

National Architecture for Digital Services implementation programme (KaPA) 2014– 2017

Final report

Table of contents

1	Abstract.....	4
2	Launching the programme	6
2.1	Background.....	6
2.2	Appointment.....	6
2.3	Groups appointed within the programme	7
3	Implementation of the programme.....	9
3.1	The programme's administration model and reporting procedure.....	9
3.2	Risk management	10
3.3	Compliance with enterprise architecture.....	12
3.4	Development of legislation.....	13
3.5	Communications and marketing	16
4	Programme level objectives and results	18
4.1	Programme objectives and indicators.....	18
4.2	Outcome of programme-level objectives.....	19
4.3	Impact	22
5	Project level objectives and results.....	24
5.1	Service Views project.....	27
5.2	Data Exchange Layer project.....	30
5.3	Roles and Authorisations project	32
5.4	E-identification model project.....	35
5.5	Suomi.fi launch project.....	36
6	The programme's budget and actual costs.....	39
6.1	Grants awarded during the programme	40

7	Audit of the programme's implementation.....	42
7.1	Successful organisation of the programme.....	42
7.2	Independent audit of the programme.....	43
8	Recommendations and follow-up measures.....	46
8.1	Recommendations by external audit.....	46
8.2	Recommendations by service developers and stakeholders.....	47
8.3	Recommendations related to the government aid process.....	49
8.4	Measures after the programme period has come to an end	50

1 Abstract

In its report published in January 2013, the ICT 2015 working group appointed by the Ministry of Economic Affairs and Employment proposed the construction of a national architecture for digital services. The grounds for this proposal included that the architecture for digital services will facilitate the easier creation of cross-organisation services, make it easier to avoid overlapping work and improve customer service. In its decision on 19 November 2013, the Cabinet Committee on Economic Policy was in favour of the Ministry of Finance setting a national architecture for digital services implementation programme and a cross-sector working group for this to facilitate the realisation of the objectives for the Government's structural policy programme.

On 18 June 2014, the Ministry of Finance set the National Architecture for Digital Services implementation programme (KaPA programme) for a programme period running from 9 June 2014 to 31 December 2017. The Population Register Centre has been responsible for the operational realisation of the programme in addition to which the Association of Finnish Local and Regional Authorities-established KuntaKaPA project office has supported and promoted the realisation of the objectives for the national architecture for digital services in the municipal sector.

The KaPA programme has implemented the public administration's shared enterprise architecture by facilitating the construction of e-service support services in the form of Suomi.fi services. From the perspective of organising the provision of electronic services for all of public administration, it was felt appropriate to create the legal basis and possibilities for providing the shared support for e-services that the Government is responsible for organising pursuant to what is specified in the proposed law be also be provided to other parties such as municipalities, indirect public administration as well as partly for the private sector. On 15 July 2016, Parliament approved the Act on central government's joint e-service support services (571/2016).

The programme achieved the key objectives that had been set for it according to plan and timetable and at a cost that was less than the original budget. The programme produced the following services according to the decree decision:

- the Suomi.fi Data Exchange Layer for the transfer of information between organisations,
- Suomi.fi e-Identification i.e. the national, electronic identification model,
- Suomi.fi e-Authorization i.e. the national solutions for the management of roles and authorisations for companies, other organisations and natural persons,
- the Suomi.fi Finnish Service Catalogue as part of the Suomi.fi Web Service, i.e. the common services channels needed by citizens, companies and authorities (Service Views)

Other Suomi.fi services that were closely related to the programme and funded during the programme are

- Suomi.fi Maps, which the National Land Survey of Finland has been responsible for developing,
- Suomi.fi Payments, which Finland's State Treasury has been responsible for developing, and
- Suomi.fi Messages, which Valtori and the Population Register Centre has been responsible for developing.

When the project comes to an end, the aforementioned services will be available on the Suomi.fi website.

According to an external audit, KaPA is extraordinary and the first nationally cohesive programme for the development of support services the purpose of which is to also alter the thinking of individual Government and municipal actors and make them more customer-oriented. The audit found that collaboration between the central government and the municipal sector has been implemented very effectively in the programme.

Support services for central e-services have been created in the programme. From these, the development of digitalisation will move forward towards a cohesive digital service platform model for public administration. Follow-up measures that will be implemented after the programme period have been agreed on as part of the project for the further development of the Suomi.fi services implementation programming and the road map for further development 2018–2019.

2 Launching the programme

2.1 Background

In its report published in January 2013, the ICT 2015 working group appointed by the Ministry of Economic Affairs and Employment proposed the construction of a national architecture for digital services. The grounds for this proposal included that the architecture for digital services will facilitate the easier creation of cross-organisation services, make it easier to avoid overlapping work and improve customer service.

The Government's Structural Policy Programme to Strengthen Conditions for Economic Growth and Bridge the Sustainability Gap in General Government Finances 29 August 2013 includes the section according to which "A national electronic service channel and electronic identification will be implemented without delay, and opportunities to cooperate with Estonia will be utilised to the full".

In its decision on 19 November 2013, the Cabinet Committee on Economic Policy was in favour of the Ministry of Finance setting a national architecture for digital services implementation programme and a cross-sector working group for this to facilitate the realisation of the objectives for the Government's structural policy programme. The Cabinet Committee also approved that the following parts will be included in the national architecture for digital services:

- the national data exchange layer,
- the national e-identification model,
- national solutions for the administration of roles and authorisations for organisations and individuals,
- shared service views required by citizens, companies and authorities,
- the steering and management models required for the continuous maintenance and supervision of the programme's implementation and the entities implemented during the programme.

2.2 Appointment

On 18 June 2014, the Ministry of Finance set the National Architecture for Digital Services implementation programme (KaPA programme) for a programme period running from 9 June 2014 to 31 December 2017.

The purpose of the programme is to create an infrastructure for national digital services, which will contain the following parts and their implementation principles:

1. A national data exchange layer, which will be implemented in open interfaces and open source code using Estonia's X-Road solution, which public administration will be obligated to use and which will be supported during a planned transition period
2. Linking data repositories to the architecture for digital services and their ensuring their interoperability
3. A national e-identification model, where electronic identity verification will be produced in collaboration by the State and private sector actors
4. National solutions for the administration of roles and authorisations for organisations and individuals,
5. Shared service views required by citizens, companies and authorities, which encompasses all the public administration services and data that concern the user who has signed in through e-identification, including their register data and related services according to the user's own transaction and information needs.
6. See to the preparation of the needed legislation
7. The steering and management models for the continuous maintenance and supervision of the implementation of the programme and implemented packages.

2.3 Groups appointed within the programme

The following groups were appointed during the programme:

Group	Term
National Identification Solution Preparation Team	22 May 2014 – 1 Dec 2014
National Data Exchange Layer Implementation Project	21 Oct 2014 – 31 Dec 2017
National Architecture for Digital Services Implementation Programme Roles and Authorisation Project	25 May 2015 – 31 Dec 2017
National Architecture for Digital Services Implementation Programme Service Views Project	24 Sept 2014 – 31 Dec 2017
National Identification Solution Implementation Project	1 March 2015 – 31 Dec 2017
National Architecture for Digital Services Implementation Programme Legislation Working Group	14 Apr 2015 – 31 Dec 2016
Suomi.fi Brand Identity Project	1 June - 31 December 2016
Launch Project of the Suomi.fi Services	1 February - 31 December 2017

Table 1. Groups appointed within the programme

In its decision on 2 July 2017 (VM/1390/02.02.03.09/2014), the Ministry of Finance ordered the Population Register Centre to produce and develop services as part of the National Architecture for Digital Services' development pursuant to the Government Decree on the Government's shared ICT services (132/2014). According to the Government Decree, the Population Register Centre established the Digital Services Unit as the beginning of 2017.

In its decision on 17 March 2015 (VM/502/02.02.03.09/2015), the Ministry of Finance orders the Association of Finnish Local and Regional Authorities to establish the KuKaPa – KuntaKaPA project office to support work on the National Architecture for Digital Services for the duration of the programming period. The task of the KuntaKaPA office has been to support and promote the realisation of National Architecture for Digital Services objectives in the municipal sector and to promote the possibilities of municipal organisations to benefit from components developed during work on the National Architecture for Digital Services. The project office was tasked in particular with identifying and describing use cases with which the National Architecture for Digital Services can be used to produce benefits for municipalities and in this way citizens (benefit include cost cuts, more efficient services, a more cohesive architecture).

3 Implementation of the programme

3.1 The programme's administration model and reporting procedure

The Ministry of Finance was responsible for the steering of the KaPA Programme, and it appointed a strategic management team and a programme group for the programme. The programme manager was responsible for heading the implementation of the programme in accordance with the objectives, timetable and resources that had been set for it and worked as secretary-general for the management team and programme group. The programme office comprised the KaPA Programme's programme manager, the development managers for the projects and two programme assistants. The programme coordinator, who was responsible for communication and an attorney also supported work on the programme. The programme office prepared the meetings of the programme group and strategic management team. The Population Register Centre was responsible for the operative implementation of the projects.

The strategic management group acted as the owner of the programme, and its tasks included the following:

- approval of the programme's objectives and timetables,
- ensuring that the parties it represents are committed to the programme's objectives and the implementation of the programme's tasks,
- discussing possible policy and decision proposals and speaking in their favour to Cabinet Committees and the Government, as well as
- monitoring of the KaPA Programme's progress.

The strategic management group met 14 times while the programme was ongoing. The members of the group are listed in the Project Window.

The programme group's tasks included:

- the specification of the programme's objectives, vision and timetable, the steering and supervision of the implementation programme's progress according to set objectives,
- the approval of any changes to the operating model, programme plan and communications plan, as well as to the strategic policies and plans included in these,

- the approval of the objectives and broad lines of project plans for the projects included in the programme and changes to these,
- supporting the Ministry of Finance in making necessary administrative decisions and policies, the preparation of possible policy and decision proposals for Cabinet Committees or the Government,
- as well as processing proposals for the further development of the architecture for digital services and the steering and management model proposals for continuous maintenance.

The programme group met 44 times while the programme was ongoing. The members of the group are listed in the Project Window.

The Population Register Centre's Digital Services Architecture unit, which became the Digital Services Unit as the start of 2017 was responsible for the implementation of the programme. At the project level, projects were implemented by the Population Register Centre's project managers, who were responsible for heading and steering project teams. The Ministry of Finance's development managers acted as project owners and managers and chairmen for project-specific steering groups. The steering group for each project prepared and were in favour of topics that the programme group discussed, steering groups met once every 1-2 months. A representative of the Population Register Centre reported to the programme group on the progress of the packages that the Digital Services Unit was responsible for during the group's meetings.

The steering group for each project once every month or every two months. The members of the groups are listed in the Project Window.

The key tasks of the KuntaKaPA project office, which was under the Association of Finnish Local and Regional Authorities included providing support for municipal organisations in relation to the introduction of services, ensuring the implementation of interfaces that support the introduction of services, as well as promoting cooperation between municipal actors and sharing good practices from the KaPA Programme with the municipal sector. A representative of the project office reported on the progress of the KuntaKaPA Project package at the programme group's meetings. The operating model and results for the KuntaKaPA Project are listed in the Project Window.

3.2 Risk management

Risks have been managed as part of the programme's risk management package by defining project-specific and shared risks and by giving them scores on the basis of how

critical they are in impact and likelihood, as well as by determining measures for managing risks. Risk situations and carried out measures have been discussed during the steering group's and programme group's meetings monthly.

Of the programme-level risks, the following took place:

- The progress of developed services that are related to the KaPA's continuous service. The progress of the message transmission solution. The Messages service, which is closely related to the programme, was monitored by the programme group due to the significant delay in its implementation. In spite of the measures that were implemented measures to improve effectiveness and increase resources, this risk was realised and the service was complete about 2 years behind schedule only after responsibility for the development of the service was transferred from Valtori to the Population Register Centre. The completion of the mobile app was moved back to 2018 the stage following the programme period.
- Arrangement for the productive use of Suomi.fi services (formerly KaPA services). The risk was realised with regard to the timetables for the completion of Valtori's production environments. The development of the Messages service and the majority of work related to the production version that had been initiated by Valtori in 2016 were transferred to the Service Views project at the beginning of 2017. The Population Register Centre has been responsible for the development and production of the Messages service starting from 1 November 2017. In addition to a delay in the completion of the Messages service's operating environment and application, the productisation model for the data exchange layer's connector service cause significant delays for numerous integration projects during the programme period. The delays also had an impact on the ability of projects to utilise the aid they had been granted. At the time the programme came to an end, Valtori had developed the productisation of more customer-friendly connector servers, as well as improved communication related to supply timetables with the Population Register Centre.
- Funding for the continuous service. The prediction for the growth in the number of identification events has been further specified during the programme, and the estimate on costs is greater than what was originally expected. Additionally, according to the law costs related to online payments are paid in a centralised manner, but the related costs are not included in budgeting. When the programme came to an end, the Ministry of Finance had made no decisions concerning how the costs of continuous service online payments would be covered. An appropriation of EUR 5 million to the Population Register Centre has been proposed to cover additional costs related to identification starting from 2018.

- Monitoring of projects related to the programme; appropriations and implementation. A total of 293 projects were granted government aid during the programme period, the majority of these programmes received decisions on government aid during the last year of the programme. Insufficient resources were allocated for handling of reporting and payment applications related to the government aid, which manifested itself to applicants as significantly longer handling times.

More information is given on project-specific risks in section 6.1 -6.5.

3.3 Compliance with enterprise architecture

The development of public administration EA during the KaPA Programme was steered by the subcommittee on National Architecture under the Advisory Committee on Information Management in Public Administration JUHTA until 28 February 2016 and by the Juhta Expert subcommittee starting from 16 May 2016. The Expert subcommittee is responsible for public administration EA as well as for its development and maintenance. The KaPA Programme and its parts have been presented and discussed by JUHTA and its subcommittees since autumn 2013.

The KaPA programme has implemented the public administration's shared enterprise architecture by facilitating the construction of e-service support services in the form of Suomi.fi services. A number of solution architectures that provide detailed additions to enterprise architecture have also been drawn up during the programme. Higher level architectural descriptions have been drawn up on the Suomi.fi services and these have been published openly to the public administration's shared modelling and publication service Arkkitehtuuripankki (www.arkkitehtuuripankki.fi) as part of the public administration service map for shared services.

The target group for architectural descriptions comprises organisations that are introducing Suomi.fi services. The purpose of the descriptions is to provide an explanation and help in understanding what the Suomi.fi services are and why they are needed, how they are related to one another and how they will be introduced and joined. Using these descriptions, the organisations will also be able to describe how their own services are connected to the national solutions in their own architecture work.

During the programme, the Population Register Centre has coordinated the KaPA architecture group, which includes representatives from the Population Register Centre, the Ministry of Finance, the ELY Centre and the Association of Finnish Local and Regional Authorities. The purpose of the group has been to support the architectural guidance given by the KaPA Programme to projects and to ensure that work is consistent

with objectives. The architecture group has performed this task by examining architectural descriptions and answering questions submitted by projects. When necessary, the group has laid down architectural policies independently or has asked the programme's steering group to make decisions on these. The group has also acted as an information balancer between various parties. The KaPA architecture group has held meetings on average once a month.

In addition, the Population Register Centre has been responsible for implementation in accordance with enterprise architecture with the help of its architecture guild. The architecture guild has focused on matters related to solution architecture in the areas of information security and service management practices. Examined requirements for production capacity, been responsible for the management of external architecture policies, the management of reference implementations and interface descriptions as well as the management of functionality lifecycles.

During the final stage of the programme, a new model for the organisation of enterprise architecture work in relation to the Ministry of Finance's Population Register Centre-related management models (performance steering, legal steering, steering of Suomi.fi services), related to the work of the strategic steering group for Suomi.fi services comprising representatives from the different ministries (Ministry of Economic Affairs and Employment, Ministry of Agriculture and Forestry, Ministry of Social Affairs and Health, Ministry of Finance) , as well as to ensure that the needs of various customer target groups and stakeholders (incl. the Tax Administration, Kela, Valtori, the State Treasury) are taken into account.

3.4 Development of legislation

Seeing to the preparation of necessary legislative measures in order to facilitate the implementation of the national infrastructure for electronic services was listed as the primary purpose of the programme in its programme resolution. During the early stages of the programme, the Ministry of Finance ordered a study on which a research report was published. *Palveluarkkitehtuuria tukeva lainsäädäntö*, Voutilainen, 22/2014. The study examined the obstacles that Finnish legislation poses for the development of a shared national architecture for digital services and how the development of the digital service architecture can be supported by amending legislation. After the study, the Ministry of Finance appointed a legislative group on 14 April 2015

(651/00.01.00.01/2015), the members of the group are listed in Appendix 2. The working group's task was to survey the legislative measures needed for the implementation of the KaPA Programme.

The working group began to prepare a government proposal on a law for the service package. Reasons for the preparation of a separate Act included existing legislation in which service provision and information management are decentralised among authorities, emphasising the principle of separation between authorities. As authorities are sector-specific this has in part made it impossible to develop shared services without Government-level steering and the development of legislation. Additionally, the majority of services that are under the legislation that steers the KaPA Programme contain important points with regard to the legal protection of those using them, as well as the combination of information that cannot necessarily be considered as only an information and communication technology solution such as is outlined in the Act on the government's common ICT services (TORI ACT, laki valtion yhteisten tieto- ja viestintäteknisten palvelujen järjestämisestä, 1226/2013).

Another reason for enacting a new Act for these services was the independent processing of personal data included in support services for e-services compared to customer services or existing registers maintained by authorities. For this reason, the decision was reached to propose that the support services included in the programme be separated from other shared information and communication technology services, and a new Act be enacted for it. The separate Act also made it easier to understand the entire package for support services and made it possible to develop support services at the level of legislation as a separate entity in comparison to shared basic information technology and information system services.

The proposed changes were discussed in the legislative group as well as in the programme's strategic management team, the programme group and project steering groups. Additionally, the Ministry of Justice and the Data Protection Ombudsman were heard separately during preparation as were service providers listed in the TORI Act. The government proposal was discussed by the municipal advisory committee for economy and administration on 17 March 2016.

A draft of the government proposal was widely circulated for comments between 25 November 2015 and 8 January 2016. The draft government proposal was redrafted by civil servants at ministries on the basis of received comments. The government proposal to Parliament on the Act on central government's joint e-service support services and an amendment to the Act on government's common ICT services (59/2016) was submitted on 14 April 2016. Parliament's Transport and Communications Committee submitted a comment on the proposal (9/2016) and the Administration Committee submitted a committee report (13/2016). Parliament approved the revised proposal and the

Act on central government's joint e-service support services (571/2016), the KaPA Act and the Decree by the Ministry of Finance that supplemented the Act (607/2016) entered into force on 15 July 2016.

The Act's transitional provisions specify the organisation of tasks and the transition timetables for obligatory use. Transitional provisions also specify how the changes in activities and the arrangement of tasks caused by the Act entering into force will affect the status of personnel and how activities and their related agreements, other commitments and pending matters will be transitioned.

The objective of the Act is for joint e-service support services to simplify and facilitate secure public administration e-services. The services also aim to promote the openness of public administration and improve the quality of services provided by public administration, as well as to facilitate the cost efficiency of e-services throughout their lifecycle. The services will also improve the shared use of information and the compatibility of information systems in public administration and promote the possibilities of companies to use public administration databases and services. Shared support services for e-services can be utilised to support the implementation of an authority's or other user organisation's e-services. Additionally, the services can be utilised to support the provision of another task or service by the user organisation.

An effort was made to ensure the field of organisations that use the services either because they are obligated or have the right to do so was as extensive as possible from both the perspective of customer experience and in order to attain cost benefits for society. From the perspective of organising the provision of electronic services for all of public administration, it was felt appropriate to create the legal basis and possibilities for providing the shared support for e-services that the Government is responsible for organising pursuant to what is specified in the proposed law be also be provided to other parties such as municipalities, indirect public administration as well as partly for the private sector.

The Act compiles all the legislation related to the provision of the central government joint e-service support services into one law. Other legislation was further specified for example in the areas of tasks carried out by authorities and the processing of personal data and other data. The provision of support services was centred with the Population Register Centre with the exception of the online payment compilation and administration service and the administration's map service.

During the programme, matters related to the provision of Suomi.fi services by numerous agencies and members of administrative personnel were discussed in the Ministry of Finance-organised cross-administration cooperation. Cooperation complied with what is provided in section 6 of the Act on Cooperation within Government Agencies

and Institutions (1233/2013). Cross-administration cooperation in the manner agreed on between parties was launched at an opening meeting on 25 January 2016 and the final meeting was held on 14 November 2017. Additionally, steering groups comprising members from the agencies in question the Ministry of Finance was established for service transfers. Steering group terms have been compliant with the timetables for transitions.

As the services included in the KaPA Programme have been developed, possible development needs for legislation have been observed in for example the e-Authorisations service and making sure it is possible to register electronic power of attorney documentation also at physical customer service points.

3.5 Communications and marketing

The Ministry of Finance has been responsible for programme level communication, while the implementation of actual communication measures has been transferred stage by stage over the course of the programme from the ministry to the Population Register Centre. Starting from 1 January 2018, the Population Register Centre will be responsible for all Suomi.fi related communication. The Ministry of Finance allocated a total of EUR 1.9 million and 0.7 person years to marketing and communication during the programme.

Communications and marketing for the KaPA Programme can be roughly divided into three phases:

- 2014 – 2015 vision communication, organisation of communication, channels for the use of internal and external communication
- 2016 communication and marketing targeting service provision organisations, building the Suomi.fi brand
- 2017 communication and marketing targeting citizens, launch of the Suomi.fi web service

Communication and marketing have been in a key supporting role in the implementation of National Architecture for Digital Services projects. Only the Suomi.fi Web Service's launch campaign was given objectives that are clearly tied to communication and marketing. In all other respects, the success of communication must be assessed on the basis of how committed the organisations that have joined are.

The ministry has provided information on the results of the external audit conducted by Owl Group ever since the audit report was completed and all reports have been published on the programme's web pages. The key recommendations listed in the external audit report are listed in section 7.3.

The Population Register Centre provided regular updates on organisations that have joined Suomi.fi and the current status of introductions on the esuomi.fi messaging channel as well as organised information briefings for various target groups.

During the early stage of the programme, the focus point of communication and marketing was on providing regular updates on the programme and its organisation; the focus point was altered after the first intermediate audit to improve the effectiveness of the programme's internal communications, and as the project progressed to ensure the commitment of key stakeholders and service user organisations at both the strategic and operative levels. In addition, an identity project was run in autumn 2016 to determine the Suomi.fi brand, and during the programme's last year a launch campaign for Suomi.fi services for citizens was implemented.; section 5.5. provides a more detailed description on the results of the latter of the these.

4 Programme level objectives and results

4.1 Programme objectives and indicators

The KaPA Programme's target impacts have been:

- (TI 1) to simplify and facilitate transactions by citizens, companies and organisations with the authorities and to improve the security of e-services
- (TI 2) to promote openness in public administration and to improve the quality of public services
- (TI 3) to enable cost-efficiency in online services
- (TI 4) to improve the shared use of information and information system compatibility
- (TI 5) to improve the ability of companies to utilise public sector databases and services
- (TI 6) to support the national economy by improving public administration efficiency and creating new business opportunities in the private sector

The programme's target timetables were:

- (TT1) In 2015, the first version of the data exchange layer and service views for citizens (viewing service for public administration produced register information) will be opened for use, the national e-Identification model had been prepared.
- (TT2) By the end of 2016, the necessary legislative amendments will have been pinpointed and prepared; the steering and management models for the continuous maintenance and development as well as the operating processes of the National Architecture for Digital Services and its parts will have been mobilised as part of activities in stages with development.
- (TT3) By the end of 2017, the Roles and Authorisations service, e-Identification and Service Views will be in productive use so that the key services and databases needed by citizens, companies and administration will be integrated with them.
- (TT4) In 2018, the National Architecture for Digital Services and its parts will be in its entirety in productive use and the necessary legislative amendments will have been implemented. The steering and management models for the National Architecture for Digital Services will have been introduced nationally.

Additionally, the indicators reviewed in 2016 were for the most part quantitative indicators that were related to the use of the services created during the programme:

- (I1) The number of services connected to the data exchange layer
- (I2) The number of organisations that have joined the data exchange layer
- (I3) The number of published e-services in the Finnish Service Catalogue
- (I4) Progression of planning projects to implementation

Additionally, the following indicators were further specified in 2016:

- (I5) The implementation of cost-benefit analyses for funded projects
- (I6) Customer satisfaction in the quality of public services
- (I7) Number of companies that utilise data exchange layer services
- (I8) Proposals for amendments to practices, legislation and administration
- (I9) Number of services that utilise data resources
- (I10) Data exchange layer user volume

4.2 Outcome of programme-level objectives

It can be said that at the programme level, the programmed attained its key results according to plan and timetable and at a cost that was less than the original budget. The programme produced the following services according to the decree decision:

- the national data exchange layer
- the national e-Identification model,
- national solutions for the administration of roles and authorisations for organisations and individuals,
- shared service views required by citizens, companies and authorities

The services are accessible via the Suomi.fi Web Service, and the necessary legislation has been created during the programme to support the development and introduction of services.

The programme has also closely monitored other Suomi.fi services that were closely related to the programme and funded from the KaPA Programme:

- Suomi.fi Maps, which the National Land Survey of Finland has been responsible for developing,
- Suomi.fi Payments, which Finland's State Treasury has been responsible for developing, and
- Suomi.fi Messages, which Valtori and the Population Register Centre has been responsible for developing.

Programme Producing Suomi.fi Services

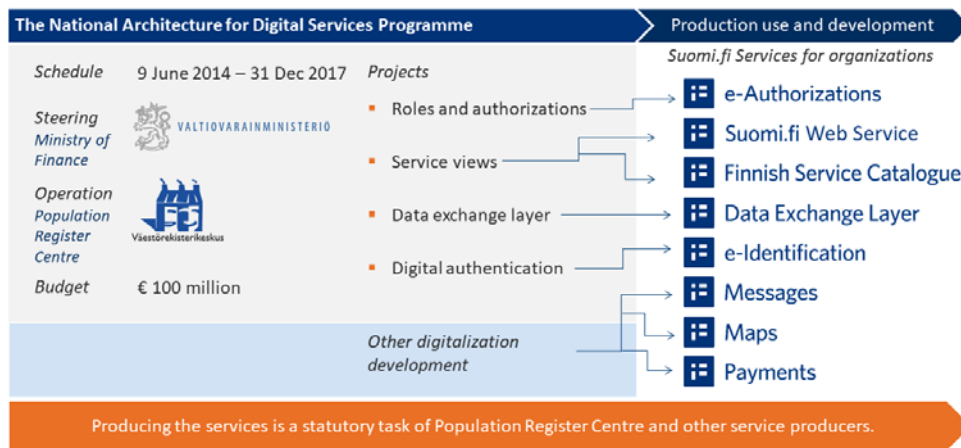


Figure 2. Suomi.fi services implemented during the KaPa programme

The table next page uses "traffic lights" to show the outcome of the targets set for the programme, which are explained in detail in section 5.1.

Type of target	Outcome   	Notes (target/outcome)
Target impact		The actual impacts will be only be visible in the long term after the programme period has come to an end.
TI1		
TI2		
TI3		
TI4		
TI5		
TI6		
Target timetable		The programme's target timetables held for the most part
TT1		
TT2		The preliminary stage of the steering and management models for continuous service were completed during the programme.
TT3		
TT4		The preliminary stage of the steering and management models for the National Architecture for Digital Services were completed during the programme.
Indicator		The targets for quantitative indicators were attained for the most part; the methods for measurement for some of these must be reassessed
I1		90
I2		72
I3		> 31,000
I4		30 planning projects, 36 integration projects, of which 7 were not implemented
I5		The analysis was not done during the programme period when the projects had just been completed, more appropriate to implement them as part of impact monitoring/assessment
I6		The PRC's annual customer satisfaction measurement highlights results over the long term.
I7		Not implemented during the programme period. The tools for analysis were not completed during the programme.
I8		83 development proposals listed in the final report of projects that received government aid
I9		Approx. 60 million inquiries via the data exchange layer/12 months. The number of systems with permits not in the scope of automated data collection during the programme.
I10		Approx. 60 million inquiries via the data exchange layer/12 months of which around 90% were to the Population Information System. The tools for analysis were not completed during the programme.

Table 2. The outcome of targets set for the programme

4.3 Impact

The support service for e-services created in the KaPA programme are for their part speeding up the progress of digitalisation. The impact of the programme and the realised benefits will be realised in the long term and will become tangible in the larger scope as digitalisation progresses and new faster service processes are created. As this process is only just beginning in most public administrative organisations, no cost-benefit analyses carried out during the programme period were considered useful.

Project-specific impact perspective are however already tentatively described in sections 61.-6.5 of the final report and their related appendices. Owl Group will conduct a more extensive assessment on the impact of the KaPA Programme in 2018–2019.

The external audit (November 2017) found that the impact targets for the programme period were experienced as follows:

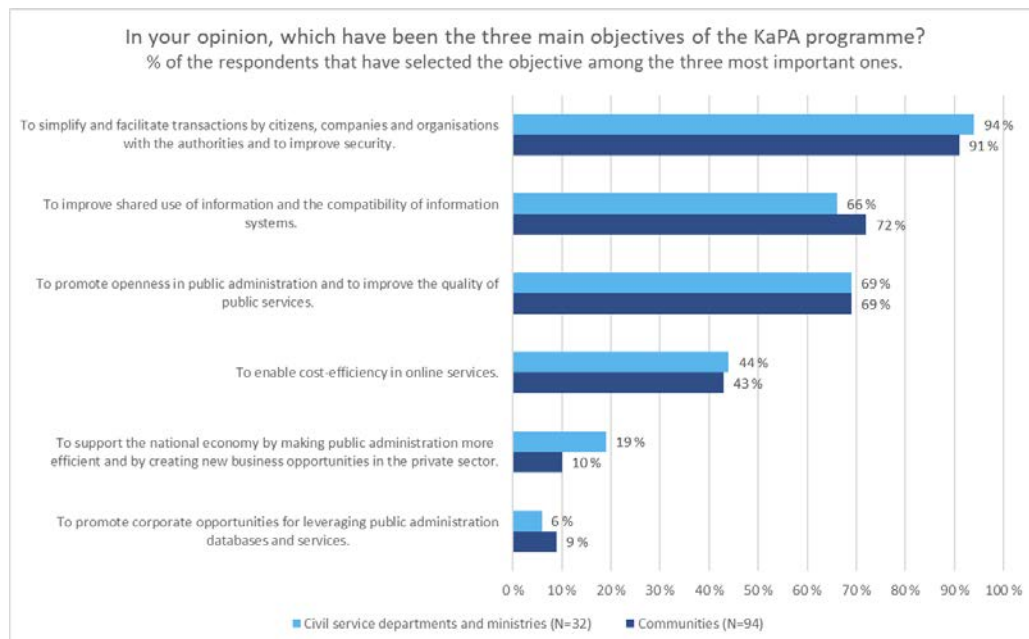


Figure 3. The views of municipalities and ministries on the KaPA Programme's most important objectives during the final stage of the programme (Owal Group).

In order to simplify the more broad-scoped introduction of already existing solutions, the Population Register Centre is preparing so called reference implementations on the basis of projects that received financial aid and are planning to or have already integrated with the data exchange layer.

The Suomi.fi services implemented in the programme will be funded for the most part centrally so that the threshold for using shared solutions will remain as low as possible and to ensure that the cumulative benefits can be as large as possible. In addition, the centred funding model will help achieve the advantage that tasks, which all organisations previously carried out independently (such as negotiations and agreements related to the use of identification tokens) will be centred to one actor. At the same time administration will be made lighter by dismantling the management system, which was developed for monitoring invoices to organisations for example on the basis of identification events.

As the implementation of the digital revolution progresses towards a model shared digital platform for public administration (resolution VM/2074/00.01.00.01/2016) and a reform of operating methods, also a steering model for public administration investments will be developed during the time following the programme.

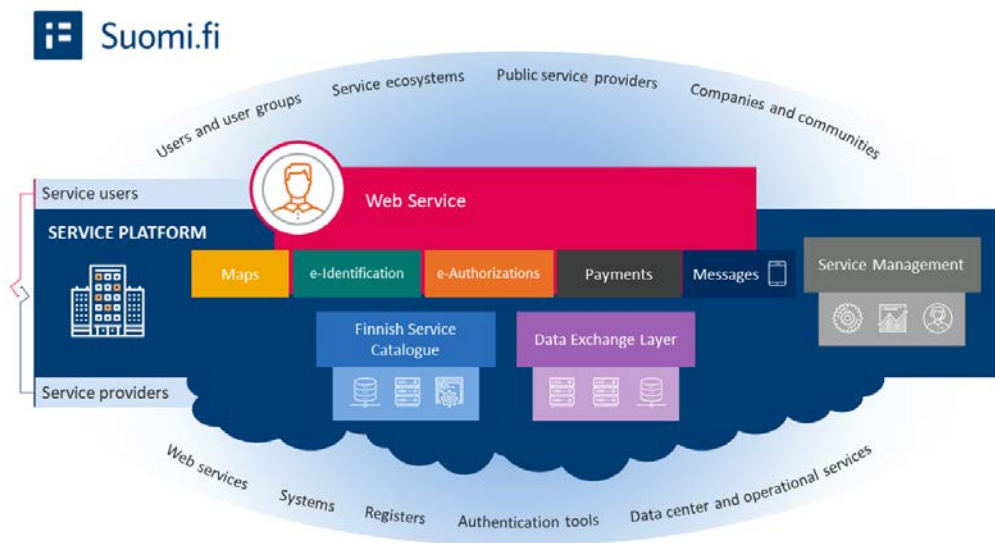
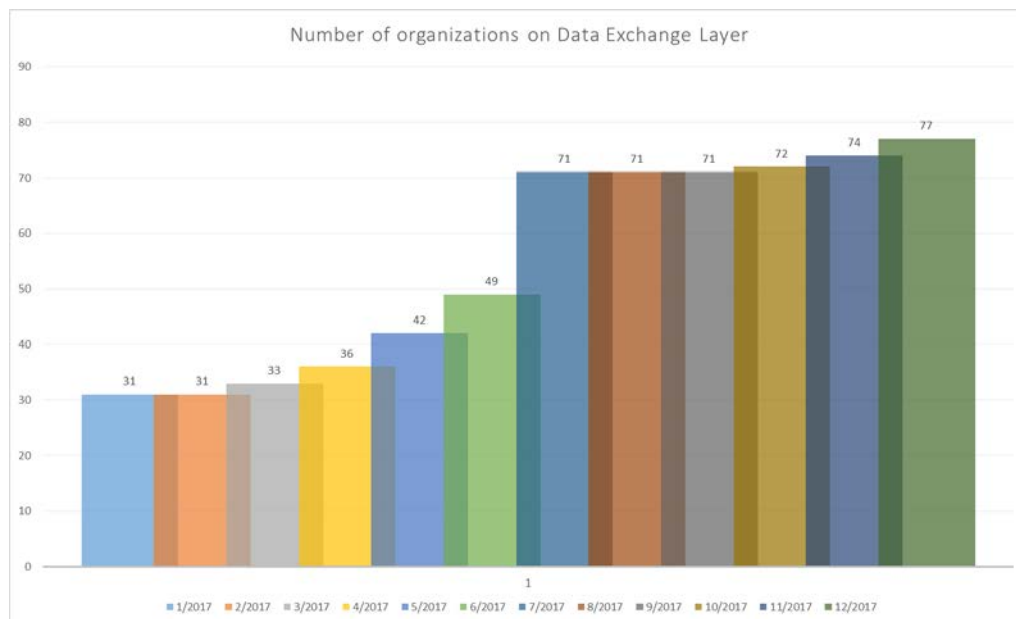


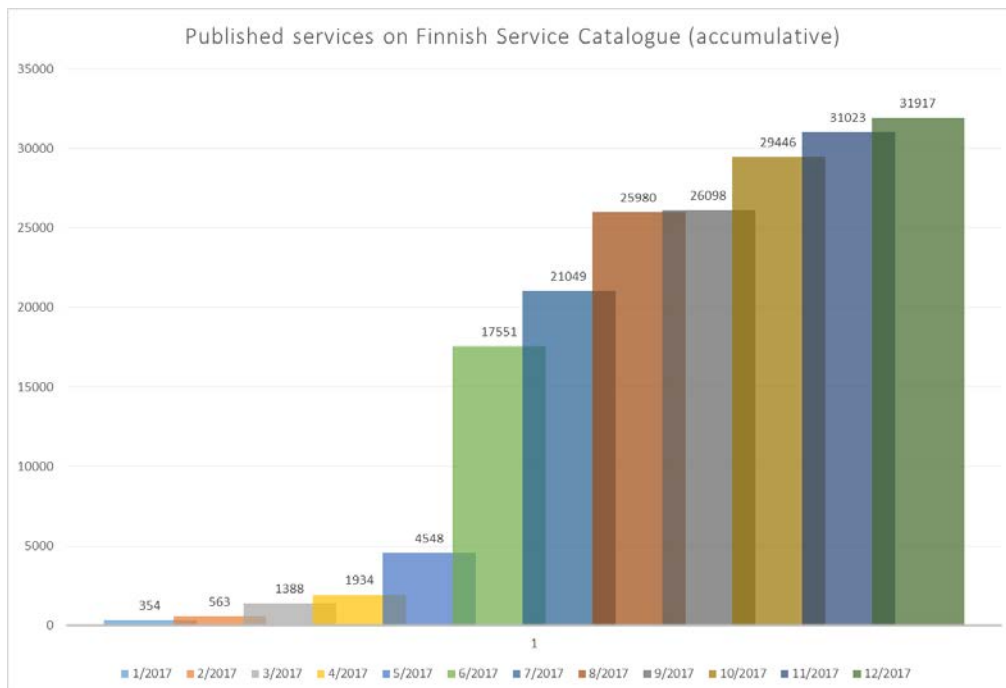
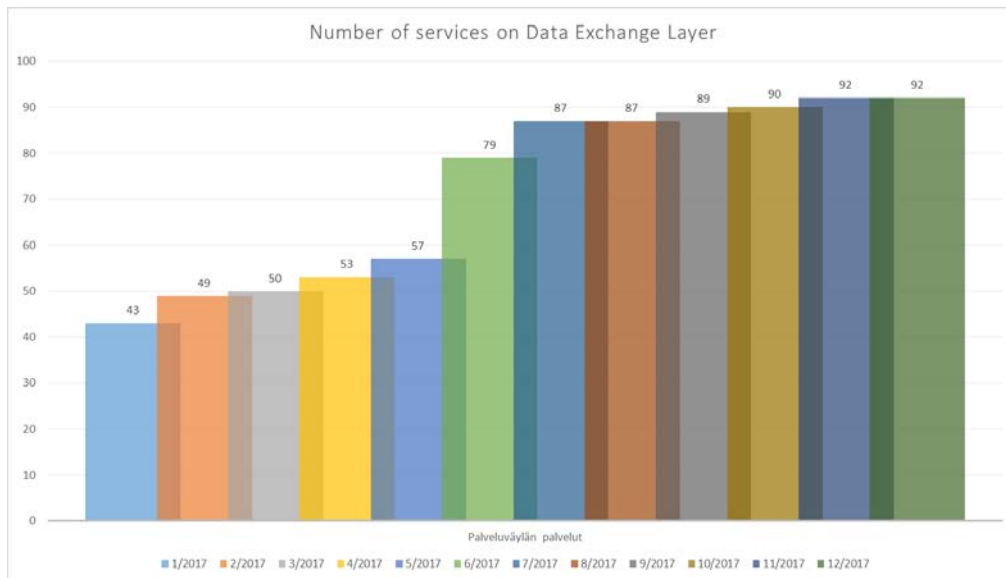
Figure 4. Suomi.fi Service Ecosystem

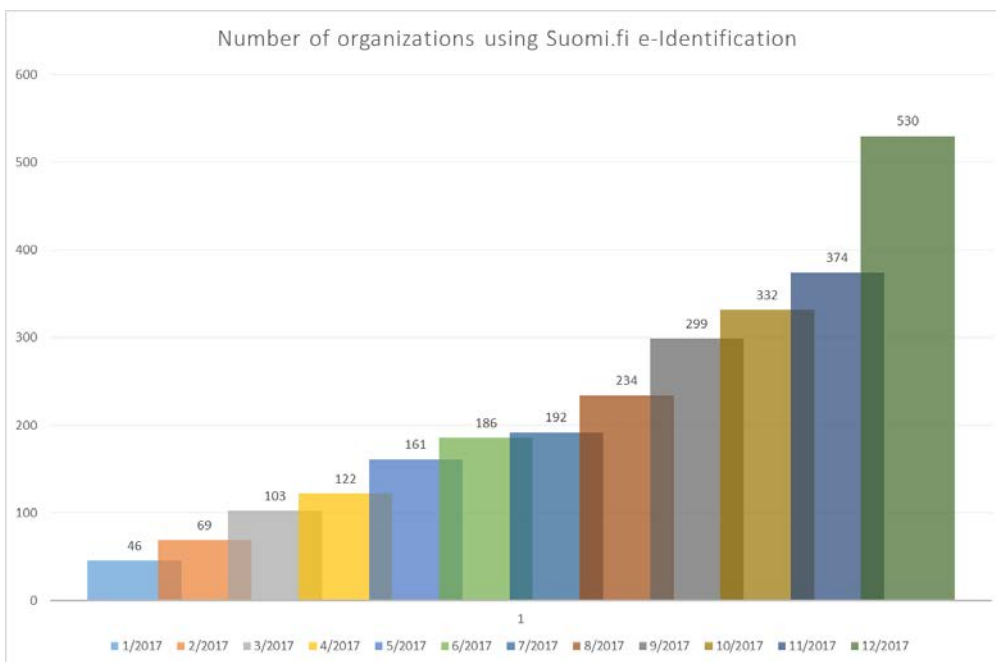
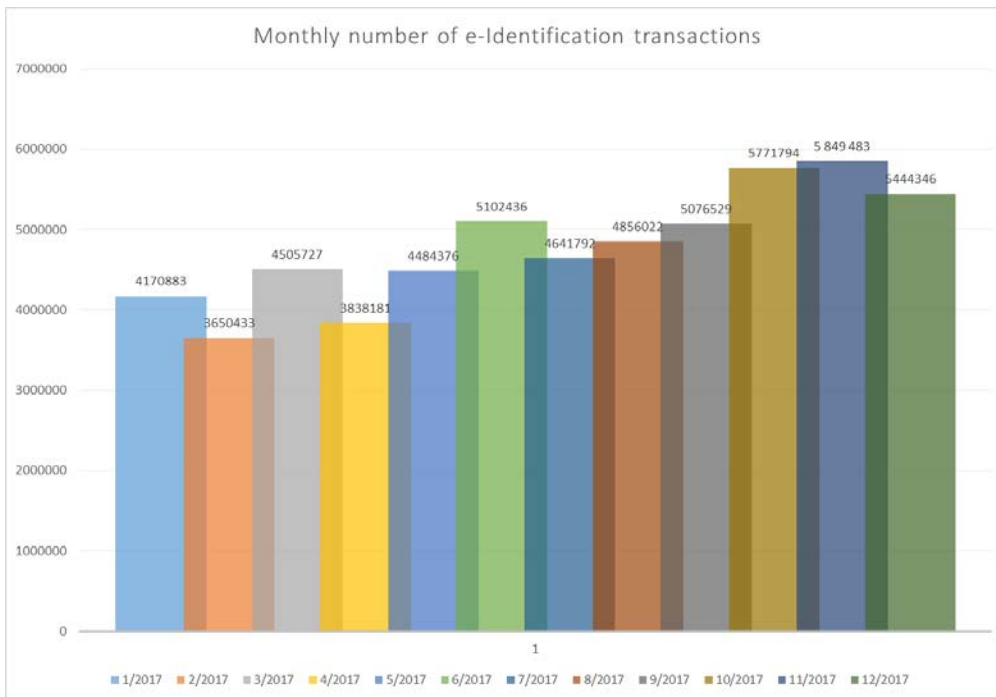
5 Project level objectives and results

All the Suomi.fi services implemented in the programme by the end of 2017 are in production and broad-scoped use. Similarly, Suomi.fi Payments and Suomi.fi Messages, which are closely linked to the programme were also opened for productive use at the end of the year.

The quantitative targets related to the introduction of the services were achieved for all services and in some cases targets were exceeded. An up-to-date statistic on Suomi.fi service user volumes can be viewed on the esuomi.fi website. More detailed information on the various projects and the objectives and results of the services implemented in them are available in sections 6.1 – 6.4.







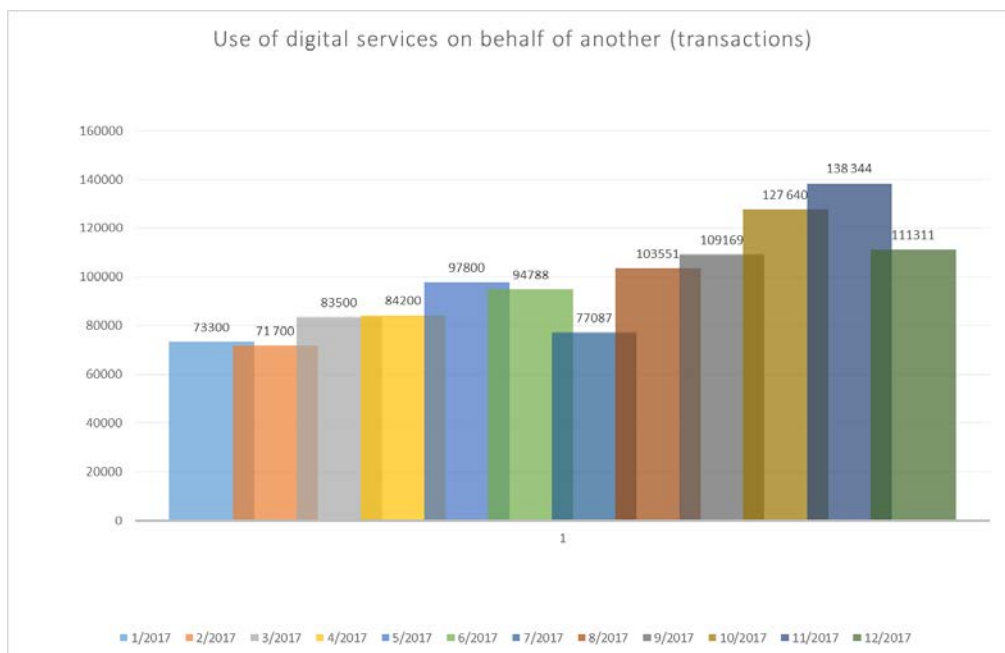


Figure 5. The status of service introduction on 31 December 2017.

As a rule, the objectives set for each service were achieved, but some only after the programme period had come to an end. Follow-up measures for implementation programmes that will be implemented after the programme period have been agreed on as part of the project for the further development of the Suomi.fi services implementation programming and the road map for further development 2018–2019 (<https://esuomi.fi/palveluntarjoajille/>).

5.1 Service Views project

The key objective of the project was to implement the shared service views needed by public administration customers/citizens, companies and possibly also authorities, which compile services into easy-to-use packages and offer the identified user public services and information content (register data) that pertains to him or her or the organisation that he or she represents according to the user's service needs.

The goal is to increase the shared use of information and the compatibility of information systems, improving the quality of public services as well as the reducing the amount of overlapping work in public administration centred around service provision and service

descriptions. Additionally, the goal was to use the provided services to create new business opportunities for the private sector.

The first version of the citizen's service view was due to be completed during the first stage of the project by the end of 2015. After this, the citizen's service view had to be further developed so that it could finally completely replace the previous Suomi.fi portal for citizens.

Service views for self-employed persons were created based on yrityssuomi.fi and oma.yrityssuomi.fi. The Suomi.fi Messages service which replaced the Citizen's account and the Suomi.fi Finnish Service Catalogue were implemented as part of Service Views.

Targets and realised outcomes and their scope were increased during the project period. Even so, the objectives were attained for the most part according to the timetable. The most significant change during the project period was the transfer of the development of the Messages service and the majority of work related to the production version, which had had been initiated by Valtori in 2016, to the Service Views project at the beginning of 2017. Additionally, development of the Suomi.fi Finnish Service Catalogue application was transferred from the platform built by the City of Helsinki to the Population Register Centre.

The project results were

- the Suomi.fi Web Service. The citizen's service view portion of the of the Suomi.fi web service was put productive into use as a beta version in December 2015. The citizens' and authorities' service views were put in production in July 2017, and the previous Suomi.fi Web Service was terminated. Service views for companies and organisations will go into production on 9 January 2018. At the same time, Yrityssuomi.fi will be integrated with Suomi.fi.
- The Suomi.fi Finnish Service Catalogue (FSC app, user interfaces and interfaces). The application was ready for productive use in October 2016. In addition, a trial was carried out on the transfer of data to the FSC app over the border from Estonia's national service catalogue as well as providing use of the Suomi.fi Finnish Service Catalogue to people and organisations in Estonia.
- The public service classification (in Finto) and service terminology and ontology for FSC services.
- Suomi.fi Maps and its further development with the National Land Survey of Finland (e.g. responsive maps, routes to service points, SSO support)

as well as simplified maps (new national accessible map materials) and the integration of information from the Finnish Service Catalogue to maps.

- Transferring register data to an identified user in the Suomi.fi Web Service via the Suomi.fi Data Exchange Layer.
- A significant amount of new data content (previously "guides")
- A Suomi.fi content management application for the management and publication of guiding content, development work to continue in 2018.
- User interfaces for the Messages Service and Suomi.fi e-Authorisation as part of the Suomi.fi Web Service.
- Implementation of mobile apps for the Messages Service,
- Printing procurement for the Messages Service (paper mail sent by public administration to customers) in late 2017.

Enactment of the KaPA Act and its scope provide a back-prop for service introduction. The low number of users that had introduced the Finnish Service Catalogue by the deadline laid down in the Act (1 July 2017) were considered a medium-level risk. The risk was realised only to some extent, because introductions have predominantly progressed well. All of Finland's municipalities have introduced the service, although it has yet to be published in its entirety. With regard to introductions, there is still much to aim for in regard to the comprehensiveness and especially the quality of the information in the Finnish Service Catalogue, in the provision of information from more registers than at present to users and in increasing the number of web service users.

The take-up rate of services implemented in the project

- Suomi.fi web service: approximately one million individual visitors during half a year of productive use July-December 2017, as well as an average of 150,000 different users each month.
- At the end of 2017, there were 10 instance in which a user that had identified themselves in the web service was provided their own register data packages.
- The Finnish Service Catalogue: a total of 254 organisations taking part in productive use, of which 146 are municipalities
- Organisations that have signed up as users of the FSC, a total of 628 organisations of which 311 are municipalities (all municipalities)
- A total of 29 organisations produce information for the Finnish Service Catalogue via the in-interface. Others maintain information via manual user interfaces. Large actors have integrations (e.g. Elisa, of the large cities for example Helsinki and Turku have integrations in the works). In addition, approximately 30 organisations have been given Finnish Service Catalogue (FSC) rights, i.e. the number of organisations that produce information via technical integrations is constantly growing.

- There is no precise information available on which organisations utilise the Finnish Service Catalogue's information via the open out-interface, but it is known that numerous municipalities and ICT service providers have integrated with it. A total of 29 organisations produce information for the Finnish Service Catalogue via the in-interface.
- The Suomi.fi Maps service and route function was put into production together with the web service in July 2017. A total of 135 organisations have adopted the Maps service. Of these, 50 are municipalities.
- The Messages service was published for productive use on 15 December 2017. When the programme came to an end, a total of 6,000 users had joined the service and nearly 200 service provider organisations facilitated the use of e-services through the service.

The objective for providing centred services has been achieved with the implementation of the Suomi.fi Web Service and the Finnish Service Catalogue. The use of the open interfaces in the Finnish Service Catalogue and the sharing of service information increase the shared use and compatibility of information. It can be assumed that the use of interfaces will increase, as the change in operating logic spreads and the advantages of the shared data catalogue are seen more extensively. The provision of the Suomi.fi Maps service to public administration organisations as a shared service that can be linked to the organisation's own services has strengthened the shared use of data.

The Messages Service for companies as well as its mobile app were not implemented as planned during the programme.

More information will be available on the implementation of the target impacts set for the project at a time when the use of services is more extensive, the Finnish Service Catalogue is more comprehensive and especially when the Messages Service is in full use. Support will continue to be needed in the introduction of services, especially so in the Service Views project with regard to the Suomi.fi Finnish Service Catalogue, the linking of own data to registers in the Suomi.fi Web Service, and the Suomi.fi Messages. The guide contents and seamless service paths in the web service for both citizen and self-employed person users must continue to be developed.

5.2 Data Exchange Layer project

The project's task was to implement the national data exchange layer including necessary further development of the data exchange layer, supporting the linking of key databases as well as the introduction of management models required for the data exchange layer's maintenance and use.

The target result for the project was a national data exchange layer in full productive use. The areas of the productive use are:

- further technological development taking into account the user needs of organisations in the process of joining,
- the continuous maintenance of environments and technical management,
- organised service provisions including comprehensive documentation, the supports measures related to the use of the data exchange layer and their further development,
- productisation, including project packages related to communication, marketing and signing up to join the data exchange layer.

The project progressed according to its set timetable with regard to key publications, and costs were kept within the set budget.

The project implemented the Suomi.fi Data Exchange Layer, which is in productive use. The work also included e.g. load sharing support, information security extensions as well as federation capacity, the Suomi.fi API Catalogue, which will make it easier to find applications (api.suomi.fi), as well as numerous adapter solutions (REST Gateway is one of key importance). The data exchange layer's productisation and management models, reference architecture and documentation were implemented and updated to support operations. Putting the Suomi.fi Data Exchange Layer into productive use and the first publication of API Catalogue took place in November 2015, there were four major updates to the production environment every year.

In 2015, quantitative targets set for the project included the addition of 5–10 key registers to the data exchange layer, in 2016 there were 10-20 projects for linking registers to the data exchange layer and all the integrations for projects that came through KuntaKaPA were completed by the end of October 2016. In 2017, the target was a minimum of 50 services published in the production environment and 58 organisations in the production environment. The targets were all achieved and exceeded expectations; when the programme came to an end, a total of 81 organisations had joined the data exchange layer and 111 services had been linked to it.

There is an international aspect to the data exchange layer's implementation project, including collaboration with Estonia and the Nordic Institute for Interoperability Solutions (NIIS) established at during the final stages of the project, as well as work carried out in cooperation has been very unique - a significant and large open source code software project, which has been carried out in collaboration by two independent countries. The most important areas of further development in cooperation with NIIS are

ensuring that introduction is more agile than before and development of the data exchange layer in this respect, an increase in automation (maintenance, updates, scaling of performance) and protocol-agnostic functionality (e.g. native REST support).

Key risks determined at the beginning of the project included testing of adequate loading, ensuring a high level of performance and information security, successful development of source code in cooperation between Finland and Estonia, as well as standardisation work by Valtori for the API servers. Of these, the last was implemented in part. There was not enough time to pilot a standardised solution during the programme and there were delays in the supply of numerous Data Exchange Layer orders.

From the perspective of the project, legislative work could have been started earlier, which would have better grouped customer introductions and certain stages of development work with regard to the operational environment. The utilisation of use obligation as method to disseminate new services should be weighed in the future.

Specifications must be made in the future to marketing and communication related to the data exchange layer. In practice the data exchange layer is background technology solution for numerous organisations, which is not only to facilitate seamless introductions, but more importantly to reach the essential ICT service providers instead of the organisations themselves. So long as organisations maintain other data transfer options parallel to the data exchange layer, no cost savings will be achieved. As use of the data exchange layer increases, the construction and moulding of integrations will become easier and faster, as already build integrations can be utilised better than previously. The interface services facilitated by a shared connection catalogue are now more visible also for private sector actors. On the whole, actors that utilised the Data Exchange Layer or were considering its use gained the best advantages.

The further development of the service will take place at the Population Register Centre in 2018–2019 within the framework of the SUOJA project and the key project for shared management of data (YTI), and the technical core will be developed in cooperation with NIIS.

5.3 Roles and Authorisations project

The Roles and Authorisations project's task was to product electronic support services which would facilitate the reliable use of e-services on behalf of another person or an organisation as well as the maintenance functionalities for these roles and authorisations. The premises for the implementation of the project were the following:

- Acting on behalf of another person in e-services was not possible in a cohesive manner.
- Children under the age of 18 did not have their own identity tokens in use and parents were responsible for their children's online transactions with authorities. There were no electronic services available for checking whether someone had guardianship or under the supervision of a trustee.
- Information on parents and guardians is registered in the Population Register Centre's registers. Needed services can be implemented on the basis of this information for basic register-based Suomi.fi e-Authorisations.
- Suomi.fi e-Authorisation will replace the role and authorisation services previously provided in the Katso service package. During the transition period, the Katso service must function at least at the same capacity as it does presently.
- It must be possible to check who in the company or organisation holds the right of signature from basic registers (e.g. the Finnish Patent and Registration Office maintained Trade Register) at the time authorisation is granted .

Objectives derived from premises were thought to be very higher level in the projects, and the project plans did not define objectives or indicators in the same way as these were defined in other KaPA projects. Measures were reworked as the programme continued according to needs and agile methods were used in their implementation.

The most notable change in the project's objectives occurred when the KaPA Act was enacted the project was given the new tasks of transferring the KATSO service from the Finnish Tax Administration to the Population Register Centre, and integrating the KATSO service's features with the e-Authorisations service by the end of 2019. Additionally, at its customers' request the project was given anew task yet again during the programme's final year, the so-called facilitation of customer point services.

The project was set quantitative production numbers such as the number of user organisations and the number of e-services that were put in productive use. Its target for 2016 was to put five customer services in productive use, which it achieved according to plan. The target set for 2017 was yet again five new customer services of which one would utilise the authorisation register i.e. electronic power of attorney. The objective was achieved in July 2017 when the first e-service was linked to the authorisation register. This was the Finnish Immigration Service's Enter Finland service. At that time, already 30 organisations had basic register-based services in over ten e-services. The objectives of the e-services that have joined Suomi.fi have been exceeded manifold. Additionally, the development of the number of events where someone acts on behalf of another in e-service has been faster than expected, and there were already over one million such events in 2017. In November 2017, there were

138,000 events where someone acted on behalf of another and the number grew by ten percent each month. In December 2017, there were 16 e-services available in 36 organisations.

The assessment on the challenges and risks related to the project gave an overly large estimate, and for example large organisations have committed to the service well. In autumn 2017, the project's key risks were

- Replacing the Katso service by the end of 2019 with Suomi.fi e-Authorisations will not be entirely successful. Because the transition period exceeds the programme period, the risk is more related to the development phase, which will follow the programme.
- Restrictions or deficiencies related to basic registers will require changes to the Suomi.fi e-Authorisations or the service cannot be implemented in the desired manner.
- The knowhow acquired during the project period was transferred to the Population Register Centre in the form of purchased services in order to guarantee the continuity and further development of the service.

The project was unable to complete the implementation of the trustee data base for register offices. This was terminated in spring 2017. Additionally, only some of the characteristics for the first stage in the implementation of customer service points were realised during the programme.

At the time the project was launched, its impact was believed to be formed indirectly from the increased use of customer services via e-services facilitated by e-Authorisation and users that were transferring to the service from other channels.

The first parts of the e-Authorisations Service were adopted in autumn 2016 and in October 2017 e-Authorisations reached the goal of one million users. During an average period of inquiries August–November 2017, there were 120,000 inquiries and the number grew by 10% a month. It could be cautiously estimated that half of the inquiry events were due to services transitioning to an electronic channel. At the present user volume, the annual cost benefit has been estimated at approximately EUR 3.6 million each year.

In addition to financial savings, the time saved by customer could be considered the most important impact, resulting from the fact that services can be accessed independent of time and place. As they saved time, customers also felt that the quality of services had risen.

5.4 E-identification model project

The target set for the project was to increase the utilisation of strong e-identification in public administration e-services. The project period for the project which began in spring 2015 was preceded by a preliminary report and pilot phase for the identification solution in autumn 2014. At the same time, the preparation of the law on e-identification was supported.

Suomi.fi e-Identification was completed according to the timetable set for it in December 2015, and the first service that utilised Suomi.fi e-Identification was beta.suomi.fi. The number of service introductions increased after the KaPA Act entered into force, and the number of transactions in the identification service have increased correspondingly. In October 2017, 228 organisations generated transactions in e-Identification, and at the end of the year nearly six million e-Identification transactions took place monthly

By the end of 2017, Suomi.fi e-Identification replaced the administration's overlapping solutions the Katve consortium and the Tunnistus and Vetuma services (in identification functions), supported the definition work for the national identification providers trusted network's management model and the creation of technical specifications, as well as supported the launch and implementation of necessary measures that will facilitate the strong e-Identification with the EU and EEA on Finland's part by September 2018.

The strategic choice made in the project to utilise open source components and the model for agile development proved to be the correct one. The project was able to create an extremely reliable and high-usability solution for public administration, which, taking into account how critical the reliability of e-Identification is, was vital to the functioning of society.

A delay in the launch of introductions was a risk that was in part realised in 2016. The Population Register Centre controlled this risk by e.g. increasing the utilisation of the permit handling processes for the Population Information System. Another risk was related to user services, which was also realised as a delay in the introduction of the production environment. As a corrective measure, the Population Register Centre supported and helped the user service supplier in gaining control of the environments. Of personnel risks, the resignation of the project manager was realised, which did not, however, influence the project's implementation capacity.

At the time the project was launched, its impact was determined to be formed from the reduction of overlapping work and the benefits of centralised service provision. Before Suomi.fi e-Identification, every organisation that utilised electronic identification had to enter into a separate agreement on e-identification with every bank. In addition to contract management, organisations had to circulate the bank-specific invoices within the

organisations. With the introduction of this new service, administrative work within organisations decreased significantly.

During the project, the number of public administration e-Identification events has risen steadfastly. In 2016, the Population Register Centre negotiated new prices for public administration e-Identification. This for its part improved the cost efficiency of the entire public administration's e-services in comparison to the previous Vetuma agreement. Before the Suomi.fi e-Identification, the Ministry of Finance also paid Vetuma service-related event payments to the IT company that owned the technical system. At the end of 2017, the Population Register Centre had opened competitive tendering for the procurement of identification tokens from its trusted network.

The project brought forth a development proposal according to which legislative work should be timed closer to introduction. The use obligation set for the services played a pivotal role in the utilisation of support services for e-services intended for all of public administration. The utilisation of use obligation as method to disseminate new services should be weighed in the future.

5.5 Suomi.fi launch project

The primary task of the Suomi.fi launch project was to plan and implement the launch of the entire Suomi.fi package in a way that allowed the results of investments to the KaPA Programme to be made visible and for these to produce benefits for citizens and companies i.e. promote the attainment of the programme's strategic objectives. The objective of the launch was to make citizens aware of Suomi.fi, its key features and how Suomi.fi will simplify e-transactions with public administration now and in the future.

The mission of the launch was recorded during the planning stage: The aim is to create an intriguing launch campaign, which will reach all key target groups and evoke positivity and interest also abroad.

The purpose of the launch was to reach citizens in all the different target groups and to persuade them to little by little transition to the use Suomi.fi as their primary website for interaction with public administration. The campaign aimed to create positive images of public administration e-services, both in Finland and abroad, and to increase Finland's visibility as a global leader in digital expertise.

The project's primary activities included the launch of the Suomi.fi services to selected key target groups, methods included event marketing, an ad campaign in various media, media communications and internal communication, the launch of the Suomi.fi

brand to service providers and stakeholders as well as the production of guide materials and support materials for organisation customers. Although the launch campaign for Suomi.fi services for companies or organisations (previously Yritys-Suomi) was excluded from the content of the project, the activities also highlighted the perspective of companies when it fit with the rest of the message. During the final stage of the project, activities for the launch of services for companies and organisations were planned as was closer cooperation with organisations responsible for company services, primarily for 2018.

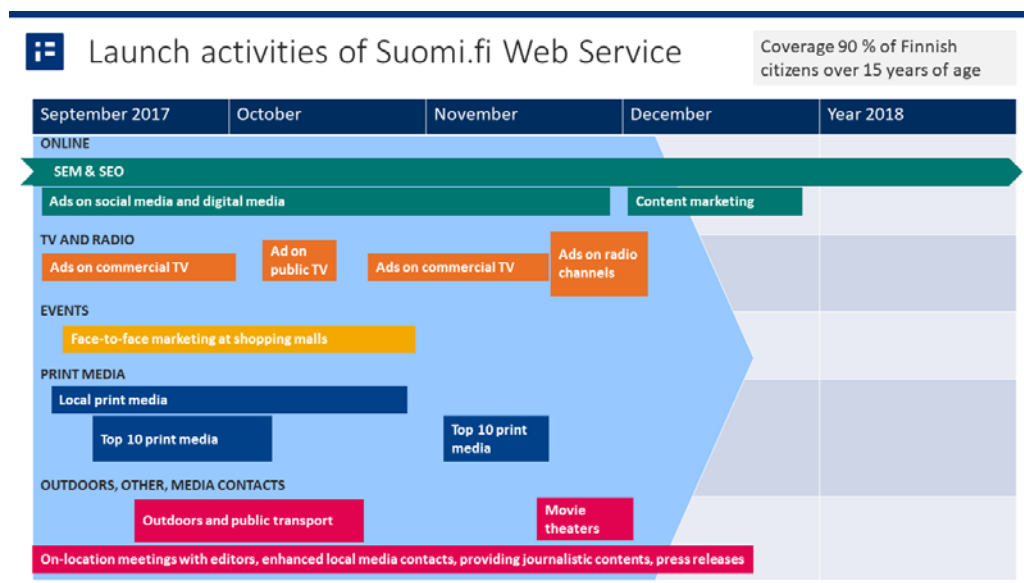


Figure 6. Suomi.fi launch activities

The implementation of the launch project was dependent to a great extent on the progress of KaPA projects and the service framework implemented by Valtori (the introduction of the Messages and e-Authorisations Services in organisations in particular). During the project the launch campaign concept and individual activities were adapted to a level where the services were ready to be utilised as launch measures proceeded. The adaptation of activities led to a situation in which the marketing message could not be as strong or as clear as it would have been had the selected main campaign concepts been closer to completion.

The campaign's coverage exceeded the set objective in the 15-79 age group, while their familiarity remained beneath the set objective. The familiarity of Suomi.fi Web Service rose 24 percentage units during the campaign, which can be considered significant taking into account the time at which the launch was implemented. Increasing familiarity more than this will require more extensive communication and marketing. A preliminary plan for communication and marketing activities was drawn up in the project for 2018.

An effort will be made to implement activities that will follow the completion of the programme as much as possible in cooperation with other public sector organisations phase-by-phase taking into account service introduction timetables. Combining of resources will facilitate larger investments in communication and marketing specifically in those areas that are of the greatest benefit to each organisation. In this way, also citizens and companies can obtain more concrete examples of the benefits of service packages.

After the KaPA Programme's completion, the Population Register Centre will be responsible for the continuity of marketing . Plans were made during the project to ensure that adequate support would continue to be given to the level of awareness among citizens in matters related to Suomi.fi that was achieved during the launch campaign and the marketing efforts made during the campaign. Marketing materials were made so that they would stand the test of time and so that the Population Register Centre would have full rights to them. It was recommended that future launch measures would support in particular the introduction of the Messages and e-Authorisation services, as these could not be implemented in full in 2017.

6 The programme's budget and actual costs

When the programme began in 2014, a total of EUR 120 million had been allocated for the programme in item 28.70.03 (National IT sector steering and development). The programme's original budget was adjusted to EUR 100 million in 2015. The programme was completed at 29,757,350.33 euros below budget. Unused funds in budget item 28.70.03 can be used for the further development of the Suomi.fi services and for promoting e-services in 2018–2019.

The Ministry of Finance's number of person years left unused in the programme has varied yearly from 5 to 10 person years, and salary costs during the programme period totalled EUR 2,284,046.28. Additionally, permanent staff at the Ministry of Finance, who are paid from operational expenditure appropriations, took part on the implementation of the programme.

KaPA programme 28.70.03	2014	2015	2016	2017	Total
Approved appropriations	13,000,000	32,000,000	27,500,000	27,500,000	100,000,000
Use appropriations	1,395,864.09	11,069,358.47	20,646,974.61	37,130,452.50	70,242,649.67
Unused appropriations					29,757,350.33

Table 3. Programme budget

KaPA programme 28.70.03	2014	2015	2016	2017	Total
KaPa programme office	457,682.83	1,739,290.82	1,186,363.35	3,115,090.13	6,498,427.13
KaPA/funded projects	14,995.00	1,590,122.99	2,331,841.75	4,981,263.89	8,918,223.63
KaPA/Population Register Centre	923,186.26	6,986,075.12	16,300,176.68	28,837,663.00	53,047,101.06
KaPa/Association of Finnish Local and Regional Authorities		152,191.95	430,270.42	196,435.48	778,897.85
KaPA/Income register		601,677.59	398,322.41		1,000,000.00
TOTAL	1,395,864.09	11,069,358.47	20,646,974.61	37,130,452.50	70,242,649.67

Table 4. The use of the programme's appropriations has been divided annually between key functions

In accordance with budget item 28.70.03, the Ministry of Finance paid a total of EUR 777,897.85 in aid to the Association of Finnish Local and Regional Authorities-established KuntaKaPA project Office during the programme.

The table below gives an itemised list of the use of the Population Register Centre's budget during the programme period.

Project	2014	2015	2016	2017	Total
Data Exchange Layer	166,511	962,548	1,835,911	801,266	3,766,236
Service Views	61,259	1,637,725	4,791,190	7,772,255	14,262,429
Identification	43,050	792,488	1,269,498	1,407,341	3,512,377
Authorisations		924,844	2,034,599	2,055,622	5,015,065
Continuous expenditure	649,777	1,925,956	2,134,229	2,086,394	6,796,356
User service expenditure				4,057,928	4,057,928
Identification transactions			155,367	3,002,904	3,158,271
Shared by projects	2,589.26	742,514.12	4,079,382.68	7,653,953	12,478,439.06
TOTAL	923,186.26	6,986,075.12	16,300,176.68	28,837,663.00	53,047,101.06

Table 5. The Population Register Centre's budget and actual sum

6.1 Grants awarded during the programme

Public sector organisations were paid a total of EUR 9,697,121.48 in grants to support measures to speed up the introduction of the national architecture for digital services. Government agencies and institutions were appropriated aid in the form of user, and user and registering rights in budget item 28.70.03. Municipalities, joint municipal authorities and other organisation were granted aid in the form of discretionary government transfers.

Public administration organisation registries were notified of the progress of the National Architecture for Digital Services and the related possibility for government aid in December 2015. The programme's social media channels, the ministry's ICT newsletter, various events as well as the Population Register Centre and the KuntaKaPA project office have also provided extensive information on the possibility to apply for government aid. Materials and instructions related to the aid have been openly available on the Ministry of Finance website vm.fi/palveluarkkitehtuuri-tukea-liittymiseen.

Organisations were able to apply for grants for

- projects that comprised planning of the components of the National Architecture for Digital Services in other words the utilisation of the Suomi.fi services,
- projects where integration with the data exchange layer was implemented (primarily as part of some Population Register Centre project related to the National Architecture for Digital Services),
- other projects implementing the national architecture,
- Finnish Service Catalogue introduction projects, or
- transition from Vetuma identification to Suomi.fi e-Identification.

The distribution of aid use is listed in Table 6 below in euros.

Distribution of subsidies, 28.70.03	2014	2015	2016	2017	TOTAL
Municipalities and joint municipal boards	0.00	476,669.93	293,513.05	2,096,537.50	2,866,720.48
Central government	14,995.00	1,113,453.06	2,038,328.70	2,845,915.15	6,012,691.91
Other public sector ac- tors	0.00	152,191.95	430,270.42	235,246.72	817,709.09
TOTAL:	14,995.00	1,742,314.94	2,762,112.17	5,177,699.37	9,697,121.48

Table 6. Distribution of aid-use

7 Audit of the programme's implementation

7.1 Successful organisation of the programme

The programme's two-level programme steering model was considered effective, as the responsibilities of the strategic management team and the programme team were completely different from one another and their activities were not considered overlapping. The strategic management team got actors that were of key importance to the programme to commit to joint strategic development and the programme group focused on the programme's operative progress.

KaPA is extraordinary and the first nationally cohesive programme for the development of support services the purpose of which is to also alter the thinking of individual Government and municipal actors and make them more customer-oriented. For this reason, it was felt that the executive level management team was very important for highlighting different viewpoints and for commitment at the strategic level. Collaboration between the municipal sector and Government were also considered very effective.

Project-specific steering groups always focused on the objectives progress of the project in question, and central service user organisations have been invited to take part in these groups for the entire duration of the programme period. Cooperation between project owners (Ministry of Finance) and project managers (Population Register Centre) was found to be an effective and fast method for steering projects and reacting to changes.

The programme's internal communication between the ministry, the Population Register Centre and KuntaKaPA was considered good and straightforward and projects received feedback immediately at weekly project meetings.

According to the external audit, programme actors felt that the steering and organisation model was predominantly clear cut and effective.

7.2 Independent audit of the programme

On 21 May 2015, the Ministry of Finance organised competitive tendering for the programme's external audit on the basis of which Owl Group Oy was selected to carry out the audit. The procurement's subject was defined as follows:

- the planning and description of the audit method and the implementation of the audit
- the implementation of the method-based audit
- the planning and realisation of the situational picture required by the audit method

Additionally, the Ministry of Finance has decided to utilise the option for the evaluation of the programme's impact after the programme has come to an in 2018–2019.

The programme's external audit reports have been published on the programme's website: <http://vm.fi/palveluarkkitehtuuri>. The final audit report has also been published in the Project Window.

The objective of the audit has been to form a method and produce information on the attainment of set objectives with programme steering by evaluating the benefits of the KaPA Programme and the programme's steering.

The evaluation model utilised in the audit was drawn up in spring 2016, and it was utilised in all three audits:

- The programme's benefits and steering model: The purpose of the audit will be to provide answers to whether the programme will achieve the impact and productivity targets that have been set for it. The effectiveness and suitability of the steering model are evaluated in the same manner.
- Services implemented within the KaPA Programme: With regard to services, areas of evaluations include the implementation process, the realisation of operative objectives and gained benefits.
- Services related to KaPA: The objective is to evaluate the advantage gained from introducing/joining up with the services provided by KaPA. Similarly, the costs, resources and practices related to joining are evaluated.

A report on the analysis of the current state of the programme was published in April 2016. The presented recommendations were:

- All targets groups must be actively provided information on the overall status of development.
- Systematic cooperation and interaction must be built between project and this cannot be allowed to fall by the wayside due to daily hurries.
- The needed change will require that the sparring with and ensuring the commitment of top management at organisations joining the services.
- Tailored marketing and customer work must be conducted systematically recording these in plans and reports.

The intermediate audit report was published in January 2017. At that time, the KaPA Programme and project-level measures spanning until to end of 2016 were examined. The current status analysis carried out in spring 2016 was the foundation for the audit report. The intermediate audit highlighted the following recommendations:

- The projects focused too much on performance in accordance with the operative plan and not enough on strategic impact.
- Projects must prioritise the systematic implementation of the sign up of large numbers of actors to KaPA services in order to maintain KaPA's credibility.
- The programme must already now be prepared and provide the necessary resources for providing support for joining services after the programme period has come to an end.
- Municipalities, in particular, must plan and improve the way in which they will organise support in the time following the programme period.
- Planning of the manner in which organisations join the services must be improved with discussions in the Ministry of Finance and the Population Register Centre and a systematic model.
- The commitment of management from key organisations must be strengthened.

The programme's final audit was published in November 2017. The final audit was carried out in October-November when the programme was still in its active implementation phase. In addition to the materials collected in autumn 2017, the final audit report has utilised data produced in the spring and autumn of 2016. Highlighted conclusions:

- The programme creates the preconditions for the comprehensive digitalisation of administration and service provision and a new culture of cooperation.
- The technical solutions for the programme's services have been completed during the programme period, and these have been put into productive use.

- Not all services as of yet have a sufficient number of service users, meaning providers and utilisers, to ensure that the target benefits could be attained from Suomi.fi services (previously KaPA services).
- A further development project is being planned for the time following the programme, and a significant amount of money has been allocated for this, but some projects and key target groups are concerned about what will come of the model for continuous services and development in the time after the programme comes to an end.
- Organisations that introduced the services need an increasing amount of communication that is participatory, proactive and personalised on the status of the services and their further development.

8 Recommendations and follow-up measures

8.1 Recommendations by external audit

The programme's external audit highlighted the following recommendations, which are taken into account in the further development project for the Suomi.fi outlined in section 8.4.

1. The introduction of joint services will not move forward without strong support; the Ministry of Finance must ensure adequate steering and resources and the commitment of the entire central government. Strategic will and steering are needed in order to ensure further development and connections. Shared objectives must continue to apply throughout all of Government, so that objectives can be mobilised in agencies, and agencies have the willingness and readiness to promote shared services.
2. A change to the steering and organisation model when the programme came to an end posed a great risks to the continuity. Operating models must be ensured as quickly as possible to ensure credibility. It is important that the organisation and operating models for maintenance and further development be clarified soon. Right now, any concerns project actors and stakeholders may have on continuity must be answered explicitly, quickly and comprehensively.
3. The programme's benefits will not be achieved, if not enough resources are allocated for supporting joining of services and to the development of services. Up until now, the programme has resulted in costs; achieving cost and quality benefits will require that more organisations join. This not only covers the breakthrough stage described above, but also long-term and committed development work to ensure the continuity of the services that have now been introduced. A significant amount of money has been allocated for further development (EUR 17 million including support for the introduction of the Messages service), it is important that this sum is used effectively.
4. The success of communication with citizens must be monitored and the awareness of services must be ensured. Successful communication with citizens is a very important factor in the broad-scoped use of the services.

In addition to this, it is also important to take companies into account more than at present. Communication must be repeated and reformed taking into account target group needs, which change over time. Shared planning with target groups could also be utilised in communication more often than at present, and in this way find new channels and notable key messages.

5. The perspectives of customers and end users of services should be taken into account in the further development of services better than they are at present. The design and planning of Suomi.fi services has been very central government-centred. To put it simply, the services were made first and the public has only heard about them after this. The inclusion of the customers and end users of the services in planning has been quite shallow. Although the KuntaKaPA project has done good work in informing municipalities and helping them join, municipalities in particular felt that the introduction of services is dictated and the viewpoints and needs of municipalities are not heard enough. When planning further development, the methods of shared planning could be utilised and the viewpoints of actors from different levels could be integrated into planning.

The external audit reports and their recommendations will be discussed by the programme group and in projects according to the programme's management model. Additionally, the company that conducted the audit presented a summary of the audit's key results to the strategic steering group.

8.2 Recommendations by service developers and stakeholders

Feedback, and development proposals by the programme's key stakeholders and service developers were collected by project steering groups, the programme group, the strategic management team and at the at the programme's closing seminar. Key recommendations:

- There can never be too much openness, participation or communication, and the repetition of communication in particular is required to ensure seamless cooperation.
- The architectural solutions for systems should have been better reconciled and coordinated better.
- The planning and implementation of continuous services should have begun far earlier than it did. It was felt that the organisation restructuring that

has begun at both the Ministry of Finance and the Population Register over the past year due to the programme was cumbersome parallel to planning work.

- It was proposed that there should be a break before the implementation of further development of the Suomi.fi services, in order for things could be observed and active processes could be put on a level that further work and growing organisation restructuring requires. Additionally, it would be advisable to examine and make transparent topic areas that have spanned over the entire programme and those that have been dropped along the way and learn from these for the future.
- Some of the procurements related to the implementation of the programme were not for the entire project period. This risk cumulated especially when the Population Register Centre's contracting work agreements came to an end at the programme's completion; the need for development did not end however at the completion of the programme, with regard to parts that remained incomplete, support for introductions and the realisation of the roadmap for further development.
- The lack of specific target groups; meaning groups such citizens and companies were considered too broad in scope as target groups. It was felt that the genuine inclusion of target groups and a customer-centred approach required more distinct target groups. As a result of this, the difficulty of work will grow.
- Even when agile, further definitions and documentation are needed. Without adequate documentation a change in persons or a person's departure during the implementation period poses a clear risk of delay for implementation.
- The architectural solutions for systems should have been better reconciled and coordinated better.
- During the project period planning, division of work and interaction between projects was considered lacking in part as projects needed the shared resources of the Population Register Centre. A more systematic effort should have been put into preventing projects from isolating themselves from one another. The time at which projects reached readiness for productive use varied however, which meant that the "same operating model did not work for all projects". It was also felt that service management planning was initiated at too late a stage.
- The production of quality assurance data for the Finnish Service Catalogue should have been anticipatory than it was.
- Bureaucracy cannot be allowed to kill digitalisation.

8.3 Recommendations related to the government aid process

Feedback and development proposals listed in the final reports of projects that received financial aid during the programme period were collected and will be discussed by the programme group. Key recommendations that were put forward:

- The discretionary government transfer process was considered cumbersome and rigid in all project types. The application and reporting procedures for introduction projects were made lighter on the basis of feedback received during the programme.
- It was generally felt that the instructions for financial aid were not sufficient or clear, the applicants did not understand that receiving a favourable decision on financial aid did not mean that the aid would automatically be paid. Regardless of active information provision, some of the actors who had been awarded financial aid only heard about the possibility for receive aid in spring 2017, as a result of which the period during which the aid could be use was too short.
- The period during which aid can be used should be clarified by supporting the introduction of legislation-bound services up until the legislation enters into force. This would presumably also decrease the timetable risks related to the implementation of projects in supplier organisations. Those who received aid, repeatedly highlighted that the possibility for them using the aid was in great part tied to the timetables of suppliers, which change constantly, or that suppliers have their own transition times for system implementations, which vary a great deal from e.g. the municipalities' own objectives and implementation times determined by aid decisions. Especially municipalities had felt that they were only "the initiators of the matter". It was felt that the implementation of the introduction of services progressed between the Population Register Centre and the system supplier in a way that did not allow users to genuinely have an influence on timetables.
- Some of the applicants felt that the user permit policy related to the Population Register Centre's Suomi.fi services and the process for granting the permit were too rigid and disorganised as a result of which some applicants were unable to utilise the aid they were granted in full. The digitalisation of the access rights process can be proposed as a recommendation.
- It was felt that the process for the payment of aid was slow. It took some applicants several months after the completion of final reporting to receive aid. Especially the great disparity in cost reporting have influenced the speed or handling. It was recommended that an automated application

and handling process for aid be implemented or alternatively that the resources allocated for handling of aid be increased.

8.4 Measures after the programme period has come to an end

During the programme, the Ministry of Finance has created a steering model for the continuous provision of Suomi.fi services, which will be introduced in 2018. A key player in this will be the Suomi.fi services strategic steering group, which is responsible for strategic steering. Its members include the Ministry of Finance, which acts as chairman, the Ministry of Economic Affairs and Employment, the Ministry of Agriculture and Forestry and the Ministry of Social Affairs and Health. The steering group will focus on the strategic policies for the provision, development and introduction of services and identifying development needs for legislation taking into account the aforementioned recommendations.

The two civil servants responsible for steering Suomi.fi service and supporting the work of the strategic steering group at the Ministry of Finance and the Population Register Centre's performance manager meet monthly with the owners of Suomi.fi services to go through the current status of service provision, development and introductions, the attainment of the next objectives and to weigh possible strategic steering measures.

The Ministry of Finance enters into a performance agreement with the Population Register Centre each year in which objectives and the indicators for their attainment are outlined also in the case of Suomi.fi services.

The Population Register Centre is building its own operative steering model for Suomi.fi services, which will be completed at the beginning of 2018. Central actors in this will likely include a body formed with customer organisations that provides customer guidance (e.g. customer advisory committee), as well as the Population Register Centre's internal Suomi.fi services and the owners of their development projects as well as the management team for the Digitalisation Unit.

The continuous provision of services will begin at the start of 2018. At the same time, SUOJA /further development of Suomi.fi services 2018–2019) and SUOPA (Suomi.fi services for service providers) projects are being initiated at the Population Register Centre. All Suomi.fi services are being developed in the SUOJA project in 2018–2019 according to a confirmed roadmap. The SUOPA project is focused on providing support to e-service providers, meaning agencies and municipalities, in the introduction of joint support services, tools and standards and promoting digitalisation.