



EUROPEISKA UNIONEN

Interreg

Botnia-Atlantica

Europeiska regionala utvecklingsfonden

Slutrapport/Loppuraportti

Botnia-Atlantica 2014-2020

Slutrapporten består av två delar/ Loppuraportti koostuu kahdesta osasta:

Del 1 avser den aktuella redovisningsperiodens aktiviteter./ Osa 1 sisältää kyseisen raportointikauden aktiviteetit.

Del 2 avser en sammanfattning av hela projektgenomförandet./ Osa 2 sisältää yhteenvedon koko hankkeen toteutuksesta.

Samordnande stödmottagare skickar via e-post in en projektgemensam slutrapport till programsekretariatet innan projektets slutdatum har infallit

Johtava tuensaaja lähettää hankkeen yhteisen loppuraportin sähköpostitse ohjelmasihteeristölle ennen hankkeen päätöspäivämäärää.

Allmänna uppgifter/ Yleisiä tietoja	
Projektets namn/ Hankkeen nimi	Bitstream II
Ärendereferens (ärende-ID)/ Hankeviite (hanke-ID)	20201055
Projektperiod (ÅÅÅÅMM t.o.m ÅÅÅÅMM)/ Hankekausi (VVVVKK - VVVVKK)	201606-201910
Insatsområde/ Toimintalinja	Innovation
Specifikt mål/ Erityistavoite	Ökad tillämpning av innovativa lösningar
Samordnande stödmottagare/ Johtava tuensaaja	Umeå universitet / 2021002874
Övriga stödmottagare/ Muut tuensaajat	Länsstyrelsen i Västerbottens län / 2021002460 Norsjö kommun / 2120002858 Umeå kommun / 2120002627 Åsele kommun / 2120002791 Åsele Näringslivsstiftelse / 8961004168
Norska partners/ Norjalaiset kumppanit	Bodö kommune / 972418013 Hemnes kommune / 846316442 Nord universitet / 970940243 Statens Innkrevingsentral / 971576995

Del 1. Senaste redovisningsperiod

Osa 1. Viimeinen raportointikausi

Redovisningsperiod (ÅÅÅÅMM - ÅÅÅÅMM)/ Raportointikausi (VVVKK - VVVVMM)	201906-201910
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Beskriv genomförda aktiviteter under senaste redovisningsperioden

- Beskriv vad som har gjorts och hur.
- Beskriv fördelningen av arbetet mellan olika aktörer i partnerskapet.
- Beskriv eventuella aktiviteter/resor utanför programområdet och hur de bidrar till projektets resultat.

Kertokaa viimeisen raportointikauden aikana toteutetuista aktiviteeteista

- Kertokaa, mitä on tehty ja miten.
- Kertokaa työnjaosta kumppanuuden eri toimijoiden välillä.
- Kertokaa mahdollisista ohjelma-alueen ulkopuolella järjestetyistä aktiviteeteista tai sinne suunnatuista matkoista sekä siitä, millainen vaikutus näillä on ollut hanketulosten saavuttamiseen

Aktiviteetsbenämning/ Aktiviteetin nimi	Beskrivning/Kuvaus
Projektledning	Projektledning har hittills bedrivits enligt projektplanen, dvs. sedvanlig projektledning med ansvar för att projektet följer projektplanen och att budget hålls. Under föreliggande redovisningsperiod har inget styrgruppsmöte genomförts. Det styrgruppsmöte som skulle ha genomförts i september 2019 genomfördes istället den 18 oktober på grund av att styrgruppen skulle hinna granska ett utkast av slutrapporten innan den skickas in till Botnia-Atlantica. På styrgruppsmötet den 10 maj 2019 beslutade styrgruppen att BitStream II:s årskonferens 2019 skulle genomföras i Bodø 12 - 13 september, men på grund av allvarlig sjukdom hos en av konferensarrangörerna tvingades vi tyvärr ställa in konferensen. Projektledningen har genomförts av Mikael Söderström, Umeå universitet, Institutionen för informatik.
"Paketering" av projektresultat, uppföljning av effekter samt arbete med slutrapport	Under föreliggande redovisningsperiod har i princip samma aktiviteter genomförts i arbetspaketet 3, 4 och 5. Det har framför allt handlat om arbete med att: 1. "Paketera" resultaten i arbetspaketet på ett tilltalande sätt, och att avsluta pågående arbete. Detta inkluderar dokumentation av genomfört arbete. 2. Följa upp de kort- och långsiktiga effekter BitStream II har haft i de organisationer som deltar i projektet. Uppföljningen har genomförts i form av lokala träffar med deltagande organisationer, dvs. de har utförts i form av platsbesök. Uppföljningen av de svenska projektdeltagarna genomfördes i juli 2019, och uppföljningen av de norska deltagarna genomfördes i september 2019. 3. Redovisa projektets resultat, effekter, lärande och gränsöverskridande mervärde i form av en slutrapport. Ulf Hedestig och Mikael Söderström har varit ansvariga för arbetet som involverat samtliga projektdeltagare.

Del 2. Sammanfattning av hela projektgenomförandet

Osa 2. Yhteenveto koko hankkeen toteutuksesta

Sammanfattning (på svenska)

Yhteenveto (ruotsiksi)

Beskriv vad som genomförts under projektet, hur dessa kopplats till det "programspecifika mål" som gäller för projektet, samt vilka resultat det har lett till. Stäm av gentemot "Projektets huvudsakliga mål" och "Förväntat resultat" i ert beslut. Redogör också för resultat som inte varit förväntade och eventuella goda exempel.

Kertokaa, mitä hankkeen aika on toteutettu, miten aktiviteetit on kytketty hanketta koskeviin "ohjelmakohtaisiin tavoitteisiin" sekä millaisia tuloksia aktiviteettien avulla on saatu aikaan. Verratakaa näitä päätöksessä mainittuihin "Hankkeen päätavoitteisiin" ja "Odotettuihin tuloksiin". Kertokaa myös odottamattomista tuloksista ja antakaa mahdollisesti hyviä esimerkkejä

BitStream II etablerades för att hantera de utmaningar som den offentliga sektorn står inför genom utveckling av kunskap, verktyg och metoder i ett nära gränsöverskridande samarbete mellan Sverige och Norge. Projektet baserades på en aktionsorienterad forskningsmetod som innebär att de deltagande forskarna och de sju deltagande organisationerna tillsammans utforskar olika områden och delar resultat och erfarenheter. Projektets övergripande mål har varit att möta den framväxande digitaliseringen genom att utveckla en hållbar innovationsförmåga, effektivare organisering och utmaningsdriven verksamhetsutveckling i nära gränsöverskridande samarbete.

Projektet har uppfyllt de förväntade resultaten och producerat följande:

1. Organisationsformer, metoder och verktyg, inklusive en dashboard, för utmaningsdriven innovativ affärsutveckling anpassade till de förutsättningar som råder i offentlig verksamhet.
2. Hands-on riktlinjer för organisering av innovativ affärsutveckling i offentlig verksamhet vid användning av verksamhetsmodellering.
3. En utvärderingsmetod för att bedöma värdet av potentiella e-tjänster.
4. En metod för social och deltagande utmaningsdriven innovation där olika intressenter deltar i digitalt baserad co-design av offentliga tjänster.
5. Kunskap om utmaningsdriven innovativ affärsutveckling inom offentlig verksamhet.

De kortsiktiga effekterna från projektet inkluderar 29 processer inom den offentliga sektorn som har kartlagts och gjorts tillgängliga för alla projektdeltagare. Bland de långsiktiga effekterna resulterade projektet i att:

- 1) Projektdeltagarna ändrade sitt "tankesätt", dvs. sin inställning till verksamhetsutveckling.
- 2) De organisationer som deltog i projektet har byggt upp en kritisk massa av personer vilket skapar en förmåga att genomföra systematisk verksamhetsutveckling i respektive organisation.
- 3) De organisationer som deltog i projektet har antingen utvecklat en egen verksamhetsutvecklingsenhet (projektkontor) eller någon annan form av stödfunktion för verksamhetsutveckling.
- 4) Projektdeltagarna har fått systematiska, strukturerade metoder som gör det möjligt att gå från diskussioner om värdegrund och utveckling till implementering av nya tjänster/processer.



Sammanfattning (på engelska)

Yhteenveto (englanniksi)

Beskriv vad som genomförts under projektet, hur dessa kopplats till det "programspecifika mål" som gäller för projektet, samt vilka resultat det har lett till. Stäm av gentemot "Projektets huvudsakliga mål" och "Förväntat resultat" i ert beslut. Redogör också för resultat som inte varit förväntade och eventuella goda exempel.

Kertokaa, mitä hankkeen aika on toteutettu, miten aktiviteetit on kytketty hanketta koskeviin "ohjelmakohtaisiin tavoitteisiin" sekä millaisia tuloksia aktiviteettien avulla on saatu aikaan. Verratkaa näitä päätöksessä mainittuihin "Hankkeen päätavoitteisiin" ja "Odotettuihin tuloksiin". Kertokaa myös odottamattomista tuloksista ja antakaa mahdollisesti hyviä esimerkkejä

The project BitStream II was set up to manage the challenges the public sector is facing through the development of knowledge, tools and methods in close border-crossing cooperation between Sweden and Norway. The project was based on an action-oriented research approach which meant that the researchers together with the seven participating organizations jointly explored different areas and shared results and experiences. The overall goal of the project has been to address the emerging digitalization by developing a sustainable innovation capacity, more effective organizing and challenge driven business development in close border-crossing cooperation.

The project has achieved the expected results and has produced the following results:

1. Organizational forms, methods and tools, including a dashboard, for challenge driven innovative business development adapted to the conditions of public service.
2. Hands-on guidelines for organization of innovative business development in public organizations when using business modelling.
3. An evaluation method to assess the value of potential e-services.
4. A method for social and participant challenge driven innovation where different stakeholders participate in digitally based co-design of public services.
5. Knowledge of challenge driven innovative business development in public service.

The short-term effects of the project include 29 processes in the public sector that were mapped out and made available for all the project participants. Regarding the long-term effects the project has resulted in:

- 1) The participants changed their "mindset", i.e. their attitude to business development.
- 2) The organizations who participated in the project have built up a critical mass of persons, which makes it possible to conduct innovative business development in a systematic way in their respective organizations.
- 3) The organizations which participated in the project have organized their own business development unit or some kind of function supporting business development.
- 4) The project participants have been given systematic and structured methods that make it possible to move from discussions of values to implementation of a new services/processes.

Sammanfattning (på finska om projektet haft finska partners)

Yhteenveto (suomeksi, jos hankkeessa on ollut suomalaisia kumppaneita)

Beskriv vad som genomförts under projektet, hur dessa kopplats till det "programspecifika mål" som gäller för projektet, samt vilka resultat det har lett till. Stäm av gentemot "Projektets huvudsakliga mål" och "Förväntat resultat" i ert beslut. Redogör också för resultat som inte varit förväntade och eventuella goda exempel.

Kertokaa, mitä hankkeen aika on toteutettu, miten aktiviteetit on kytketty hanketta koskeviin "ohjelmakohtaisiin tavoitteisiin" sekä millaisia tuloksia aktiviteettien avulla on saatu aikaan. Verratkaa näitä päätöksessä mainittuihin "Hankkeen päätavoitteisiin" ja "Odotettuihin tuloksiin". Kertokaa myös odottamattomista tuloksista ja antakaa mahdollisesti hyviä esimerkkejä

Not applicable to BitStream II.

Hur väl motsvarade projektet utvecklingsbehovet och hur väl uppnåddes målen för projektet?

Miten hyvin hanke vastaa kehitystarvetta ja miten hyvin hankkeen tavoitteet saavutettiin?

It is a common understanding that innovation is a key factor to manage the challenges the public sector is facing. These challenges are at different levels: (1) The population is ageing, which creates challenges in maintaining public service, and in recruiting staff, (2) To meet the needs of citizens of for instance e-services the public services of the future must develop their business processes based on a citizen centric perspective, (3) There are high expectations that the on-going digitalization of society will lead to technical solutions as for instance e-services and mobile apps that not only will contribute to a more effective public service, but also contribute to the creation of new forms for public service and co-determination.

The project BitStream II was set up to address the challenges the public sector is facing through the development of knowledge, tools and methods in close border-crossing cooperation between Sweden and Norway. Given the limited resources of the public sector it is crucial to mutually exploit resources in order to create a joint development. The overall goal of the project has been to address the emerging digitalization by developing a sustainable innovation capacity, more effective organizing and challenge driven business development in close border-crossing cooperation. The overall goal was divided into four sub goals.

1. Further development of the prototypes of methods and tools for challenge driven innovative business development that were developed in the Botnia-Atlantica project BitStream I.
2. Development and evaluation of two ways of organising innovative business development in public organisations.
3. Development of new methods and structures for a border-crossing innovation environment based on digital citizen centric development.
4. Development of knowledge for the public sector on challenge driven innovative business development, especially service and process innovation, based on digitalization, lean philosophy and process thinking. An important part of fulfilling this goal has been the development of both educational material and structures for cross-border collegial transferring of competences and experiences.

During the project the steering committee and the project management have followed-up and evaluated project activities and their outcome. The data needed for doing this has been collected by questionnaires and interviews with the project participants, and also more informal by conversations and meetings (which are common in an action-research project). The questionnaires were sent out at six different occasions, and the interviews were conducted at several times and concerned the different work packages of the project. All interviews were conducted during visits to the project participants respective organizations. A more detailed account of how the follow-up and evaluation has been done can be found in the attached evaluation report.

Based on the follow-up and the evaluation of project activities and their result we conclude that the project has corresponded to the development needs of public sector organizations, i.e. to manage the challenges they are facing. We also conclude that the project has achieved its goals, although it has not achieved all of them exactly as planned. However, based on the results and the effects of them on the participating public organisations it feels safe to say that the project's goals have been fulfilled. A thorough description of the results of the project and their effects can be found in the section below.

**Vilka direkta resultat (förändringar) åstadkom projektet? Vilka effekter har resultatet?
Mitä suoria tuloksia (muutoksia) hankkeessa saatiin aikaan? Millaisia seurauksia tuloksilla on?**

An important part of BitStream II has been to develop methods that can be used by people working in public sector organizations without having to go through long training-courses. When developing these methods, the project in general has followed the same phases. That is, develop method – use and test method – investigate the effect of the method in the organizations that has used it. This means that the results of the project are the methods and the knowledge that have been developed and been used by the participating organizations during the project. The effects are the changes that have occurred when the methods have been used in the organizations that have participated in the project. All the developed methods have been used by the organizations, which means that they have been tested in the actual conditions of the public sector. This made it possible for the researchers in the project to study method use in its natural context. To study use in its natural context allows for a fine-grained study where the researchers could observe and analyse actions at a detailed level, while also observing the larger organizational picture. However, it is important to note that this role as an observer does not fit all aspects of the project.

Results

The expected results of the project were:

1. Organizational forms, methods and tools, including a dashboard, for challenge driven innovative business development adapted to public service.
2. Hands-on guidelines for organization of innovative business development in public organization when using business modelling.
3. An evaluation method to assess the value of potential e-services.
4. A method for social and participant challenge driven innovation where different stakeholders participate in digitally based co-design of public services.
5. Knowledge of challenge driven innovative business development in public service.

Method for business modelling in public services

The method for business modelling is the main method for innovative business development that the project has developed. It is based on an expanded version of the approach in Eriksson & Penker's book "*Business Modelling with UML*" (2000) and the Unified Modelling Language (UML). The method consists of the model types: context, concept, goal/problem, process, and collaboration. The method focuses on simple graphical models that communicate well and that can be developed by employees, thereby supporting a bottom-up approach. Although some of these models could be enhanced and detailed to specify requirements for IT solutions in much the same way as software developers would do, that was not our intent. Our models are intended to communicate understanding of a problem among different actors and support analysis and planning on management and employee levels. Therefore, the modelling is done by those who work in the processes and really know them and is used to enhance common understanding and problem-solving abilities between groups of people in the organization. By keeping the method simple it supports innovation work in public organizations that is based on developing and using local competence in business modelling.

The guidelines for how to use the method is documented in a book, which also contains examples from the modelling done by project participants. Kjell Ellingsen has been the editor and main author of the

book, with contributions from co-authors from the organizations participating in BitStream II. It can be downloaded from the project website, bitstreamproject.org.

Method for social and participative innovation

The original idea for the method social and participative innovation was to develop it based on social media, especially Facebook and Instagram. The method intends to allow different stakeholders to participate in digitally based co-design of public services. During the first year of BitStream II we conducted a study of how the participating organizations use social media in their respective businesses, and a review of up-to-date research in the area. The study is described in the article **Push or Pull? Using Social Media to Interact with Citizens**. The study was followed-up by a second study in which we had a narrower focus, now studying how the organizations participating in the project were using social media to involve citizens in the process of improving existing services or developing new services. During 2018 we slowly started to realize that it would be difficult to base the method for social and participative innovation on social media. The people in public organizations that are responsible for different social media are mainly information clerks and is not involved in business development and innovation work. This led us to the decision to drop social media and instead base the method on tools such as Lean canvas, Gigamap, Mash-up and customer journeys. Statens innkrevingscentral has had a leading role in this part of the project since they have long experience of service design and has tried several different methods.

During a project meeting in Skellefteå in February 2018 we also came up with the idea to have sensors as a part of the method for social and participative innovation. The purpose of this was to use sensors to gather data on how citizens use public services, and then use those data to improve existing services or develop new ones. We decided to test the idea in Norsjö village, which has the advantage of being a quite small physical area. Hence, we set up a LoRaWan network in Norsjö. LoRaWan is a *Low Power Wide Area Network* specifically designed for wireless battery-operated sensors in a regional network. The infrastructure can be described as a star topology with gateways as bridges between sensors and a central server. LoRa was chosen since that it is an open and widely spread platform, including an open, non-profit association sharing their experiences.

By placing two gateways at central locations in Norsjö, the network covers a large part of the central village area. Each gateway is expected to cover a radius of three kilometers (see figure below). The reason for also including the outskirts of the town is to cover leisure areas such as cross-country skiing tracks, cross-training tracks, barbecue areas, and areas for swimming and hiking.



Together with the business development team at the local government in Norsjö, we developed a simple test lab, where they can deploy IoT-sensors and measure different kinds of data. The signals are captured by the gateways and sent to a server at the back end that saves the data. To further explore what kind of sensors that could be implemented, the development team have performed focus group interviews with different target groups. Target groups can either be by a specific category, e.g. non-profit organization or property owners, or by age. The aim of these meetings has been to investigate what information/service the citizens would like to have from the local government and discuss which channels they would prefer for interaction. These meetings have uncovered requests as for instance ‘knowing how many people that have joined different public areas such as the gym or the public bath’, or ‘knowing snow and air temperature for preparing cross-country skis in an appropriate way’.

During BitStream II we have conducted three major tests of the LoRaWAN network: (1) Sensors placed at the cross-country skiing trail, (2) Sensors placed at the public bath, and (3) Sensors placed in four classrooms, and in the canteen at the local school. In all three tests we also have developed visualizations of the sensor data with the purpose of communicate information to the general public and to create a discussion of the quality of the services provided by Norsjö municipality. The visualization of the sensor data from the public bath was published on Norsjö municipality’s website and the visualization of data from the cross-country skiing trail was published on the local ski club’s website. The visualization of sensor data from the school test is published so that it is accessible by school staff, but the ambition is to also make it accessible for the pupils and their parents. This is a more advanced visualization that is actually a dashboard, which in real-time shows the sound level in the four classrooms and in the canteen, see <http://92.32.91.154>. All three test have been successful and have clearly showed that sensor data can be very useful in business development.

This work is described in the articles **Co-producing public value through IoT and social media and Challenges in using IoT in public spaces**. These research papers of the project published in conferences are available through their publishers (due to copyright reasons), and public libraries that provides this kind of publications.

Organizational forms

One of the sub goals of BitStream II has been to develop and evaluate of two ways of organising innovative business development in public organisations. This activity has been conducted in such a way that the researchers in the project collected and compiled research on the topic. The compiled research was then presented for the organizations participating in the project in three workshops, and after that the interested participants began to develop their own project offices or centres of excellence. The reason for organizing this activity in this way was that the participating organizations all have different preconditions, are of different size, possess different experiences and competence and have a varied experience of innovative business development. During the development work the researchers acted like supervisors, and the different organizations experiences from this work were discussed in project meetings.

The smallest participants, Hemnes, Norsjö and Åsele, have all developed a kind of business development group. In Åsele and Hemnes this is quite informal groups that do not have a clear assignment and ticketed resources. In Norsjö the group has an assignment but lacks ticketed resources. Bodø kommune has developed a project office, ForUt, placed at the unit for Helse og omsorg. At Länsstyrelsen Västerbotten the project office is called Processtöd, and is placed at the unit Verksamhetsstöd. Statens innkrevingscentral already had a project office and in the beginning of BitStream II they started to discuss

whether they should reorganise it. However, in January 2015 innkrevingscentralen became a part of Skatteetaten. During 2016 and 2017 this did not affect them so much, but in 2018 they were reorganised and two of the persons that had been key figures in BitStream II were transferred to Skatteetaten. This means that it is unclear what will happen to the project office. In Umeå kommun the unit Måltidsservice developed a project office that has the purpose of being responsible for business development. During the project Umeå also decided to establish a centre of excellence called Digitalisering och verksamhetsutveckling. It is a central unit that is assigned the task to lead the digital transformation of Umeå kommun.

Prototype of an operational dashboard

The idea with the dashboard prototype that has been developed during BitStream II is to visualize the status of certain business processes in real time. By doing this we create an opportunity to monitor processes in real-time, which also makes it possible to adjust them “on the fly”. The prototype was developed for Länsstyrelsen Västerbotten, but it is based on a platform that quite easily can be adapted to other businesses. The prototype works well but currently it is not used at Länsstyrelsen. That is because of two main reasons: (1) The development of the prototype went rather smooth, but we never got access to Länsstyrelsernas joint systems. This meant that we had to develop a solution where data from different systems is first transferred to Excel and then transferred to the dashboard. Of course, this means that idea of monitoring processes in real-time cannot be realized, (2) The interface of the prototype is quite complicated, which means that it is difficult for the staff at Länsstyrelsen to use the prototype. As said above, we also developed a second dashboard during the project visualizing sensor data from the school in Norsjö. The design of the dashboard was done in close cooperation with teachers and school management.

Evaluation method to assess the value of potential e-services

The method for evaluating and prioritizing potential e-services is documented in an Excel workbook consisting of eight different areas that have to be considered when planning the development of a new e-service. These areas are requirement analysis, intervention, project overview, service analysis, compilation, plausibility assessment, scenarios and result analysis. The method works well but it has the disadvantage of being very thorough. In almost all cases the new e-service is supposed to replace a manually conducted service. This means that the method demands that the organization using it has data showing the volume of use of the manual service and through which channels it is accessed by citizens. It also requires that the organization has data showing how much time that is used to handle each case for the service and the operating cost of the service. The method has been tested by Umeå kommun and Statens innkrevingscentral, and during the tests we discovered that that data needed to use the method very seldom was to be found in these organizations. Therefore, the method is currently not used in their daily businesses.

The Excel workbook and the manual for the method can be downloaded from the project website, bitstreamproject.org.

Knowledge for public service concerning challenge driven business development

The knowledge for public service concerning challenge driven business development that has been created during BitStream II is mainly documented in the methods and the dashboards that has been developed in the project. However, it is also documented in articles and theses, which are listed below.

Articles

Terje Fallmyr, Kjell Ellingsen, Ulf Hedestig och Mikael Söderström (2017). *Service Innovation and Digitalization in the Public Sector – An Action-Learning Approach*. The 24th Nordic Academy of Management Conference, August 2017, Bodø.

Daniel Skog, Ulf Hedestig och Mikael Söderström (2018a). *Co-producing public value through IoT and social media*. D.go, June 2018, Delft.

Daniel Skog, Ulf Hedestig och Mikael Söderström (2018b). *Challenges in Using IoT in Public Spaces*. URB-IOT, November 2018, Guimaraes.

Theses

Linn Jansson och Lisa Naréus (2017). *En digital dashboard, kostar den mer än den smakar? En kvalitativ studie om vilka effekter en digital dashboard kan ge på organisationer*. Institutionen för informatik, Umeå universitet.

Benjamin Karlsson och Emil Johansson (2017). *Visualisering av styrdiagram: En fallstudie av fallgropar inom dashboard design*. Institutionen för informatik, Umeå universitet.

Niclas Carlén, Agust Forsman och Jesper Svensson (2018). *Innovating with sensors: A micro-level perspective investigating how IoT solutions affect work practices*. Institutionen för informatik, Umeå universitet.

Hanna Fjällström och Marika Johansson (2018). *Inkludera mera: En kvalitativ studie av Service Design och kundcentrerat arbete i en statlig verksamhet*. Institutionen för informatik, Umeå universitet.

Linn Jensen och Ludvig Lundström (2019). *Processarbete inom den offentliga sektorn: En kvalitativ studie om implementationen av ett processtöd på en statlig myndighet*. Institutionen för informatik, Umeå universitet.

Lars Johansson och Magnus Löfgren (2019). *E-tjänsternas medborgarnytta: Nyttorealiserings med kvalitativa variabler för träffsäkrare kommunal digitalisering*. Institutionen för informatik, Umeå universitet.

Linda Molin och Johanna Rydell (2019). *Utveckling av e-tjänster i kommunal samverkan*. Institutionen för informatik, Umeå universitet.

Effects

Short term effects

In addition to the project participants increased knowledge and hands-on work with methods and tools for business development, they also conducted complete process mapping out of challenging processes within their organizations. In total 29 processes were mapped out and made available for all the participants. The motives for the selection of processes differed, but the most common objective was that the chosen process had to be made more efficient. Most of the participants were responsible to find solutions to produce more or deliver more with less resources as part of their daily work. The organizations that participated in BitStream II are very different in size, complexity and organization, so we knew that the processes that they would bring in as cases would be different and that some would be complex. We also knew that some participants, especially some of the smaller, would be very determined and would bring in their whole top management group, and would plan changes that would affect the whole organization. During the mapping out work we emphasized practical considerations over model quality in order to avoid the risk of a participant being stuck in the effort to formulate practice due to modelling language issues. We encouraged the participants to work in groups but ended up with quite many working alone due to the lack of partners. We found it more important that all participants could work with their own processes, even alone, rather than working in a group with a non-familiar problem of little use in their own practice. In summary, we found that the concrete results from the modelling activity

are much more tangible than expected. Presentations, both within the project, within their respective organizations and to politicians, indicates that the models communicate well and help explain complex problems. We also found that most time was spent on reflecting on practice, guided by the modelling work, and not on the actual making of models.

The processes that were mapped out are:

1. The application for district funds, County Administrative Board Västerbotten
2. The allocation office of the department of Health and Care, Bodø municipality
3. Process interim and annual report, Norsjö municipality
4. Building law management, Åsele municipality
5. Adaptation of industry premises, Åsele municipality
6. Notification of digging on the municipality's land, Bodø municipality
7. Urban building process, Umeå municipality
8. Internal recruitment, Norsjö municipality
9. Application for childcare, Norsjö municipality
10. Digital application form, Bodø municipality
11. Annual report, County Administrative Board Västerbotten
12. Special support in the school, Norsjö municipality
13. Security alarm within health care, Norsjö municipality
14. Management of Barents funds, County Administrative Board Västerbotten
15. Citizen proposals, Norsjö municipality
16. Meal service, Umeå municipality
17. Business development at the Unit for Support and Development, Umeå municipality
18. Access to business systems and authorization, Umeå municipality
19. Work rehabilitation, Umeå municipality
20. Car booking, Åsele municipality
21. The procurement process, County Administrative Board Västerbotten
22. Management process, Umeå municipality
23. Placement of Students from teaching education in schools, Umeå municipality
24. Monitoring/reconciliation of software deliveries, State Collection Agency
25. The home service process, Hemnes municipality
26. Social educator's work routines, Åsele municipality
27. Application portal, Hemnes municipality
28. Process for administrative support, Umeå municipality
29. Process for e-service development, Umeå municipality

Based on continuous follow-ups and evaluations of the participants and the effects of their models in their organizations, we argue that there is a positive relationship between employee competence in business modelling and the ability to present solutions to problems and plan how to change the processes accordingly. Business modelling done by employees builds a useful kind of competence in the organization and may be a fruitful way to become innovative, in the sense of being able to adopt new practice. We have observed that our approach builds competence quickly and can encourage employee involvement and creativity. Still, the method is quite structured and should bring focus to creative initiatives for the benefit of the greater organization development.

Long-term effects

The long-term effects of BitStream II is for obvious reasons very difficult to value at the time of writing this report. However, the follow-up with participating organizations that was conducted in June and September 2019 shows that they believe that the project offices and the center of excellence in Umeå kommun will have long-term effects in their respective organizations, that is, they will have impact after the BitStream project has ended. Below is a summary of the developments that has taken place in the participating organizations:

1. During the project, the County Administrative Board in Västerbotten has established a project office which they call Process Support. The purpose of this office is to support employees and units with competence and mentorship in business modeling. The participants in the office have all participated in the competence effort in business modelling offered by the BitStream II. Business modelling is well in line with the decision taken by the County Administrative Board in 2018, which means that the business will establish a LEAN perspective on their business.
2. Statens innkrevingsentral (SI), has for long been ahead of other public organizations in Norway in terms of digitization and business modeling. They have established a central project office that continuously conducts business development in order to offer citizens new and better services. However, during the course of the project, SI has merged with Skatteetaten and how the on-going reorganization will affect the project office is unclear at this moment in time.
3. Norsjö kommun has established a Business Development Group, which to a large extent consists of the people who participated in the competence development effort offered by BitStream II. The purpose of this group is to support other employees to begin with business modeling, but also to advise in prioritizing future initiatives and projects.
4. Bodø kommune has established a project office, ForUt, within the unit Helse og omsorg. ForUt is mainly focused towards the elderly home care. Most of the staff of ForUt have participated in the competence development effort offered by the project. ForUt has had a number of successes and even been mentioned in the local press. Bodø kommune itself has used this organization as an example of "best practice" that shows a good way to conduct both challenge-driven innovation and continuous improvement of the business.
5. During the project Umeå kommun has decided to establish a central organization responsible for digital transformation. This center of excellence is called Digitalization and Business Development and has the mission to lead Umeå's digital transformation. The unit is the driving force for creating a breakthrough in the municipal administration and establish different types of initiatives. Parts of this organization have participated in the BitStream's competence development effort, but Umeå has also recruited new persons to this organization.
6. Åsele kommun has established a collaborative group consisting of the people who participated in the competence development effort in work package three, and who helps other employees by teaching business modeling and by assisting with process mapping out. This grouping is not formalized in the sense of being a clear organization, but consists of the key people from the municipality who participated in the skills development effort.
7. Hemnes kommune also has a more loosely cohesive group working on business development. In this case it is primarily in the elderly home care that a more structured business development method is established.

In the follow-up and evaluation interviews conducted in June and September 2019 with the organizations participating in the project, the main questions were about the long-term effect the BitStream project had

in each organization and what opportunities they had to make changes in their organization. The interview responses from the project participants highlight four aspects:

- a) BitStream II has resulted in the project participants changing their “mindset”, i.e. their attitude to business development. The majority of the participants believe that the most important outcome is that you see everything in processes, that you think holistic and that you are customer-oriented. Without this change in attitude, they would never have been able to make the changes that were made by the respective participant.
- b) The organizations who participated in the project have built up a critical mass of persons, which together makes it possible to make changes in the organization. You do not have to be alone. In addition, they also consider it important that it is their own staff that have acquired this competence, i.e. it is not external persons from the IT department or consultants who do the work. As an example, ForUt in Bodø kommune can be mentioned, where the business developers, with one exception, all are nurses to their profession.
- c) The project participants have been given methods that make it possible to move from discussions of values to implementation of new services/processes. Almost all participating organizations have made changes in their respective operations, and in addition adapted the methods developed within BitStream II to their specific conditions. This means that they have developed a more systematic and structured approach to business development and innovation, based on the methods developed in BitStream II. The methods are used and internalized as daily practice by Umeå kommun, Norsjö kommun, Åsele kommun, Länsstyrelsen Västerbotten, Hemnes kommune and Bodø kommune.
- d) The process mapping out and changes in participating organizations have also had some successful side effects. Examples of this are that the mapping resulted in qualified documentation for procurement, clear job descriptions that have made employee recruiting easier, and well-documented processes that resulted in better and clearer services or management.
- e) Norsjö kommun developed a plan for the digital transformation of its organization during BitStream II.

Kommentera utfall av indikatorer

Kommentera det slutliga utfallet av indikatorerna. Jämför ackumulerat utfall mot målvärde och kommentera eventuella avvikelser samt vilka lärdomar ni har dragit av detta.

Kommentoikaa indikaattorien toteutumaa

Kommentoikaa indikaattorien lopullista toteutumaa. Verratkaa kertynyttä toteutumaa tavoitearvoon ja kommentoikaa mahdollisia poikkeamia sekä sitä, mitä hankkeessa on niiden perusteella opittu.

BitStream II has had five activity indicators:

1. Method for business modelling in public services
2. Method for social and participative innovation
3. Prototype of an operational dashboard
4. Evaluation method to assess the value of potential e-services
5. Method for design of e-services based on service declarations

Of these five indicators the first four have been achieved, see appendix 1. When we started to develop the method for design of e-services based on service declarations we soon realized that the organizations participating in the project had limited knowledge of service design which is the cornerstone of service declarations in terms of being one way to design e-services. We then decided that instead of developing the method for design of e-services it was more important to enhance participant’s competence in service design. Hence, Statens innkrevingsentral was assigned the task to take care of this competence development effort. The reason for this is that they have extensive experiences of service design and

knowledge of several methods for this activity. The competence development effort consisted of workshops on methods for service design and distribution of material that the other participants can use in their own work in this area. In conclusion, BitStream II has delivered a prototype method for service design but without elements of service declarations.

The learning of this is that we should have investigated the level of knowledge among project participants earlier in the project. If we had done this project time would probably have been enough to manage to develop the method.

Näringslivets medverkan

Vad har näringslivets medverkan betytt för projektets genomförande och resultat? Beskriv på vilket sätt näringslivsorganisationer eller företag har deltagit i eller berörts av projektet. Namnge gärna företag som deltagit.

Elinkeinoelämän osallisuus

Mitä elinkeinoelämän osallisuus on merkinnyt hankkeen toteutukselle ja tuloksille? Kertokaa, millä tavalla elinkeinoelämän organisaatiot tai yritykset ovat osallistuneet hankkeeseen tai miten hanke on koskenut niitä. Mainitkaa mielellään hankkeeseen osallistuneet yritykset nimeltä

The business world has not participated in BitStream II. However, at some occasions project results have been presented for different companies in workshops, seminars and conferences.

Gränsöverskridande mervärde

Vad har arbetet över gränsen betytt för projektets genomförande och resultat? Hur kommer samarbetet fungera efter projektets slut?

Rajat ylittävä lisäarvo

Mitä työskentely rajan yli on merkinnyt hankkeen toteutukselle ja tuloksille? Miten yhteistyö tulee toimimaan hankkeen päätyttyä?

BitStream II is based on an action-research approach which means that the researchers and the participating organizations jointly explore different areas and share results and experiences. This implies that the researchers become an actor that collaborates within the participants own context. This has been successful as the participating researchers from Norway and Sweden have complemented each other well and developed a common agenda and practical approaches for the various work packages. Project work has been preceded by continuous meetings between the project coordinators from Sweden and Norway to plan, schedule, implement and evaluate the activities of the project. Each work package has been implemented in such a way that they have involved all researchers in all activities, whether they have taken place in Sweden or Norway. During the activities, the researchers alternated with being either seminar leader, workshop leader or supervisor, while those not doing that had a more passive role and served as data collectors (through field observations, interviews, evaluation surveys and being responsible for follow-up). These roles have been switched between the researchers during the project, so all researchers have had all roles. The added value of this approach has been that it has captured the Nordic dimension of the challenges that the public sector faces regarding digital transformation and challenge-driven innovation and business development. Today, there exists national research studies that usually cover one stakeholder group, but this project has covered both state agencies and municipal activities in Sweden and Norway.

Another border-crossing added value that have been noted by the project is that the joint activities and the exchange of experiences among the participants have led to learning from each other and copying good examples from each other's activities. In all physical project meetings project participants have presented examples from their own business for the other participants. We believe that this has been an important

part of the copying of good examples from each other's business processes. One example that illustrate this is that Norsjö kommun has used parts of the structure and content of Bodø municipality's IT strategy in their own strategy. In addition, guest lecturers have presented models that many of the participants have copied into their own business modelling toolbox. One such example is Skellefteå municipality's HUKI model (originally called RACI model), which several municipalities use in their business development teams.

A third border-crossing added value of the project has been that the quality of the results have become much higher in terms of the participant's analyses of their processes. The project has always aimed to solve challenges and address the issues that have arisen together. This also applied when the participants should learn business modeling. During this activity they were divided into smaller groups at the physical meetings where they would learn a specific diagram type of business modeling. Together, they could discuss and reflect on which activities that are central, what quantitative and qualitative measures are reasonable, and so on. By learning about each other's practices and possible differences and similarities between Sweden and Norway, they gained a broader perspective on their own process. This phenomenon can be characterized as inter-organizational learning established in the different groups, which had been impossible if the participants had not conducted collaborative activities.

It is difficult to predict what will happen in the future, but we are confident that BitStream II has built a platform that will support collaboration between the project participants after the project has ended. At this time there are already on-gong discussions among the participants of BitStream II regarding setting up new projects that will work with areas that were not part of the project, but that are important to handle in business development.

Horisontella kriterier

Beskriv hur ni arbetat med horisontella kriterier och hur det har bidragit till projektets resultat.

Horisontaaliset kriteerit

Kertokaa, miten hankkeessa on työskennelty horisontaalisten kriteerien parissa ja miten työ on vaikuttanut hankkeen tuloksiin?

Equal opportunities, non-discrimination and gender

Public service's customers constitutes a crosscut of the population in general, which means that the public sector faces a customer group with diversity of cultures, language, traditions and ethnicity. This in turn implies that these factors automatically must be handled during for instance business modelling. Furthermore, the social context on which this project rests, i.e. public services, is largely dominated by women. This is also evident in the fact that the project had predominantly women participating in the different work packages. As mentioned in the evaluation report, the relationship has been about 2/3 women and 1/3 men who participated in the project activities.

As project work has been focused on improving services in the public sector, each work package has had both gender equality and diversity in the foreground. Municipalities and state government agencies are required to provide equal service regardless of gender, ethnicity, age, etc. Therefore, gender equality and diversity become natural ingredients in public services, regardless of the topics of the project's work packages. Some of the mapped-out processes have addressed these factors directly. Examples of this are (1) The process for rehabilitation work, Umeå kommun, 2) The process of the social educator's work tasks regarding vulnerable people, equal treatment, etc, Åsele kommun, 3) The process of business financial support, Länsstyrelsen Västerbotten. When mapping out this process, differences in the allocation of funds between men and women were addressed. In many cases men have greater demands when they apply for financial support since they often are working in the manufacturing industry, while

women more often represent smaller business in tourism, crafts, etc. The consequence is that men receive more funds when they apply for e.g. production optimizations than women who in many cases do not possess the same capital consuming equipment. The analysis of these aspects led to changes of the activities in the process and a revision of its goals. Another example that illustrates that gender equality and diversity are natural starting points in public service business development is that Statens innkrevingscentral has received Statens Klarspråkspris in Norway, which is based on their services being automatically adapted to the conditions of the individual citizen. In addition, they have also received awards for the best custom service in Norway, which has criteria linked to the horizontal criteria.

In addition, the leadership program in BitStream II has discussed the challenges of the future recruitment of staff, which are pressing among all participants. In the discussion both gender and diversity aspects have been addressed. Especially, several initiatives within the social welfare area have been highlighted as the project participants have presented different ways to attract immigrants to work in the home care service and also to develop ways for them to quickly learn the language.

Regarding gender equality BitStream II did not start off as well as planned. It was intended that the project's steering committee and a few other key persons from the project should attend the course in gender equality that Botnia-Atlantica is offering in the first months of the project. However, given the limited amount of time available for the course organiser and the fact that project meetings have been taking place both in Norway and Sweden the persons from the project that were supposed to attend the course never made it. Instead the steering committee and the key persons was provided with a basic education in the area by internal project resources. Both Anna Croon, Umeå University and Charlotte Lundqvist, Umeå kommun have good competence in gender equality. The way BitStream II has been organised and conducted with two to three large project meetings each year means that we have had very good opportunities to discuss issues relevant for gender equality. As said above, the public sector is characterised by having more female employees than male employees so in a sense what we have been doing is business development by women for women!

Environmental aspects

Indirectly, some project activities have led to certain environmental goals being addressed. The output of the project participants process mapping out and analyses have resulted in new processes that can be directly attributed to this factor. Åsele kommun mapped-out and analysed their car booking system and came up with a result that showed that the car booking process was too complicated, which resulted in the staff taking their own cars instead of using the cars that the municipality is leasing. The analysis of this process resulted in a new process that simplified the car booking and thereby the utilization rate of their leasing cars rose. Another example that put the environmental aspect at the forefront was meal service at Umeå kommun. In their analysis of the procurement process they discovered that the goals set by the politicians were contradictory. The target conflict regarded the relationship between what a meal would cost and that a certain percentage of organic and locally grown goods would be procured. These two goals were impossible to achieve at the same time, enabling the process owner to present the situation to the politicians who then revised the objectives of the process. A third example showing how environmental aspects have been addressed in BitStream II is the technical office at Bodø kommune, which had to deal with the effects of other stakeholders in the municipality excavating streets and sidewalks in the city of Bodø. There was no application process for being allowed to dig, which led to a situation where the technical office had no knowledge of all the digging work of others than the municipality that were started. The result was that the roads were not restored, but were pitted or had large holes, which had the consequence that the citizens had to drive detours or risk damage of their vehicles.



Uppföljning, utvärdering, lärande och spridning av resultat

Beskriv hur projektet har arbetat med uppföljning och utvärdering och hur det har bidragit till att skapa kunskap och lärande, både internt i projektet och externt. Redogör för de viktigaste lärdomarna från projektet. Beskriv hur eventuell projektutvärdering har bidragit till att utveckla arbetet med projektets resultat och spridning av resultaten. Bifoga gärna slutrapport från projektutvärderingen. Hur fungerade styrgruppen? Hur upplevde målgruppen projektet (vilken respons har de gett)?

Seuranta, arviointi, oppiminen ja tuloksista tiedottaminen

Kertokaa, miten seuranta ja arviointi on toteutettu hankkeessa ja miten sen avulla on lisätty tietoa ja oppimista sekä hankkeen sisällä että sen ulkopuolella. Luetelkaa hankkeesta opitut tärkeimmät asiat. Kertokaa, miten mahdollinen hankearviointi on kehittänyt hanketulosten työstämistä ja niistä tiedottamista. Liittäkää mielellään mukaan hankearvioinnin loppuraportti. Miten ohjausryhmä toimi? Millaisena kohderyhmä koki hankkeen (millaista palautetta he ovat antaneet?)

During project time BitStream II has been followed-up and evaluated continuously. The data used in the follow-up and evaluation has been collected through interviews with project participants at different occasions both regarding specific project activities, e.g. the competence development effort in business modelling, and the project as a whole. See the attached evaluation report for the dates of the interviews. The data collection has been conducted by the researchers participating in the project, and the evaluation has been performed both by the researchers and the steering committee. We conducted the final interviews in July 2019 with the Swedish project partners and in September 2019 with the Norwegian project partners. These interviews were focused on the results of the project and the effect these results have had in the participating organizations. During physical project meetings and the supervision of participants that we conducted during the competence development efforts we have also done more informal evaluations, trying to measure what project participants think of the project. Moreover, the project activities dealing with competence development have been evaluated through surveys to the participants of the activities, see the attached evaluation report for the dates of the surveys and one example of how they have been structured. Overall the project participants seem very satisfied with BitStream II. They rank the competence development efforts high, and many of them also emphasize that the project has given them a new expanded mindset regarding business development.

In general, we have conducted formative evaluation of project activities with the purpose to create learning and to adjust project activities continuously. In this process the steering committee has had an important role. Each steering committee meeting has contained a follow-up of project status, and a discussion of whether adjustments of project activities were needed or not. This way of working has created a good environment for learning and a culture that has allowed a continuous discussion of both project results and project management. In other words, the work of the steering committee has been very important to the project.

An important part of the learning that has been going on the project is the physical project meetings. We have had seven meetings during the project with an average of 20 persons from the organizations that participated in BitStream II attending. These meetings have been the cornerstone of the leadership program that was part of workpackage three. They have been two days long and have had a structure that was intended to create learning. In four of the meetings one day has been open to the public, and during that day we have had invited guest presentations and also used the time for presenting the project and its results. The presentations of project results have been conducted by persons from the organizations participating in BitStream II. The internal day of the meetings has been spent on workshops and presentations by project participants discussing what they have done in the project. Examples of presentations includes Länsstyrelsen Västerbotten's discussion of the method for business development that they have produced, and Umeå kommun's discussion of their work creating the project office called Digitalization and Business Development. Examples of workshops includes Statens innkrevingscentral's

workshops on service design, and Umeå university's workshop on Lean canvas. Overall, these meetings have been significant for creating border-crossing learning.

Beyond the physical project meetings, project results have been disseminated through research articles and presentations at conferences and at public organizations not participating in BitStream II. During the project we also have conducted a number of workshops for different audiences. The results of the project has also been mentioned in local newspapers:

- a) Implementation of security alarm for elderly (Nordlands avisa) <https://www.an.no/nyheter/helse/naskal-trygghetsalarmene-skiftes-ut/s/5-4-595204>.
- b) Best cases presented at Tieto AB website <https://www.tieto.com/no/suksesshistorier/2019/bedre-tid-til-brukerne-i-bodos-helse--og-omsorgstjeneste/>.
- c) IoT in Norsjö municipality and forthcoming work. Norran <https://www.norran.se/nyheter/sensornat-ska-halla-koll-pa-var-norsjoborna-ror-sig/>.

BitStream II has been an action research project, which means that project work is conducted in a close, long-term relationship between the project participants. This implies that most project work has been done collaboratively by the partners. This way of working has been successful during the project and has also led to a close border-crossing co-operation. However, there are some lessons to be drawn from this approach.

1. Action research is very time demanding for the researchers as they spend a lot of time visiting the project participants to work with them on the problems they face in their respective organizations. The time spent on traveling to participants and working with them has led to a lower production of research articles than expected.
2. Action research may be more risky than other approaches. Three years is quite a long time, and during project time some key persons in the project have left their jobs and we also experienced a reorganization in which Statens innkrevingsentral was merged with Skatteetaten. For the project, this led to a situation where Innkrevingsentralen did not participate in project work for the last half of the project. However, it is quite difficult to see how the situation with key persons changing jobs can be managed, but one idea that came up during the final follow-up was that it may be better to make units responsible for project activities than key persons that was the case in BitStream II. Nevertheless, you need persons with interest and passion, which is not necessarily found in units.
3. A founding stone in BitStream II has been to engage management in the different project activities. The idea of this was that managers have greater opportunities to enforce changes in their organizations. We succeeded in getting managers from the participating organizations to take part in the project, and these persons became key persons in it. However, during the project we have noticed it has been difficult to maintain focus over time for the key persons. Managers tend to have a lot of activities on their agenda which in some cases have affected their engagement in the project. All participants in the project are politically managed organizations, which also implies risk. In a few cases, political decisions have affected project work in the sense that key persons with short notice have been compelled to cancel project activities.



Statligt stöd till företag

Om någon del av stödet faller under de minimis- eller gruppundantagsvillkor, bifoga en lista med företagsnamn och organisationsnummer för de företag som erhållit statligt stöd.

Valtiontuki yrityksille

Jos tuen jokin osuus on vähämerkityksisen tuen (de minimis) tai ryhmäpoikkeusasetuksen piirissä, liittääkö oheen luettelo, jossa on valtiontukea saaneiden yritysten nimet ja y-tunnukset.

Not applicable to BitStream II.

Övriga kommentarer

Beskriv hur ni arbetar vidare med projektets resultat efter projektet har avslutats.

Ange eventuell ytterligare information om projektet och dess resultat som bör uppmärksammas.

Muita kommentteja

Kertokaa, miten työskentelyä hanketulosten parissa jatketaan hankkeen päätyttyä.

Kertokaa muu mahdollinen hanketta ja sen tuloksia koskeva oleellinen tieto.

As mentioned above, a majority of the participants of BitStream II (Umeå kommun, Länsstyrelsen Västerbotten, Norsjö kommun, Åsele kommun, Bodø komune) are using the methods developed in the project in their daily business, which have resulted in changes/developments of processes in different parts of their respective organizations. All project participants, except Åsele, Norsjö and Hemnes, have established project offices or centers of excellence that at the time of writing this are up and running. We believe that there are good chances that these units will continue to operate after BitStream II has ended.

Further activities based on the results from the projects has been the following:

- Some of the results of BitStream II have become teaching material and the methodology for business modeling that was developed in the project is taught to students enrolled in bachelor programs at both Umeå university and Nord University.
- The methodology and tools developed in the project have been presented in workshops to other municipalities in northern Sweden. For instance, Övertorneå 1-2/10 2019, Kalix 15-16/10 2019, forthcoming is a presentation of project results at the conference Digitala Västerbotten, Region Västerbotten 21/11.
- All project participants, except Åsele kommun and Statens innkrevingsssentral, and some new partners were partners in a new application for funds from Botnia-Atlantica which unfortunately was not approved.
- All project participants, except Statens innkrevingsssentral, are partners in a project application to Northern Periphery and Artic Programme that will be decided on December 5, 2019. This project also includes participants that were not part of BitStream II.
- The Swedish project participants have had continued discussions about future collaboration, which, among other things, have resulted in a new application for funding to Vinnova.
- The Swedish NAO (Riksrevisionen) is responsible for evaluating the management and control of a recently decided program (the rural programme) decided by the Swedish parliament. They has decided to use the process mappings produced by the County Administrative Board in Västerbotten in their evaluation of the implementation of the program. These mappings have been produced during Bitstream II.
- External consultants and practitioners within business development in the public sector such as Lars Stigendahl and Siv Liedholm, have requested both the method for business modelling and best practices from our partners.



Förvaring av material och webbplats

Var förvaras eller arkiveras projektets material? Kontaktuppgifter till kontaktperson.

Vilken är projektets webbplats?

Materiaalien ja verkkosivuston säilyttäminen

Missä hankkeen materiaaleja säilytetään tai arkistoidaan? Yhteyshenkilön yhteystiedot.

Mikä on hankkeen verkkosivusto?

The documentation of and results from the project will be available at www.bitstreamproject.org until five years after the project has ended. Relevant physical documents, financial transactions and reports will be filed at the Department of Informatics, Umeå University in accordance with the State Government Archives Act. Research papers published in conferences will be available through their publishers (due to copyright reasons), and public libraries that provide this kind of publications. The bachelor theses produced in the project are available at DiVA, the Academic Archive Online (Digitala Vetenskapliga Arkivet in Swedish), <http://umu.diva-portal.org/smash/search.jsf?dswid=-6423>.

Contact person for the archive at the Department of Informatics is Tina Lundmark, tel: 090-786 6438, email: tina.lundmark@umu.se.

BILAGA 1: Aktivitetsindikatorer/ LIITE 1: Aktiviteettien indikaattorit

Specifikt mål: Ökad tillämpning av innovativa lösningar/ Erityistavoite: Innovatiivisten ratkaisujen lisääntyntä käyttö		
Aktivitetsindikator och definition/ Aktiviteetin indikaattori ja määritelmä	Förväntat resultat (ansökan)/ Odotettu tulos (hakemus)	Utfall/ Toteutuma
<p>Antal deltagande organisationer som introducerar nya produkter eller tjänster Deltagande organisationer (ej företag) som lanserar en ny produkt eller tjänst utifrån projektresultatet under projektperioden eller i anslutning till projektavslutet Observera att organisationerna och produkterna/tjänsterna ska kunna namnges! Hankkeeseen osallistuvien organisaatioiden määrä, jotka tuovat markkinoille uusia tuotteita tai palveluja Osallistuvat organisaatiot (ei yritykset), jotka lanseeraavat hankkeen tulosten pohjalta uuden tuotteen tai palvelun hankeaikana tai hankkeen päättymisen yhteydessä. Huomatkaa, että organisaatiot ja tuotteet/palvelut tulee voida nimetä!</p>	<p>7</p> <p>(I hittillsvarande lägesrapporter har utfall 7 rapporterats)</p>	7
<p>Antal produkter, tjänster eller metoder som utvecklas i projektet Produkter, tjänster eller metoder som utvecklats under projektet och är vid projektslut klara för introduktion/implementering. Hankkeessa kehitettävien tuotteiden, palvelujen tai menetelmien lukumäärä Hankkeessa kehitetyt tuotteet, palvelut tai menetelmät, jotka ovat hankkeen päättyessä valmiita esiteltäväksi/toteutettaviksi.</p>	<p>5</p> <p>(I hittillsvarande lägesrapporter har utfall 4 rapporterats)</p>	4

BILAGA: INDIKATORER

LIITE: INDIKAATTORIT

Redovisning av medräknade organisationer och företag. Om projektet rapporterat företag/organisationer under tidigare redovisningsperioder är dessa färdigifyllda (och visas med ljusblå bakgrund). Se exempel nedan.

Mukaan laskettujen organisaatioiden ja yritysten raportointi. Jos hanke on raportoinut yrityksen/organisaation aiemassa raportointikaudessa ovat nämä esitetyt (ja näkyvät vaalean sinisellä pohjalla). Kts alla olevat esimerkit.

Specifikt mål: Ökad tillämpning av innovativa lösningar

Erityistavoite: Innovatiivisten ratkaisujen lisääntynyt käyttö

Antal deltagande organisationer som introducerar nya produkter eller tjänster Deltagande organisationer (ej företag) som lanserar en ny produkt eller tjänst utifrån projektresultatet under projektperioden eller i anslutning till projektavslutet Observera att organisationerna och produkterna/tjänsterna ska kunna namnges! Hankkeeseen osallistuvien organisaatioiden määrä, jotka tuovat uusia tuotteita tai palveluja markkinoille <i>Osallistuvat organisaatiot (ei yritykset), jotka lanseeraavat hankkeen tulosten pohjalta uuden tuotteen tai palvelun hankeaikana tai hankkeen päättymisen yhteydessä. Huomioi, että organisaatiot ja tuotteet/palvelut tulee voida nimetä!</i>			
Land / Maa	Namn / Nimi	Organisationsnummer, FO-nummer / Y-tunnus	Produkt, tjänst Tuote, palvelu
Sverige	Umeå kommun	212000-2627	Metod i verksamhetsmodellering, Metod för att utvärdera och prioritera potentiella e-lösningar
Sverige	Norsjö kommun	212000-2858	Metod i verksamhetsmodellering, Metodik för social och deltagande innovation
Sverige	Åsele kommun	212000-2791	Metod i verksamhetsmodellering
Sverige	Lst. Västerbotten	202100-2460	Metod i verksamhetsmodellering, Prototyp av en operationell dashboard
Norge	Bodø kommune	972418013	Metod i verksamhetsmodellering
Norge	Hemnes kommune	846316442	Metod i verksamhetsmodellering
Norge	Statens innkrevings.	971576995	Metod i verksamhetsmodellering, Metod för att utvärdera och prioritera potentiella e-lösningar

Antal produkter, tjänster eller metoder som utvecklas i projektet Produkter, tjänster eller metoder som utvecklats under projektet och är vid projektslut klara för introduktion/implementering. <i>Hankkeessa kehitettävien tuotteiden, palvelujen tai menetelmien lukumäärä</i> <i>Hankkeessa kehitetyt tuotteet, palvelut tai menetelmät, jotka ovat hankkeen päätyessä valmiita esiteltäväksi/toteutettavaksi.</i>	
Produkt, tjänst, metod <i>Tuote, palvelu, menetelmä</i>	Kort beskrivning <i>Lyhyt kuvaus</i>
Metod för verksamhetsmodellering	Metoden för verksamhetsmodellering omfattar ett systematiskt arbetssätt där man i olika faser modellerar och analyserar en verksamhet. För varje fas finns ett verktyg som stödjer modelleringsarbetet vilket resulterar i följande modeller: kontextdiagram, målhierarki, konceptdiagram, processmodell, samlebandsdiagram och sekvensdiagram. Metoden är utformad för att kunna användas i offentlig verksamhet av personer som inte är experter på modellering.
Metod för att utvärdera och prioritera potentiella e-lösningar	Metoden är tänkt att användas av de som ansvarar för verksamhetsutveckling i offentliga verksamheter och som behöver ett verktyg för att utvärdera tänkbara kandidater. Vår prototyp bygger på att man redan har tillgång till ett antal variabler (t.ex. att man gjort processkartläggningar, har kännedom om volym av ärenden, m.m.). När man har utvärderat sina potentiella e-tjänster kan man, i de fall där man bedömer att det behövs, utnyttja andra modeller som mera noggrant räknar fram investeringskostnader etc.
Prototyp av en operationell dashboard	Dashboards används av organisationer för att visualisera organisationens processer och på så sätt enklare kunna mäta deras effektivitet. Dashboards finns i två huvudsakliga typer, operationella dashboards och analytiska dashboards. Den prototyp vi utvecklat är en operationell dashboard, vilket innebär att den mäter effektiviteten de interna verksamhetsprocesserna, oftast i form av dagliga uppdateringar av så kallade nyckeltal eller key performance indicators (KPI:s) som mäter centrala faktorer i en process.
Metodik för social och deltagande innovation	Metodiken innefattar modeller för digitala mötesarenor, och koncept för social innovation som stimulerar samskapande utformning av verksamheter inom offentlig verksamhet där företrädare från olika intressentgrupper deltar.