Aalto University
School of Business

Decision Support in High-Dimensional Systems

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Dissertation plan

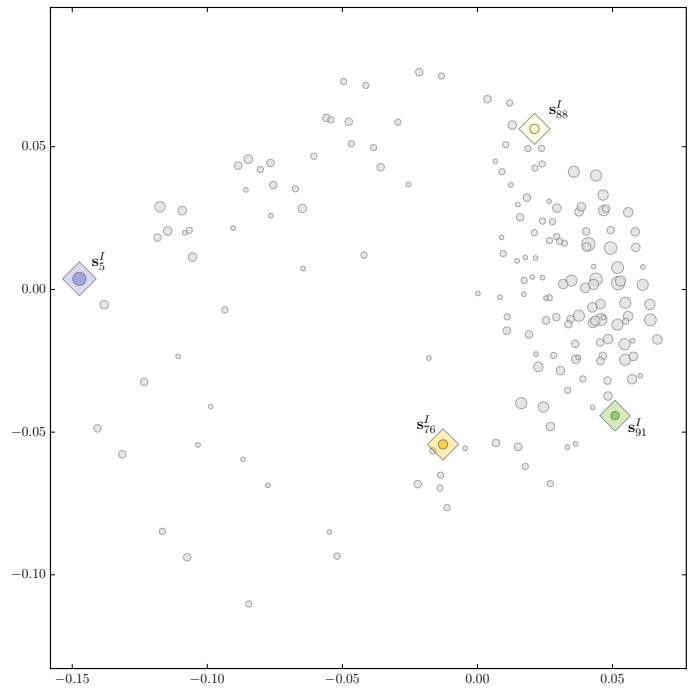
- Studies begin in Fall 2018
- Instructor Professor Eeva Vilkkumaa
- First year funding from
  - Department of Information and Service Management
  - HSE foundation
- Key research question:
  - *How to integrate methods of machine learning and decision analysis to support better decisions on high-dimensional systems/data*?

Avenues of research

- Turn my Master's thesis into a scientific article
- Thesis problem:
  - *How to identify scenarios of future operational environment, which are internally consistent and mutually dissimilar*?
- Solution provided by the thesis:
  - *Explore the most consistent scenarios with a proposed Scenario Map*

Energy regulation's focus	Electricity price	Competi-tive field	Activity of switching supplier	Digigaliza-tion & technology	Finnish economy
Environment & renewable energy	Low, under 30 €/MWh	Traditional: private & municipal	Low, under 8%/year	Digital evolution	Deep recession
Energy security & reliability	Moderate, 30-45 €/MWh	Consolidation	Moderate, 9-14%/year	Fast digitalization	Zero growth
Market-based energy industry	High, over 45 €/MWh	International competitive field	High, over 15%/year	Digital revolution	Strong growth
Citizens: em-powerment & protection	Turbulent, 0-200 €/MWh	New players from different industries			

(a) Morphological field.



(b) Principal coordinates.