

Smart City Governance – for effective urban governance

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Complexities of urban territorial governance

- * **Complexities** in urban territorial governance reflect the interconnected social, economic and environmental challenges – in a spatial frame (city)
- * Complexities **support drive for integration** and coordination of effort of the multiple agencies with specific sectoral responsibilities (social, economic and environmental) - planning agencies representing different levels of governance from local to EU
- * Effective integrated urban governance is a **major challenge** too great for expert resolution alone
- * Top-down expertise operating in integration frameworks of cross-sectoral planning team increasingly sought assistance of all **stakeholders in a coalition of open governance** to respond to societal challenges

new agenda of open governance

- * New agenda of open governance and co-production of urban solutions - question for urban governance extended from concerns to create a more integrated management of the territory - to **new emphasis on participatory engagement**
- * New landscape of integrated and participatory urban governance aims to **harness innovative social and technology solutions**, derived directly from bottom-up engagement in the community
- * Driving expectations of **more effective** policy implementation supported by the **new legitimacy** of the stakeholder coalition and the political capital of the community

potential to transform the governance of our cities

- * Interplay of social and technological innovation has potential to **transform the governance** of our cities, as citizens are demanding more active engagement in the planning of their communities and the visioning of the future city
- * Old order of expert master planning now shares centre stage with a bottom-up community and neighbourhood planning supported by “**mass localism**” as a means to help small communities solve big social challenges

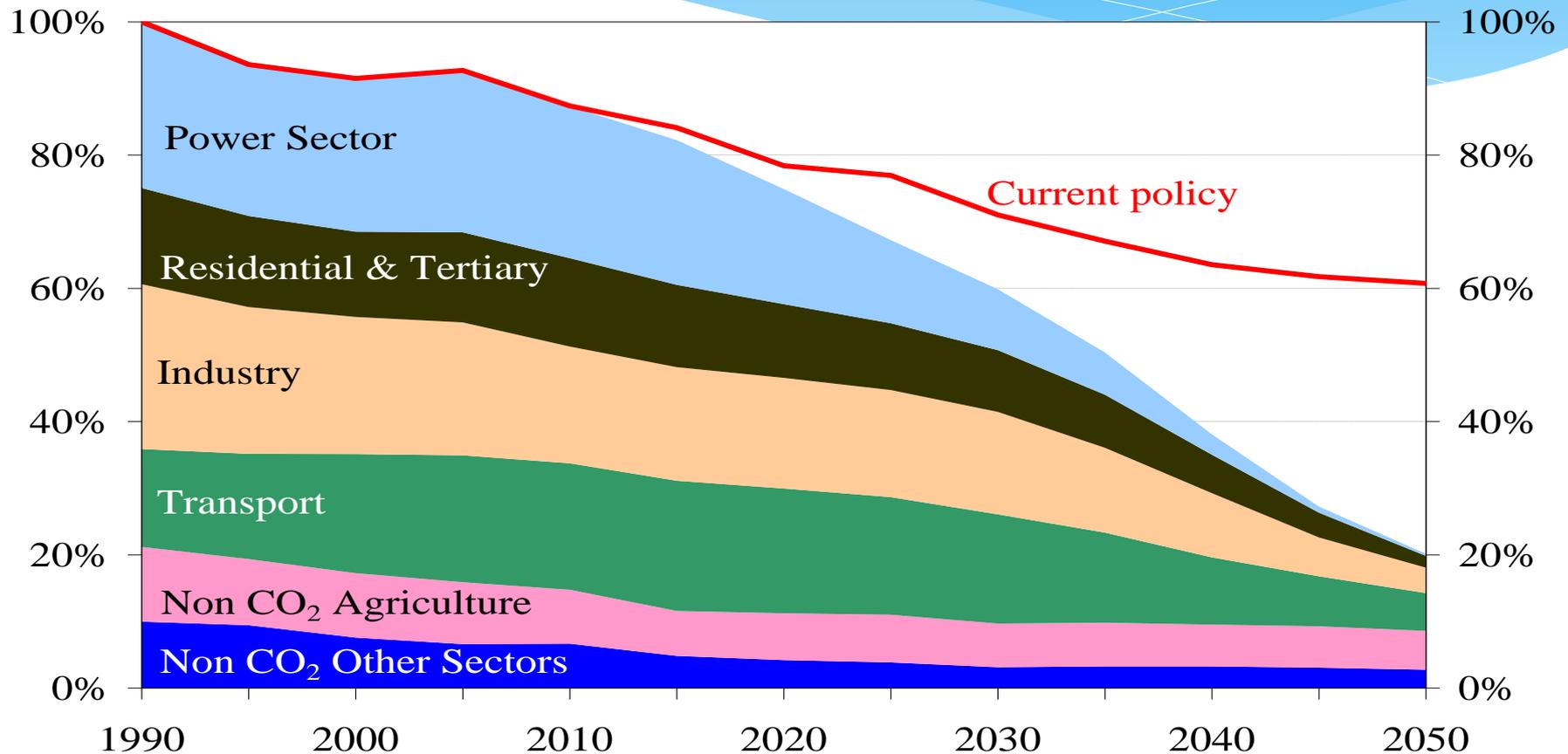
Dynamic of social and technological innovation

- * At same time **technological innovation is providing new means of community engagement** facilitating participation in planning as well as creating the potentials for the definition and delivery of more integrated solutions
- * Dynamic of social and technological innovation is defining a **new smart city governance** addressing the complex challenges of urban planning and governance and simultaneously disrupting the governance model in fundamental ways



Requirements of urban planning and governance

EU GHG emissions towards an 80% reduction (100% = 1990) by 2050

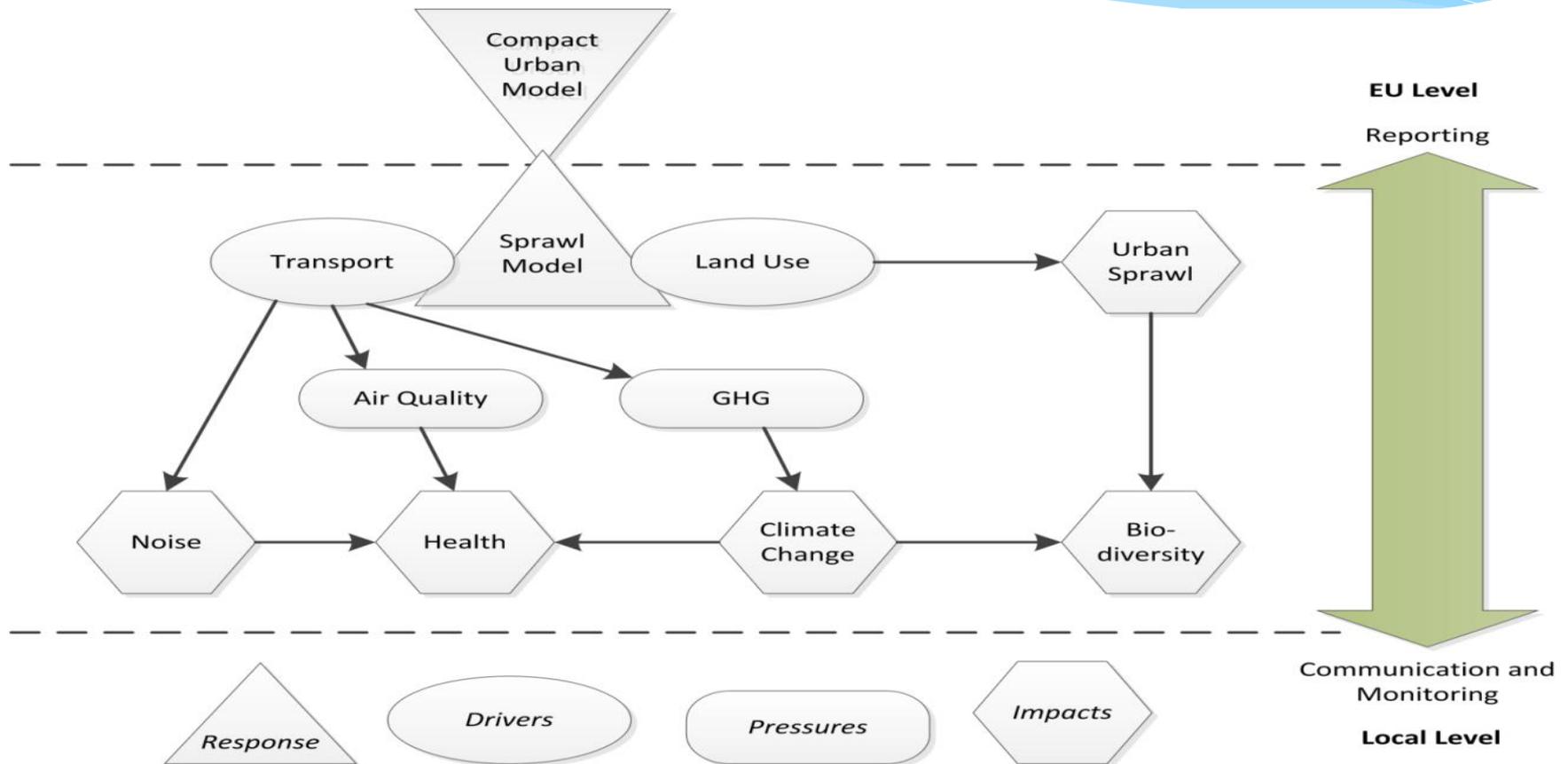


urban management challenges

- * **Urban Management – multiple societal challenges**
- * climate change impacts and environmental vulnerability
- * finite resources and resource efficiency
- * demographic change and social cohesion
- * economic and financial crisis

- * Hence management complexity and **need for innovative ideas on transformational governance of cities – an integrated governance that can manage this complexity**

urban complexity + integrated urban management



urban planning requirements

- * Urban planning is central to managing complexity (socio-economic and environmental) in territorial context - and securing win-win policy solutions via integrated management
- * **Requires:**
 - * Information, intelligence and communication
 - * assessment methodologies, visualisation, simulation
 - * integration of information and analysis (cross departmental/multi-scalar)
 - * engagement of stakeholders and co-production of plans (bottom up)
- * **All supported by ICT tools and methodologies**
- * **Intelligence - communication – assessment - decision**

policy cycle – operationalising intelligence

Evaluation and Reporting

Core document:
Evaluation Report

(Update of) Baseline Review

Core document:
Sustainability Report

Implementation and Monitoring

Core document:
Sustainability Programme

Target Setting

Core document:
Sustainability Targets

Political Commitment

Core document:
Council Approval



EU project experience and outputs

URBIS Green Layer Services 1/ sites identification

Copernicus Urban Atlas + image analysis results



+



Classification based on Urban Atlas imageries (SPOT5 – 2,5m pixel size)



2/ sites characterization

Reference units for analysis: Functional urban blocks
(Urban Atlas of local urban land use planning databases)



CRITERIA:

- Amount, distribution and type of open/green space inside the block

Potential for densification?
(PDAs)

– economical profit

x

Urban green to be preserved?

– ecological profit

3/ basis for calculation of indicators

More detailed information about „green and open spaces“ in urban areas than provided by Copernicus Urban Atlas

Indicators describing amount, distribution and characteristics of green/open spaces in analytical units at different levels of spatial detail:

- Sub-city districts
- 1km grid cells
- LAU2
- Core City/Larger Urban Zones

How „dense“ each city is?

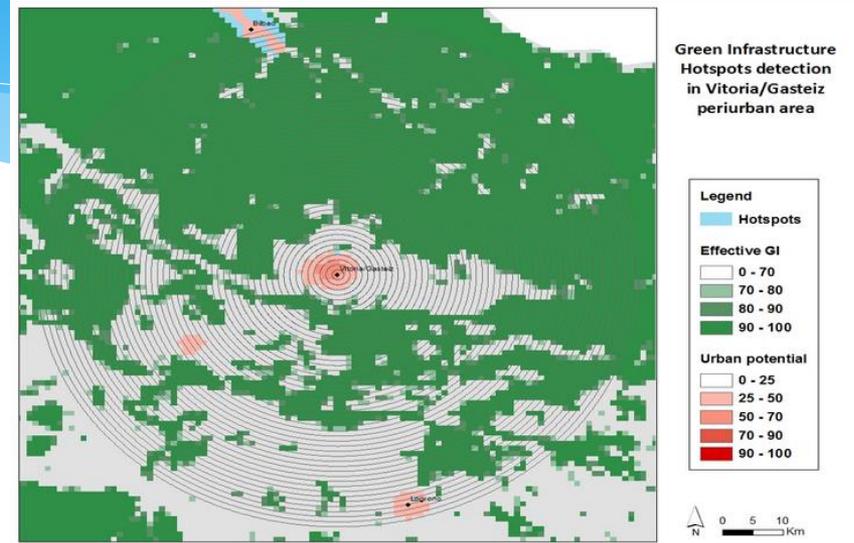
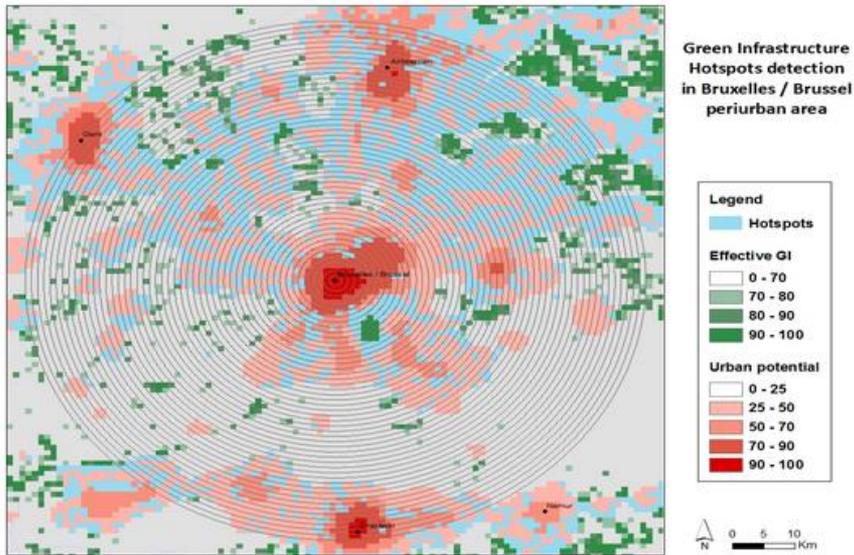
How many open spaces are in the city and how they are distributed?

How this density changes in time?

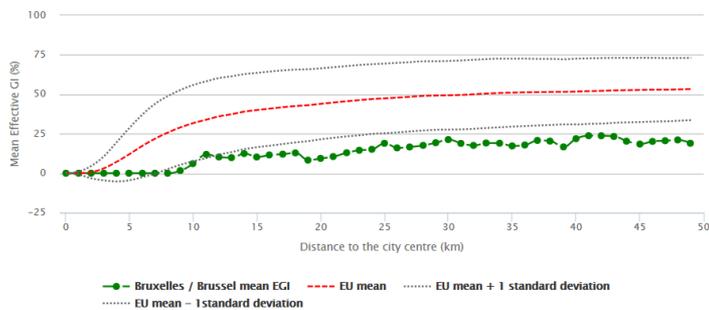
GREEN AREA CHARACTERISTICS to be described:

- CONNECTIVITY (ala EEA fragmentation indicator)
- SPATIAL PATTERN (ala urban sprawl indicator)
- PROXIMITY (to e.g. kindergarden, residential area/blocks etc.)

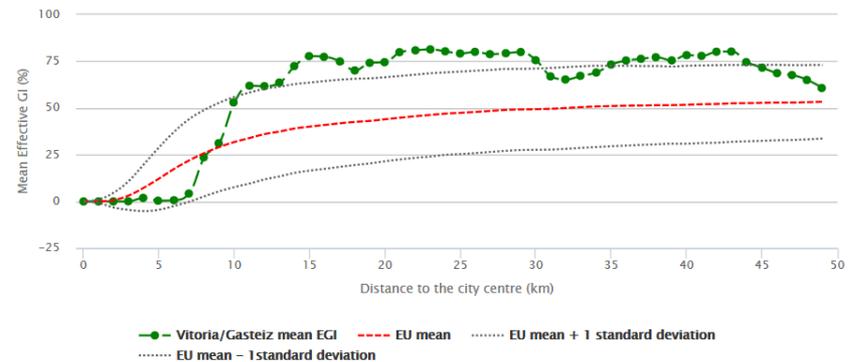
Urban – Peri-urban



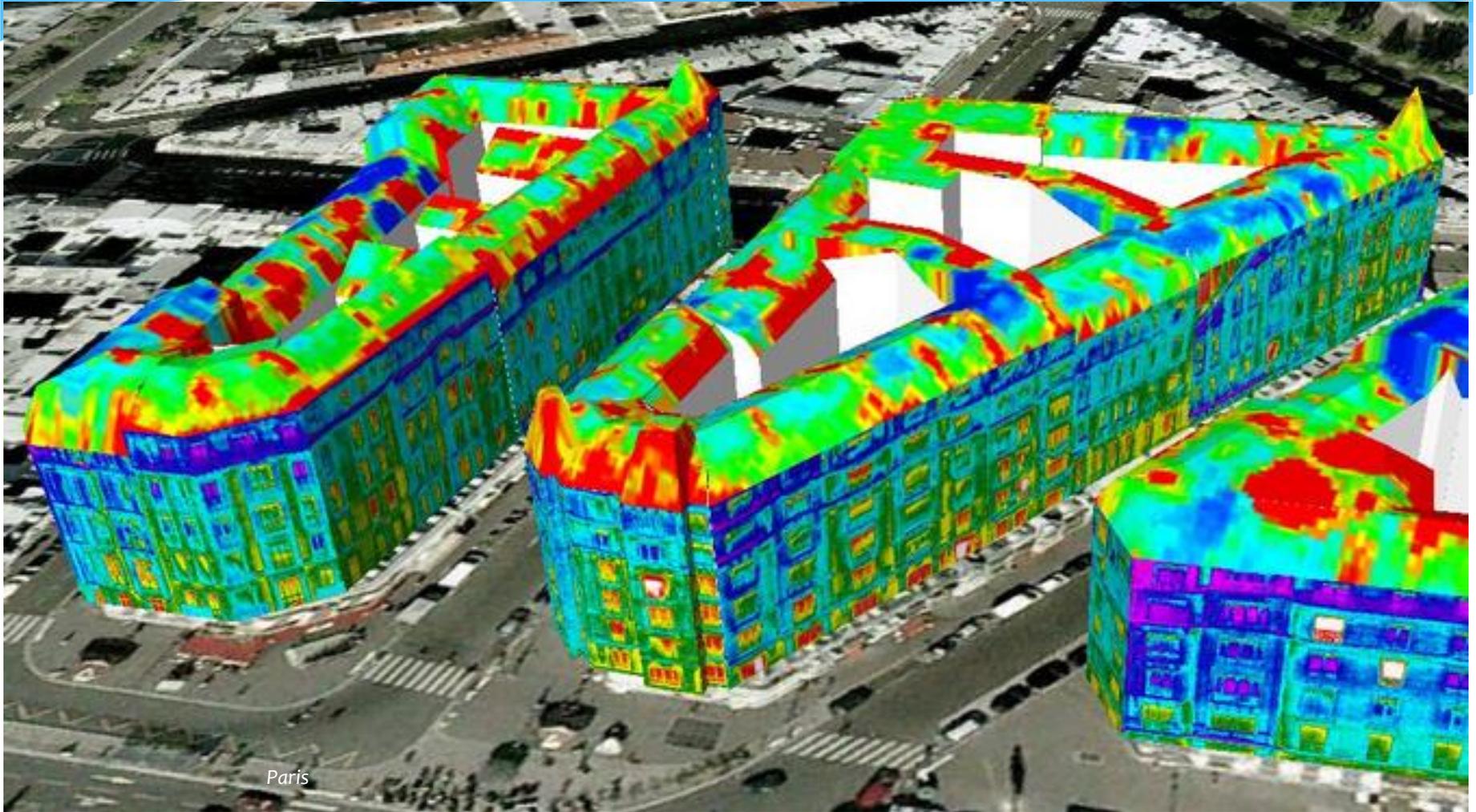
Mean Effective Green Infrastructure



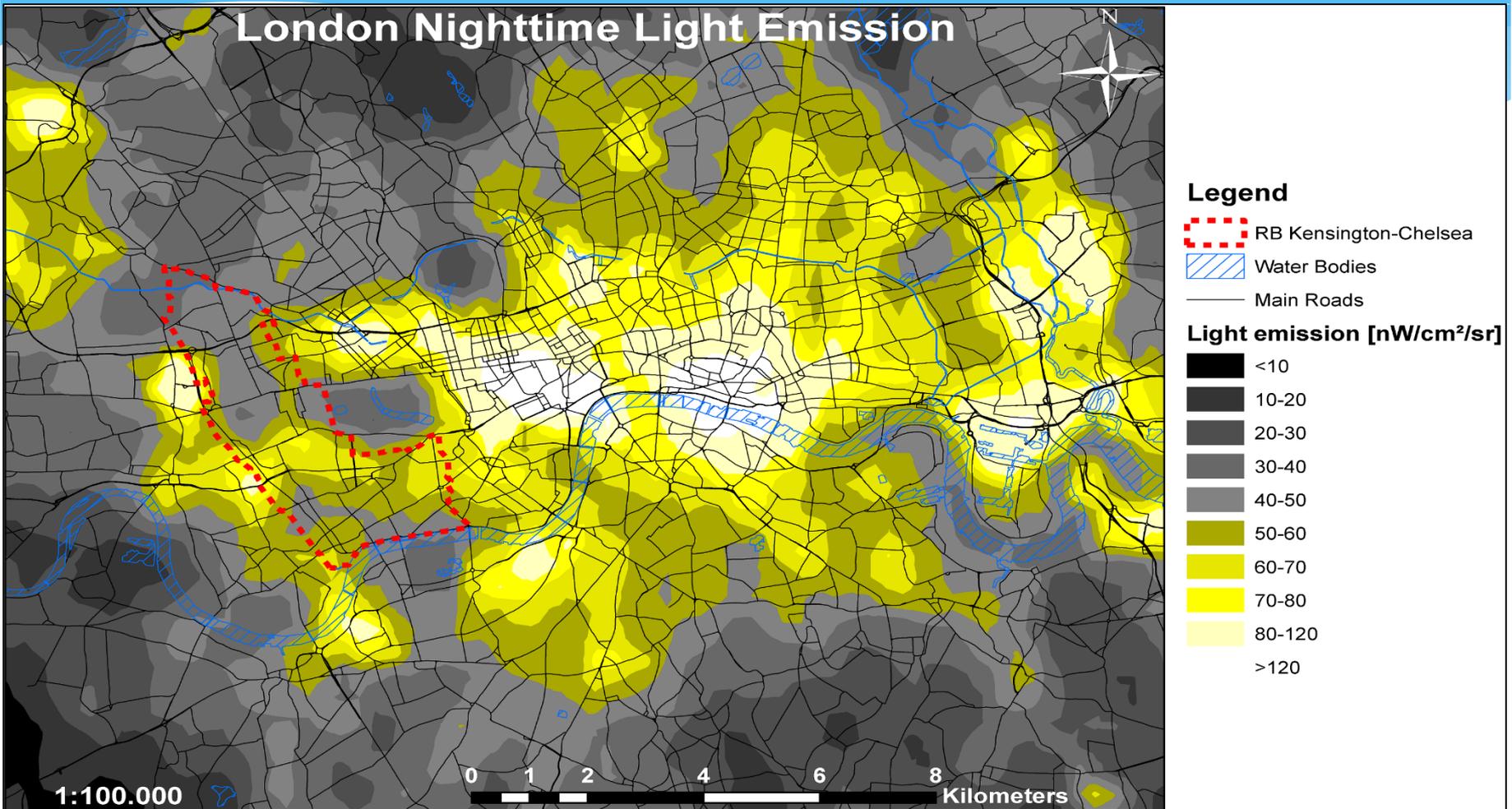
Mean Effective Green Infrastructure



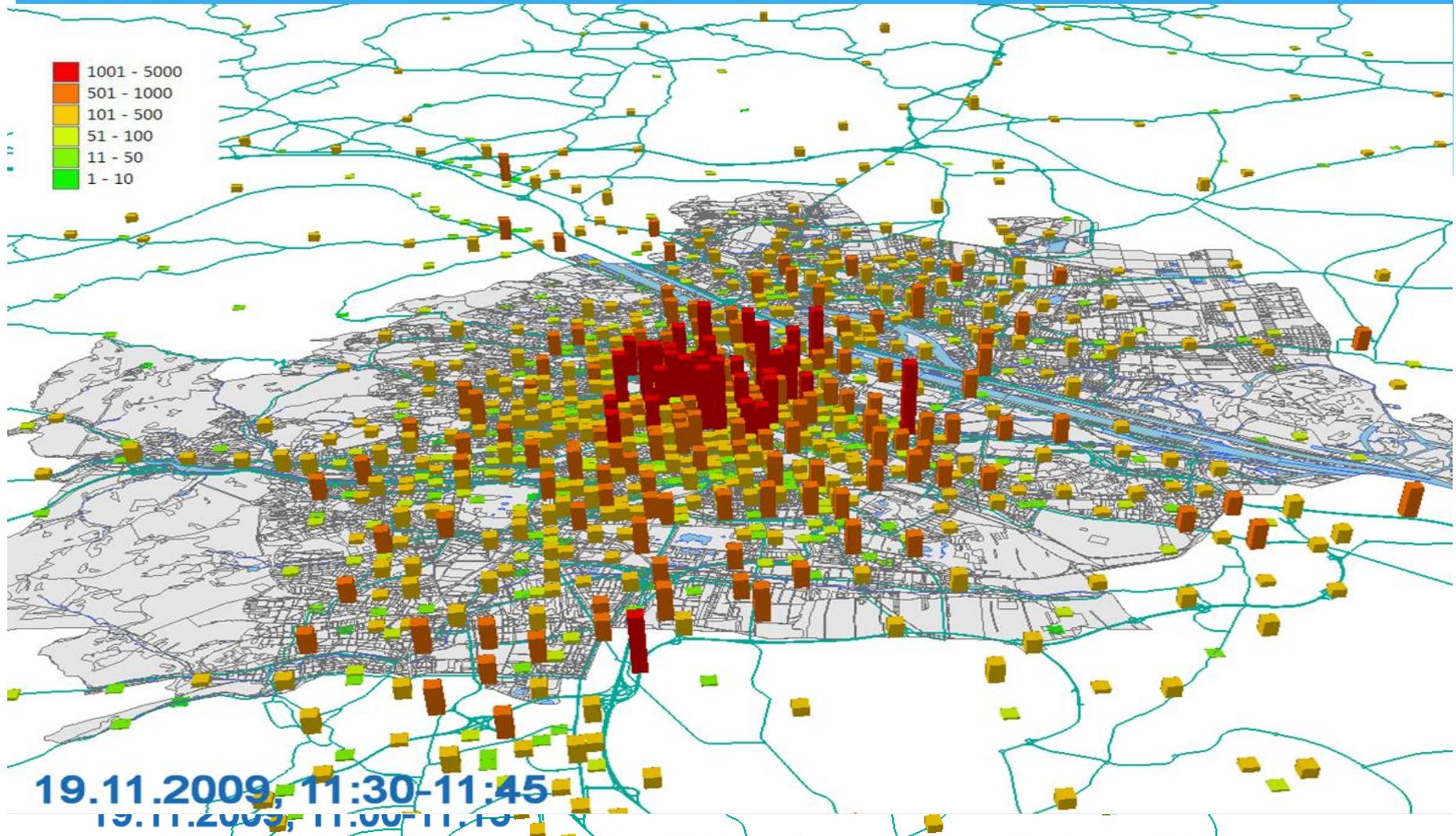
DECUMANUS EU FP7 Heat Loss Detection



Light Pollution Detection



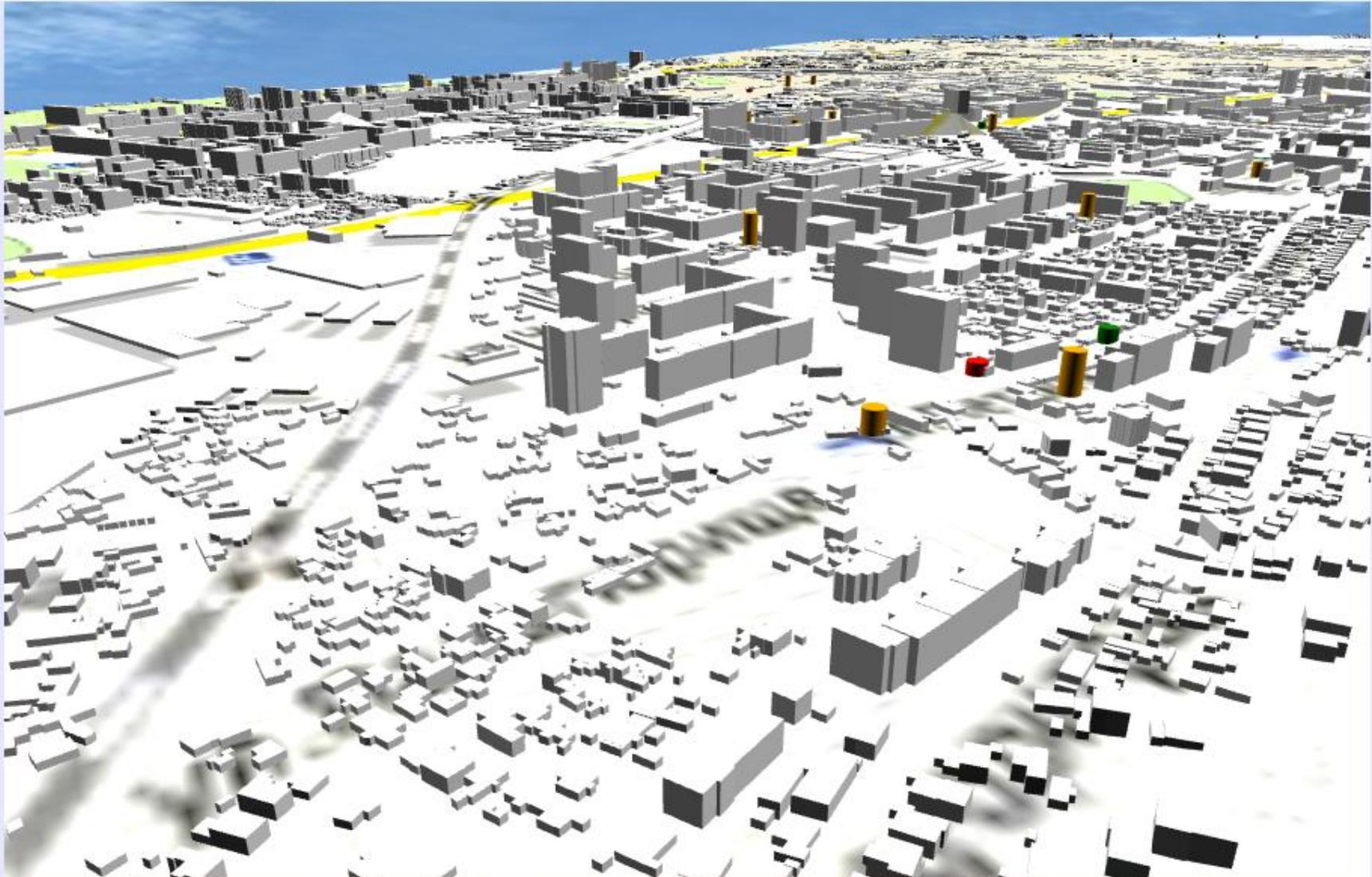
public motion exploration – Vienna



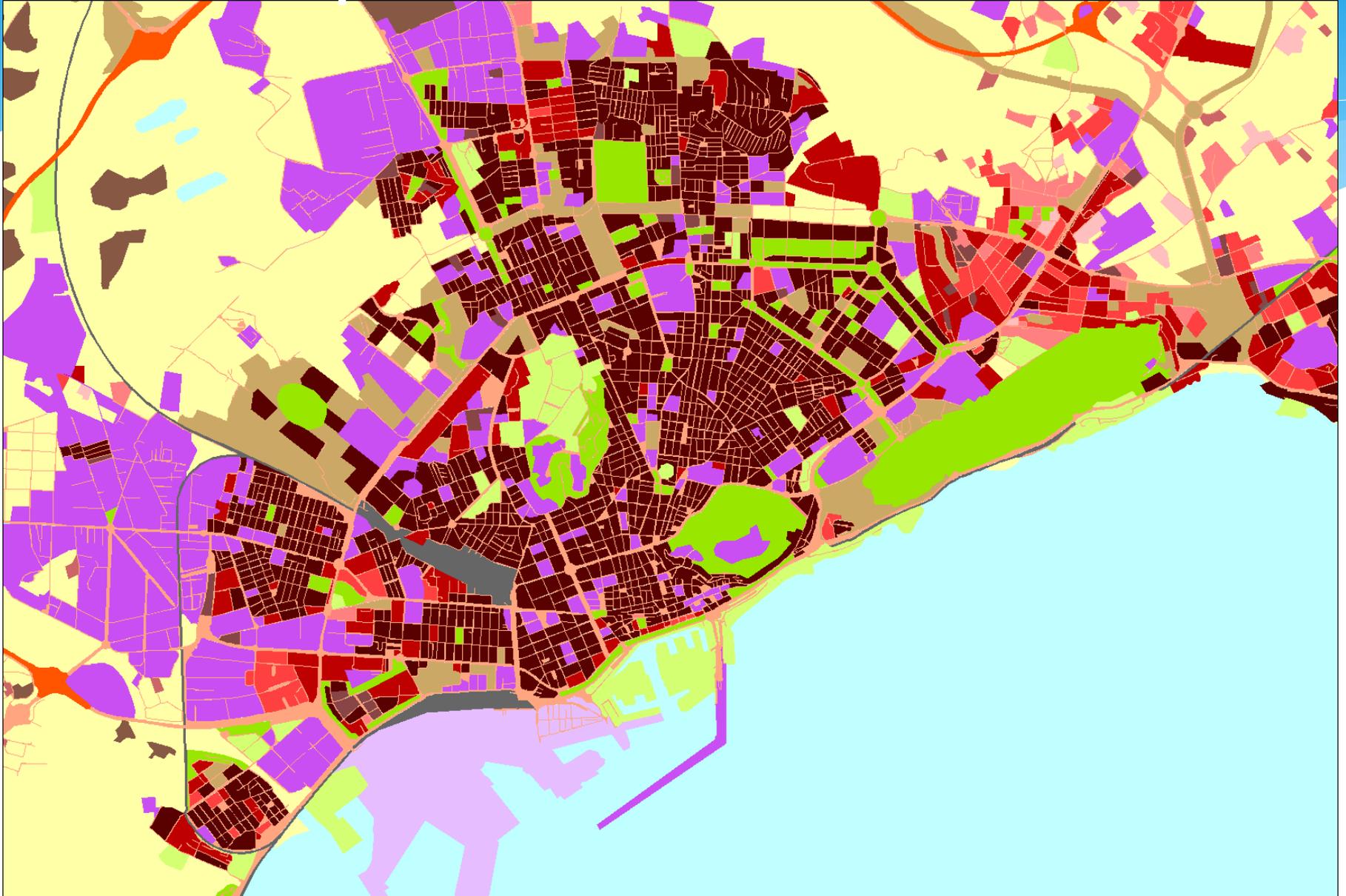
urban development simulation - Ruse

UrbanAPI > Ruse-3D

Click to
update the
scene



Copernicus Urban Atlas



Copernicus urban atlas – 700 cities



Concluding message

- * Smart city governance driven by ICT enabled urban planning has exploded onto the municipal agenda in the past five years*
- * ICT community have leapt at the opportunity to develop new sources of intelligence allied with new tools and methodologies for the use of this intelligence*
- * However, the built environment communities have been mostly oblivious to the potentials of this new ICT dynamic and have not effectively engaged, as they must, in the redesign of the governance systems operative in government agencies and elsewhere*