

# SMART URBAN ADAPT

## Helping cities transition to a low-carbon future

Climate-KIC Theme	Cities – resilience and low-carbon systems
Project duration	01.04.2012 – 31.12.2013
Lead partner	ETH Zurich
Project lead	Gerhard Schmitt
Contact	Jan Halatsch
Project type	Innovation



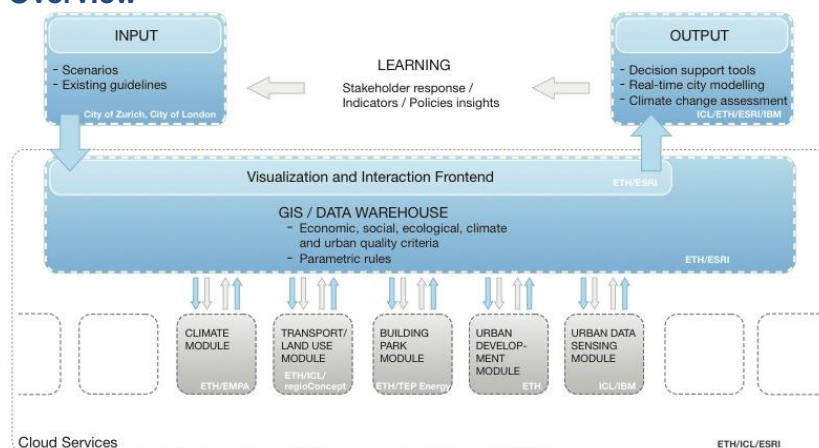
## Concept

*The city of tomorrow must use fewer resources and provide better quality of life. SMART URBAN ADAPT helps European cities with next-generation decision tools to design development paths for the 1-ton-CO<sub>2</sub>-society.*

Current climate-mitigation scenarios for sustainable urban environments are mainly defined by fixed key performance indicators. Associated action plans are likely to fail due to interactions of systems, legal regulations and economic mechanisms in the real world environment. This calls for a more integrated surveying of climate critical urban systems and adjustable adaptation mechanisms to create feasible urban development paths for climate-change mitigation. Hence, this project aims to develop a scenario-based evaluation platform for the generation of accredited urban development paths and resilience benchmarks for municipalities (figure 1). Previously separated urban subsystem models will be integrated into large GIS data

warehouses and combined emerging urban climate data sensing techniques. This platform will be leveraged by novel and interactive decision support tools for the cross-sectoral, multi-scale planning, management and operation of existing cities. The modular platform will be commercially exploited in terms of (a) consultancy businesses and sustainability rule databases developed by spin-off companies, (b) middleware services, (c) key technologies (cloud based GIS data warehouse, cloud computing and sensing) and (d) modular interactive next generation software applications for urban planning, real estate investment, and community education.

## Overview



## Deliverables

Cloud-based platform consisting of

- Smart Adaptation Catalogue for European cities and infrastructure providers
- Scenario-based low carbon development path assessment
- Interactive decision support tools for urban surveying and planning
- Interactive climate prediction
- Interactive transport and land use prediction
- Smart sensing for urban climate survey

## Partners

ETH Zurich  
Imperial College  
ESRI  
IBM

## Role in project and competences

Project lead. Modules: cloud-based visualization services, transport, climate, building park.  
Co-lead. Modules: transport, smart urban sensing, cloud-based data services.  
Contributor. Modules: GIS warehouse provider, cloud-based services, procedural runtime.  
Contributor. Modules: smart urban sensing, cloud-based data services.