

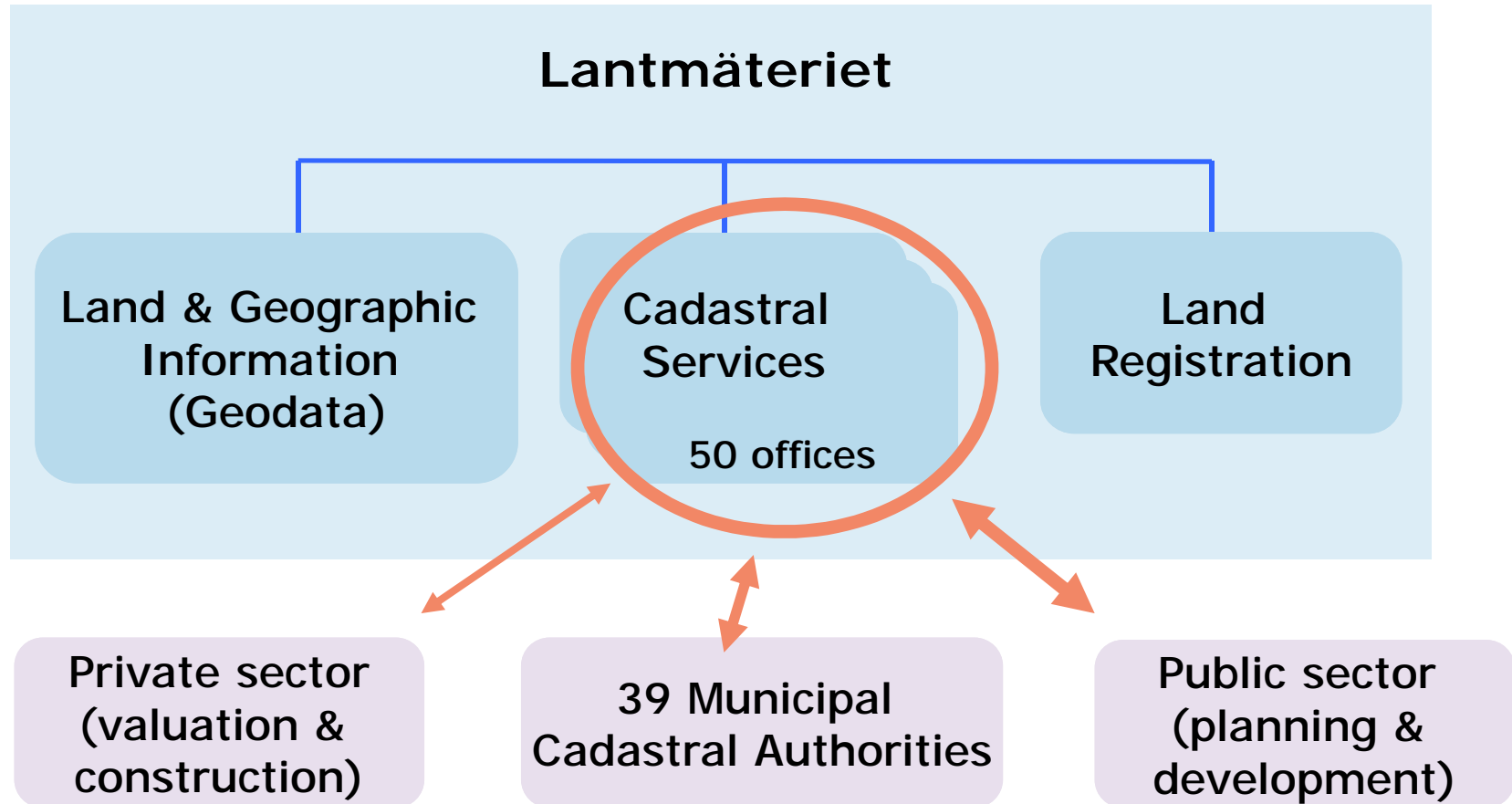
# Bridging the capacity gap - the Swedish approach



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**(The Swedish mapping, cadastral and land registration authority)**

# Key players in Swedish cadastre and land management



Background:

## Handling of cadastral matters

- ü Application check
- ü Investigation using digital archives etc.
- ü Meeting with interested parties and other stakeholders
- ü Consultation with other authorities, banks etc.
- ü Field work: GNSS survey and boundary demarcation
- ü Calculation and mapping
- ü Valuation
- ü Decisions
- ü (Appeal)
- ü Registration in the Real Property Register

*No court involved (unless appealed decision)*

Background:

# The Swedish cadastral surveyor from mid- 1990s to recently

A public servant with a  
**holistic role**

- investigator
- mediator
- technical expert
- valuator
- decision-maker
- registrator



# Capacity issues – challenges

- Limited awareness about our field among young people
- Too few students at relevant educational programmes
- Keen competition with other employers

## Shortage of staff with education in Surveying (MSc/BSc)

- Difficulties in both recruiting and keeping them
- High mobility among younger generations
- Difficulties in meeting career expectations

**Shortage of staff**



**Long handling time**  
(~1 year from application to decision)



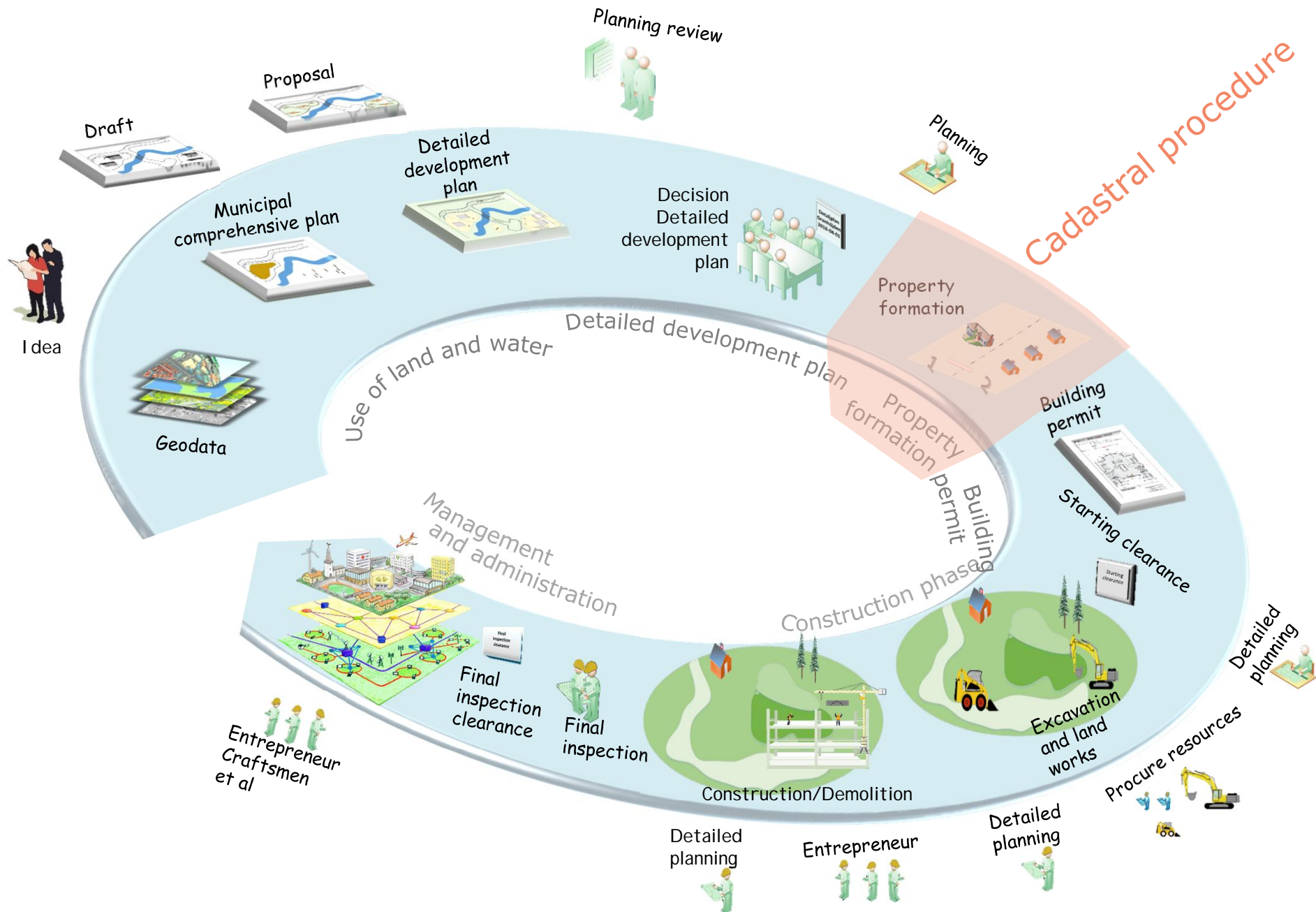
**Dissatisfied and frustrated clients**



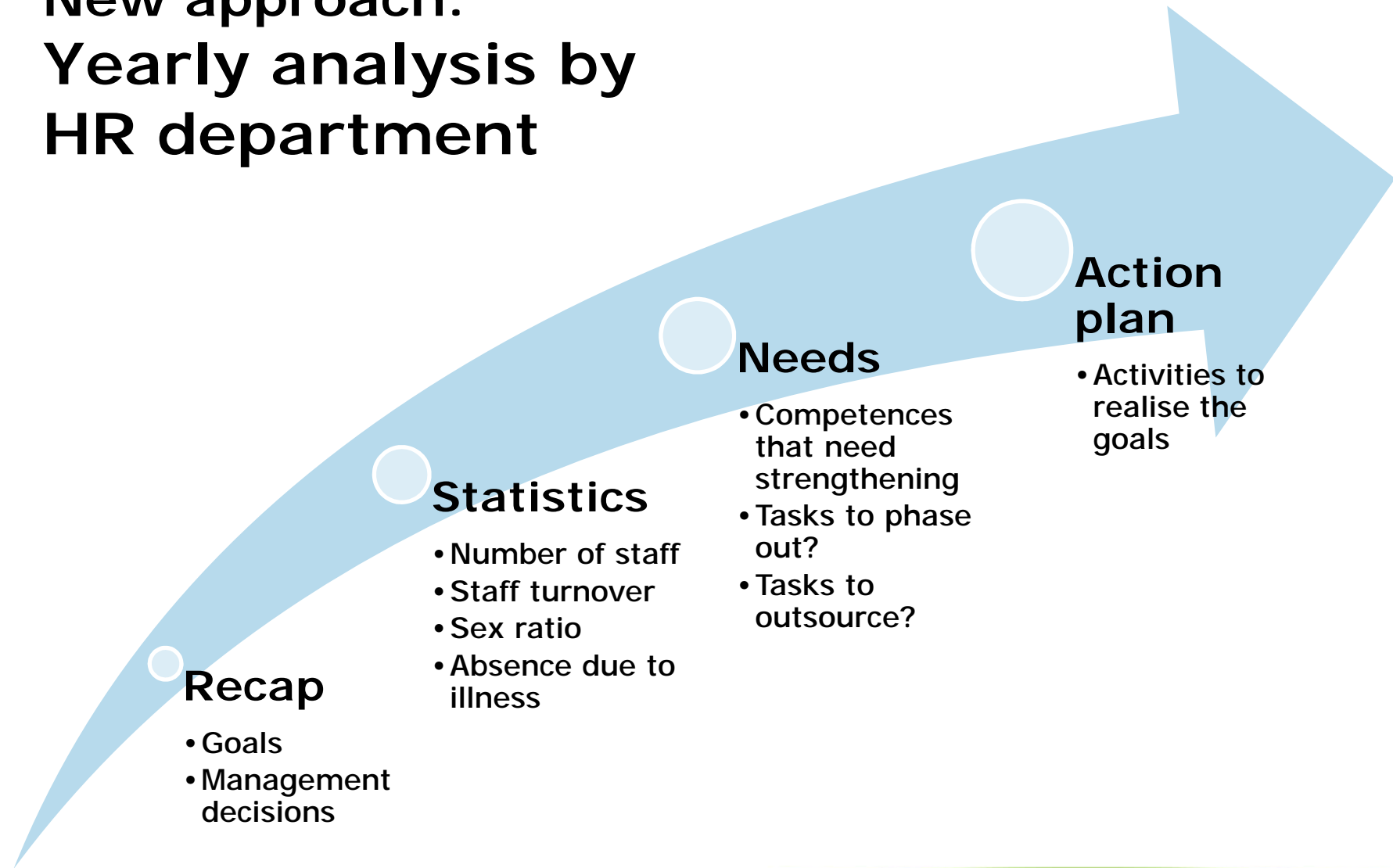
**Criticism by the Government**



# Urban planning & development



# New approach: Yearly analysis by HR department



## Recap

- Goals
- Management decisions

## Statistics

- Number of staff
- Staff turnover
- Sex ratio
- Absence due to illness

## Needs

- Competences that need strengthening
- Tasks to phase out?
- Tasks to outsource?


## Action plan

- Activities to realise the goals





# Current solutions for optimization of resources

- ü Recruiting staff with various education, e.g. lawyers, real estate agents, foresters, and administrators
- ü Mixed teams to support each other 
- ü Internal training, both traditional courses and e-learning
- ü Expert pools providing additional assistance, e.g. archival research, field work and valuation
- ü Career ladder for cadastral surveyors
- ü Demanding Government and universities to expand the educational programmes in Surveying

# Digitization – first steps taken

**"My Property"** – online information for property owners

**Centralised customer service** via telephone, email or chat

**Video/Skype conference meetings** with interested parties



# Recent implementations

**E-application for basic cadastral matters,  
e.g. subdivision, reallocation and consolidation**

- ü Today: 25 % of possible e-applications
- ü Insufficient incentives for our clients to use it?

**Software robot (Robotic Process Automation, RPA)  
in the initial stage of our work process**

- ü Reads basic information from the e-application,  
and enters it into our handling system
- ü Saves 30 minutes per cadastral matter

# Current innovation projects

## Crowdsourcing of property boundaries

- Visualisation of boundaries with AR
- Offering people to contribute to higher accuracy of the Cadastral Index Map



## Automatic reading of old documents

- Transmission of handwriting into digital format
- Interpretation of the contents

# Prospects for a Legal Coordinate Cadastre

- 10 years since a comprehensive study (PhD thesis)
- 1,5 year since a constructive step by Lantmäteriet:  
a report to the Government proposing a public inquiry
- Occasional articles in media by private and public sector  
representatives calling for action
- No sign from the Government what  
they intend to do
- ...
- Vision: Implementation in 2030 (?)



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