



Final Report ITRACT 2012-2015



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ITRACT shows good results in Värmland

Since 2012, Värmlandstrafik has been working on new IT solutions for public transport through the ITRACT project. The result is two new apps, one which makes it easier to book demand-responsive transport and another which makes it easier to manage business travel.

– It is nice to see that the project has resulted in significant improvements for passengers here in Värmland, says Anna Stålhammar, Project Coordinator at Värmlandstrafik.

The project began by proposing possible services based on a customer perspective.

– When we have conducted customer surveys, we always get a low rating when it comes to information. We wanted to improve customer satisfaction. But how can you improve the travel experience? That became our starting point, says Anna Stålhammar.

Based on our typical passenger profiles, so called personas, a group of experts began to brainstorm. Very broadly to start with and then more and more specifically in order to end up with real viable services. In the end, they came up with two solutions. One of them was to make it easier to book demand-responsive transport. Previously, customers had to call the booking centre to book their trip. Today, you can easily make the booking yourself via our mobile app and the online journey planner.

– Demand-responsive traffic is very important here in Värmland and therefore we wanted to have a more accessible booking system.

The second idea was about making it easier to manage business travel. Within the near future, a new service will be launched where you will be able to pay your journey via our mobile app and receive a mobile ticket while an invoice will be sent to the employer. A simple and much wanted improvement.

The project has broadened the horizon

When ITRACT comes to an end in March 2015, ten years will have passed since Värmlandstrafik's first development project (R3) began. During this time, six EU funded projects have been carried out. Running development projects has proven to be a fruitful way to enrich the regular operations. Not least because projects create ways to make new contacts, both with universities and research teams, with owners, other actors within the field of public transport and colleagues in other countries.

– I like the fact that Värmlandstrafik has the courage to work with projects. Besides working as the project manager of ITRACT, Anna is a PhD student at Samot, Karlstad University.

She has seen how the project has broadened the horizon in many ways. Partly thanks to the collaboration with Karlstad University and the research institute Viktoria Swedish ICT, and partly thanks to the international character of the project. Universities and transport companies from Sweden, Holland, Germany, Norway and the UK have participated in the project.

– ITRACT has been the first experience of an Interreg project for both Värmlandstrafik and me as a project manager. The working model involves a particular way of working and each country has its own area of responsibility. Of course there are organisational challenges when you need to coordinate everyone's wishes, but at the same time it has been an exciting process.

A lot to be proud of

Anna explains that she has worked especially closely with the participants from Holland and Germany, sharing the same ambition to transfer the results of the project to the regular operations. The countries have inspired each other, but at the same time, public transport is very different in different countries, making it difficult to directly transfer a service and apply it. However, the collaboration provided many important insights.

– I have realised how professional we are here in Värmland, how developed and well organised our public transport system actually is. There have been numerous occasions when I have felt very proud of our system and our services. We have come a long way, largely because we have such a good mobile coverage.



Now it is easier to book demand-responsive transport

Demand-responsive traffic fills an important function in public transport and will become even more important in the future. The ITRACT project has enabled a new service that allows booking online or via an app.

– It makes everything easier and more flexible for both passengers and those of us in charge of traffic planning, says Carina Rosenkvist, Team Leader at Värmlandstrafik’s booking centre.

The service means that you can book a journey with demand-responsive departures with a simple click in the journey planner or the app.

In addition, airport buses can be booked online, and train journeys booked on SJ.se that include demand-responsive transport are managed automatically. The customer will then receive a confirmation via SMS where you will also find a link if you wish to cancel the trip. The basic idea from the start has been to develop a service that makes it easier for the passenger, and the customer perspective has been the focal point throughout the project.

– The best part of working with ITRACT is that we have had a very concrete and clear goal. It has resulted in good and useful services, says Carina.

“Värmlandstrafik is at the forefront”

In addition to making travelling easier for the customers, the services also help to facilitate the operations for Värmlands-

trafik. Bookings are automatically registered in Triplex, the system already used by the company.

– It was important to apply everything in the already existing systems, to make things smoother. We wanted it to be as easy as possible, both for the end users and Värmlandstrafik, says Per Sevrell, CEO of Elastic-Mobile, developers of the technical solutions.

The booking centre can now focus more on the journeys that still require phone calls, such as mobility services and patient transport. But hopes are that these will also be managed online to a greater extent in the future.

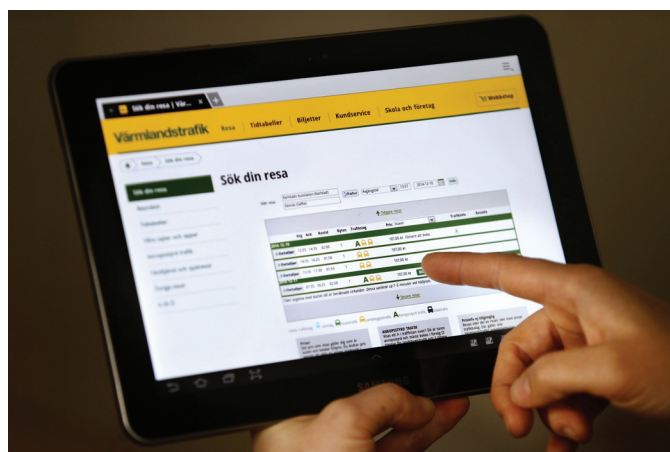
– As more and more people become accustomed to doing things online, a phone call might seem a bigger effort. Therefore, people will ask for these options, says Carina.

The services developed through ITRACT can also be useful for other public traffic companies.

– Many are already asking for this type of service. Integrating web-based solutions into existing systems is the way to go. And as it stands today, Värmlandstrafik is at the forefront, says Per.

Many things also suggest that demand-responsive traffic will be the key to getting more people to choose public transport instead of their own car. It will enable frequent departures even in more sparsely populated areas, as there is no risk of running empty buses.

– Combining this type of traffic with web-based solutions feels very modern, says Carina.





Easier to book demand-responsive transport . The ITRACT project has enabled a new service that allows booking online or via an app. In addition, airport buses can be booked online, and train journeys booked on SJ.se that include demand-responsive transport are managed automatically. "Combining this type of traffic with web-based solutions feels very modern", says Carina Rosenkvist, Team Leader at Värmlandstrafik's booking centre.



New service makes it easier to use public transport for work. Thanks to the ITRACT project, there is now a new service which will make it easier to travel via bus or train instead of taking the car. The service allows the employer to select phone numbers of the people who are granted to make business trips. The staff can then buy their tickets via the usual Värmlands- trafik app and select the company invoice option. They are also required to write a short comment on why they are taking the trip. The employer will then receive an invoice of all trips made.

New service makes it easier to use public transport for work

There are a lot of companies and organisations who want to cut their carbon emission and use more public transport. This requires smooth and easy transport alternatives.

Thanks to the ITRACT project, there is now a new service available which will make it easier to travel via bus or train instead of taking the car.

Värmland County Council has more than 7,000 employees. They want to reduce their carbon footprint, but at the same time the staff travel more than 5,250,000 km each year.

– We want to encourage our staff to use more public transport. It is important from an environmental perspective, but also for people's health and safety. There are many reasons to leave the car at home and take the bus or train instead, says Miranda Fredriksson, Environmental Coordinator at Värmland County Council.

Värmlandstrafik has been working with them on projects before and they had no hesitations about working together again when the opportunity presented itself through ITRACT. It has to be easy for the staff to choose public transport instead of the car; every obstacle can lead to people making the wrong decision. One thing that could be perceived as a hassle before was that you needed a charged travelling pass to travel with Värmlandstrafik. The County Council has sought a different solution for many years, where you gather all trips on an invoice. This was one of the services to be developed when the EU project began. And Värmland County Council has been participating all the way, from early discussions to tests and evaluation.

Great advantages

The service allows the employer to select phone numbers of the people who are granted to make business trips. The staff can then buy their tickets via the usual Värmlandstrafik app

and select the company invoice option. They are also required to write a short comment on why they are taking the trip. The employer will then receive an invoice of all trips made. This makes it easier for both the staff and for those who approve and pay the invoices. But it also brings other great advantages.

– The system also provides a way to monitor travelling. You can now evaluate and see who are travelling, where they travel to and perhaps also make efforts to increase the use of public transport, says Stefan Johansson, CEO of Infospread, delivering mobile solutions to Värmlandstrafik. All those involved feel that ITRACT has been a great way to jointly develop a new service.

– It has been good to have the County Council on board all the way. They have been able to influence the project and describe the situation from their perspective. It ensures that we have a good final product, says Stefan. Our hope now is that other public transport companies will use the service in the future. There is a big demand around the country for invoicing solutions for businesses and organisations.





Customer focus has been of great importance in the project. "Research show that if people are involved in the development stage, it is much more likely that the service or product will be successful", says Niklas Johansson, Senior Researcher, at Viktoria Swedish ICT.

Combination of operational-related activities and research

In addition to Värmlandstrafik and Karlstad University, Viktoria Swedish ICT has also participated in the project in Sweden, using a combination of research and operational-related activities. Niklas Johansson explains how they have helped the participants to identify, develop and implement new services.

The Gothenburg-based research institute has around 60 researchers, with sustainable transport as their common research area. Niklas Johansson and Anders Hjalmarsson, both senior researchers at Viktoria Swedish ICT, have represented the institute in ITRACT. They have had the overall responsibility for one of the six work packages in the project (Development of Services and Self-optimizing Networks).

– We started out by helping the participants to identify customer needs among the target groups that the regions had chosen to focus on (work commuters in Värmland). Based on this information, we helped them to develop ideas for services to meet those needs. At a later stage, we helped the organisations to develop strategies and plans to develop and implement the services. Many of the participants wanted to achieve a concrete and useful result and not merely develop prototypes, Niklas explains.

Customer focus has been of great importance in the project – to collect data rather than building on assumed customer needs. An equally important part was the pilot study conducted before launching the services. Niklas sees this method as a given. With a background at the Service Research Center at Karlstad University, he also knows the importance of working this way.

– Research show that if people are involved in the development stage, it is much more likely that the service or product will be successful. Therefore, customer focus is important if you want to create something that will actually be useful.

Workshops as a method

Organising workshops is a method that Viktoria has used in all countries. To gather people with different knowledge and skills to discuss different issues is an effective way to brainstorm and concretise ideas. In Värmland, Viktoria Swedish ICT has organised both a Service Innovation Workshop and a Business Innovation Workshop. Both workshops were attended by

a mix of people, from various departments within Värmlandstrafik but also from other companies.

– This has been very successful. Not least because it has created a lasting understanding within the organisations that this type of work requires well-functioning cooperation between people in different departments within the same organisation.



High hopes for future collaborations

For Niklas and his colleague Anders Hjalmarsson, ITRACT has meant a combination of research and operational-related activities. Their research has been linked to activities within the project, which has generated interesting data – including open data, an area which has been central to the project, since the development of IT services within the field of public transport depends on it. A clear research track which has been missing from existing theory.

– We have studied how open data standards can contribute to the development of services, which can then be used across regions and countries. The research has also resulted in a Data Maturity Model, says Niklas.

Niklas is happy with the outcome of ITRACT. Alongside a fruitful cooperation, which has also provided a lot of research input, he emphasises the value of the fact that the project has delivered useful services in several countries.

– Overall, I feel that the project has been a success. We can present tangible and reliable results.

If the opportunity presents itself, would you like to work with Värmlandstrafik again?

– Absolutely, the cooperation with Värmlandstrafik has worked flawlessly. When both parties give and take in equal measures, it creates high hopes for future collaborations.

Research on cloud services

In order to develop the IT solutions of the project, the Department of Computer Science at Karlstad University has been involved. Under the leadership of Andreas Kessler, Professor of Computer Science, the university has developed technical solutions to collect information via “cloud services”.

Based on the information gathered in the cloud, the university has also developed a smart map showing public transport in real time from multiple locations around the world.

– Thanks to the project, we have established a significant knowledge base within the area, Andreas says.

The idea of a smart map (real-time map) came up during the Service Innovation Workshop that was held in Karlstad in the autumn of 2012. The map would work as an app or a web-based service, gathering public transport data from several places around the world. Andreas picked up on the idea and today the map is well under way.

– We are planning to keep developing the service even though the project is coming to an end soon. The idea is to post the finished app in Apple Store to see if there is any interest.

“The question of open data is important”

For Andreas and the university, the project has contributed towards building an important knowledge base within the field of cloud services. The collaboration with other parties in the

project has been an important part of the process in order to gather all the necessary data. Something that has proven far from easy, as open data do not always equal quality checked data.

– The parties have delivered data in several different formats, which we have then converted. However, the problem is that you lose information in doing so and the data cannot be verified. It could, for example, mean that a stop ends up in the wrong place on the map.

Open data has been one of the lessons of the project.

– The question of open data is important when developing new services. When you have access to quality checked data, third party developers can use that information, which in turn means new services at a low cost.



In what way has ITRACT complemented the rest of the IT service development at Värmlandstrafik?

– The project has accelerated different activities. You can also see how ideas have grown from the project, both in terms of the apps and other ideas that we will use in the future, says Johnny Albenius, Technical Manager at Värmlandstrafik.

What are conditions like in Värmland when it comes to developing IT services?

– Compared to several of the other countries in the project, we have really good conditions. Värmlandstrafik is also at the forefront. Partly because there is an interest within the company to develop in these areas, and partly because the infrastructure in Sweden is phenomenal, with good mobile coverage even in the more sparsely populated areas. Sometimes we forget how great the conditions actually are.

ITRACT has meant collaborating with many other parties, both in Sweden and in other countries, how did you find the experience?

– It is important to work together, both in terms of colleagues and suppliers and educational institutes. But it is not always easy; the risk is that the task at hand loses speed when you become too dependent on each other.

What did you learn from the project?

– It can be difficult to succeed with a collaboration between the academic world and trade and industry since you do not always share the same goal when you join a project. But it is important that we learn from each other.



A good step towards the future

Through the ITRACT project, we have shown that we can manage both international collaborations and being at the forefront of the industry development in Sweden. We have also shown that we can contribute towards the technical development. Continuous development within the industry is essential to the role of public transport in regional development and in the development towards a sustainable society in the long term.



Lars Bull, CEO Värmlandstrafik



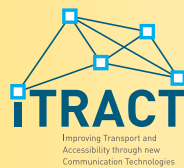
ITRACT 2012-2015

ITRACT (Improving Transport and Accessibility through new Communication Technologies) has been running from January 2012 to March 2015.

The goal of the project has been to develop new information technologies to make public transport more attractive. The aim is to improve the conditions in sparsely populated areas regarding availability using new IT technologies and improved infrastructure.

The project is funded equally by the EU's Interreg funds for the North Sea Programme and the other twelve parties within the project.

Holland, Germany, Norway and the United Kingdom are the other participating countries. Participants from Sweden are Värmlandstrafik AB, the Viktoria Swedish ICT and Karlstad University – the Department of Computer Science and Samot (The Service and Market Oriented Transport Research Group).



Värmlandstrafik

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