation, nomenclature, databases merging

Approach

1. Network of mandated authorities
2. Shared vision of land monitoring in Europe
3. Joint activities to support each other
4. Roadmap for the alignment of national endeavours
5. Fostering development of integrated land monitoring system

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HELM Maturity
Model for Euro-
pean land monitoring

Bottom up census

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various constraints

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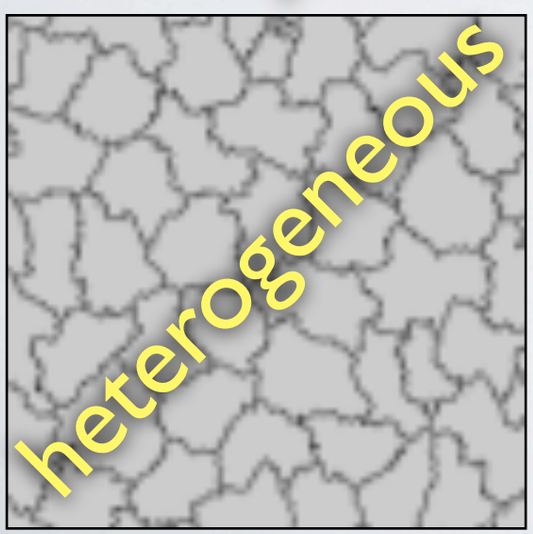
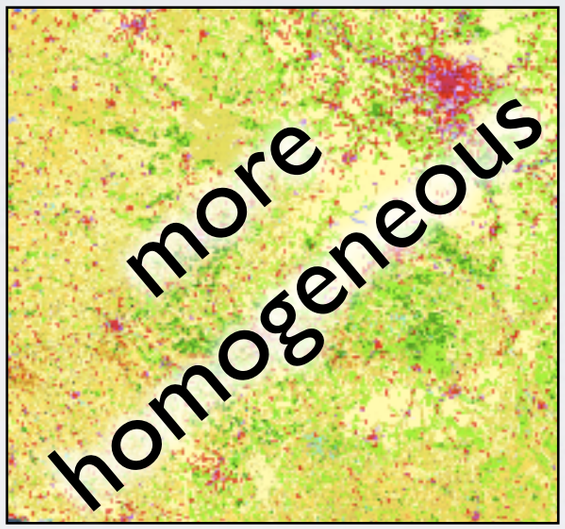


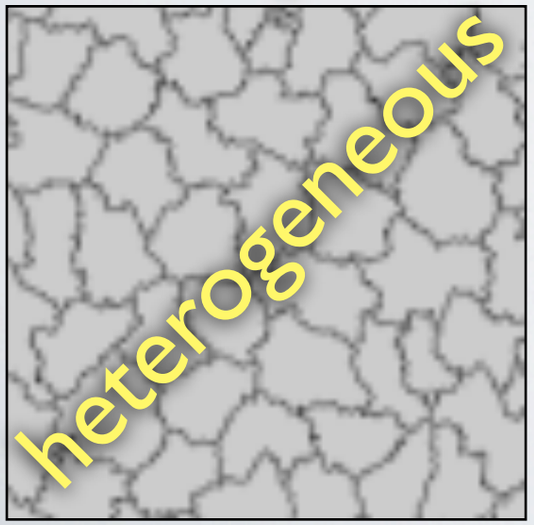
Census tracts, Admin units

Bottom up census

various constraints

LULC





Census tracts, Admin units

Dasymetric mapping, downscaling

Bottom up census

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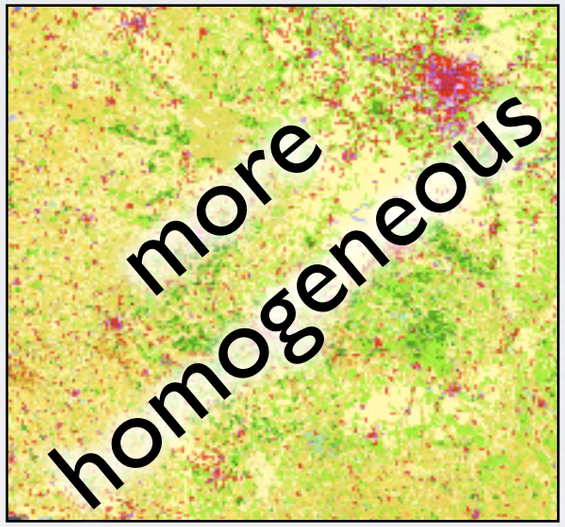
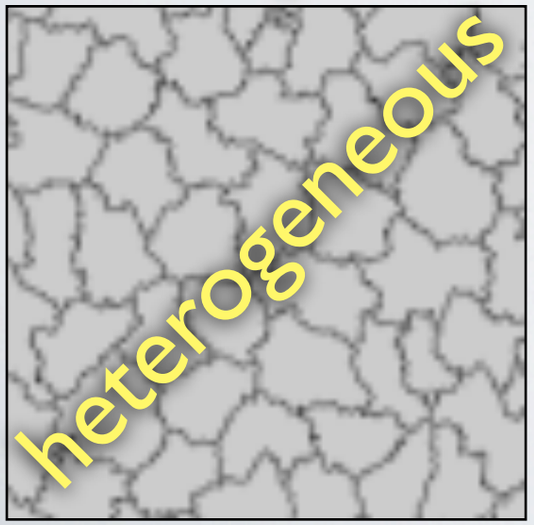


Population grid



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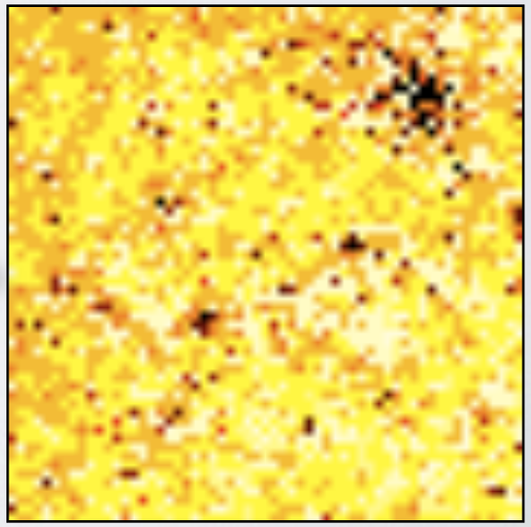

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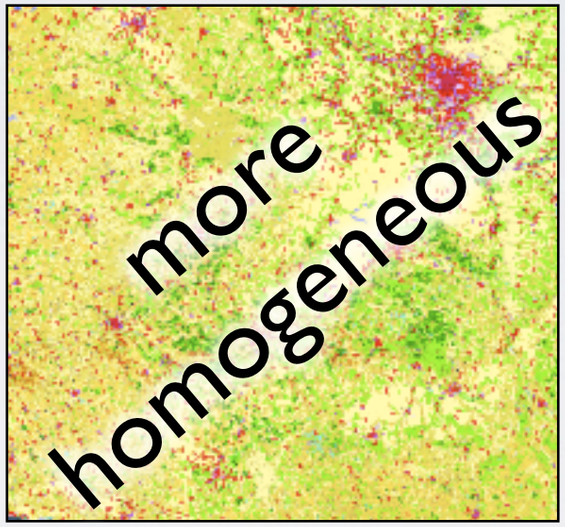

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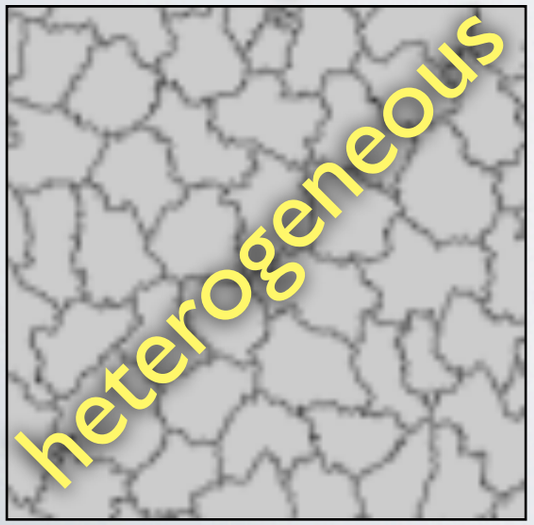

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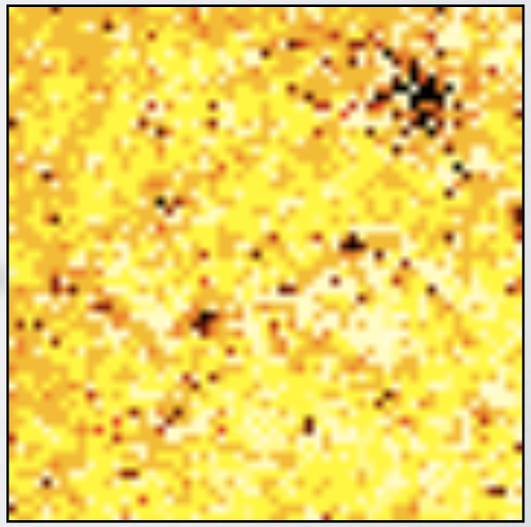

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large MMU 25 ha, smaller features not captured (29% of communes), classes inconsistently defined, not descriptive, etc.

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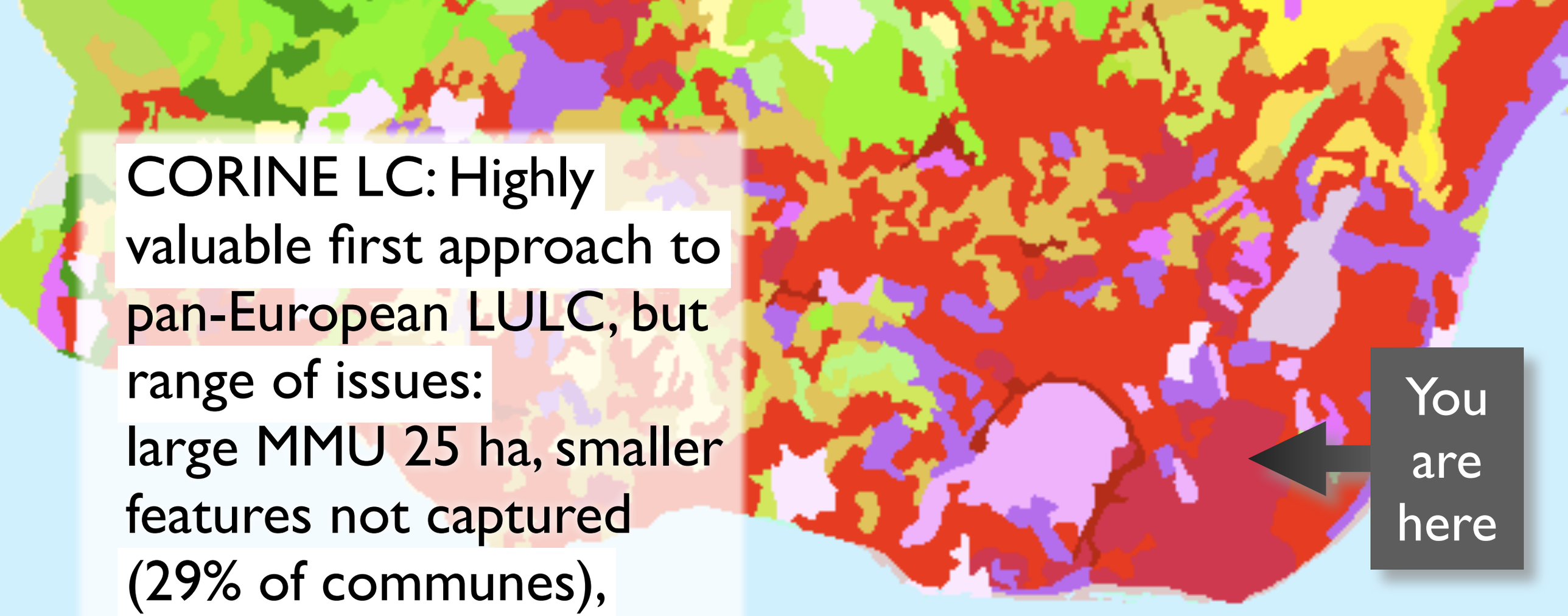
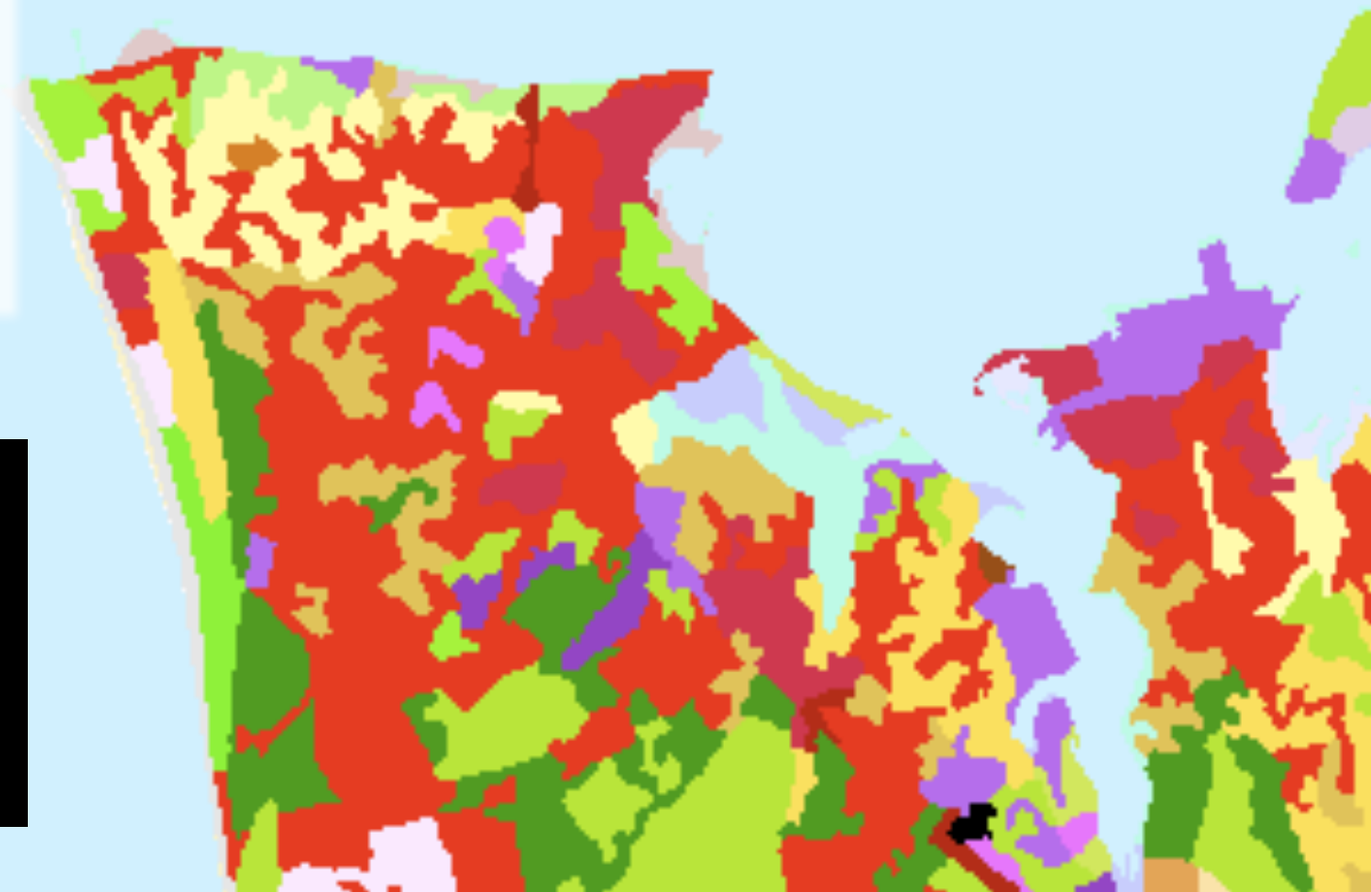


Enhancement by merging (HRL artificial surfaces, LUCAS, DEM)



High resolution object based approaches offer range of possibilities: eg more detailed assessment of housing density, building functions distinguished by attributes, traffic structures can be eliminated

Third dimension by merging land cover and LIDAR

Environment community interest in population density: pressure on protected sites, resources management, agricultural abandonment, noise impact, spatial policy and policy analysis (of course being aware of the importance of emergency preparedness)

Discover new
opportunities together
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HELM

Steering European land cover mapping

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umweltbundesamt

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