ITS 832
Chapter 18

Sustainable Urban Development, Governance and Policy: A Comparative Overview of EU Policies and Projects

Information Technology in a Global Economy

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Overview

- Introduction and Background
- Case Studies – Energy Efficiency
  - Integrating Energy Efficiency and Urban Sustainability
  - The Dutch Kadaster
  - The Solar Atlas of Berlin
  - The Sicilian "Carta del Sole"
- Policy Implications for the Future
- Conclusions

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Introduction and Background

- Sustainable urban governance
  - How can IT encourage sustainable urban development?
- Many previous projects were monolithic
  - Technical controls OR
  - Technical sensors
- EU's 2007 Energy Policy
  - Combat climate change
  - Limit EU's vulnerability to imported hydrocarbons
  - Promote growth and jobs
- Multiple projects that incorporate measurement and control

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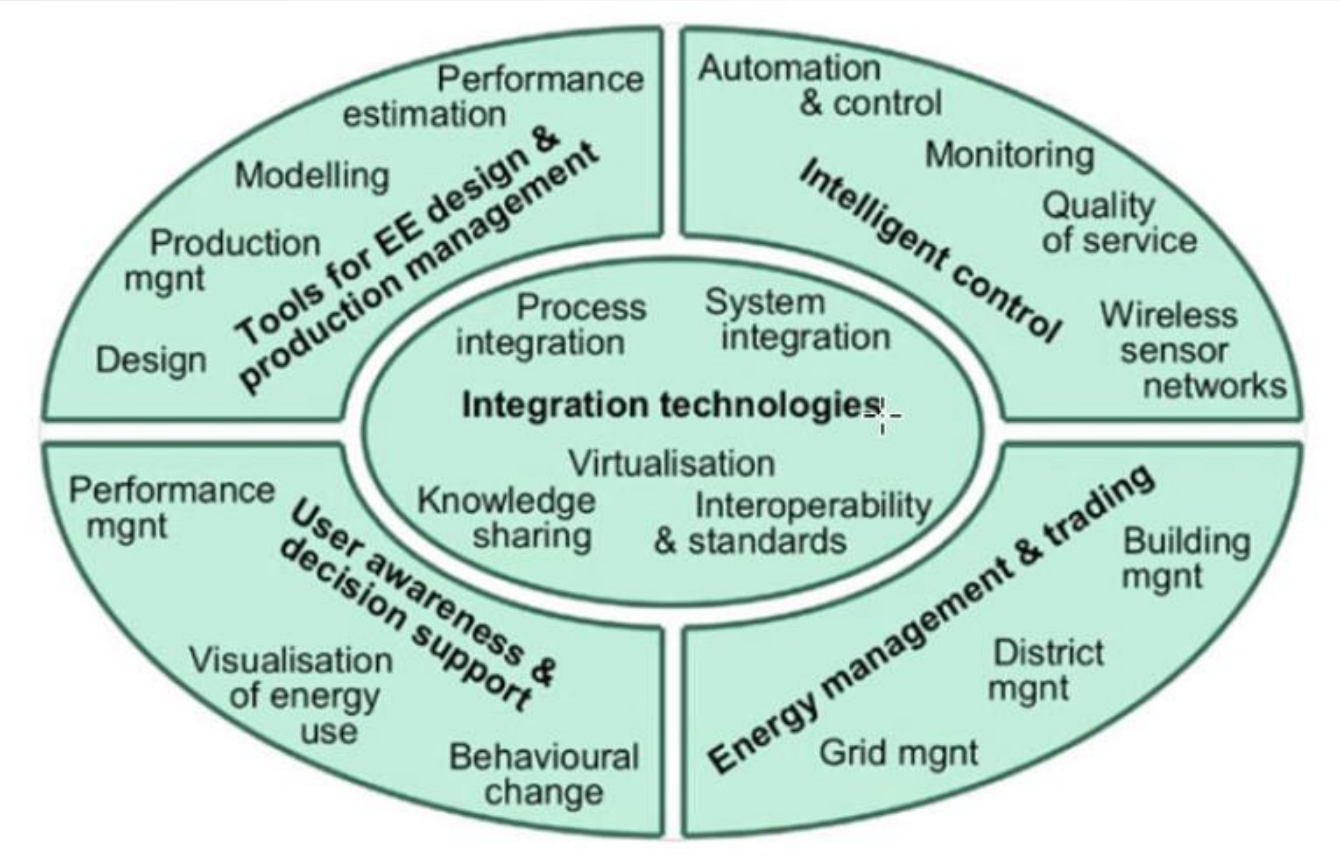
ICT Enablers of Energy Efficiency



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Case Study 1

- Integrating Energy Efficiency and Urban Sustainability
- Northern Europe
  - Strong commitment to green energy and sustainability
  - Especially Finland
- Amsterdam Sustainability Index (ASI)
  - Metrics to measure urban sustainability and energy efficiency
- ASI metrics
  - Energy savings
  - Mobility and air quality
  - Sustainable innovative economy
  - Materials and consumers

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Case Study 2

- The Dutch Kadaster
  - Land Registry and Mapping Agency
- Priority in planning
  - 50% of Netherlands land area is below sea level
  - Concern over rising sea levels make land use planning critical
- Energy Performance Building Directive (EPBD)
  - Requires energy label for all construction, sale, rental transactions
  - Goal is to reduce energy use of all properties

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Case Study 3

- The Solar Atlas of Berlin
- Goal is to increase efficient use of energy
- Main objectives
  - Display locations of existing solar installations
  - Visualize potential of the solar industry
  - Highlight rooftops suitable for solar panels
- Overall goal is to best utilize solar power
- 3D modeling helps in visualizing data

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Case Study 4

- The Sicilian 'Carta del Sole'
  - In English: 'Facing the Sun'
- Southern Europe generally lags when pursuing efficient sustainable energy
- Sicily has generally been a difficult place to implement energy policy
  - Slow for residents to adopt solar energy
  - However, the most modern solar power production facility in Europe is based here
- Challenge is to increase public support for alternative energy sources

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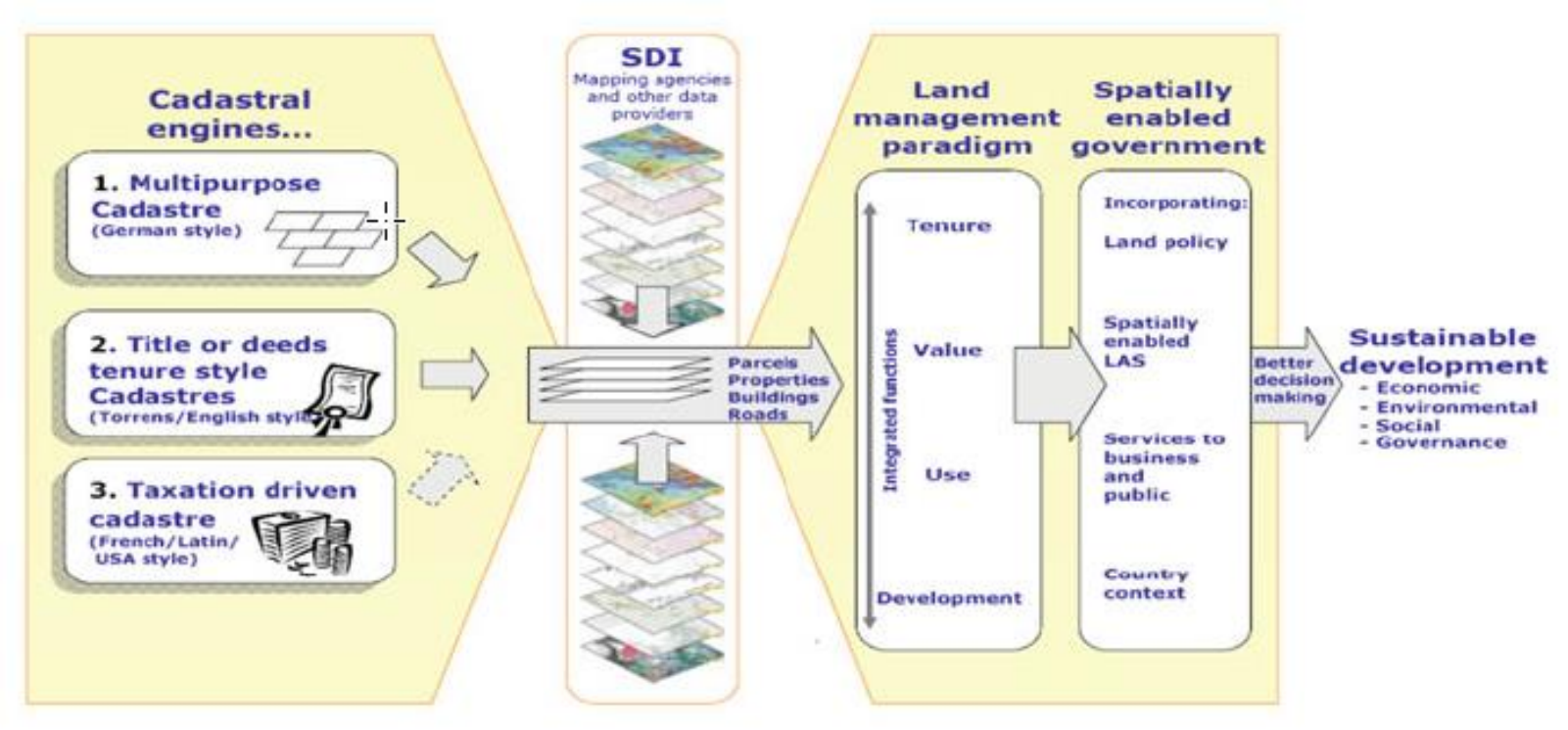
Policy Implications



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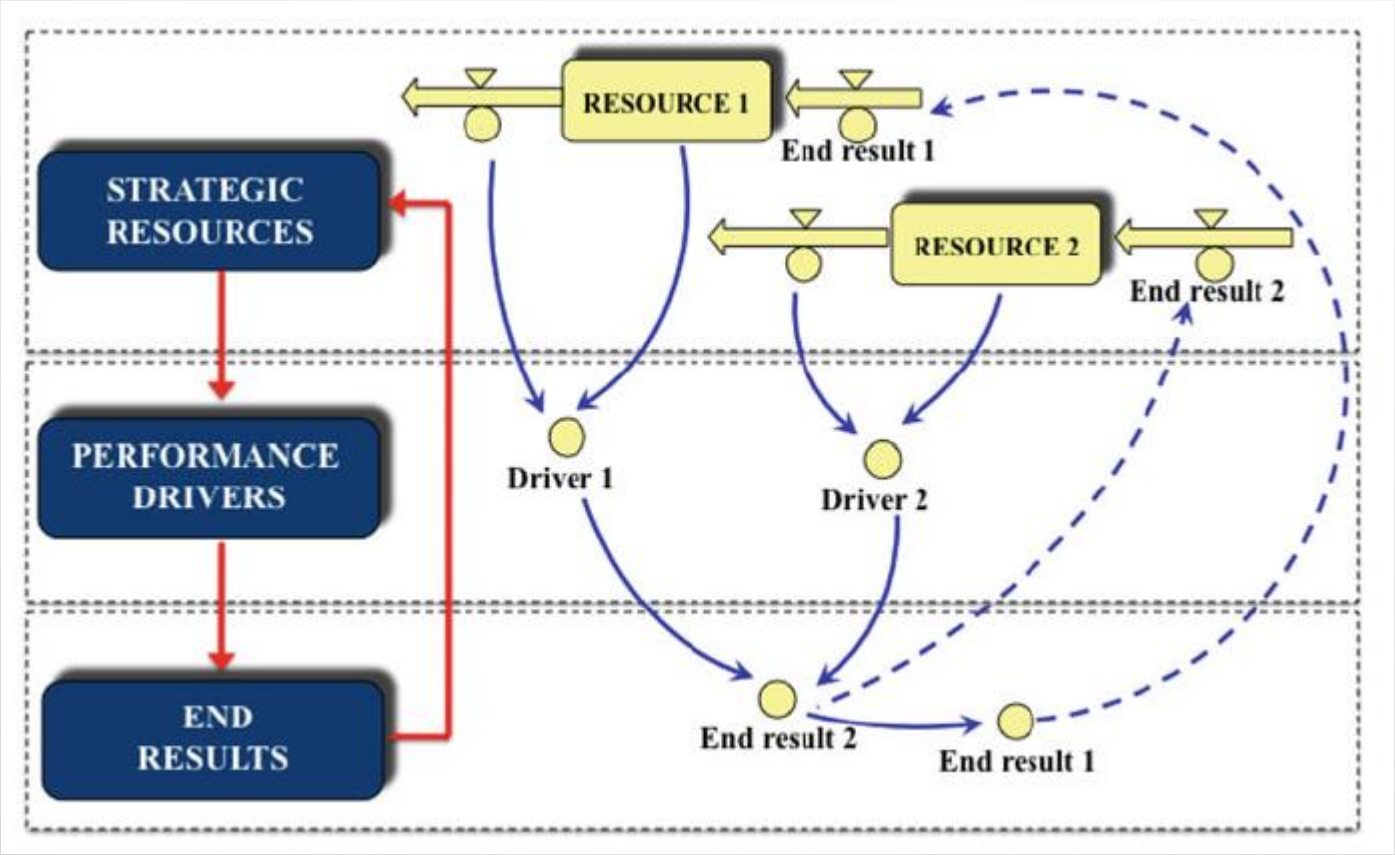
Systems Dynamics Performance Management



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Conclusions

- Shared successful project characteristics
  - Strong municipal vision
  - Focused effort to improve transport sustainability
  - Dynamic approach to impact modeling
  - Integrated e-government systems
- Policy implications
  - Cadastral data provides solid predictive summary data
  - Interinstitutional cooperation is crucial for stakeholder engagement

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