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# Data collection and management system for water infrastructure

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# Project initial facts - What is water infrastructure?

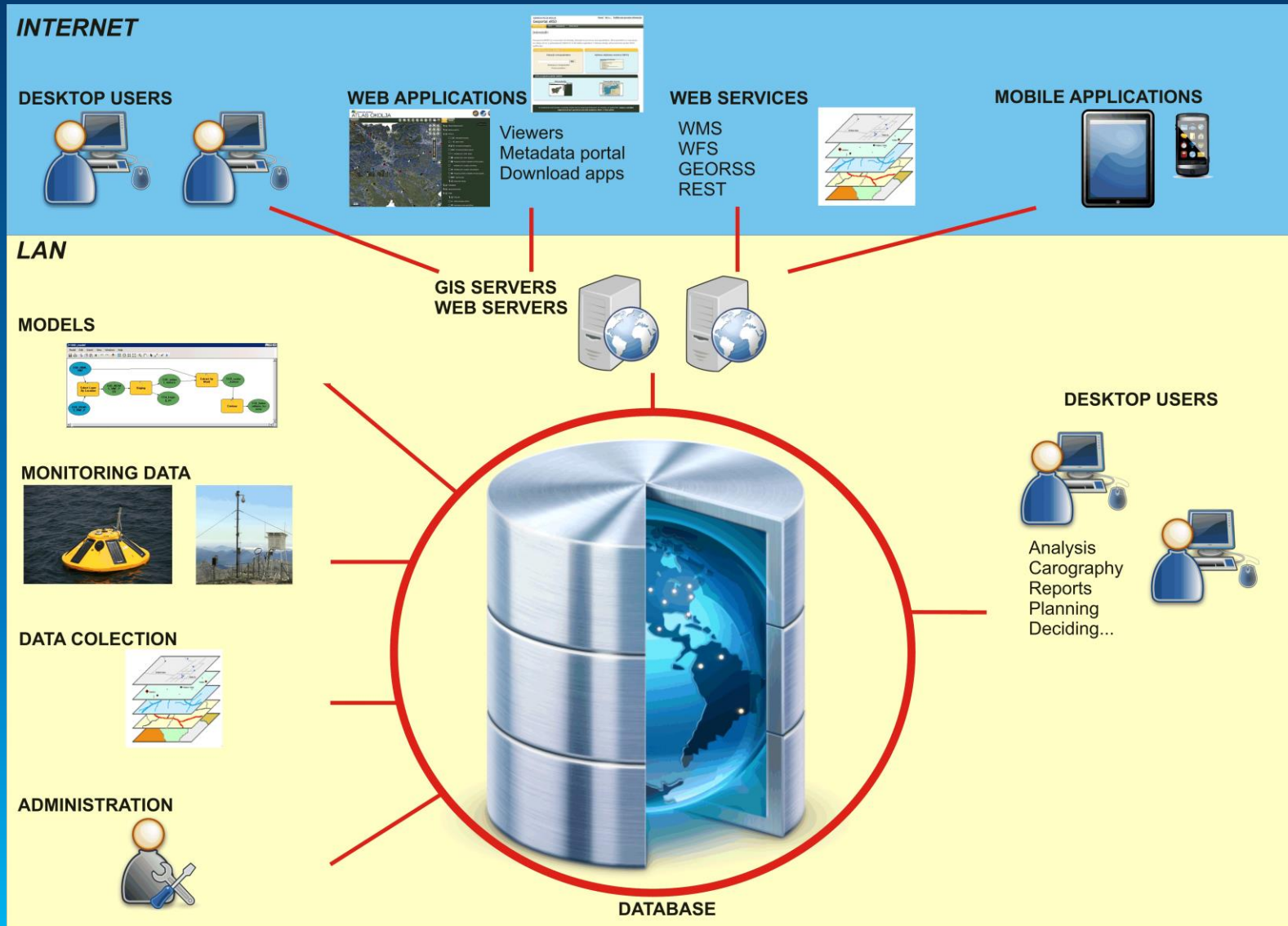
- Rules laying down water infrastructure
- Water objects, devices, arrangements – 40 different types
- Monitoring stations, docks, dams, embankments, channels, reservoirs,....



# Project initial facts

- Slovenian Environment Agency is responsible for water management.
- Preparing work programmes for commercial public services in the area of water management, as well as to coordinate and supervise their work related to the oversight and maintenance of water infrastructure,
- Water infrastructure database had been establishing for 20 years
- Evidences which can not be related, poor spatial placement
- Non existing relation with financial database
- Compatibility with INSPIRE

# Project initial facts - Existing Spatial data infrastructure



# To do list

- **Define Data model**
- **Review existing data and load them in to central database**
- **Build web application to manage data combined with graphic editor**
- **Implement application for field mapping and data control**
- **Collect and review all objects**

# Data collecting plan – web application

The screenshot shows the 'Vodni objekti' web application interface. The top navigation bar includes the title 'Vodni objekti' and user information: 'Uporabnik: Primož Kogovšek', 'Organizacija: ARSO'. A search bar is present with the text 'Pomoč za delo na tej strani'. Below the search bar, there is a table titled 'Vsi objekti koncesionarja ARSO'. The table has columns for 'Aktivnosti', 'Inventarna številka', 'Upravljalca', 'Zapore št.', and 'Lokacijska št.'. The table contains several rows of data, with the row for 'test1' and 'ARSO' highlighted. To the right of the table is a map showing the location of the selected object. Below the table, there is a detailed view of the selected object, titled 'Urejanje objekta VI neodvisno od naloge iz programa'. This view includes various input fields and buttons for editing the object's details, such as 'Inventarna številka', 'Naziv ureditve', 'Status - št.odločbe', 'Posebnost rabe', 'Zaporedna št.', 'Naziv objekta', 'Lastnik', 'Upravljalca', 'Zapis kreiran', 'Zapis nazadnje spremljen', 'Lokacijska številka', 'Ime vodotoka/vode', 'Status', 'Datum spr. statusa', 'Šifra objekta (CC-SI)', and 'Opis objekta'. Below the detailed view, there is a section for 'Dodatne info' with fields for 'Dolžina (m)', 'Širina (m)', 'Višina (m)', 'Površina (m²)', 'Prostornina (m³)', 'Ocena vrednosti objekta (€)', and 'Opomba'. At the bottom, there is a section for 'Podatki za tekočo situacijo' with fields for 'Vrednost del (€)', 'Vrsta opravljenih del', 'Št. situacije', and 'Leto'. The interface also includes a map on the right side showing the location of the object, with a scale bar and coordinates: 'Y X: 466976,4 125906,39 46°16'35.23" N 14°34'0.13" E'.

This screenshot shows a detailed view of the 'Vodni objekti' web application interface. The top navigation bar includes the title 'Vodni objekti' and user information: 'Uporabnik: Primož Kogovšek', 'Organizacija: ARSO'. A search bar is present with the text 'Pomoč za delo na tej strani'. Below the search bar, there is a map showing the location of the selected object. The map includes a scale bar and coordinates: 'Y X: 466976,4 125906,39 46°16'35.23" N 14°34'0.13" E'. Below the map, there is a detailed view of the selected object, titled 'Urejanje objekta VI neodvisno od naloge iz programa'. This view includes various input fields and buttons for editing the object's details, such as 'Inventarna številka', 'Naziv ureditve', 'Status - št.odločbe', 'Posebnost rabe', 'Zaporedna št.', 'Naziv objekta', 'Lastnik', 'Upravljalca', 'Zapis kreiran', 'Zapis nazadnje spremljen', 'Lokacijska številka', 'Ime vodotoka/vode', 'Status', 'Datum spr. statusa', 'Šifra objekta (CC-SI)', and 'Opis objekta'. Below the detailed view, there is a section for 'Dodatne info' with fields for 'Dolžina (m)', 'Širina (m)', 'Višina (m)', 'Površina (m²)', 'Prostornina (m³)', 'Ocena vrednosti objekta (€)', and 'Opomba'. At the bottom, there is a section for 'Podatki za tekočo situacijo' with fields for 'Vrednost del (€)', 'Vrsta opravljenih del', 'Št. situacije', and 'Leto'. The interface also includes a map on the right side showing the location of the object, with a scale bar and coordinates: 'Y X: 466976,4 125906,39 46°16'35.23" N 14°34'0.13" E'.

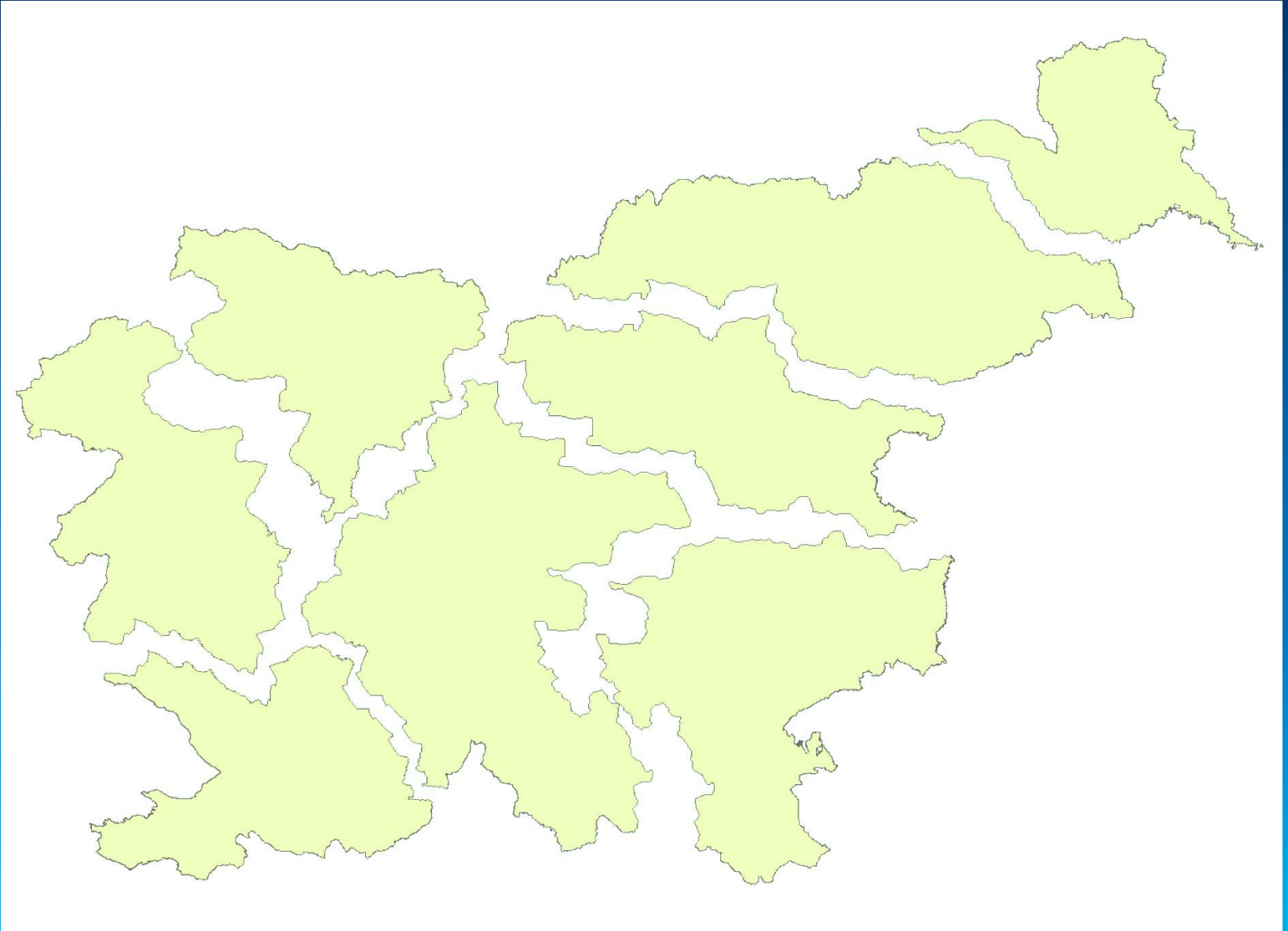
# Data collecting plan - fieldwork

## Water management office organization:

- 8 water management sections
- commercial public services
- 1400 - 4000 km<sup>2</sup>



# Data collecting plan - fieldwork

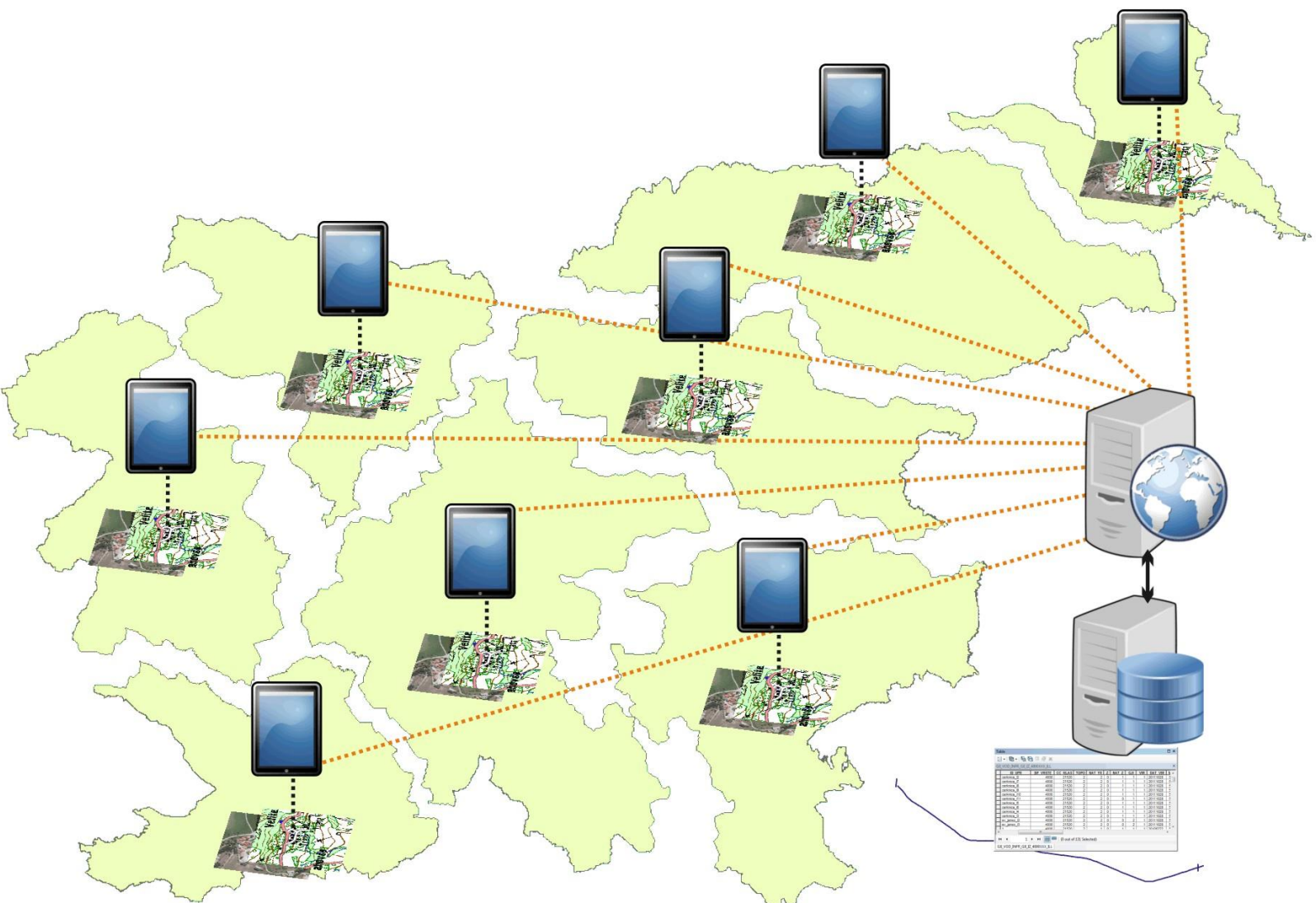




# Data collecting plan - fieldwork



# 2. Data collecting plan - fieldwork



# Timeline

Feb 2014

Now

End of 2015

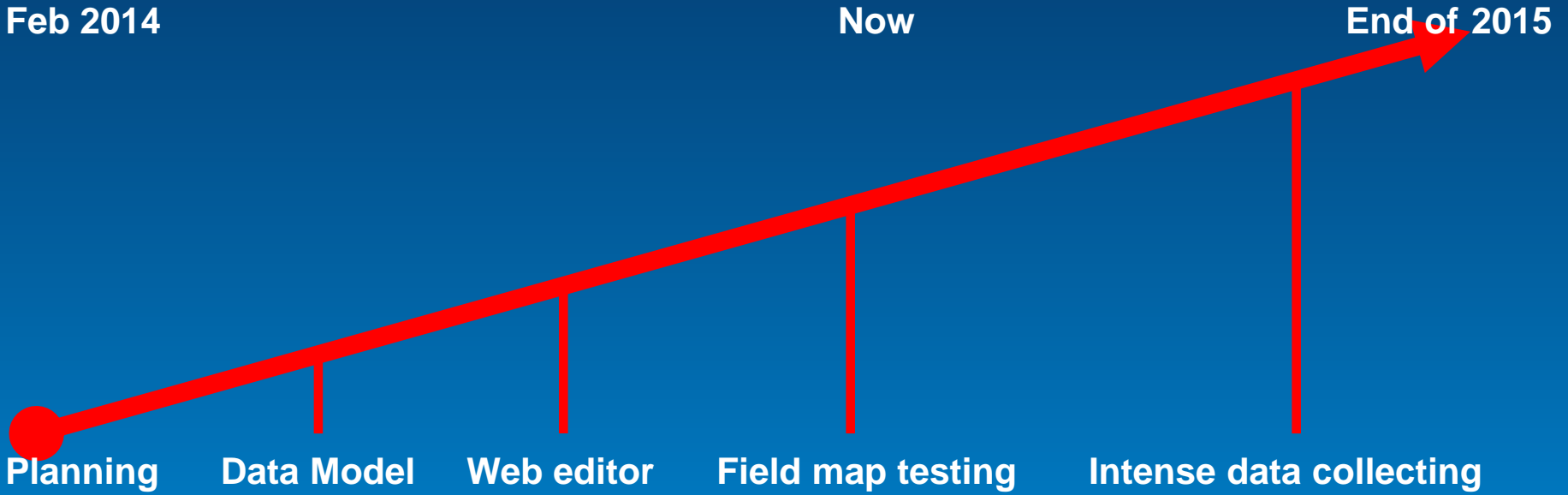
Planning

Data Model

Web editor

Field map testing

Intense data collecting



**Demo**

# Management

- **Overlook over infrastructure**
- **Maintenance planning**
- **Reducing costs**
- **Desktop analysis, web applications, public access**
- **Transparent use of public money**
- **Covering natural disasters (damage reports)**
- **Field control of any spatial dataset**
- **Collecting of new spatial datasets**
- **Live data processing**

**Questions?**