

# Embedded Map Service for Public Administration (EMPSA)

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**Organisation:** National Land Survey of Finland

**Country:** Finland

**Level of government:** Central government

**Sector:** General public services

**Type:** Data, Digital, Partnerships, Public Service

**Launched in:** 2015

**Overall development time:** 6 year(s)

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# Description

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The Embedded Map Service for Public Administration (EMPSA) is a free of charge service for national, regional and local administration to publish map user interfaces to their e-services. EMSPA is rich in data content, when the National Spatial Data Infrastructure is available. E-services are a challenge for all government bodies. In Finland the national e-Government program has launched the architecture and the law about common e-service components. One of those is a map user interface, which is a crucial part of a user friendly service. After the INSPIRE directive the National Land Survey of Finland developed the National Geoportal, which was launched in 2010 including the capability to publish embedded maps. It has been an early implementation of EMPSA. EMPSA is based on the software called Oskari Platform which is available by the dual open licences. The development work is organised as an open network consisting of 30 organisations from the public and private sectors.

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## Why the innovation was developed

- EMPSA was developed in order to enable efficient method to publish user-friendly e-services including a map user interface and to enhance the usage of the National Spatial Data Infrastructure (NSDI).
  - EMPSA supports the design and the publishing of map interface within a few minutes without programming skills. A map is a powerful tool to communicate facts in a simple way. However, government bodies are maintaining their data as a part of NSDI, so it is important to take benefit out of this investment.
  - EMPSA is powered by the Oskari Platform. The platform was developed and the Oskari Network was established, because many government bodies have more or less the same needs to organise map services for the public use.
  - The government bodies are saving a lot of public money by the collaboration and the coordination and by sharing the results and knowledge. In cooperation the network is reaching better quality, compatibility and usability.
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## Objectives

Improve access, Improve effectiveness, Improve efficiency, Improve service quality, Improve user satisfaction, Support economic growth

- There is a wide demand for EMPSA, because e-services are a challenge for all government bodies.
  - EMPSA covers the map component of an eservice and can easily be replicated: Oskari Platform consists of freely available open source software libraries, it is well documented in English and it supports 'de jure' and 'de facto' standards of GIS.
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## Main beneficiaries

General population, Government bodies, Government staff, Students

# Results

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## Efficiency

- Overlapping development of map services has decreased.
  - By publishing map user interfaces using the Embedded Map Service for Public Administration government bodies can save a lot of time and costs.
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## Effectiveness

- More map user interfaces are included in the e-services, because the publishing embedded maps is simple.
  - The utilisation of the National Spatial Data Infrastructure is increasing thanks to easy access to it through the service.
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## Service quality

### Accessibility:

- General population can take benefit of better e-services, because user-friendly map user interface makes things more clear in many cases.

### Responsiveness:

- The straight connection to the National Spatial Data Infrastructure guarantees the harmonised service level to map content.

### Reliability:

- When EMSPA is serving many e-services in the same time the monitored computing centre guarantees high reliability of the map services.
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## User satisfaction

- Governmental staff are happy to save time when being able to design and publish easily themselves embedded maps including spatial data produced by themselves.
  - Citizens as users meet the same map user interface in different e-services, so they do not have to learn many different tools.
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## Other improvements

# Development

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## Design

In 2010 the idea of EMPSA was invented at the National Land Survey of Finland during the implementation of the National Geoportal when the Ministry of Finance was asking for proposals for e-services.

Later on several e-service projects defined their needs and requirements for a map user interface and the Oskari Platform was developed to fulfil these needs. Afterwards more needs have been identified and the Oskari Platform is still evolving. Design time: 1 year(s)

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## Testing

- Before full implementation the EMSPA was available one yeartime in the tes tlab of eGovernment services in Finland (JulkICT Lab). However, open testing of usability is a normal procedure of the OskariPlatform development.

Testing time: 1 year(s)

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## Implementation

### Tools used:

- From the beginning the agile methods have been applied in the software development of the Oskari Platform. The software development has been outsourced by tendering well specified capabilities so the members of the development team come from many software houses.
- The decision of the open source licencing policy was made in the beginning of the implementation. The usability design has been an important part of development.

### Resources used:

- During six years, tens of people have taken part in the Oskari Platform development and testing. The overall budget has been over three million euros until now.
- Some thirty man-years has been spent on the software development, architecture design, documentation, coordination and communication.
- The overall budget has been over three million euros until now.

Implementation time: 3 year(s)

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## Diffusion

- EMSPA is now a part of the national e-Government service architecture and it is written in the law concerning common e-service components.
- The use of service is now in an early stage. Collaboration with ministries and government bodies has been a crucial practice to engage public sector to joint efforts.
- The Oskari Network is a concrete method to deepen the cooperation between governmental bodies and to create public private partnership.
- The National Land Survey of Finland has taken part in the European and international projects in order to find resources to the development and to extend the usage of the Oskari Platform also abroad.
- The Europe-wide map portal supporting 15 languages has been launched by the European Location Framework (ELF) project funded by EU Competitiveness and Innovation Framework Programme.
- The ArcticSDI Geoportal has been launched in cooperation under the Arctic Council.

Diffusion time: 2 year(s)

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## Challenges and solutions

- Even if many tools for implementing map services exist, some of them are seriously lacking in usability and ignore commonly accepted standards.
  - The technology is rapidly evolving, so the challenge is to be able to take best components in use.
  - One key feature of the service is to take care of the compatibility with the National Spatial Data Infrastructure based on the INSPIRE directive and practices.
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## Partnerships

### Other public and Private sector

Other, Other Public Sector

Partners included: In public sector e.g. Ministry of Finance, Ministry of Environment, Finnish Transport Agency, National Board of Antiquities, State Treasury, Population Register Centre, Statistics Finland, Regional Council of Southwest Finland, Helsinki Region Environmental Services, City of Helsinki, City of Tampere, City of Turku In private sector several software houses.

Ministry of Finance has been leading the eGovernment architecture development, programmes and preparation of legislation as well as financing the e-service development projects. National Land Survey of Finland has had joint projects to develop the Oskari Platform together with other government bodies and cities. Software houses have offered human resources for design and architecture work and especially for software development.

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## Lessons Learned

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### Lessons Learned

- The government bodies concentrate their duties and in many cases cooperation affects some extra work.
  - The comparison of the requirements for a map user interfaces revealed that the needs in the different cases are about 80% the same.
  - Even if the development in collaboration affects some extra costs, organisations will save a lot of costs both in the short and the long run.
  - In order to start some joint venture at least a few partners should share a common vision.
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### Conditions for success

- Cooperation might be easier to start when partners identifies common needs for the solution and perhaps when they are somehow lacking resources i.e. money or knowledge.
  - An open mind is a necessary starting point for cooperation, but later on the legislation can help as well.
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