

# Lantmäteriet, Sweden

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# Background

- Lantmäteriet today have manual production in 5 different scales
- These map series does not fully harmonize with each other
- The idea of modernizing the structure, both for the features and for the map text, has evolved over several years.
  
- In 2014, a collaboration with Dutch Kadaster was launched
- A pilot project trying out Dutch models on Swedish data was successfully conducted
  
- Project start 2015 and a agreement with Dutch Kadaster on accessing there's models.

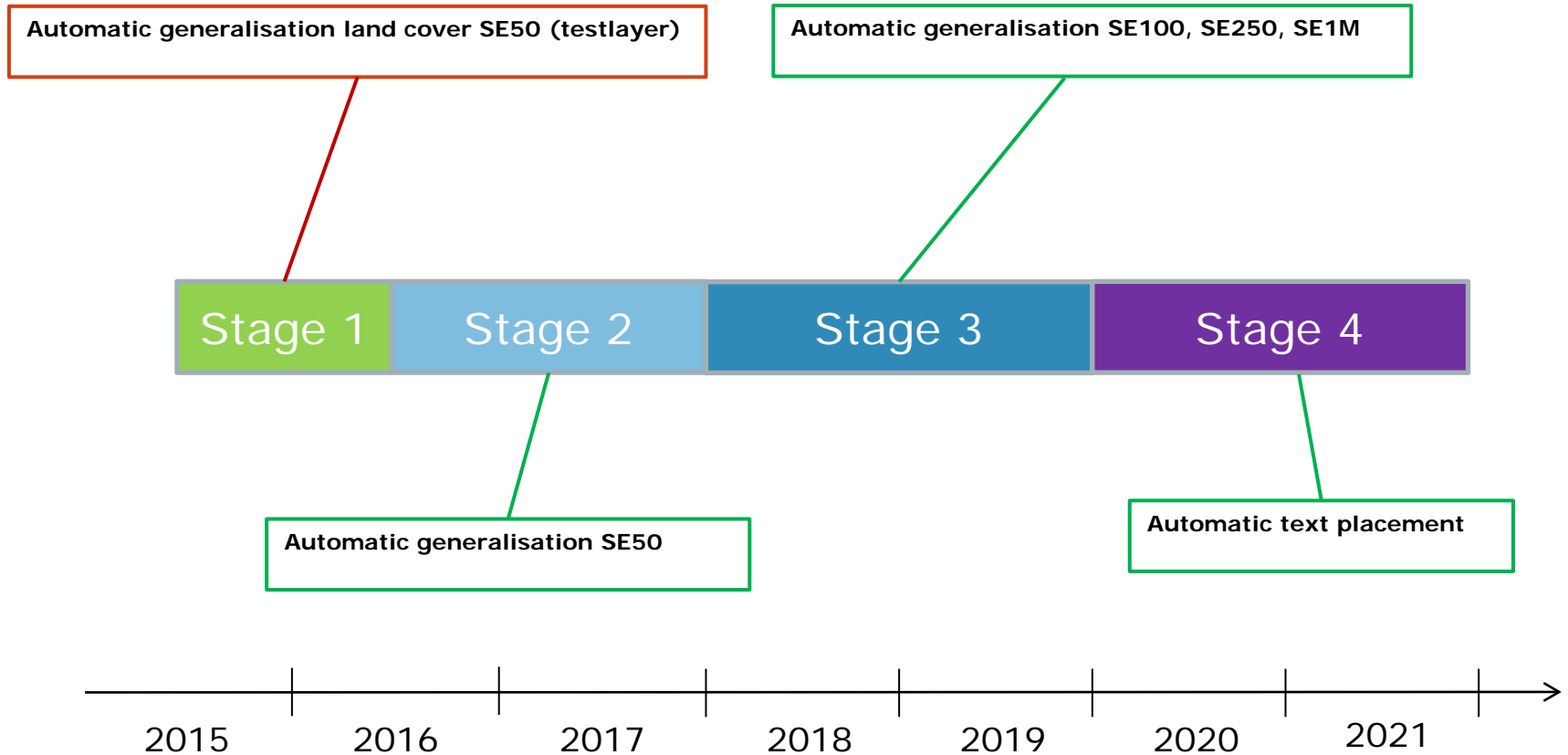
# Project scope

Automatic generalisation

Automatic text placement



# Timetable

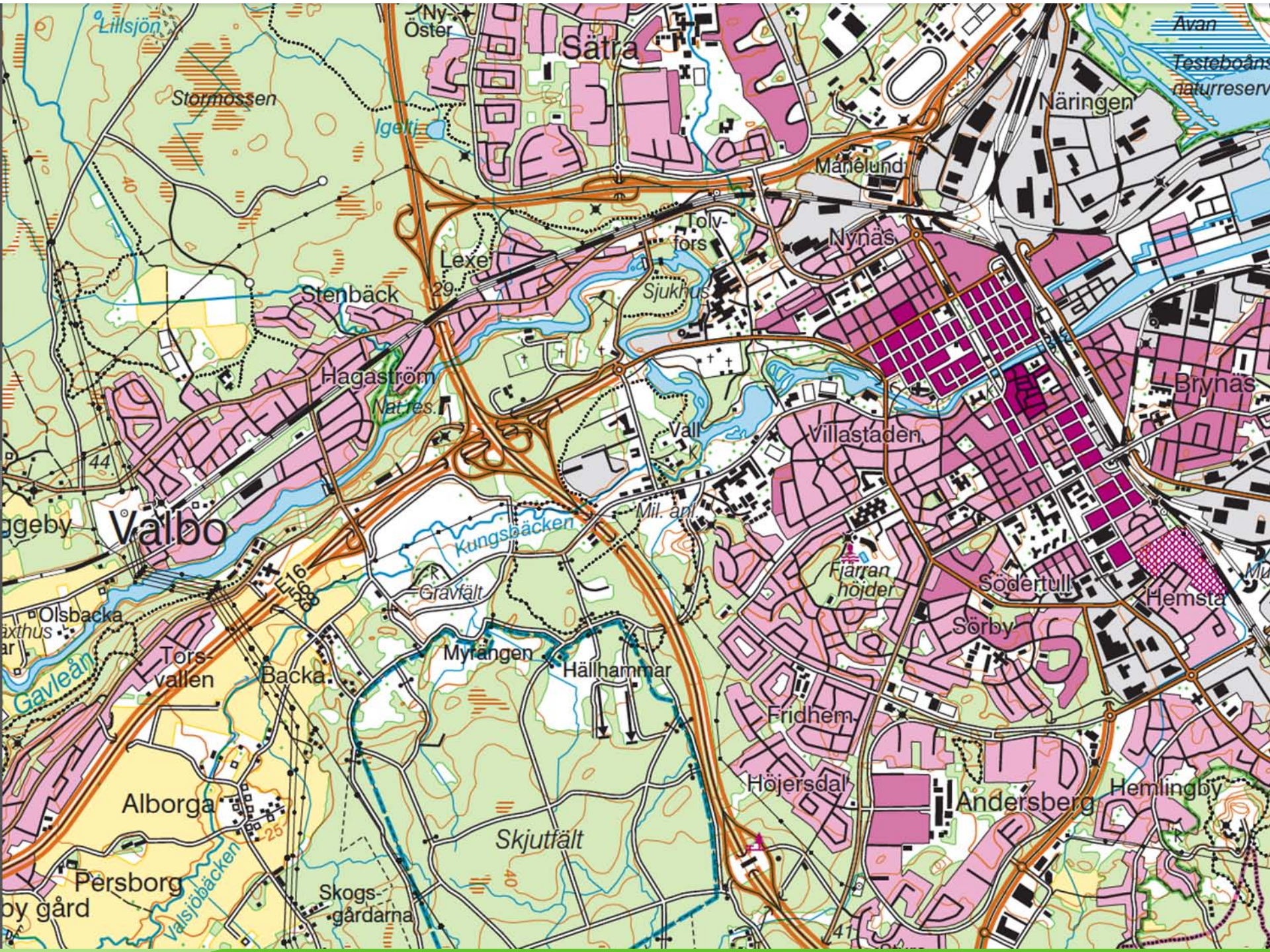


# Project groups

<b>Automatic generalisation</b>	<b>Specifications</b>	<b>Text</b>	<b>Datamodells</b>
Methods and models for automatic generalisation	Harmonize existing specifications	Creating a model for linking text to objects  Methods for automatic text placement	Adjusted data models suitable for automatic generalisation

# Automatic generalisation

- **Goal:**
  - Fully automatic generalisation from one *Master database (SE10)*
  - Model generalisation (to *DLM*)
  - Cartographic generalisation to *DCM*
  - Use partitioning and parallel processing
- **First out:**
  - *SE10 -> SE50*
  - Land cover (including hydrography and areas with buildings)
- **Then:**
  - Other themes and dependencies between different themes
  - Other levels of details (*SE100, SE250, SE1M*)
- **We use:**
  - *ArcGIS Desktop with ModelBuilder, FME, Python and ArcObjects/ArcPy (if we have to)*



Lillsjön

Stormossen

Ny-Öster

Sätra

Avan

Testeboans naturreserv

Näringen

Månölund

Nynäs

Lexen

Tolvfors

Stenbäck

Sjukhus

Hagaström

Brynas

Vall

Villastaden

Valbo

Kungsbäcken

Mil. an

Gravfält

Fjärran höjder

Södertull

Hemsta

Gavleån

Torsvallen

Backa

Myrången

Hällhammar

Sörby

Fridhem

Alborga

Skjutfält

Höjersdal

Andersberg

Hemlingbo

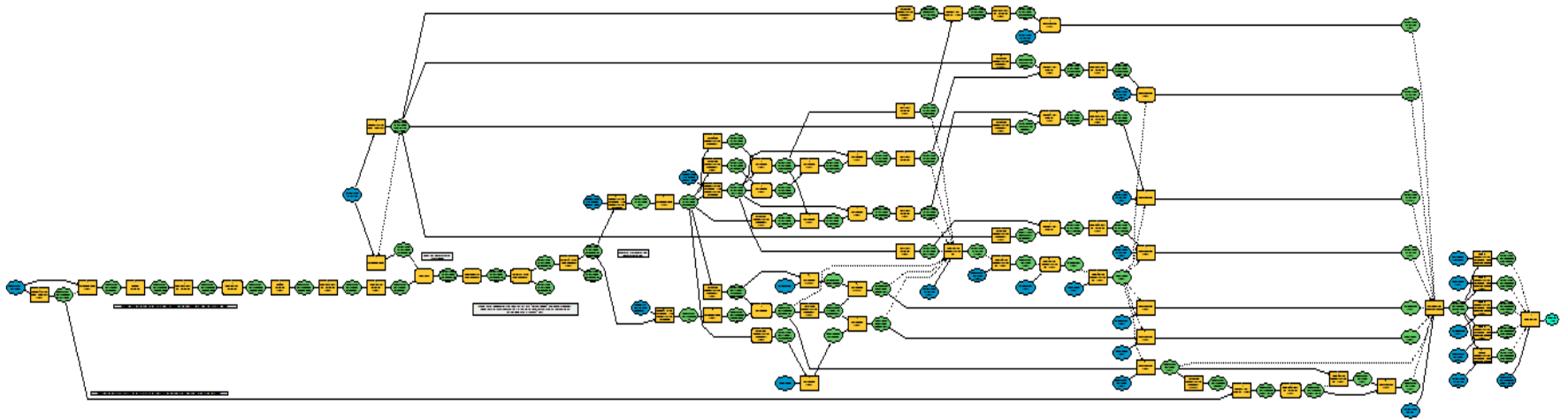
Persborg

Skogsgårdarna

Valsjöbäcken

by gård

*And we are working on the models...*







# Automatic generalisation – questions 1

- Model for the total workflow: *Star model* or *ladder model*?
- How can we get good actuality in our generalised data?
  - Generalize a totally new version every time or do partial updates between the generating of totally new versions?
- How should we distribute the data to our users when we have done updates in the generalised data?
  - It may be difficult to guarantee stable Object ID's in generalised data.

## Automatic generalisation – questions 2

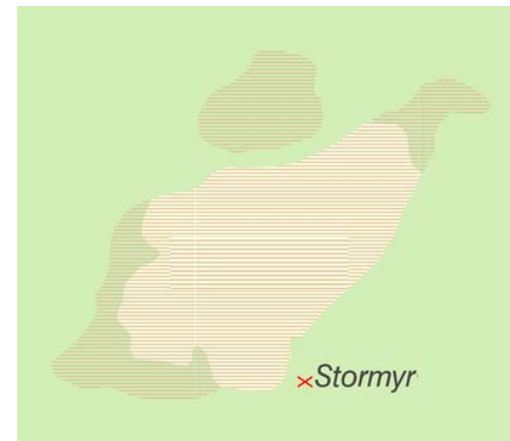


- Maintaining of the models?
  - It must be relatively easy to adjust the models e.g. when new versions of *ArcGIS*, *FME* and *Python* will be released.
- We are positive to exchange knowledge and experience.



# Place names and map texts - today

- Map texts and features are not linked to each other
- Place names in our *Place name register* and place names in many of our other databases have no connection.
- This causes several problems:
  - When searching for place names
  - When updating place names
  - For automatic text placement



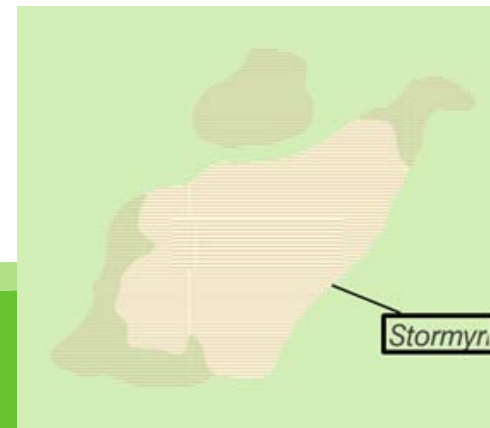
# Place names and map texts – next step

## The future:

- It must be easier to obtain information about the place names
- We must provide correct place names in all our products
- Automatic text placement is needed

## Actions:

- All place names and other map texts must be represented by features with geometries that shows the area they applies to
- Store placement information as attributes to the point, line and area features
- Develop good automatic text placement:
  - For batch processing
  - For on-the-fly generation





## Place names and map texts - questions

- Can we always use automatic text placement or do we also have to store placed text with high quality?
- What type of geometries do we have to use for different types of texts to get good enough quality in the automatic text placement?
- Can we find a program for automatic text placement on-the-fly that give us good enough quality for our web map services?

***Thank You For Your Attention!***

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