



MSI Smart Cities: Process towards a common roadmap

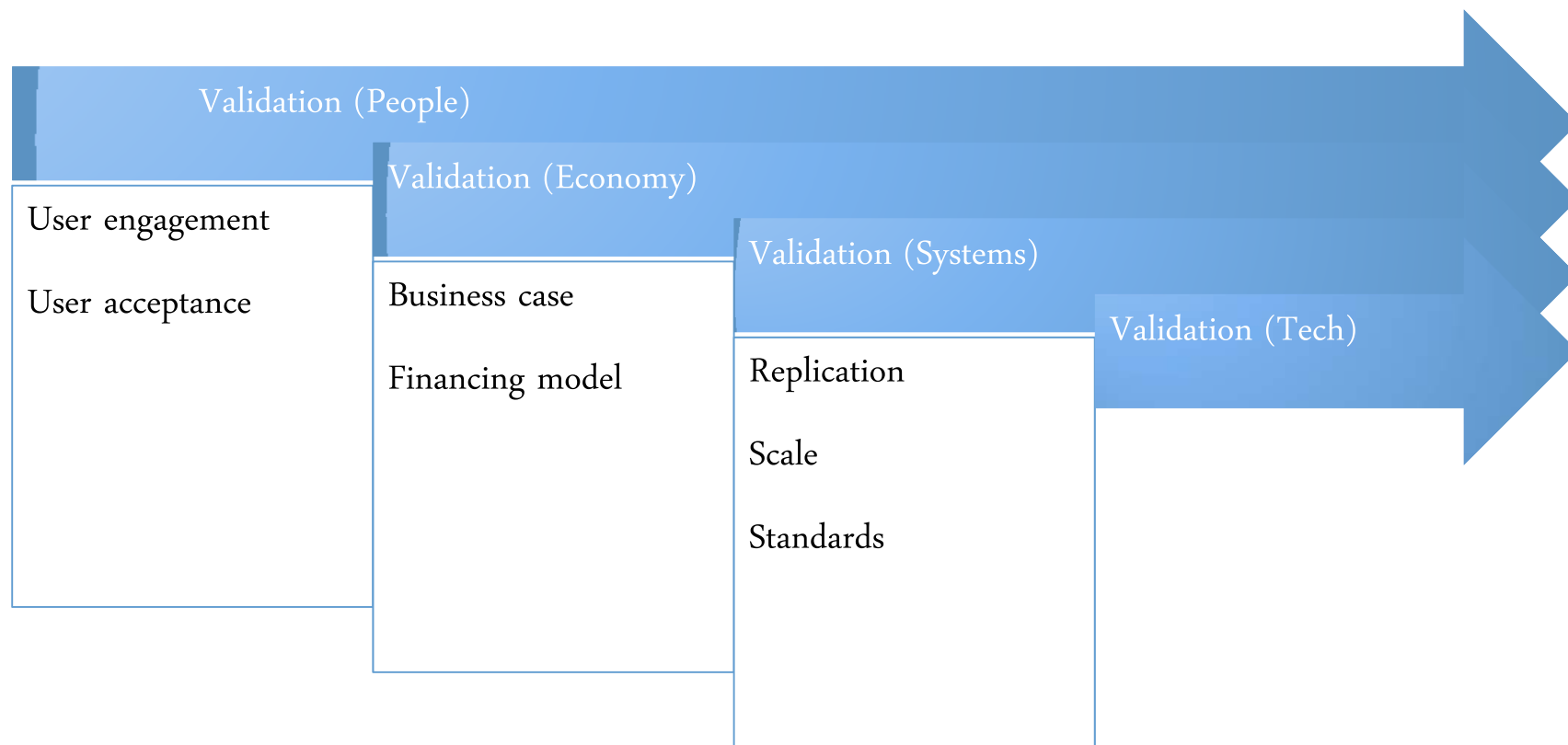
22 March 2013, Stockholm

Patrick Driscoll

Martin Lehmann

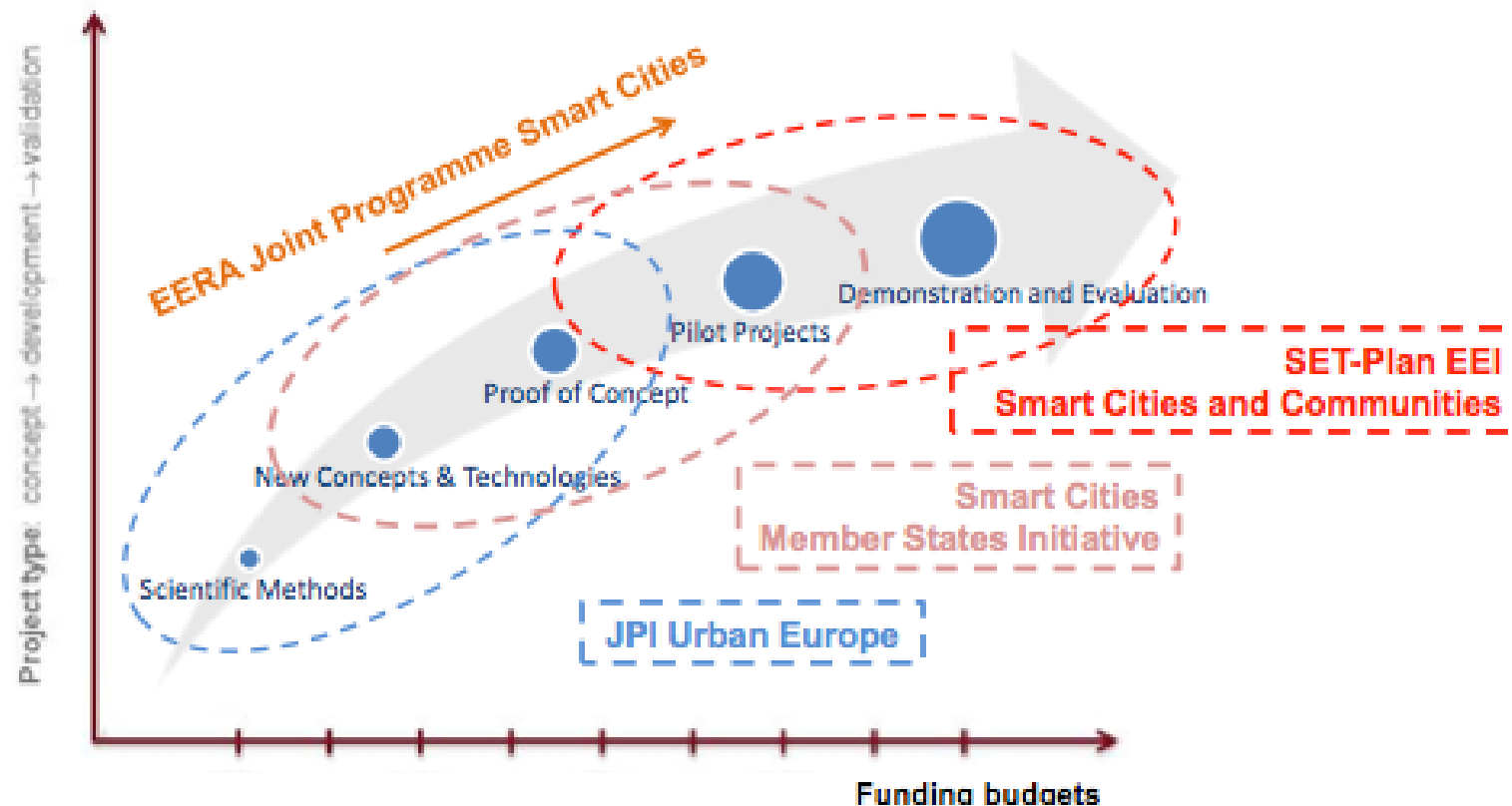
Aalborg University, Denmark

Outlines of Horizon 2020 Smart Cities and Communities goals (Draft)



Purpose of MSI: Concept Development, Proof, and Demonstration

European RDI Funding in the Urban Field



EC Smart Cities and Communities



Energy Efficiency and Buildings



Energy Supply Networks



Mobility and Transport

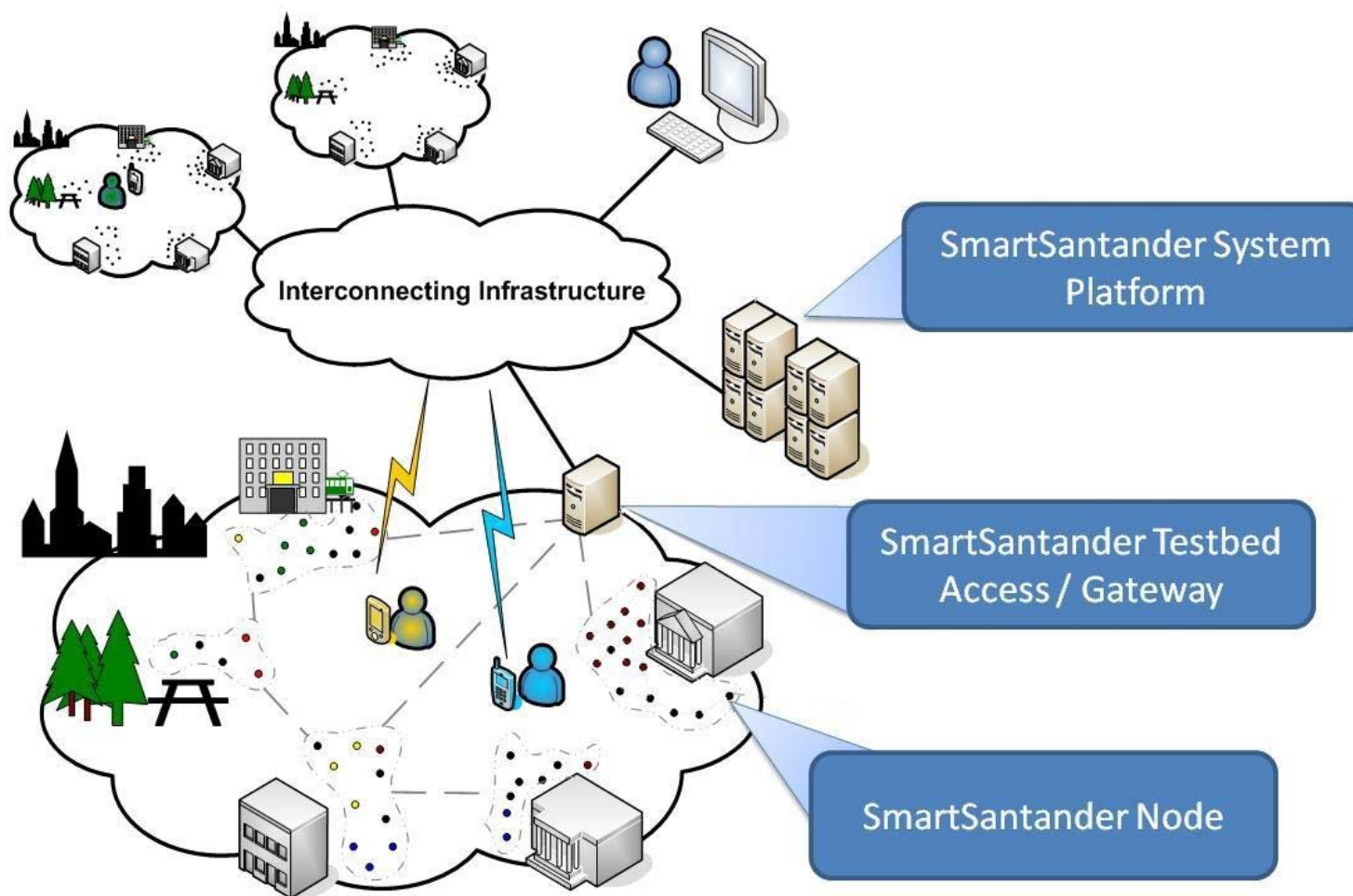


Finance Group



Smart City Roadmap Group

Build from existing platforms



Build from existing knowledge

- JPI Urban Europe
- SET-Plan
- FP6 and FP7
- URBAct
- OpenAire
- National geo-spatial databases
- National agencies/research institutes
- Eurostat
- Municipal/regional knowledge
- International experiences, e.g. Interreg

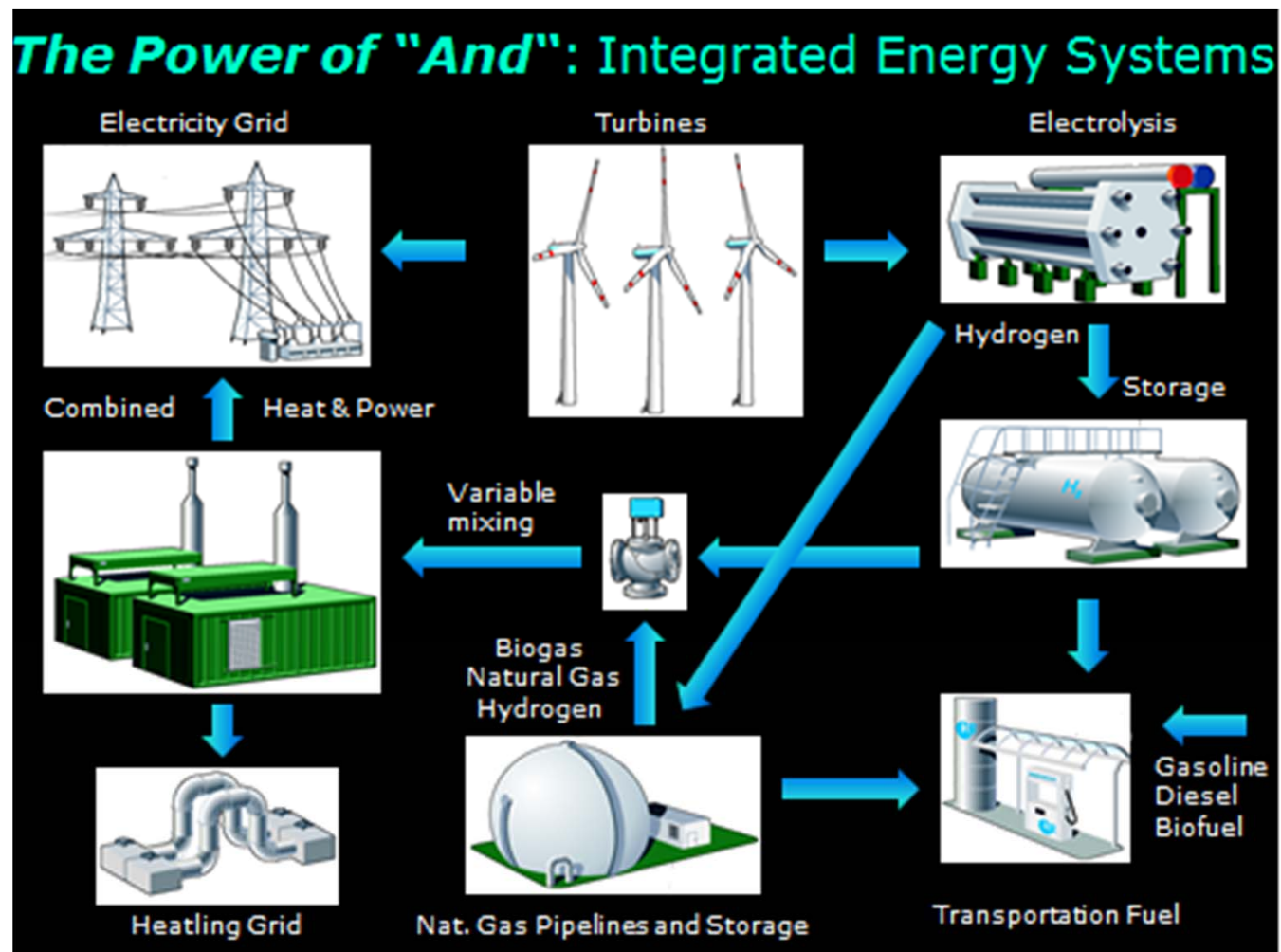
But, with a relentless focus on monitoring and ex-post/ex-ante evaluation techniques

- This includes failures and successes, along with the reasons why (technical, social, cultural, economical, political, etc.).
- A principle of no new structures, but integration of existing ones (Demand-driven from the user perspective, not supply-driven from the vendor perspective).
- Principle of speed and satisficing. White papers, source code, new processes, new technologies all get released with a clear focus on adaptive management principles (Don't let the best be the enemy of the good).

Initial research area for fast-track

- *Development of integrated modelling/simulation framework (decision support tools and tools for city-wide simulation of energy flows), as well as*
- *Integrated urban energy monitoring concepts*
- (from MSI vision paper)

The Enernet



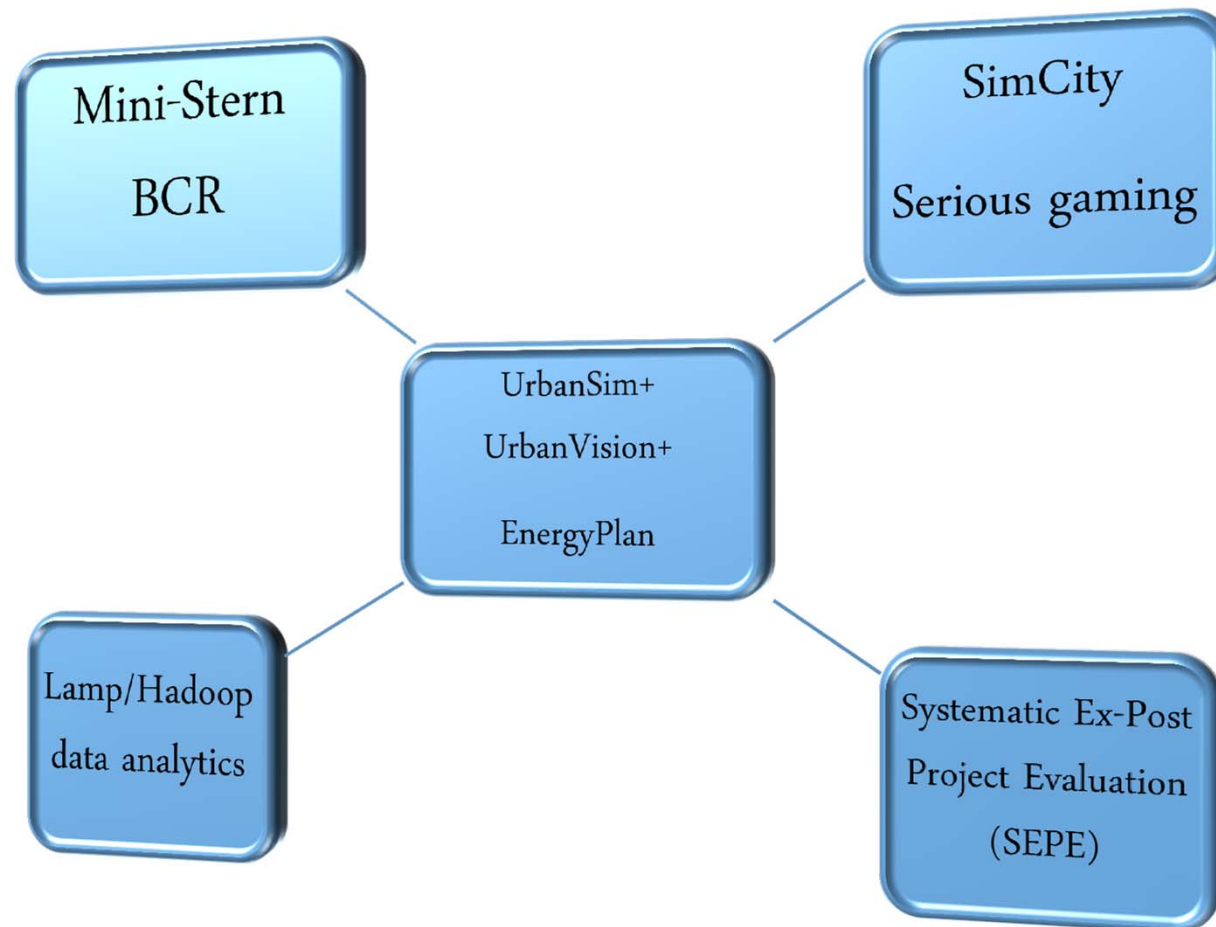
Use regional diffusion model of policy/ knowledge transfer
(Internet users 2012)



P2PSmartCitiesHub

- People-centric, not tech-centric
- Trust and openness
- Explicit political, social, and environmental goals, along with economic ones
- The Mom rule (so simple your mom could use it)
- Vendor-neutral
- Fault-tolerant
- Transparent architecture
- Adaptive, emergent networks
- Secure data, secure connectivity, secure privacy
- Mass customized
- Focus on disruptive innovation (no BAU).
- Sustainable value creation

Decision-support



Open source simulation, land use/transport modelling, open spatial data,
and petabyte-scale analytic capacity



Energy PLAN

Advanced Energy System Analysis Computer Model

INGEST STORE EXPLORE PROCESS ANALYZE SERVE

CLUSTERA ENTERPRISE

THE PLATFORM FOR BIG DATA

MANAGEMENT SOFTWARE, DATA MANAGEMENT & TECHNICAL SUPPORT (SUBSCRIPTION)

CLUSTERA MANAGER (Sold with Support)

CORE RTD RTQ

CERTIFIED CONNECTORS

BI ETL RDBMS

CDH 100% OPEN SOURCE

CLOUD WH WHIS

USER INTERFACE HU HUE

WORKFLOW MGMT OO OOIE

METADATA AC ACCESS

MS METASTORE

INTEGRATION

SQ SQOOP

FL FLUME

FILE FUSE-OPS

REST WEBHDFS HTTPS

BATCH PROCESSING

HI HIVE

PI PIG

MA MAHOUT

DF DATAFU

BATCH COMPUTE

MR MAPREDUCE

MR2 MAPREDUCE2

REAL-TIME ACCESS & COMPUTE

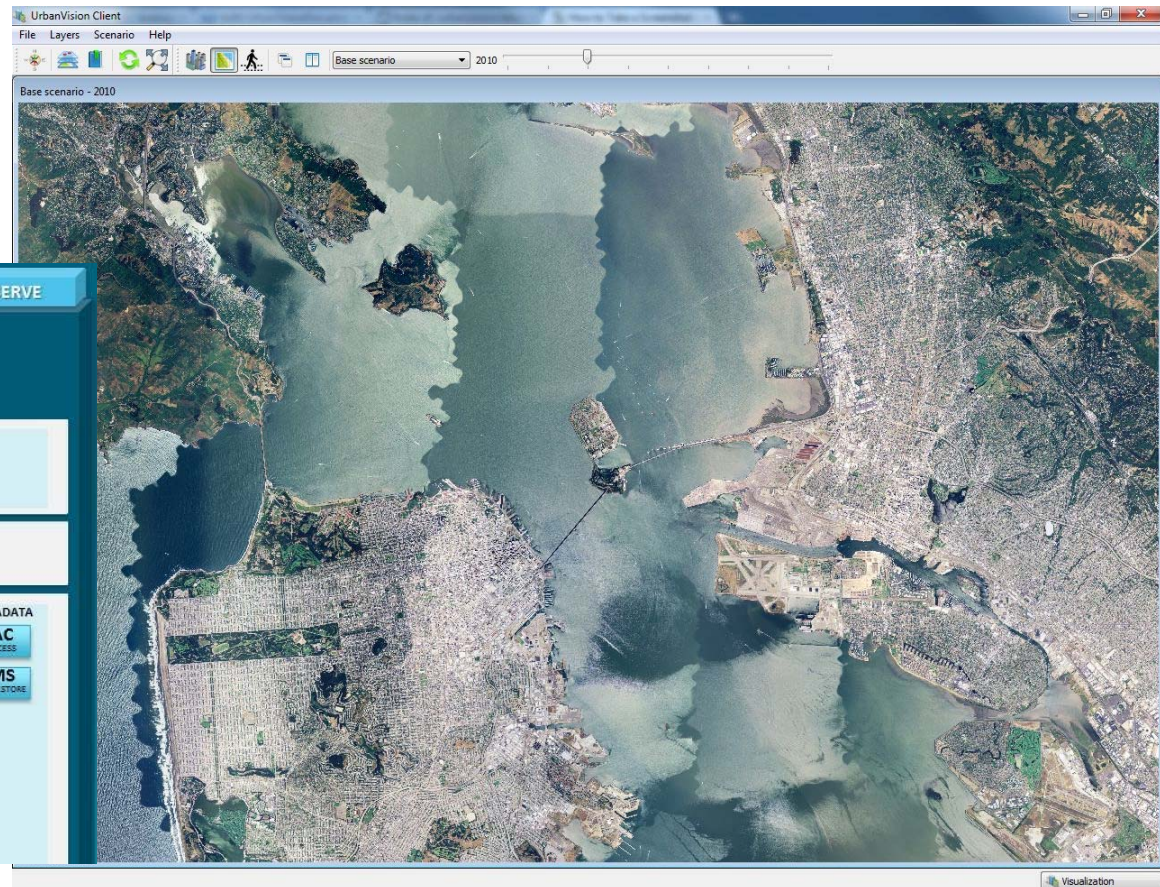
IM IMPALA

RESOURCE MGMT & COORDINATION

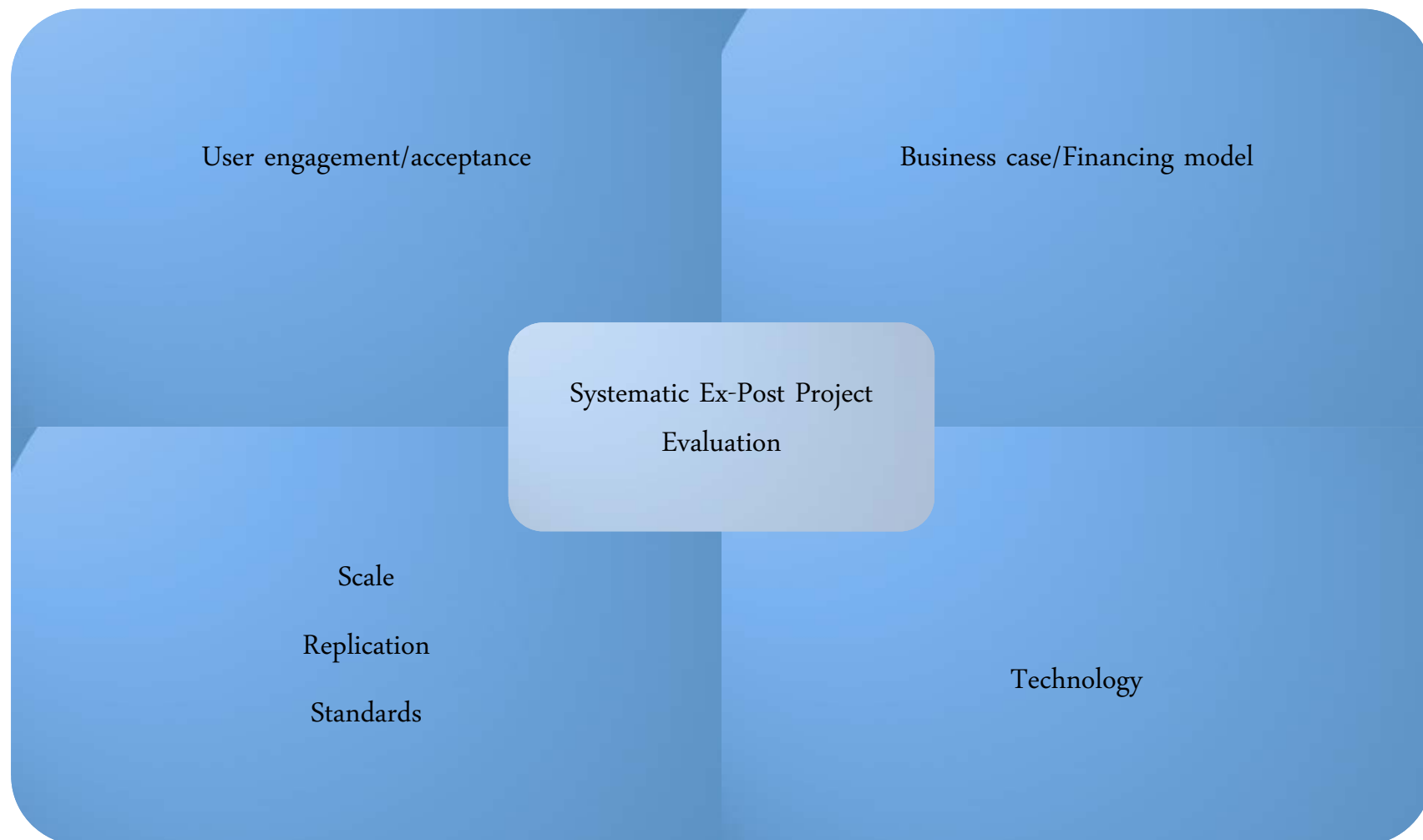
YA YARN

ZO ZOOKEEPER

UrbanSim



Monitoring and KPIs



Governance and planning

Empowering people

Nudging/Shifts in behavior

Privacy

Transparency

Security

Openness



Thank you!

www.klimalab.dk