



Estonia-Latvia Stories II

Estonia-Latvia Stories II 2014-2020

Estonia-Latvia programme
2021



Interreg
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Estonia-Latvia Stories II

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PREFACE

Ege Ello

The Head of the Managing Authority of the Estonia-Latvia programme

Did you know that a small village in Courland will come to life again in the summer thanks to the completion of a road to the sea and a square beside it, which were constructed for rescue works, but will also attract holiday-makers from Latvia and abroad? Or that there is a mobile application that assists in finding your way home from berry picking and at the same time manage your forest? This is currently not a complex issue through the use of satellite images. Did you know that the interest of biologist in bird watching may lead to the possibility decades later to hike on a coastline along a 1420 km long, connecting all three Baltic States, hiking trail? And those who are not attracted by night sailing can now find their way comfortably in daylight from one yacht harbour to another within the region of the Gulf of Riga? But what is it that unites all these opportunities?

You are holding in your hands a collection of 49 stories about the projects of the Estonia-Latvia programme 2014–2020. These are 55 projects realised in cooperation between Estonians and Latvians that have made a multifaceted contribution into the development of our programme area in Võru, Valka, Valmiera, Pärnu, Paviosta and elsewhere. There have been people, organisations and companies from both sides of the border participating in each project. We know and trust each other. We have become friends, learned from each other and gained new experiences, developed together new, interesting solutions, as well as created a higher quality living environment. The impact of the Estonia-Latvia programme and its projects on the area is noticeable to the residents and attracts tourists and consumers of services from the distance.

I am happiest as the Head of the Managing Authority of the Estonia-Latvia programme when the cooperation between Estonians and Latvians continues also after the projects are completed. Our success depends upon there still being ideas and plans to realise in the future. The stories described in this collection will hopefully provide inspiration and encouragement for future cooperation, broadening of opportunities and new initiatives.

Anna Škabireva

The representative of the Republic of Latvia and the head of the Latvian delegation in the Monitoring Committee of Estonia-Latvia programme

Dear reader,

As a rule, every seven years, the Interreg programmes look back on their achievements and assess the results of their efforts. Reports and figures tend to offer an accurate insight into the successes of the respective financial instrument, but behind the bare statistics it is difficult to see the pure values, things that cannot actually be measured – these are the people and their life stories, good neighbourly relations within communities, the friendships forged, the co-existing and shared goals.

The main objective of Interreg programmes – including that of the Estonia-Latvia cross-border cooperation programme – is to promote interaction between people. Interreg has been contributing to neighbourhood cooperation for more than 30 years now. This encourages people not to see obstacles where borders are drawn between countries. For this reason, it is not just an ordinary reference guidebook of projects' facts but a book of people's stories – 49 stories about Latvians and Estonians united by a common idea which is made a reality thanks to the cross-border cooperation programme.

The format of the book will enable readers to perceive, even feel, how Latvians and Estonians have worked together, now enjoying the completed work, the implemented objectives or even the fulfilment of an old dream in business and day-to-day life. I hope that the stories from this book about cooperation and the friendship established will continue beyond the mentioned projects in the coming years and that the shared efforts of neighbours will strengthen the development of both countries in the future, too.

I am pleased to note that this is the second collection of stories about joint projects between Latvia and Estonia. Here's to many more!

Happy reading!

Hannes Nagel

The representative of the Republic of Estonia and the head of the Estonian delegation in the Monitoring Committee of Estonia-Latvia programme

Dear reader,

During the period 2014-2020, the programme and its actions held exceptional significance for the programme area, for Estonia as well as for the entire family of Interreg programmes. Our programme budget is one of the smallest –making me even more pleased with the remarkable results that have even made the headlines in Euronews.

Several projects which have attracted long-awaited investors to the border area have also boosted national measures. Be it the development of a network of small harbours on the basis of a common service standard or the reconstruction of the shared urban space at the border of Valga-Valka – the parties have benefited both here and abroad. These are lasting and value-creating initiatives that will evolve and hopefully inspire new initiatives as well.

Nowadays, cross-border cooperation between Estonia and Latvia takes place at a local, border, national and European level. However, it hasn't always been this way. The European level, for example, was introduced in 2004 when it was possible for the Estonian and Latvian beneficiaries to employ cross-border cooperation under the cooperation priority of the Estonian-Latvian-Russian Interreg IIIA of the neighbouring area programme of the Baltic Sea Region Interreg IIIB. It is a pleasure to acknowledge the fact that partnerships which started almost two decades ago have stood the test of time and continue until this day. Including outside the programme.

In 2007, Estonia and Latvia received their very own programme, as part of which 122 collaboration projects have been implemented during the two periods so far. It has been, without a doubt, an honour to represent the Republic of Estonia for the last eight years in the world's best and most exciting cross-border cooperation programme, whose content is illustrated by this collection.

I hope you enjoy reading more about the shared stories of Estonia and Latvia!

THE UNIQUENESS OF SAAREMAA NATURE IN THE FINEST RESTAURANTS OF EUROPE

Andrejs Rjabcevs



Maarit Pöör and Tarmo Virki
Tiina Pitk

Gurgling vibrantly like a stream in the springtime that has only just broken through the icy winter, Estonia's first non-alcoholic spirit – Lahhentagge Õsel Flâneur – flows into robust glass bottles, while Tarmo Virki shows us around his small distillery on the edge of Saaremaa island as he talks about the journey of this flavourful beverage into the wider world.

A few years ago, he, his wife Maarit and several friends created a small distillery in Saaremaa to embody their idea to craft outstanding gin. A gin which fuses the essence of wild Saaremaa juniper berries, plants and herbs that have strengthened in the harsh island climate having endured the fresh sea breeze, marine air and untouched nature.

“A gin which fuses the essence of wild Saaremaa juniper berries, plants and herbs that have strengthened in the harsh island climate

Lahhentagge was the first Estonian craft gin maker, but now it has carved its way into almost half a dozen export markets, among them several top bars and even the French pinnacle of taste Bon Marche Le Grande Epicerie. “And all of this starting from scratch, with minor costs and only a few people involved,” recounts Tarmo.

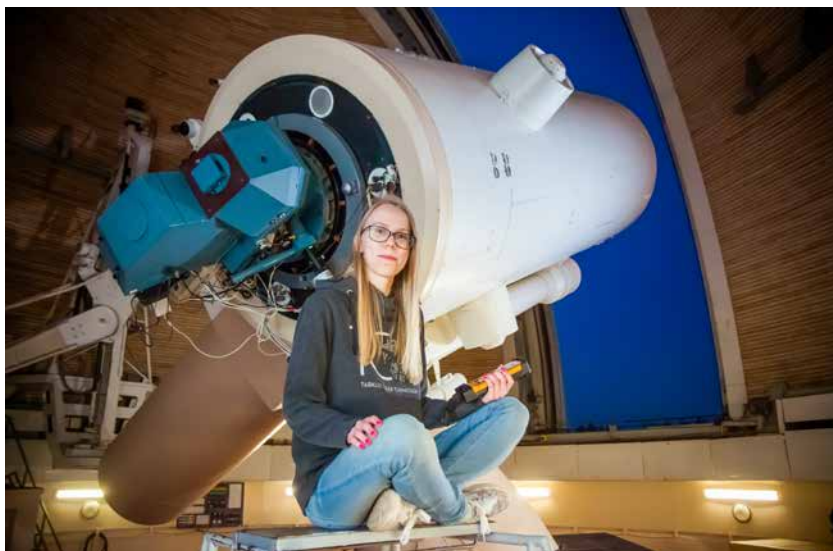
To a great extent, the door to the world was pried open by participation in export promotion seminars aimed at Latvian and Estonian businesses, visits to distributors in several countries and a systematic approach to export promotion. The moment of victory came after one such visit in the form of an opportunity to enter the Swedish market, via the Swedish national government-owned alcohol retail monopoly Systembolaget. “For us it was a resounding success because, besides iconic Estonian beverages, such as Vana Tallinn and the vodka Viru Valge, we were the next alcoholic beverage sold in Sweden,” says Tarmo Virki, noticeably pleased.

Overall, nearly 30 business from Latvia and Estonia have taken part in export promotion activities. “Mostly small and medium-sized businesses with bold ideas, which have earned their place on the local market but have very limited or no experience in export,” explains the representative of Vent-spils High Technology Park Mārtiņš Velde. With entrepreneurs at mentoring sessions and intensive training and trade missions, the best export market strategies have been sought and found, which for many have resulted in first concluded export transactions.

Companies represented a wide variety of sectors from producers of beverages, furniture, cutlery and interior elements to IT services and software developers.

WHEN STAR GAZING IS MORE THAN JUST ENTERTAINMENT

Andrejs Rjabcevs



Anni Kasikov in Tartu Observatory
Lauri Kulpsoo

Anni Kasikov laughs as she recalls that she never wanted to become an astronaut because she likes to be stood firmly on the ground. And yet... The universe, the planets and the stars are her day-to-day life and passion, as she studies physics to obtain her Master's degree from the University of Tartu and works at the Tartu Observatory.

SpaceTEM became an essential turning point on her educational path since it allowed her to undertake an internship at the Baldone Observatory (LV) as she researched carbon stars. For the young woman, who had only a year of studies to her name, it was her first serious encounter with scientific work – reading publications, learning terminology, language and data processing. In Baldone, Anni also enjoyed her first star-gazing experience with the Schmidt system telescope, which is the only telescope of its kinds in the Baltic States and among the largest in the world. This became the starting point on the path to exploring astronomy and perhaps determined her further progress not only by marking the study of yellow giants as the next topic of her Bachelor's thesis, but also by later allowing her to become one of the leading observers at the Tartu Observatory, where a telescope with a diameter of 1.5 metres is used. "There is so much that we still don't know about the Universe. It is rather intimidating, but at the same time very exciting," says young astrophysicist Anni Kasikov.

Anni is only one of ca 750 participants who have expanded their experience and knowledge of the universe over the last three years since Estonia and Latvia joined forces to raise public awareness of space. President of the Latvian Space Industry Association Pauls Irbiņš admits that this was the first time such an array of activities were implemented to raise public awareness of the space industry and many showed interest in the topic. "Space is not just rockets and astronauts; it opens up vast opportunities and applications in science and practical business alike," explains Irbiņš. He clearly remembers one of the hackathons and the subsequent camp where young people from Latvia and Estonia developed their ideas of how the space industry could be used to overcome business challenges, such as using satellite data to monitor forests or water reservoirs, identifying the best locations for mobile communications companies, developing applications for star-gazing in an urban environment, among many other activities.

“Space is not just rockets and astronauts; it opens up vast opportunities.”

MAPS IN ALL THE LANGUAGES OF THE WORLD

Astra Spalvēna



Jānis Zālīte
Mareks Gaļinovskis

A map helps you find your way in unfamiliar places; however, it is important that the place names are shown in the original language so that you are able to recognise signs set up in the area. In order to be able to make maps in as many countries of the world as possible, an automatic solution 'TerraLexicon' was created, which translates graphic documents, mostly maps.

This is a convenient tool for map creators because you only need to upload a map and let the tool select all the place names, translate them into any language and then replace them on the map. "We arrived at this idea when we realised that we needed this tool. If we could create maps in many languages, we could reach wider audiences. We concluded that it would also be useful for other map publishers," says Project Manager at SIA 'Jāņa sēta' Jānis Zālīte. 'TerraLexicon' allows the user to translate a text into any language, with data from 'Wiki' supplying the extensive database – the place names in this database are entered by locals in various countries. This is an excellent example of taking advantage of the digital world and applying freely available user-generated content.

Regardless of the freely available information, the work on the development of 'TerraLexicon' has been very extensive, as solutions had to be found for situations that had not been anticipated. "In these cases, it is important to cooperate because, this way, we can achieve more," claims Project Manager at SIA 'Regio' Kadri Pärn. "Working together with 'Jāņa sēta' is like working with friends. We get along well; we have the same interests and aims." Jānis agrees. Even though both companies operate in a similar way, they aim to collaborate, not compete to make the small Baltic market even more fragmented.

Map publishing is currently undergoing significant changes thanks to digital solutions. SIA 'Jāņa sēta' works on both paper and digital maps. Digital maps are a challenge that forces map makers to reconsider the functions of paper maps. "The digital revolution has simplified the user's task and therefore their perception. As you use *Google Maps* on your phone, it is easy to follow a route without even thinking about it. However, there are situations in which a paper map is irreplaceable. For instance, if you're out on a boat, you don't need to worry that your phone might be dropped or run out of battery. Currently, there are water-resistant boating maps available, providing specific information, including about river banks. This is why we think of maps as part of an integrated offer for tourists and strive to give them added value. Besides, paper maps have a sentimental importance – they can be kept as a travel keepsake," explains Jānis. He is well-travelled himself and often brings back a local map from his travel destinations.

“ Maps have a sentimental importance – they can be kept as a travel keepsake.

SMALL PARISHES IN THE CONTEXT OF HISTORICAL EVENTS

Astra Spalvēna



Edgars Kārklevalks and tourists
Gita Memmena

Edgars Kārklevalks takes tourists in a genuine Soviet army truck along the tank roads in the forests of Dundaga. Genuine because he built it himself from three old army trucks over a period of five years. The object that triggered Edgars' interest in military history was the Irbene radio locator – the

eighth largest radio telescope in the world near Ventspils. "There is a whole town around it, including a school and a kindergarten. Entry there was prohibited in the Soviet times. The entire shoreline from Kolka to Ventspils was the forbidden zone, which you could enter only with permits."

Edgars himself has roots in the area of Dundaga and he remembers that they even had to get permits when they went cranberry picking in the marshlands. This is why, regardless of the fact that the shore area is full of military objects, the locals know little about them. "Back then, the Irbene radio locator seemed so interesting that I wanted to show it to family and friends. Now I am taking groups of travellers. Back in the day, I served in the Soviet army, so I am very familiar with that era. I decided to get dressed in the army uniform and to show some Soviet artefacts to conjure up authentic experiences for those who remember those times and for those who have not experienced it.

“ We even needed to get a permit to go cranberry picking in the restricted area.

Foreign travellers are also interested in the military history of the formerly inaccessible Soviet Union. From an army flask, I pour out soup into metal cups, and you must have vodka – to truly enjoy this exotic experience," says Edgars with conviction.

Anneli Kana from the Estonian Association of Rural Tourism says that in Estonia, too, Soviet era objects in restricted areas draw interest, and these can be found in abundance along the coast and on Estonian islands. "Forests host a range of Soviet military objects alongside the underground bunkers of the Forest Brothers. Some of these bunkers have been renovated so that they can be entered. The more courageous can spend several hours in there to imagine these difficult episodes of Estonian history," recounts Anneli.

"Without the help of local, especially history, enthusiasts, we wouldn't have been able to create this route of military legacy," says Asnāte Ziemele, President of the Latvian Country Tourism Association Lauku ceļotājs. "Back in the day, military objects were deemed secret and locals had no access to them, which is why information about them is difficult to find. Benefits can be enjoyed not only by tourists, who can visit military objects from various periods of time over an extensive area, but also by locals, who see their little parish in the context of major historic events." The route includes around 150 tourism objects in Latvia and Estonia, each telling a story about the history of both countries during the 20th century: World War I, World War II, the National Partisan Movement, the Soviet era and the restoration of independence.

JELLY SWEETS MADE OF BIRCH POLYPORES

Astra Spalvėna



Project partners at fair in Tallinn
BIORGANIKS

Everybody likes sweets, but they are often linked to health concerns – are they too sugary, do they contain too many chemical additives? “If sweets are tasty and healthy, there will always be customers who are willing to buy them,” concludes Board Member of SIA “BIORGANIK 5” Iveta Cīrule, who decided to create jelly sweets using natural ingredients.

For many years, Iveta worked in the administrative field and was tasked with drafting and coordinating various projects, so the creation of a new product was a great challenge for her. Iveta was looking for a strong and experienced partner and chose to work with OÜ “Chaga” from Estonia. “Back then, it was a small company that had outgrown the level of local thinking. I expected that we would be able to do great things together because they produce fantastic things, such as healthy powders from aloe vera, wild berries and, what is most interesting, birch tree polypores. I spotted an opportunity to turn these healthy raw materials into a product that the modern buyer would like,” Iveta tells.

“ I spotted an opportunity to turn these healthy raw materials into a product that the modern buyer would like.

Eva Maran from OÜ “Chaga” gladly responded to the invitation to cooperate because they wanted to find new ways of using the plant and berry powders made by the company. “Small companies which are already making several products often lack the resources and knowledge to effectively create new products. While working with Iveta, we learned how to develop the product step by step. We started with market research in order to understand whether this product was necessary. We understood that it is the healthy raw materials which contribute to this product’s uniqueness. The test phase followed: we combined raw materials, tried out various methods to understand how hard or sweet the sweets should be. Throughout the process, we tested, tried and assessed. Finally, we created fun packaging,” Eva briefly explains the 23-step-long process. The jelly sweets received recognition on international markets in Estonia, Latvia and Germany.

“Our aim is export,” admits Eva. “Germany has a vast society of healthy living enthusiasts who pay attention to the origins of food and, besides, they have the necessary means to pay for healthy, high-quality products.” However, even buyers in Germany will have to wait a bit longer for the jelly sweets. They are cost-effective if produced in large quantities, but at the moment there is a shortage of raw materials. “The defining raw material of the sweets is the super-healthy birch tree polypore, but now we are collecting it only in the wild, which is why the amount is limited. We have started cultivating polypores and are expecting the result in a year or two. We will then be able to place the product on the market,” plans Eva.

YES, WE'RE IN!

Ieva Alberte



Mareks Romanovs
Mareks Gaļinovskis

The Estonians did not reply to e-mails. And did not answer calls. The attempts of Mareks Romanovs to sit down for a meeting with the people in charge of import at supermarket chain Selver were futile. One day, Mareks, with chocolate-covered plums and creamy milk candies in hand, went to the Selver office in Tallinn to leave the sweets, asking to send regards from the export manager of Skrīveru saldumi. So Mareks stopped by the office for three years. "It seemed that they'd soon be calling the police on me," he

laughs and says that he understood the Estonians' attitude because he knew that they were nationally inclined, even if an equivalent product appeared in the import offer. In April 2018, Mareks went to the exhibition Maames in Tartu organised by DELBI2 because, having checked the list of participants, he understood that the organisers had done a great job and that there would be several direct buyers present. The premises were not large, so Mareks had the opportunity to sit

“ It seemed they'd soon be calling the police on me.

next to the Selver representatives. Finally, a meeting in person! A couple of weeks later, the office of Skrīveru saldumi resonated with a loud: “Yesss! We're in!” The Estonians had said “yes”, and in September the sweets were available in shops. “Making your way into the export market takes years. And at some point, it pays off. I have fully earned the Estonian business,” laughs Mareks. As it happened, at that time, Selver were revising categories, and as some sweets had not shown good sales results, they offered the opportunity to their neighbours instead. The Estonians like them! In two and a half years, the neighbours have eaten 20 tonnes of the milk candies Gotiņa, eight tonnes of dark chocolate-covered cherries and plums, nearly three tonnes of apples in milk chocolates, two and a half tonnes of marzipan in dark and white chocolate with a strawberry flavour and a tonne and a half of apricots in dark chocolate.

It is the story of Mareks that first comes to mind for Jānis Tilibs, Head of the EU Projects Department of the Latvian Chamber of Commerce and Industry. The objective of DELBI2 was to promote the export of businesses in the food, timber and tourism industries by organising trade missions, export training, forums and participation in exhibitions. “I am pleased that this project has been able to support one of our main directions of operations – to support our members in export development and raising competitiveness,” says Jānis.

The partner of DELBI2 in Estonia was Vaido Mikheim. “It didn't really have to be special: establishing contacts is possible at both smaller and larger events,” explains Vaido when asked how this project was special in comparison with others. “What is special is that exhibitions take place because every little step towards the goal is important.” Estonians have done well in both the forest-working and start-up sectors. It was surprising that the spa hotel Kubija attracted the most guests after the small exhibition in Valmiera rather than the big one in Riga. While the residents of Riga have spas galore, those of Vidzeme might prefer going to one across the border. “It is important to take part in exhibitions because this is how you can remind partners about your business: this is our third year here, which means that our business is doing well. I am certainly no one-day creature,” concludes Vaido.

WITH BRIGHT EYES TOWARDS A BETTER

Ieva Alberte



Competition *Energy Advice* winners
Jelizaveta Dzigurski

Dita's mission is to give children alternative ways of learning. "Chalk and blackboard no longer suffice. A teacher must be a fun leader, not an authority. I believe that children can learn difficult tasks through the game element," says Dita Lašinska. With her team, several years ago, Dita established a Museum of Science and Technology at Ventspils High Technology Park. With its expositions and creative workshops covering topics of climate change, the team regularly visited schools and events. As she observed the

children's interests, Dita realised that they are keen to learn about ecology, but there are too few activities at workshops. An internal survey conducted within the organisation showed that only 43% of respondents are knowledgeable about what energy efficiency means. Upon learning about ESTLAT, an idea emerged to create new workshops and implement these on a cross-border level. The project *Energy Advice* for grade 6-9 school students of Latvia and Estonia was created. Dita's colleague Eliza Cimdiņa says that six workshops about energy saving, led by specialised session leaders, were brought to schools in spring 2019. The children enjoyed the workshop 'Escape energy losses' the most, which was presented according to a principle of escape rooms. It included several boxes containing challenges about energy efficiency. As challenges were solved, the students obtained a code which opened the next box. The range of topics in workshops spanned from recognising energy-saving bulbs to sorting waste. "The children understood that they are able to affect quite a lot in this world," says Eliza.

In autumn, children participated in the competition *Energy Advice* and the winning participants attended the final at AHHA Science Centre in Tartu. Grete, Maria and Meene, who are in grade 6, were a bit worried because for all three of them, this was the first international competition. The Estonian girls were the youngest contestants, but they dealt with the environment and energy-saving tasks really well. The girls won! "It was probably because we had a good team and a good teacher," says Grete.

"It was certainly because the girls are very clever, each having a strong suit. For instance, Meene in physics," remarked biology teacher Helina Semlarski from Tartu. Meene enjoyed the competition because "you couldn't just apply a ready formula; you needed a different approach for each task". Maria confirms this, saying, "We weren't bored even for a minute!" All three awards went to Estonians. "Our neighbours were more knowledgeable. They were more prudent, while we rushed to solve the tasks. That was our error," admits Viesturs from Viesīte Secondary School, who achieved high 4th place. Back then, Viesturs was in grade 9, with maths being his strongest subject, and he thought he was knowledgeable in environmental matters. He sorts waste at home and makes compost. The competition gave Viesturs practical knowledge, for example, about what exactly the new energy-saving labels mean on household appliances.

“We weren't bored even for a minute!”

Dita's idea – to give in-depth knowledge about energy efficiency – has been fully achieved. With *Energy Advice*, 43,000 individuals, of which 4400 are pupils, have been reached. When children are enthusiastic during her workshops, Dita is happy. "I can see their eyes shining bright. I see that things can be different. Better."

DISPERSING NEIGHBOURLY CONFUSION

Ieva Alberte



Mārcis Petrauskis
Mareks Galinovskis

A wild tuft of hair and a big heart. This is Mārcis Petrauskis, who is studying veterinary medicine at the Smiltene Vocational School. After a month-long internship at Loomakliinik in Valga, the staff were sad to say goodbye from the young Latvian. "It was great! For the first time, I saw how a wild boar was tested for trichinellosis. The varieties of canine dermatitis was also something new," says Mārcis, who has previously undergone internships in France and Latvia. During his first days at Loomakliinik, he asked to be given little tasks and was allowed to shave the belly of an Estonian female

cat under general anaesthesia before neutering. Head of the clinic Jaan Luht says that the young man fit into the team really well because he was able to explain in detail to Latvian clients what is being done to the animal and how to help it recover. "I am ready to accept anyone from Latvia who is willing to learn and work," says Luht.

Mārcis was one of 81 young people who participated in vocational education internships in Latvia and Estonia. The authors of the idea are Vita Žunda from SIA Baltic Bright and Līga Sičeva from the Latvian Chamber of Commerce and Industry. Vita recalls that the work of implementing ESTLAT-WBL at the very start did not go as smoothly as they had hoped. "Various specialisations, very specific company requirements – we were at our wits' end," recalls Vita. It was not easy to find companies in Estonia and Latvia. Vita met up with their managers to understand what kind of employees they are looking for. Then, internship criteria were developed and leaders were trained in workshops. "Internships must be of high quality. This is achievable if all parties involved work closely together: the vocational education establishment, the company and the student."

At the first meeting with the partners of Estonian vocational schools, Vita was asked: why should young people look across the border if there are exchange programmes available in Italy or Portugal? "It was me who asked this because on a daily basis I see students trying to get internships in southern countries – they long for something different," chuckles Siret Lillemäe from Võru VET. Nevertheless,

“” *Why should young people look across the border if there are exchange programmes available in Italy or Portugal?*

ten youths from the Võru School took on internships at an IT company in Riga, at Saldus Vocational School and at the Ogre Vocational School

to practice joinery. "The boys returned very pleased," says Siret. The benefit is that the internship was available to younger students because they did not suffer from a culture shock and could return on weekends to visit their parents. "Now, I have established much closer ties with other vocational schools in Estonia," explains Siret.

Having received initial feedback from heads of work placements, she breathed a sigh of relief. "They are so good at it! All of the participants are satisfied, which means that vocational education internships between Estonia and Latvia have potential sustainability," Vita is convinced. She was thoroughly touched as she read about the experiences of students. "I learned to make macaroons", "I understood how to make an injection while not spooking a horse", "you need patience in welding", "I never want to work in a factory". This was also a worthwhile experience, and Vita believes that it helps people understand what they want for their future. "The main thing is that they are not confused and don't simply sit through secondary school without understanding what they want."

LONGEST HIKE IN THE BALTIC REGION

Ieva Stare



On the Latvian coast
Ilmārs Znotiņš

“My connection with the Baltic Coastal Hiking route (Jūrtaka) was written in the stars,” explains biologist Juris Smaļinskis from the Latvian Country Tourism Association “Lauku Ceļotājs” about the creation of the hiking trail along the Baltic seashore in Latvia and Estonia. As a bird-watcher, he started walking and cycling the Baltic Sea coast back in the 1980s and 1990s, covering the entire route of the trail on his own. Back then, there was no access to the sea in many places due to restricted military zones, and information about coastal objects often had to be sought in libraries. Today, the Baltic Coastal Hiking route is fully mapped, including information about nearby points of interest and signs set up in nature.

Being aware of the fantastical coastal resources and the lack of a uniform tourism product, in 2016, "Lauku ceļotājs" started implementing the Baltic Coastal Hiking route idea, not even suspecting that in a few years the trail would draw multitudes of hikers. The 1203-km-long route from the border of Lithuania – Latvia up to the north of Estonia is divided into 20-km sections with transport and accommodation opportunities. "The Baltic Coastal Hiking route is nothing extreme – the route can be covered in stages over a longer period of time. Once it has you hooked, you can try out a longer hike," encourages Juris.

Initially, Baltic Coastal Hiking route was to end not far past Haapsalu, but the country tourism enthusiasts

of Northwest Estonia managed to extend the route to Tallinn. "We had no funding for it, so we sought money elsewhere and did a lot of work ourselves," says the regional manager of the project Ede Teinbas. As a result,

“” *The Baltic Coastal Hiking route is nothing extreme – the route can be covered in stages over a longer period of time. Once it has you hooked, you can try out a longer hike.*

the Baltic Coastal Hiking route has gained an interesting section where pebbled beaches alternate with sandy ones, and breath-taking views open up from steep cliffs. "Perhaps, it is more difficult to hike there, and in some places it might even be dangerous, but it is more exciting!" she says happily.

While the Appalachian Trail in the USA took several decades to set up, the Baltic Coastal Hiking route idea was realised in only a couple of years. This was facilitated by the involvement of local tourist information centres to maintain and improve the trail. To ensure that travellers do not have to make a 10-km detour, the cable bridge of Lielirbe was restored over the Irbe River in 2020. Not long ago, Lithuania was added to the Baltic Coastal Hiking route, thereby linking all three Baltic states in a 1420-km-long route.

The Baltic Coastal Hiking route benefits the locals, too. Dženeta Marinska from Kolka, in her holiday park Ūši, is rushing to finish the guest house with special facilities for drying clothing and shoes and for doing laundry as well as a bicycle rack and a sauna. She got the inspiration from the Baltic Coastal Hiking route Manual for businesses, which gives practical advice for creating a service suitable for hiking tourism. In her opinion, such grand projects change peoples' preconceptions about nature tourism and extend the tourism season – there are weekend guests at the Ūši campsite even in winter. "Our coastline is so diverse, and every so often you can come across other hikers and wild animals as well as enjoy bird-watching. It is a real adventure!" says Dženeta.

FROM TAPES TO THE LIVONIAN SILK ROAD

Ieva Stare



A vinyl session at the festival Analogue Livonia
Kiur Kaasik

Enthusiasts of analogue music records Didzis Staris and Ahto Külvet already knew each other, but an important meeting occurred in 2018 at the creative industry and social entrepreneurship seminars for Latvian and Estonian businesses. Their passion for vinyl and tapes grew into a friendship and

then into an idea to create a tighter network of cooperation between Cēsis and Tartu.

Didzis is the curator of culture processes at the Cēsis' Art Space Mala, whereas Ahto is an active figure in the Tartu culture environment and manages a vinyl music shop Psūhhoteek. With more than two hundred participants in Social & Creative seminars and experience exchange trips, they tried to scope out cooperation opportunities between both countries. Moderator of seminars and mentor of entrepreneurs Līva Stūrmāne from the Latvian Young Entrepreneurs Centre Jobs & Society admits that neither the Latvian nor the Estonian market in creative industries is self-contained, therefore cooperation must be considered from the very first day.

"We can be very useful to each other – with the people we know, with the advice we can give and with a supporting attitude in exploring the export market of the neighbouring country," Līva stresses, adding that creative and social entrepreneurs build cooperation very easily because they do what they like and are good at.

Several interdisciplinary teams formed during the seminars, and at the end of the programme, the idea of Didzis, Ahto and Ilze Salnāja-Vārv, a Latvian living in Tartu, to create a cluster of Livonian music and culture exchange events was chosen as the best new idea. In March 2019, the analogue music and technology festival Analogue Livonia organised by them in Tartu gathered representatives of independent music publishers and culture venues from Estonia, Latvia and Russia. "We showed off our talented musician Evija Vēbere, demonstrated Erica Synth modular synthesisers manufactured in Latvia and introduced the records of independent music publisher Jersika Records," recalls Didzis.

"The most valuable experience was meeting each other and understanding that we are brought together by similar creative interests – this gave impetus for further activities," says Didzis on cooperation with Ahto. "Estonians and Latvians don't really know what's happening next door, which is why we want to establish a 'silk road' of the historical Livonian region for cultural exchange. We have many ideas for joint projects – to show each other the interesting events taking place."

“ We want to establish a 'silk road' of the historical Livonian region for culture exchange

Since then, they have organised a range of joint culture events within the framework of the Latvian Poetry Days, they have started cooperating with the Estonian literature festival PRIMA VISTA and they are currently preparing events for Tartu as the European Culture Capital of 2024, in which the art space Mala, Erica Synth and Jersika Records are the programme's cooperation partners in Latvia.

FROM A BRIGHT IDEA TO A START-UP

Madis Enrik Must



TRIT team with pre-acceleration organizers

When you get a new idea, you may find it wandering in unfamiliar directions, raising your mood as well as your blood pressure. Your ordinary daily rhythms may be disrupted for days. In order to solve this, just take a deep breath and wait for a bit – the idea will eventually go away on its own and you can stay calm and continue with your life.

However, some may find themselves fixated on their business idea, galloping like a unicorn across a green landscape of start-ups in Estonia and Latvia. In this case, it is better to find like-minded people and turn to experts for help.

“At such an early stage, we cannot tell whether there is actual demand for the business idea. Often there is also no team who can make the idea come to life,” explains Rene Tõnnisson, board member of the Baltic Innovation Agency, who led three Latvian-Estonian pre-accelerator programmes welcoming new entrepreneurs from various fields. “There are, of course, plenty of other topics, such as product development, financing and marketing that are also important for new startups.”

There were a total of 38 teams participating in the pre-acceleration programmes. They attended conferences, got involved in workshops, were brought together with experienced entrepreneurs and mentors and were encouraged to interact and practice public speaking as much as possible.

“I am confident in saying that if it had not been for this pre-acceleration, our journey would have been significantly different,” says Eha Mäesalu, who founded a translation start-up company TRIT together with her brother. The company gained momentum in a pre-acceleration programme and combines the best aspects of translation and IT, making the procurement process of a translation simple, transparent and fast.

Mäesalu says that interacting with mentors was definitely what benefitted their team the most, as they received valuable feedback and learned how to present their ideas better.

“I feel that even the shortest conversations with Viesturs Sosārs taught us something important, because he always had some encouraging words, advice or a warm friendly smile to offer,” says Mäesalu, who had the opportunity to present her idea to a larger audience for the first time at a demo day organised by TechHub Riga.

👏 *The mentor always had a word of encouragement, advice or a warm friendly smile to offer.*

She was also glad for the opportunity to attend conferences where she had the opportunity to get to know other start-ups and see what could be done in the field. A few years later, their team has four members and they offer internships to students as well.

The organisers of the pre-acceleration say that after the programme almost half of the participants continued to work on their business idea, including several mixed Latvian-Estonian teams. Participating in such pre-accelerators often has a snowball effect, leading start-ups to an actual accelerator or business incubator, for example.

SUCCESS OF NATURAL INVENTIONS

Madis Enrik Must



STARTUP day on 25 January 2019
Tiina Tasa

There are approximately 300 biotechnology companies in Estonia and Latvia, many of which add value to the local flora by creating, for example, new food ingredients, medicinal products or natural cosmetics. As I look at these unique inventions, I'd like to ask why I hadn't known about many of them before.

It may be that small businesses with extremely talented people are committed to improving their products, often needing advice and support on different topics. How do you market yourself in a convincing way or encourage sales, how do you enter a foreign market, who should you form partnerships with and where can you get financing?

"The issue of intellectual property is also very important for biotechnology companies in order to protect and market their unique solution and not get

trampled over by the big players,” explains Eleri Seer, project manager of Tartu Biotechnology Park, who with her colleagues helped advance the businesses of many ambitious research-based enterprises through the Latvian accelerator programme Buildit.

A total of a few hundred entrepreneurs took part in workshops, trainings, seminars and meetings on both sides of the border. “There were companies with very different backgrounds, both student and long-established companies who were looking to find new innovative solutions and markets,” Seer says. Of course anyone can educate themselves in their home country, but after a bit of mixing, Latvians and Estonians soon concluded that by working together, they have a chance to leave a greater impression in other countries.

Six entrepreneurs participated in a business laboratory lasting almost two years where they were introduced to a number of tools to help promote their businesses and were connected with the top players of their field. Undertakings included a computer game for speech therapy called Cheek-sUp, health monitoring device Brainarch and Vetik, which produces red color pigment from red algae.

“Although I have met with a lot of mentors over the years, there were two Latvians who advised us throughout the programme and had a completely different approach,” admits Valmar Kasuk, leader of Vetik. Using a constellation method from psychology, they were encouraged to discuss larger subject matters such as the development of the start-up, inner motivation, and the roles of the shareholders.

“Workshops for business development are extremely important to us, because we come from the field of science and adapting our ways of thinking for entrepreneurship requires consistent work,” Kasuk adds, pointing out, for example, understanding customers, anticipating obstacles and financial planning.

👏 *Adapting our ways of thinking for entrepreneurship requires consistent work.*

At the end of the training programme, the company had the opportunity to practise their elevator pitch to investors, while testing their self-confidence and presentation skills. One participating company, that had considered its activities just a hobby at the start of the accelerator, was later ready to attract investors.

In addition to self-development, they enjoyed getting to know other companies who were moving in a similar direction. Participants say that they still keep in touch with some of the companies as everyone benefits from having peers who will keep their fingers crossed for them and offer help if necessary.

BUSINESS IDEA GENERATOR WORKING AT FULL SPEED

Tiia Kõnnussaar



Joint visit to a fair
Anneli Roosalu

Friends and acquaintances describe Aigars Fridrihsons as an open-minded person who always has a smile on his face. It's no wonder then that Aigars was one of the entrepreneurs who took part in the joint venture between two LEADER-areas – Mulgimaa Development Centre and Sernikon just outside of Riga – and the municipality of Salacgriva to get up to date on what their neighbours are doing. Aigars' enterprise L-Parkets is located in Salacgriva and manufactures designer lamps out of wooden details.

“We started off by introducing people,” says Anneli Roosalu, who was Head of Mulgimaa Development Centre at the time. First, entrepreneurs from Viljandi, Tõrva and Mulgi rural municipalities visited Latvia, where a joint seminar was held. As Salacgriva river is a great source of river lamprey, they tasted the region’s fish products and then visited a potter’s workshop, a bakery, a peat factory and more. Estonians noticed that the people in Salacgriva have created a network that markets their products in a local store under the brand “Made in Salacgriva”.

One of the intents of this neighbourly meeting was to encourage the entrepreneurial spirit of young people. In Viljandi County, they visited software company Ezil, hydraulic cylinder company Nuia PMT and a winery in Morna village. “The idea was to show young people to dare to dream,” Anneli Roosalu says. “It was especially valuable that the entrepreneurs talked honestly about their problems and how they solve them.” A great example is AMV Metall that started out manufacturing snow plows. Then winters with little snow followed and the factory had to reorganise their production. By now the company has expanded and is manufacturing metal structures all over Estonia and abroad.

“It was especially valuable that the entrepreneurs talked honestly about their problems and how they solve them.”

Collaboration between partners expanded even more than planned: a student company fair in Valga was a good place to invite Latvian students and teachers. That gave the students from Salacgriva the idea to start founding student companies at their school as well. In the summer, students from Estonia and Latvia participated in a business camp where they had to develop their own product or service. In order for students to see with their own eyes how people earned their income in rural areas, they toured around Latvia and Estonia. For example, they visited Urissaare Farm: Priit Oks, the owner, arborist and event manager, organises a farm festival every summer. The camp ended in farewell tears; and hopefully in addition to business knowledge, young people also improved their English and Russian skills.

Collective fair visits to Germany and a handicraft fair in Finland were very well received by the entrepreneurs. Later some entrepreneurs got together and went to the famous Grüne Woche; Estonians often visit the Valmiera fair and Latvian traders can often be seen at the Karksi-Nuia and Mõisaküla fairs at the border. “Learning about the activities of our neighbours inspired both parties and we made nice memories,” Aigars Fridrihsons says. “You’ll never know where you need to use what you learned. Not to mention that I also got to know my Latvian colleagues and beautiful Estonian girls.”

Solutions

ONE CARD INSTEAD OF FIVE

Andrejs Rjabcevs



Julia's Best shops have been using ID card client loyalty system
Jassu Hertsmann

How great would it be if you could replace the numerous plastic loyalty cards from various retailers in your purse with a single card that entitles you to client benefits! This is what Ralfs Meždreijs from the company ID Karte was thinking a few years ago as he was searching for business ideas. Not to create a single new plastic card to replace five others, but to come up with a completely novel system in which the client does not need loyalty cards at all and the benefits due to them are recognised from their official national identity document or ID card.

Currently, the client loyalty system developed by ID Karte alongside Estonian partner Kliendikaardikeskus is used by small clothing and footwear shops, cafés and bakeries as well as many other retailers and service providers. Mostly small and medium operators who have limited resources and no need to create their own complex client databases or personalise a special loyalty card for each of their clients. It is enough if the client produces an identity document, such as an ID card issued by a government authority, and the system recognises the available benefits, such as a free coffee if five have already been bought, discounts on the purchase amount for the total amount of purchases over a year or special offers which are available only to long-term clients.

“For a while now we have been using the ID card system (IDkliendikaart) and as a result we have made our work process faster and marketing more effective. It is also more convenient and faster for our customers,” admits Virginia from the Estonian small clothing retail chain Julia’s Best. She also explains that the system has recently been updated to include a marketing environment, which allows the company to obtain more accurate data about customers and organise various marketing campaigns based on these data.

Ralfs Meždreijs points out that, in the development of the new client loyalty system, an important consideration was not to convince large retailers, but to alleviate the day-to-day life of small entrepreneurs and to make shopping simpler for users. “A small footwear shop, which previously might not have known much about their client, is able to access their client, send them information about new deliveries and special offers and ensure that they return to the shop. And all this without new plastic cards that not only encumber the business, but also damage the balance sheet and the environment,” explains Ralfs.

““ *Plastic cards that not only encumber the business, but also damage the balance sheet and the environment.*

ART AND EDUCATION CHANGING ATTITUDES TOWARDS WASTE

Astra Spalvėna



Justin Tyler Tate searching for materials for his artwork
at the dump
Institute for Environmental Solutions


“Waste is part of our culture,” claims Indrek Grigor, one of the co-curators of the exhibition ‘NOT out of sight, NOT out of mind’. The exhibition urges us to ponder the fact that our rubbish bin is not an endless black hole, where

everything you put in disappears and requires no further thought. Quite the contrary: waste is our responsibility and an inextricable part of consumption. This is the talk of the exhibition, which draws 17 artists from nine countries using various means of expression, including sound, installation, fashion, artificial intellect, painting, etc. Art works have been created from materials discarded as waste. This has required the artists to acquire new skills and knowledge in physics, chemistry and botany. Similarly, new skills are needed to deal with waste – you must be able to transform it for it to be reused or know its properties well to recycle it correctly.

“At first sight, Latvia and Estonia appear to be ‘green’ countries. However, this is not the case, judging by the amount of waste that does not get recycled or reused, but instead is simply buried,” explains Project Manager at the Institute of Environmental Solutions Guna Dātava. To remedy this situation, we first need to change the way society perceives waste. The Institute of Environmental Solutions, in cooperation with partners in Latvia and Estonia, chose two paths to achieve this – through art and education.

Art can be more convincing than facts and figures, as it provides an opportunity to change your viewpoint and see a particular object from a new perspective. “Day-to-day objects become nearly invisible because we get used to them. Once we see them as raw materials for art works, we notice their potential for reuse. The aim of the exhibition is to inspire everyone to find new ways of using things that we normally discard,” suggests Guna.

A creative approach to give a second chance to things is essential in another area of activity – education. 24 schools and kindergartens in Estonia and Latvia started by looking at their waste and their habits of creating and discarding it and then tried to find ways to change this in order to reduce the amount of waste. Many schools reached a conclusion that the waste issue can be resolved with minimal means, simply by making different decisions. For example, we can stop using disposable tableware or décor and allow children to serve themselves the portion size that they want at lunchtime to reduce food waste.

Children are particularly happy to make things themselves. This is why workshops with artists were particularly interesting and creative, showing how to reuse paper and fabric to make something new.  *Today's children are tomorrow's decision-makers.* Head of Tipu Nature School Dagmar Hoder looks at the

future with optimism. “Today's children are tomorrow's decision-makers. They are influencing their families as they share the knowledge acquired at school. This way, the day-to-day lives of households are gradually changing.”

HOW SYRUP CHANGED THE WAY A COMPANY THINKS

Astra Spalvėna




Glucose-galactose syrup production
Irina Stulova

What to do with 70 tonnes of whey a day? Approximately this much is left over after cheese is made at the company Smiltenes piens. To ensure that the disposal of whey is environmentally friendly, it is necessary to reprocess this considerable amount into useful products.

In 2010, Smiltenes piens started producing an innovative product – concentrated whey protein Piena spēks. However, after protein is separated from whey, there is still lactose left, and this also needs to be processed. Chairperson of the Board of Smiltenes piens Ilze Bogdanova says that the company has purchased equipment to produce syrup from lactose for pastries. “We tried to discover the most suitable production technology but realised that it is too difficult to experiment this way with industrial equipment and that we needed to engage the help of a laboratory. We found it in Tallinn.”

“From the very outset, the company knew what it wanted to achieve – the main goal was to improve the flavour of the glucose-galactose syrup and to achieve production stability to ensure consistency across all batches,” explains Researcher of the Center of Food and Fermentation Technologies Irina Stulova. The researcher has vast experience in work with milk products and lactose, but even she was surprised to find out how similar the whey-based syrup is to honey – the pleasantly yellow colour with a sweet, almost floral taste and somewhat sour, slightly salty aftertaste. In the test kitchen, several types of pastries were made: poppy seed buns, oatmeal biscuits, brownies, gingerbread cookies, rye bread and ice cream. Eight experienced taste-testers tried these out and compared them with control products with added sugar. Adding the syrup made the bread products more moist, they stayed soft longer and had a higher nutritional value. The syrup was deemed suitable to make pastries and confectionery.

However, upon return to real life, it was found that the costs of producing the glucose-galactose syrup are too high and cannot compete with the similar glucose syrup. Special equipment had been sourced for production, lots of work had been invested in developing and testing the product, but they had to accept that the results in a laboratory setting differ from the reality of a production setting. “This process helped us give up all hope,”  *Whey is not a waste product; whey is a raw material.* concludes Ilze Bogdanova. “However, it also taught us a lot and, in effect, changed our thinking. Now, we understand that whey is not a waste product, but rather a raw material.” Today, Smiltenes piens uses whey to produce lactose solution and condensed whey. The global market situation is favourable for these products, as they are used to make dry skimmed milk as well as condensed milk. “This experience has been invaluable. We haven’t given up experiments and cooperation with research institutes – we are in the process of making a new product, but it is still a secret,” Ilze says optimistically.

FUTURE ASSISTANTS

Ieva Alberte



Picture is illustrative

The hens are not even aware of how much their owner Nauris knows about them. There are 5000 egg-laying hens in Straupes Ligzda coop; during the day, they roam freely in their enclosure but go to the farm to feed and lay eggs. There, with sensors and cameras, their productivity is monitored by an

IT herd based in the cloud – statistics and monitoring platform PFM-AIHEN. It records the size of the eggs, the amount of water and feed, the ammonia level and many other values. The Straupes Ligzda coop in Vidzeme is the key trial site and cooperation partner of the new programme. Its owner Nauris Vītols explains that he agreed to try it out because he likes technology and he wanted to find out something new. “This platform serves well for monitoring only if you collect data dutifully each day. Only then can it be of help in resolving issues,” says Nauris. One drawback is the cost because the data are stored on a server. This is why Nauris uses only part of the service and continues to work with the monitoring system which he had been using already. “Habits can be very strong,” he laughs. The biggest advantage of PFM-AIHEN is that it is very simple: if you can click with a mouse, you will be able to work with the smart herd.

One of the cooperation partners in Estonia was Jarno Hermet from *Linnu Talu OÜ*, whose farm has space for 100,000 birds. Initially, he did not want to take part in PFM-AIHEN, because “a monitoring system was already in place at the farm collecting all the necessary data. At the first meeting, the authors of the idea for the platform – information technology company *WeAreDots* were so motivated to co-operate that I gave in”. Hermet explains that he was curious to find out what new technology can offer. “It is not anything particularly exclusive, which is why I use only part of the options to count eggs and determine the ammonium level,” concluded Jarno, having tried it. It is the ammonium emissions level which will soon be required to be monitored in farms in the European Union, with the aim to reduce the overall carbon footprint.

“This is nothing new, but the solution is rather innovative. The business benefits from predictability which allows us to reduce some risks,” remarks Anna Ērliha, the executive director of the Latvian Egg and Poultry Producers Association. At the first meeting of *WeAreDots*, she was sceptical about the idea because many farms already had something similar. Though not with artificial intelligence. This was convincing. The Association was interested in ensuring that the product is able to make life easier for small and medium farmers. Ērliha concludes that PFM-AIHEN is more useful for bigger farms “that have sufficient funds to buy the hardware and launch the software. The smaller ones must make big investments to be able to work with PFM-AIHEN”. Anna explains that, in general, European agricultural policy is moving towards digitalisation, which would monitor environmental impact. “Then these tools will offer good assistance.”

☞ *European agricultural policy is moving towards digitalisation, which would monitor environmental impact.*

A FOREST IN YOUR SMARTPHONE

leva Stare



ForestMan satellite image

Pille Kaas

If you have a smartphone, with the app ForestMan, you will not get lost in a forest and you will know exactly what is happening on your forest property without leaving home. The app ForestMan developed by the Estonian IT company Deskis, which uses the innovative satellite monitoring technology ForestRadar created by the Latvian company Modul, allows you to monitor the situation remotely with an accuracy of 95% and, when surveying it, determine your location in nature from GPS coordinates.

Estonian forest owners have been using similar technologies for a while now, but the existing solutions had become technically obsolete. “The cooperation proposal came from Latvians at the right time – to develop a joint solution for both countries was a great idea!” claims Manager of Deskis Pille Kaas. “We were surprised that the technology developed by the Latvians was able to offer satellite imagery without clouds, which often encumber visibility in our climate.”

ForestRadar combines satellite images with machine-learning algorithms to quickly and accurately determine changes in a forest in an area of up to 0.25 ha. “We connect with the space agency, process images and add a date, recording the situation on a specific day,” explains Ilze Bargā from Modul.

“We connect with the space agency, process images and add a date.”

By combining satellite images with the forest inventory, cadastre, address and GPS data, the application gives very detailed information to its users about clear cuttings, the thickness of the tree canopy and the height of plant cover, the surface terrain, ravines and plains. “Regular physical surveys of a forest are a time-consuming task, but technology is offering a more efficient and easier way of doing this,” concludes Pille.

Both business partners admit that the biggest problem in the development of the service was the availability of data in the databases of both countries – more open data are available in Estonia than in Latvia. Therefore, it was decided to allow users to enter the necessary additional data into a cloud server. “Users are actively reporting their needs to us, and we try to include them in the service updates,” explains Pille.

Due to the availability of regular updates, GPS data and satellite images, the application is becoming popular in other circles. Currently, though, 90% of several hundreds of users of ForestMan in both countries are Estonians. “The forestry specialists here were already familiar with similar services, which is why the number of Estonian clients continues to increase without any marketing. However, with the involvement of Latvian partners, the number of users is increasing in Latvia, too,” says Pille.

Both Ilze and Pille admit that it has been easy to work together because both parties knew exactly what needed doing and diligently completed their tasks within the set deadlines. “The service has been launched and is functional. We also have other joint plans – we will start on those when we have more time,” Ilze says optimistically.

A MORE ECONOMICAL AND ENVIRONMENTALLY FRIENDLY LIFE

Ieva Stare



Energy efficient household
Anete Grundberga

At the private home of Ieva Meikšāne constructed 13 years ago in Ventspils, during the design phase, energy efficient lighting and heating solutions were particularly considered, but the owner admits that you can always improve on something. "In comparison with an apartment, a house uses up much more resources, which is why the savings over a year can be rather consid-

erable," she says. Ieva leads the Centre of Energy Efficiency of the Green and Smart Technologies Cluster of Ventspils, and her day-to-day life is closely linked to matters of energy efficiency.

Ieva buys electrical power from the energy exchange and each day adjusts the energy consumption in line with the next day's pricing. Recently, all taps in the house were fitted with aerators and all shower heads were replaced, allowing water consumption to be almost halved. "Water consumption

“With these minor investments, my family of six can save a rather hefty amount on water.”

when taking a shower is 15-17 litres per minute, but the new generation shower heads can reduce this consumption by up to 7-9 litres. With these minor investments, my family of six can save a rather hefty amount on water," she recognises.

Ieva learned about water saving solutions at a seminar held at her Centre of Energy Efficiency, and now she applies her practical experience by developing the interactive application SmartLiving with colleagues from the cluster and partners from the Vidzeme Planning Region and the Tartu Regional Energy Agency in order to improve energy efficiency in homes.

"We know that LED bulbs are more energy-efficient, but we don't know how much we can save just by replacing bulbs," states Anete Grundberga, who leads the development of the application. "So, we decided to come up with an interactive tool that would enable precise modelling of the impact of small changes on our budget over a longer period of time." By entering data in the application about the area of the home and the number of rooms, the current appliances, lighting and heating solutions and daily habits, the user can compare their resource consumption with other users' data and receive suggestions for saving water, heating and electrical energy resources. The application allows the precise modelling of changes and gives a projection of savings over a month and a year.

Project partner Annika Urbas from the Tartu Regional Energy Agency believes that this application will be particularly useful for the undecided. "Perhaps we can help someone finally decide to replace their old fridge or switch to more energy-saving bulbs." Allegedly, Estonians are not particularly keen to change their daily habits to save a little bit of energy because "it still seems cheap". But there is growing interest in solar panels and wood-burning heating systems, which will allow the reduction of future house maintenance costs – young people pay particular attention to this when buying a house. "People want to invest in stable things, and energy efficiency is one of these things. It is also important to realise that we are living in a more environmentally friendly way," admits Annika.

EXCEPTIONALLY LARGE LAND SURVEYING PROJECT IN THE ESTONIAN-LATVIAN BORDER REGION

Kristina Traks



The 340-km-long and 30-km-wide border corridor was surveyed
Lauri Kulpsoo

Surveyors in the region of the Estonian-Latvian border were busier than usual as the entire 340-kilometre-long border corridor was surveyed. The collected data will be used to create a joint web application that will function as a tool for cross-border construction projects.

As part of the GeoRefAct project, the Estonian Land Board and the Latvian Geospatial Information Agency surveyed the border region of the two countries, 10-20 kilometres from either side using the same methods. This is necessary for adjusting the coordinates and geodetic systems of both countries.

"It is a tool and a dataset necessary for project managers and construction workers in case of cross-border joint ventures. Rail Baltic, for example, which runs from one country to the other," said Karin Kollo, Head of the Geodesy Department of the Land Board and the leader of GeoRefAct of Estonia. "Currently, the Estonian and Latvian geodetic systems are not compatible and data has to be collected separately for cross-border construction work."

The 340-kilometre-long survey is an extremely large undertaking. It should take two to three years of standard work. "We have never covered such a large area like that before so it's definitely a challenge," Kollo said. "At the same time, it is a very interesting project because it takes the surveyors to places you don't usually come across." Surveying teams consisted of four people from each country working very long hours, but it was also exciting, because surveyors always look forward to fieldwork where they can spend time in nature instead of behind a computer.

The Latvian Geospatial Information Agency is GeoRefAct's partner from the Latvian side. According to Ivars Liepiņš, head of their geodesy department, they have worked success-

fully with the Land Board of Estonia before, but GeoRefAct is the largest of their joint ventures so far. "It takes a lot of working hours but the result will definitely be worth it. Anyone who needs uniform geodetic data when operating in the border regions will definitely benefit from the special models and new tools we have created," he adds.

“Anyone who needs uniform geodetic data when operating in the border regions will definitely benefit from the special models and new tools we have created.”
(Ivars Liepiņš)

The upcoming joint application is going to be permanent and long-term, meaning it can be used as long as neither country changes its base data. "Since this is a very large-scale job, the data is not something you can easily change – it will be used for decades," Karin Kollo comments.

WASTE WAS REDUCED BY HALF

Kristina Traks



Kirsika Meresmaa in Viljandi
Lauri Kulpsoo

Viljandi Folk Music Festival as the favourite event of thousands of music enthusiasts needs no introduction. However, the fact that the event is becoming greener by the year and environmental issues have become probably as important as the choice of artists is lesser known.

Anybody who has visited folk in Viljandi has certainly noticed the amount of waste generated during the four-day music party. "32 tons of waste was produced at the festival in 2018, large portion of which consisted of disposable tableware," field maintenance manager Kirsika Meresmaa recalls. "A kilo per person! Those are shocking numbers!" Going green in the festival organisation was already in motion by then because of a project called Green Public Events, which involved events like Viljandi Folk Music Festival being organised in a more environmentally friendly way. The aims were high: to reduce the amount of waste, sort the waste, invest more in recycling and better organise the transportation related to the entire event.

Already the following year, compostable plates and utensils were in use and composting was coordinated with Väätsa Landfill. Folk fans got to take part in a practical waste sorting training. “Volunteers who acted as green ambassadors advised people on waste sorting at the waste collection points,” Meresmaa explains. This ensured that compostable tableware reached the right containers that were later transported to Väätsa Landfill where they eventually decomposed into flower soil. After the amount of waste was evaluated, the result stunned everybody – the waste produced had been cut by half!

The experience was eye-opening. “We realised we were on the right track,” Meresmaa says. “By now, when it comes to environmental issues we are absolutely convinced that there is no stepping back, only marching forward.” Their dream is to host a major event that uses reusable tableware exclusively. They have already been successful in testing it with their team of 400 on a smaller scale but catering food this way to 25,000 visitors requires a well thought-out plan and appropriate service providers. “Our visitors are ready to take that step. Many of them are already bringing their own tableware or water bottles.”

“Visitors are ready to forgo disposable dishes, many are already bringing their water bottles.”

Eeva Kirsipuu-Vadi, the leader of project Green Public Event at the Tartu Nature House, says that just four or five years ago organising events in an environmentally friendly way was not a common topic, but in recent years there has been a change in attitude. Work in that field has shown that it is possible to reduce the environmental footprint of events once the organisers and service providers contribute to it and visitors are willing to join hands as well. Most of all though, there has been a lack of knowledge and experience on how to organise events in a greener way.

With the support of Estonian-Latvian joint activities, instruction material for event organisers has been prepared. The partner on Latvian side, Web Multishop Company, took care of the digital and technological solutions. “We worked together on all levels except for wording of the content,” the company’s manager Mārtiņš Zvīgulis said.

Eeva Kirsipuu-Vadi adds that she was very pleased to hear that event organisers were interested in the topic of environmental issues as some of them contacted her after the media coverage inquiring how to join the project. “It can be said that we are no longer talking about a few good examples, such as Viljandi Folk Music Festival or Valmiera Business Conference, but environmental friendliness is becoming a natural part of organising a public event,” she says.

THERE'S NO STOPPING THE CUTE-O-METER – HERE COME THE CHILDREN'S FAVOURITES, THE SHAMMIES!

Kristina Traks



The Shammies can captivate kids for hours
Lilli Tölp

Have you heard of Sockie, Mitten, Pillow and Hankie? Let us introduce you to the Shammies, adorable and beloved book characters who are here to invite children to the magical world of books.

Shammies (lt *lupatini*, et näpsud) are adventurous fictional children's book characters whose journeys fill many books. These are not your regular story-books, however: stories are weaved by an interactive storytelling pencil. "Put the pencil somewhere in the book and the book starts talking to you," Laura Päit, the leader of the project How The Shammies Learned says. "Nowadays it's very easy to grab children's attention with phone and computer games, but we want to show them that the world of books is equally exciting and vibrant."

Päit says the Shammies help children travel and discover the world through fantasy. "These books can be used to teach colour, language and reading, and there are many assignments, songs and poems," she comments. And one more thing – every mother and father knows that sometimes children want to listen to the same story over and over again, which can end up annoying the parent to no end. The pencil, however, is always there and ready to help the child, and doesn't complain one bit when the same story is ordered for the tenth time.

The cute Shammies are the companions of children in hundreds of kindergartens across Estonia and Latvia. These fantasy characters created by the Latvian writer Inese Zandere are at least as popular with our southern neighbours as Lotte in Estonia. Not only is the Shammies' job to entertain, they also have one more secret mission: to guide children whose parents don't read stories to them or who might not have any books at home through the world of books with the help of the storytelling pencil. This is exactly what Maira Dobele, the creator of the lyrics of the Shammies, hopes for.

Jaana Koger, a teacher at Kindergarten Terake in Tartu, helped to test the texts of the Shammies books on children and uses them in her everyday job as well. She praises them and the storytelling pencil a lot. "It's a great example of how digital learning doesn't always have to include using a screen," she says. The books of Shammies hold the interest of the children for a long time, because the pictures are

“ The Shammies books allow a child to continue their exploring for a long time thanks to the magnificent pictures.

exactly what attract the children like a magnet – very detailed and colourful. And there are so many of them! "These books allow a child to continue their exploring for a long time thanks to the magnificent pictures. These are not just books to skim through for a quick read but more like a big game, thanks to the pencil that makes the Shammies come to life."

WORKING IN ANOTHER COUNTRY, BUT STILL CLOSE TO HOME

Kristina Traks



Olle Horm, in Atria Meat Processing Plant
Jassu Hertsmann

Working abroad doesn't have to entail a separation from family for weeks or months, it can be done following the example of the Estonian-Latvian border region where people have historically gone to work in a neighbouring country.

In the Valga-Valka area that type of daily cross-border commuting is quite common. Every morning hundreds of people go to work in a foreign country and return home the same way in the evening. True, traffic has mainly stayed one-way – from Latvia to Estonia – and that's for several reasons. Chief specialist of the Estonian Unemployment Insurance Fund and Head of

Valga-Valka Mobility Project Estonia explains that it is normal for people to go to work en route Latvia-Estonia for one pragmatic reason: The salary in Estonia is almost a quarter higher than in Latvia and social guarantees are better. "Estonian enterprises are very interested in hiring Latvians and that could also be seen in our project," she says.

Toiger drew attention to the joint events that helped entrepreneurs from on both sides of the border get to know each other and think about what they could do together. An employment newspaper was published, business breakfasts took place as well as an international job fair. The latter turned out to be very popular and brought together several hundred interested parties – both employers and employees. "The participants praised all the endeavours but also saw that communication between the entrepreneurs and local governments of the two countries doesn't work on its own and needs a lot of effort," she adds.

Atria Estonia Meat Processing Plant is one of the largest employers in the area and employs a number of people who cross the border every day to get to work. Latvians make up 15 per cent of the staff of the enterprise. "Some of the people from Latvia have worked for us for five to ten years already," Olle Horm, CEO of the company, says. "Working in meat industry is physically demanding and repetitive but extremely stable. This is what attracts Latvians, also wages on the other side of the border are a bit lower."

Horm says that recruitment across the border is almost the same as in Estonia: if you are a good and reputable employer, information is spread by word of mouth and makes it easier to find employees. "This means our employees who are satisfied invite their friends to work here as well," Horm says. "Unemployment in Northern Latvia is slightly higher than here in Estonia and that is why they are also motivated to work across the border."

The only problem that Horm points out regarding that type of cross-border employment is the language barrier. This is not easy to solve, as the Latvian and Estonian languages are so different that they aren't easy to pick up. They are trying to manage by using Russian, but a trend can be seen where fewer and fewer people can speak Russian, especially among younger people. Nevertheless, Horm praises the Latvian employees: "They are completely indispensable to us and we value them very much!"

👏 *The most important thing is to find people a job in the area where they live.*

Vents Armands Krauklis, Head of Valka municipality, is certain that the twin towns should be considered as one region. He focuses on one common goal: "The most important thing is to ensure our people don't look for a job in Norway, Ireland or any other country but can find work here, close to home."

HOW TO SAVE THE GULF OF RIGA?

Madis Enrik Must



Baltic Sea algal blooms

Contains modified Copernicus data & USGS/NASA Landsat program data (2019), SYKE

The condition of the Baltic Sea has not been the best in the last 100 years. Agriculture, logging, fish farming, manufacturing, wastewater treatment plants – hundreds of tons of phosphorus and nitrogen flow into the Gulf of Riga from the Pärnu and Daugava river basins, all resulting from human activity.

When nutrients reach the water, the growth of algae and aquatic plants that are detrimental to favourable habitats increases, thus reducing the number and diversity of fish species. These blooms that take place every summer lead to a lack of oxygen in the water, release toxins and form sediments when decomposing.

“It is impossible to see anything wrong with the naked eye, but eutrophication is not a phenomenon that is clearly defined, more like a general condition that does not lead to anything good,” Rene Reisner, Head of the marine environment department of the Ministry of Environment says, hoping to find realistic solutions to the problem.

Until now, it was not quite clear how many harmful toxins end up flowing from rivers into the sea, what their origin is and how much of it the gulf can handle. How do we get a better overview of issues regarding the management of water bodies of the two countries and how can we find the most effective way to help the condition of the gulf?

First, a simple addition operation was made to coordinate the method used by the two countries so far. For example, Estonian institutions had been collecting more monitoring data of the quality of the water and it was more accurate. Latvian research institutions however had been developing and implementing different calculation models to assess the quality of the water.

“A synergy emerged from the fact that good calculation models provide good results only with a comprehensive set of data,” Reisner explains. Emīls Rubīns, leading specialist of the Inland Waters Department of the Latvian Environment, Geology and Meteorology Centre, says the opportunity to collaborate with colleagues from abroad made the research much easier.

“It was a pleasure to see that Estonians are interested in what they are doing and researching. This passion motivates us, Latvians, to achieve more together as well. Estonians show us how to simplify complicated processes, how to apply the latest scientific achievements to our everyday work, how to do things slowly but thoroughly,” says Rubīns, whose colleagues in turn receive praise from Estonians.

“Estonians show us how to do things slowly but thoroughly.”

Together they drew up comprehensive guidelines and recommendations for inland waterway and marine protection managers to then follow up with concrete action. Now that there are more accurate data available on pollutants, efforts are being made to reach environmentally friendly agreements with those parties who can actually reduce the amount of nutrients reaching rivers.

At the same time, the key to rescuing the Gulf of Riga lies not only in curbing industry or agriculture. “Whatever solution is used to solve environmental problems, each individual still has a very specific and important role to play themselves,” says Reisner. Another reason to live more sustainably – the Gulf of Riga (can also be read: Pärnu beach!)

TWO BOTTLES IN ONE HOME

Madis Enrik Must



Picture is illustrative

As more and more Estonians go on shopping trips to Latvia, households have noticed that there was nothing practical to do with the cans and bottles they brought back home. Try any way you like but the recycling machines still spit out the foreign packaging.

True, people with a more practical mind took their collections of cans to the scrap yard and the more talented ones designed flower beds out of bottles. The majority dutifully threw their tin cans and plastic bottles into the packaging container but even that showed that there was more to the problem than just annoying bottles that couldn't be returned for pocket money.

Mixed packaging containers in South-Estonia kept getting overstacked and according to some waste handlers, there was an abrupt 20% increase of packaging waste. At the same time no recycling fee could be received from the state for processing foreign packaging, which made it more costly to recycle the material. Unfamiliar bottles could be found in nature as well as the urban landscape...

Siim Kiisler, the Minister of the Environment at the time, proposed the idea of a joint deposit-refund scheme with Latvia. The idea was ambitious, as something like that had never been done in Europe before. Optimistic voices said that since Latvia's own deposit-refund scheme hadn't taken off for various reasons, it could be immediately made compatible with the one of Estonia.

However, they had to slow down a bit because copy-pasting a solution that works in one country to another is not so easy. Rudīte Vesere, the director of the environmental protection department of the Latvian Ministry of Environmental Protection and Regional Development, says that Latvia's new deposit-refund scheme is set to start in February 2022 and is entrusted to the country's largest beverage producers.

“*Nothing like this has never been done in Europe before.*”

“Latvia needs to experience operating the deposit-refund scheme on its own first. First of all, we need to study and understand the differences and similarities between the countries and figure out how to develop a joint system,” Vesere says. Several challenges lie ahead within the country as well: reaching agreements with retailers, beverage manufacturers and importers, packaging processors and logistics companies.

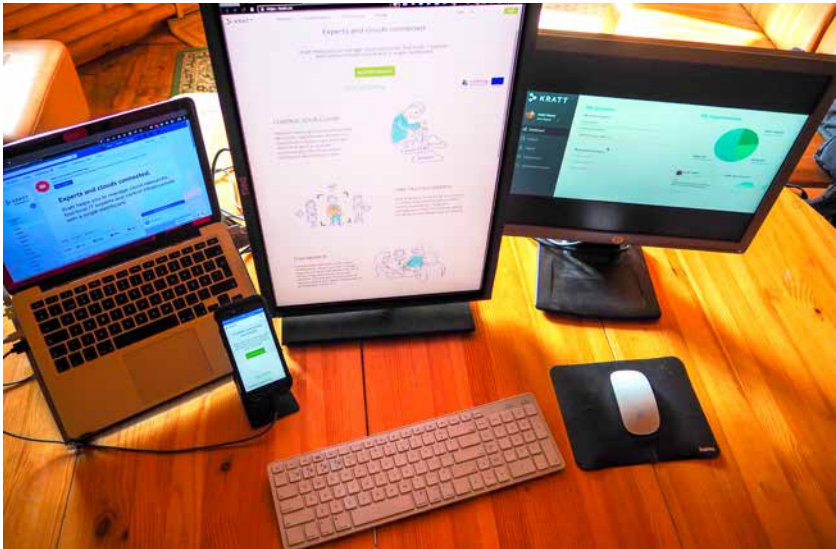
Mihkel Krusberg, the adviser of the environmental management department of the Estonian Ministry of the Environment says they are trying to find a balance where the creation of the Latvian deposit network wouldn't undermine the joint venture.

“We are trying to find solutions to several technical and organisational challenges, like transparent exchange of information of national systems, similar legislation and covering costs between the parties,” Krusberg says. “If it turns out that it is not reasonable to implement a joint system, it would still give both sides great ideas to improve their own systems.”

For example, Latvia can learn from Estonia's 15-year-long experience and, based on their development in the meantime, implement the best solutions and exchanging fresh ideas with Estonia in return. Although it is too early to talk about any concrete actions, there is one modest idea – to build smart reverse vending machines in the border town – that sounds pretty great!

BE READY TO SKYROCKET WITH KRATT

Madis Enrik Must



Experts and cloud services in one solution

Most enterprises don't possess enough capabilities to create digital solutions suited to their needs. Outsourcing and implementing suitable programs is also labour-intensive. For many, the best solution is to relocate to the cloud. Why not let cloud service providers be the ones to develop and take responsibility instead!

"Cloud services are dynamic by nature, which allows enterprises to optimise costs and be more flexible. This allows the deep competence of the field to

be transferred to the cloud service provider, while the company focuses more on its core business,” explains Andri Viiand, CEO of Kratt, pointing out that data backup, website hosting, enterprise customer relationship management or resource planning, for example, can be entrusted to the cloud.

In cooperation with CEO of the Latvian company Makonix Yefim Gasel and his team, the first version of Kratt was created – a self-service portal for managing various cloud services. They worked together to develop a business model and all their action plans, conducted market research, resolved technical issues, organised their marketing and attended events.

Kratt enables you to conveniently manage existing cloud services and start using new ones. As reorganising a company’s technical systems is complicated, the site brings together interested clients and IT specialists from Latvia and Estonia.

“It is important (in the digital field) that the specialist is from the same cultural space as the client and speaks the same language.”

“In the IT field, it is generally not very important for an expert to be physically present, because a lot of things can be done remotely,” Viiand explains. “However, it has proved to be important that the specialist is from the same cultural space as the client and speaks the same language.”

After the first 20 users had tested Kratt, it was found that awareness for the wider use of cloud services was still low here. Potential clients find it easier to communicate with agencies that act as a mediator for digital experts. Thus, the focus point when revamping Kratt was to bring together specialised experts and employers, particularly those same agencies.

As the field of information technology is largely project-based, the target groups of the revamped Kratt consist of IT companies, digital and advertising agencies. This tool helps the project managers automate their work flow and find the most suited experts for their tasks – such as developers, designers or web marketers.

“Unlike many other freelance portals, we do not employ gardeners or rocket scientists,” Viiand says, considering the solution with international potential to be unique in the world in many ways. “It is specialisation in the digital field that allows us to offer integrations and tools as additional services which can be used to implement projects more effectively.”

Apart from Estonian and Latvian companies, there are also other European countries that have been interested in the innovative solution before its completion.

NEW SOFTWARE IS HERE TO BOOST E-COMMERCE IN THE BALTICS

Silja Paavle



Product Data Sync (Telema PDS) solution
Priit Pommer

As more and more people are shopping online, merchants felt the need to create, manage and share product information more conveniently and accurately in their online stores. Within the framework of the PDS project, the necessary software solution was created for this purpose.

“Until now, there were various manually filled Excel spreadsheets in use,” said Priit Pommer, Product Manager of the IT company Telema AS. However, entering the information manually is a major source of error and causes delays and confusion in the supply chain. This in turn reduces the sales revenue of both suppliers and merchants.


20 years of work experience as an EDI or an operator of electronic data interchange has made TELEMA AS the largest company in the Baltics in this field, with a network of more than 4700 stores and 1300 suppliers.

The feedback from partners is priceless, because this is what has helped to understand the needs of suppliers and helped to make the best decisions in product development.

Customer feedback also confirmed that merchants need a software solution that would help them to conveniently handle product information in online stores and exchange it with suppliers and retail chains. In order to create this, Estonian companies Telema AS and Eritrade Kodukaubad OÜ and Latvian company ePasaule SIA joined forces.

The collaboration resulted in Telema's PDS environment, which brings together all the necessary product information and also makes it easier to share it. Among other things, it can also be used to exchange assortment and campaign tables, as well as changes in price and product information. "This solution ensures that product information is accurate and meets the requirements of retail chains," Priit confirms. The strength of the platform lies in the fact that all data is validated and transmitted over a secure channel.

In addition, the application allows the product data to be easily created, modified, updated and stored, thus ensuring the consistency of product information throughout the life cycle of the product. "Telema PDS reduces errors and costs of entering information significantly, therefore reducing possible delays and confusion in the supply chain," Priit explains, adding that this tool helps consumers receive their goods faster and ensures revenue for both suppliers and sellers.

Why is all this so important? "Product data can be considered the cornerstone of online sales," Priit emphasizes. Product name, key features, nutrition facts, ingredients, certificates and high quality images are essential for e-commerce. "If these things are missing or inaccurate,  *Product data can be considered the cornerstone of online sales.* all product information is essentially useless to the consumer," he says. It is namely the product information and its adequacy that help us make purchasing decisions.

The development of the companies themselves is no less important. Stanislav Bervjachonok, CEO of ePasaule SIA, notes that creating a software solution for his company was a good opportunity to exchange experiences, ideas and technological approaches with Estonians. "It helped us increase our professionalism a lot," he adds.

The feedback received from customers has already given the creators of the solution ideas on how to improve it. The tools needed to manage media files and the work flow are a few key points that will be addressed in the near future by companies of the two countries. Although this application was created as a collaboration between Estonian and Latvian companies, it can be used in all Baltic countries. "The exchange of product information between suppliers and retailers takes place similarly in the markets of all three countries," Priit confirms.

SPECTROSCREEN – A BREAKTHROUGH IN CANCER PREVENTION

Tiia Kõnnussaar



Interspectrum and ARS investigate the possibilities of spectrometry in early diagnostics of cancer
Lauri Kulpsoo

Incidences of breast cancer are on the rise. Every eleventh woman in Europe develops breast cancer in her lifetime, and one in eighth in the United States. The earlier the disease is found, the greater the hope of recovery. For decades, the world has tried to find simple methods to diagnose breast cancer, but so far mammography has proven to be the most effective – an expensive and quite inconvenient procedure for women.

Now there might be a new hope: a company from Tartu, Interspectrum and Riga Medical Center ARS are investigating whether cancer can be diagnosed early with hair spectrometry. It sounds almost sci-fi: it is possible that in the

near future you will no longer have to go to the clinic to check your health, but just send a few hairs to a laboratory in an envelope.

Interspectrum is an Estonian company, established in 1991, that develops, manufactures and sells infrared spectrometers. “The idea came from different research articles,” Aleksander Tõnnisson explains. “Researchers have studied the possibilities of measuring cancer-induced metabolic changes using a spectrometer. Our contribution here is how we measure and process the data. Why hair? The hair follicle, where hair biosynthesis takes place, is part of the bloodstream, so changes in the blood are stored in the hair over a long period of time.”

Interspectrum’s Latvian partner is a large private medical center ARS in Riga also dealing with cancer diagnosis and treatment. “We have a very powerful partner,” Aleksander Tõnnisson admits. “ARS’s level in cancer diagnostics is so high that Philips uses their hospital as its reference center. The people involved are top surgeons and radiologists with a very strong background.”

“We highly appreciate the opportunity to join the development of SpectrScreen and see it as a unique opportunity to contribute to a method that will improve the lives of millions of people in the future. (Jana Matuzala)

The Latvian side does not hold back when it comes to words of appreciation either. “I think SpectroScreen could be one of the most important breakthroughs in cancer detection,” Jana Matuzala at ARS says. “We highly appreciate the opportunity to join its development and see it as a unique opportunity to contribute to a method that will improve the lives of millions of people in the future. This would not have happened without the in-depth knowledge of Interspectrum researchers and the determination, energy and broad vision of Aleksander Tõnnisson as a leader.”

The possibility of remote diagnosis would mean that healthy women would be saved from radiation, medical examinations would become much more convenient and the cost of the examination would also not be so high. This, in turn, would mean that the possibility of diagnosis will become much more accessible to younger women as well – so far, only women from the age of 50 have been invited for screening.

Research on the development of the method still continues. “It has never happened that anything is ten times easier than we imagined,” Aleksander Tõnnisson says. “But it’s an issue that matters to people. It’s encouraging and we seem to be doing the right thing.”

RIVERS KNOW NO BORDERS

Tiia Kõnnussaar



Field works at Rannametsa river
Pille Vali

Latvia's longest, 452-km-long Gauja/Koiva River is a border river: a 26-km-long section is shared between Latvia and Estonia, and Gauja/Koiva is also connected to Estonia through numerous tributaries. Both the Gauja/Koiva and Salaca/Salatsi river – the latter starting from Lake Asti or Burtnieki and also flowing into the Gulf of Riga – are appreciated by canoeists especially during high water. The opportunity to glide along the rivers past

the Devonian-era sand cliffs, rare wooded meadows and magnificent native forest has attracted tourists to these rivers from other parts of the world.

“Bodies of water know no national borders,” Linda Fibiga from Latvian Environment, Geology and Meteorology Centre says. “Rivers are like blood circulation in our bodies, they pass through and connect different counties and countries.”

▣▣ *Bodies of water know no national borders. Rivers are like blood circulation in our body, they pass through and connect different counties and countries.*

It is easier to protect and preserve the wealth of a country together with its neighbour, which is why Estonian and

Latvian nature conservationists put their heads together to assess the state of Gauja/Koiva and Salaca/Salatsi and take steps to improve it.

“There was a case where we had assessed the condition of a body of water as poor and the Latvians assessed it as good,” Tiia Kaar from the Estonian Environmental Research Centre recalls. The first place to start was to review the basis for evaluation and establish a joint monitoring plan. According to the parties involved, collaborating helps to solve problems more effectively and with a deeper understanding than conventional action, because there is a lot to learn from each other. After two years of collaboration, an action plan has been compiled on how to improve the water quality of rivers and manage water resources together.

One of the tangible results of the collaboration between Estonian and Latvian nature conservationists is the construction of four cost-effective test-filter systems on smaller streams flowing into Lake Burtneiki in order to reduce the concentration of nutrients and the risk of eutrophication. The benefits of this will be seen in the coming years.

Seven Estonian and Latvian partner organisations worked to improve the water quality of Salaca/Salatsi and Gauja/Koiva. In order for the collaboration to run smoothly, both parties got together, shared experiences and trips, where the partners presented their environmental success stories and failures. “These were enjoyable and great trips that brought people closer,” Tiia Kaar says and recalls the trip to the Sindi dam. “We were there in the autumn when the salmon spawned and saw the salmon jump up from the newly demolished dam site. It was a beautiful moment that the Latvian partners still remember!”

However, the results of Gauja/Koiva and Salaca/Salatsi will only become apparent over time, in an estimated 10-15 years, if both countries implement the agreed measures. “Then we can say that the condition of the water bodies has improved and the fish have been able to move,” Tiia Kaar says. “It can be said that our current effort is a very big investment into the future.”

Places

INTENDED FOR LIFESAVERS, LOVED BY HOLIDAY-MAKERS

Andrejs Rjabcevs



Access road in Jaunciems
Inese Nikopēnsius

Ever since a new access road was built in Jaunciems in Tārgale rural municipality, leading almost to the seashore, and since the stopping and turning area was set up for cars only a few steps away from the shore, the calm and remote life of this Liv hamlet has greatly changed, at least during the summer months. The access road that leads almost to the shore, intended for specialised rescue services to be able to respond to potential eco-threats in the Baltic Sea, has become a favourite spot for many vacationers, which has brought new life and activity to Jaunciems.

“Response was immense right away; news about this place travelled around Latvia at breakneck speed and it was also noticed by foreign travellers. Basically, throughout the summer, you could see camper vans with Danish and German licence plates parked in the lot at a small distance from one another. People came to spend their holidays here, having set up their tables and chairs, enjoying the view of the sea from the window,” says Chief of Tārgale rural municipality Mārcis Laksbergs, apparently pleased.

“ People spend their holidays here, having set up tables and chairs with a view of the sea from the window...”

Tourism is only an added value for the locals of Jaunciems because safety was the main objective for constructing the access road to the sea. The road and the turning point were intended for rescue works if, say, the fire service, needed to access water, for example, to limit forest fires or carry out coastal works to prevent environmental disasters in the Baltic Sea. This is a task that both Latvian and Estonian rescue services must be ready to carry out at any time.

Margus Lindmäe oversees the Saaremaa rescue area in the Estonian Western Regional Rescue Centre. This is one of the units that, in cooperation with Latvian colleagues, would eliminate environmental disasters on the Baltic seashore irrespective of whether the source of the disaster were in Latvia or Estonia. “We can’t say that there is a major difference in the way it feels when you need to carry out rescue works in Estonia or elsewhere, but we take that into consideration,” Margus Lindmäe. Luckily, major ecological incidents have been avoided thus far, but rescuers have gained practical experience from joint training events organised for the rescue services of both countries. These events have shown how important it is to introduce uniform standard procedures of conduct and activities for joint action so that rescue works can be carried out smoothly. “If there are harmonised procedures and a good understanding of the methods and equipment to be used, then the language barrier presents no problem,” explains Margus.

A LIVING TOUCH OF HISTORY

Astra Spalvēna



Airīte station building
Ivars Salmanis

Trains go past the Airīte Railway Station and do not stop. In the 1930s, the station served as a rather important transit and trading hub, but now, out of the 30 homes near the station, only five are still inhabited. The last train stopped here in 1993. The Stumburs family, who live across the road, had

to witness the slow demise of the empty station. Until finally, in 2012, translator and guide Pēteris Stumburs found the opportunity to buy the station building. "This was an emotional decision, as we wanted to save the building. We were gradually doing restoration works, but now we have set up three rooms to accommodate travellers have created a small history exposition," says Pēteris. "We were certain right from the start that we wanted to make this station publicly accessible, and now we have succeeded."

"Back in the day, the air was busy around the station, as this two-storey building was intended for five families. The little railway station is no longer in use, and people are leaving this remote place. Life is changing, the initial function of station is lost, but we want to give it a new purpose. Our exposition is interactive, we are trying to restore sensations and bring the station back to life." Stations attract romantic souls, as these are places where people think about meeting and separating, about new adventures and returning home. "The railroad is like the sea – endless," Pēteris concludes.

“ *The railroad is like the sea – endless.* ”

In just a short time, the Airīte Railway Station has become an important object among locals, reaffirming self-confidence and a sense of belonging. In the nearby meadow, concerts have taken place. Around 30 people gathered from all over Latvia at the reunion of the former station employees and building residents to share memories and reinstate lost childhood friendships.

The Airīte Railway Station is one of at least 65 objects in Latvia and Estonia which is joined through the route of industrial heritage. Objects are categorised depending on their function: factories, lighthouses, railways, water towers, mills. Several objects opened their doors to visitors for the first time in a long time, while others have been made more guest-friendly with improved infrastructure, restoration works and new exhibitions. "These objects help us not only to better understand the history but also to delve into the simple things occurring around us today. You can learn and try something new at each place. This is a route for inquisitive people who are looking for new, meaningful adventures, says Jana Kalve, the project manager of the Kurzeme Planning Region.

"In an age when everything is digital, people appreciate the opportunity to visit physical historical objects, to touch them and learn new skills. Even though these skills are predominantly remnants of the past, it is an opportunity to imagine how matter-of-course activities were done on a daily basis without, say, electricity. Children are particularly happy and surprised with this experience," Saaremaa Tourism Information specialist Kati Aus shares her observations.

GARDEN TRAILS

Ieva Stare



Garden of Seven Winds on Muhu island in Estonia
Sulev Vahtra

I am a city-dweller and I feel a little afraid of the real forest – I would not know how to survive outside the urban environment. When my soul, over-saturated with the vibrations of the city, wants to calm down, my garden is my saviour.

The romantic Oleri Manor garden in Northern Vidzeme takes me into a world of tranquillity where the life of a person runs at the same pace as nature. The garden and the forest park are slowly recovering the layout and the selection of plants typical of 19th century romantic gardens. There are not many trails that follow a strict route, instead your feet and gaze freely take you on their way. The finely arranged kitchen allotment and flower garden with phloxes, roses and lilacs blend into the rural scenery as your gaze roams across the large lawn enveloped by age-old trees to dissipate in the distance. "This environment and the garden are genuine and simple in their elegance – a continuation of the quest for the harmony of classicism. They reflect our daily life in a countryside manor, with sheep flocks on flowery meadows and firewood collection parties in winter," admits the owner of the manor Ieva Zemīte. In Oleri, I feel at home, where the scenery, aromas and textures are familiar from childhood.

“ This environment and the garden are genuine and simple in their elegance – a continuation of the quest for the harmony of classicism

It is the sensation of peace and safety that you lack most during this pandemic as well as the opportunities to saturate yourself with new experiences on exotic trips. Instead, our paths turn towards ourselves – it is time to highlight and reflect on things that are hidden deep in our souls.

This is why I am going further – to the Western Estonian island Muhu with its rugged coastal scenery. The Garden of Seven Winds has a Nordic temperance, with the territory of the rural yard divided into small garden forms of blue, purple, white and yellow with lavender, sage, linen and grasses. The peculiarities of the soil have forced a choice of plants typical of the area by supplementing them with garden pottery pieces. "I am an interior design architect, which is why the garden is geometrical and formed around a single central axis, allowing the visitor to see the surrounding fields and forests. There are many nooks and crannies in which to enjoy peaceful reflection," says the owner Sulev Vahtra. "I like that the garden fuses with the environment and constantly changes." I allow my gaze to freely roam across the nearby meadows and the wind to blow my mind empty.

These gardens are only the beginning of my big trip around 76 gardens and parks of Latvia and Estonia, which are connected on a multi-coloured string of Garden pearls, with outstanding arboretums, palace and manor parks and splendid front gardens. A garden embodies a person's longing for a connection with the divine, which is why this promises to be an exciting trip on which to uncover revelations about your place in the greater order of things.

UNDER THE SAILS ALONG THE EAST BALTIC COAST

Ieva Stare



Varbla harbour and restaurant
Martin Villig

Agris Stulbergs used to be a captain on a fishing boat – the grey-haired senior as the captain of the cosy Engure harbour welcomes and sees off every yacht entering the harbour. “I am proud that Engure once again has come to life and that I was chosen for this task,” he says. Agris got ‘sailing fever’ on a voyage transferring a catamaran from the Mediterranean to Riga. “We

sailed for a whole month. It is something completely different than being on a ship with an engine! Under a sail, you are closer to the forces of nature,” says the sailor.

Engure is at a distance of a day’s sail from Riga, but only a few years ago, the former village fishing harbour could not even be entered by yacht – the waterway bed was filled up, the harbour territory was dilapidated. With European financing, the waterway of the harbour was deepened, new berths and communications facilities were constructed and a service building for sailors was fully equipped.

Harbour manager Jānis Megnis boasts that the oldest Latvian regatta ‘Ruhnu Island Sauna Regatta’ has returned to Engure after many years starting from Mērsrags. Even though the harbour started operating in August 2020, 40 foreign and domestic yachts have already visited the harbour and the number of yacht club members has increased.

“Latvians have been looking to Estonia with envy for many years – their yacht harbours are being developed and sailing traditions live on with modern infrastructure,” says Aiga Meri from the Kurzeme Planning Region. Now, the number of berths in the small harbours of Latvia has doubled, navigation signs are set up for safe landing, waste water collection points, electricity and water connection points for yachts have been set up along with showers and toilets, free Internet and other services. In just four years, ca 12 million euros has been invested in improving 23 small Latvian and Estonian harbours to form a joint East Baltic Coast tourism sailing route.

Sailing tourism requires a network of harbours with berths every 30-50 miles, which corresponds to a day’s travel on the sea. The success of the small Varbla harbour in Estonia between Pärnu and Kuressaare is due to its location because the previous lack of a harbour here created an interruption in the sailing route. The yacht harbour in the maritime meadows was created by a private business. A day after its official opening in the summer of 2019, a Finnish yacht landed in the harbour. A year later, a yacht regatta with the participation of several Finnish yacht clubs took place here.

“To build a harbour was the dream of my father,” says the representative of the family firm Markus Sabiin. “All of us are locals and 22 years ago we opened a guest house; now, we also have a harbour with a restaurant. Soon we will finish the construction of a sauna and guestrooms in the harbour.” He expects that the business could be expanded in a couple of years to include yacht wintering services.

“To build a harbour was the dream of my father.”

GREEN RAILWAYS: EXCITING RAILWAYS AND CAPTIVATING OLD STORIES

Kristina Traks



Viljandi-Sinialliku in May 2019
Peeter Unt

How did the train collide with a cow or what happened when the row in the train got so serious that passengers started fighting and fell out of the train?

Hundreds of kilometres of hiking trails on former railways, now named Green Railways, are waiting for hikers and cyclers in Southern Estonia and Northern Latvia and offer the opportunity to be a part of the exciting railway history with its old and seemingly incredible old stories in addition to a great hiking experience.

Sille Talvet-Unt, the leader of Green Railway Estonia is a big hiking enthusiast herself. She says that there's something very captivating about the old

railways. "Firstly, everything that is left of the railway buildings but secondly, all sorts of events related to specific places – train wrecks, places where a train collided with a cow or a train was pulled to a stop because a fire needed to be put out near the railway," she says. A bunch of stories like this were collected over the course of creating the hiking trails and are now displayed on information boards for the hikers to see along the entire length of the trail. All in the hopes of making it more exciting to discover the old railways!

“ Old stories and incidents that are shared on information boards along the road make it exciting to hike on the old railways! (Sille Talvet-Unt)

Journalist Ain Alvela praises Green Railways hiking trails. Last summer, he and his wife Svetlana toured Southeast Estonia

and also cycled on the trail of Saru-Valga on Green Railways. "The trail is covered in fine gravel and equipped with information boards," Ain explains. "The ride was very interesting! You don't see very many people in that area because the trail passes through empty villages and runs largely between beautiful forests. For those who want to enjoy a pleasant bicycle ride, I definitely recommend exploring these trails."

Most of Green Railways is currently located in Latvia. Raitis Sijāts, Head of the Vidzeme Tourism Association and the leader of Green Railway Latvia, says the idea of having hiking trails on narrow-gauge railways took years to develop. In cooperation with more than 20 partners, a road network was created, and is intended for nature-friendly hiking: on foot, by bicycle, on skis, on horseback or even dog-sledding.

In two years, more than 300 kilometres of former railways were redesigned and 30 bridges were built or renovated. According to Sijāts, the most popular section is Valmiera-Limbaži "There is a lot to see there – a number of manors, including the Valmiermuiža Brewery," he says. "We have received a lot of positive feedback from the hikers and that gives us the strength to keep developing the network. New connections between different sections are already being sought out and a lot of questions are being asked about Rūjiena-Mõisaküla. I assure you that hiking enthusiasts do not need to worry about these trails getting overgrown, because we have the budget for maintenance and development."

He emphasises that the network of hiking trails is beneficial for the local population, because when there are more people on the move, there are also opportunities for business, accommodation and catering for example. Sille Talvet-Unt adds that the new trails are exactly what visitors would want – they offer interesting information and learning opportunities in addition to an experience in nature.

SWING ACROSS THE BORDER: THE UNITED CITY CENTRE OF VALGA-VALKA

Kristina Traks



Jiri Tintera in the new joint town centre of Valga and Valka
Jassu Hertsmann

Would you like to sit on a swing or a bench with a friend so that one of you is in Estonia and the other in Latvia? That is now possible in the new shared city centre of Valga-Valka city! The state border that for so long used to separate the twin towns is now something that connects them.

People from Valga remember the time when wine flowed next to Konnaoja/Varžupīte. After all, decades ago, the famous Valga winery was located in the heart of the city in the place where Selver stands today. On the other hand, the wasteland behind the

Latvian Valka bus station was a place for certain groups to go and mingle, and let's just say wine used to flow there as well. "In the same place

““ *The state border that used to separate the twin towns for a long time is now their connecting link*

where you can now take a picture, ice cream in one hand and *saldējums* (in Latvian) in the other ('saldejumps' in Estonian of course), we used to bottle wine, pickle cucumbers and make legendary toffee candies called Lehmakomm/Gotiņa," Marite Uibo recalls, a native from Valga who herself had worked between the walls of the winery for some time.

How did Valga and Valka drift apart? "Originally, Valga was considered one city and the place where Latvian Valka is used to be Luke community," Jiri Tintera, rural municipality architect of Valga says. "After declaring the independence of Estonia and Latvia, the city was divided in two by the border and between the two great wars, Latvians too built themselves a city centre. It was like a city with two city centres. At the same time, the Estonian and Latvian sides turned their backs on each other, even houses were built with facades facing opposite ways. In the border region of the two cities, there were backyards, wastelands and no man's land for a long time. You had to make a detour to cross the border."

Joining the Schengen Agreement in 2007 abolished border checkpoints and brought two cities closer together. It seemed logical that the two neighbours could now be connected through a shared city centre. This dream of a pedestrian promenade running between the churches of the two cities – Valga Jaani and Valka Lugaži – began to take root. Dreams have a tendency to come true, and that's what happened here. The state border that previously separated the cities has now become a smart link.

Vents Armands Krauklis, Head of Valka municipality, says that the city centre project is very important to all city residents. "The border area used to look so bad that it was depressing," he says. It is a pleasure to see that now people love to walk around there, spend time and take pictures, Krauklis says, adding that thanks to the clean and beautiful heart of the city, cross-border business will definitely gain more momentum.

AUTHENTIC CULTURAL HERITAGE IS CAREFULLY PRESERVED FOR FUTURE GENERATIONS

Silja Paavle



Suiti Open Café Days
Lauma Migoviča

Age-old traditions do not only exist in the folklore collected in a museum – there are areas in Estonia and Latvia where they are a part of the everyday life of the local people. And not only that, ancient customs are also gladly introduced to guests.

To do this even better, representatives of the communities of four regions – Setomaa, Kihnu, Suiti and Livonian coast – joined forces and set up a joint

UNESCO Intangible Cultural Heritage tourism route. For the sake of clarity, it should be noted that the Livonian Cultural Space is not yet added onto the UNESCO list. But this year, they will be applying for it – it's something they have been working towards these past few years.

First, there was a great deal of pondering on how exactly to organise it all. "It is difficult to offer culture and cultural heritage on the fly, because it's not quick flashy Disneyland attraction," says Elin Priks, director of NGO Setomaa Turism.

“ Discovering areas of cultural heritage has to be done layer by layer.

"Discovering areas of cultural heritage has to be done layer by layer, you need time and determination in order to appreciate them."

Thus, it was decided to create comprehensive travel guides for each region, explaining the specifics of the area through symbols, history and fascinating facts. Other information was also added. For example, visitors to Setomaa are advised to step in to the nearby Mooska smoke sauna, where the invigorating smoke sauna tradition of Võrumaa is kept alive and which is also included on the UNESCO intangible cultural heritage list.

Creating websites and publishing in-depth materials in order to introduce the regions as well as developing specific, day-by-day travel programmes, has paid off. Māra Rozentāle, the director of the Suiti National Cultural Center, notes that according to the data collected at the Alsunga Tourist Information Centre alone, considerably more Estonian tourists have visited the place. "The number of visitors at the tourist information point doubled in 2019," she said. "Since not everyone steps inside, it can be assumed that even more people have visited the area."

After the beginning of the collaboration, practical tricks were also included in revitalizing the region. One of the most important ones was introducing cafe days, that have been popular in Estonia for years now, in Latvia. Māra says the first one that took place there was because of the collaboration with Estonians in the Suiti area. "Cafe days were so successful that they have now become common in all of Latvia. This is a very big achievement for a project promoting cultural tourism," he says proudly.

Elin adds that every visitor to a rare area helps to pass on the culture there, as it is because of them that locals have the opportunity to show and talk about what is being preserved. In addition to keeping cultural practices alive, it benefits the preservation of the community as a whole, as tourism in heritage areas is one of the main sources of providing jobs for local people.

A number of new projects have been initiated and new service providers have been created as a result of the collaboration. It is a sign of strengthening of the communities and the fact that life in these rare areas continues on, preserving the authentic cultural heritage for future generations.

Partners

BY BUS – WITH A DIGITAL TICKET

Andrejs Rjabcevs



Validator
Inese Nikopensis

Even though the number of Internet users differs across nations and even across continents, it keeps growing every year and has now reached over five billion. Therefore, more than ever before in history, the Internet determines the way we buy things or use services, whether it is ordering meals, getting a taxi, shopping or buying public transport tickets.

The system for buying bus tickets in many places in Latvia and Estonia over the last few years has seen a significant move towards practicality and modern technology. Turnit is one of the Estonian companies, which, with Latvian technology company BMS Technology, has developed and implemented an accessible and modern system for purchasing and managing public transport tickets; the system is used by carriers in both the Baltic and Scandinavian countries.

“We help carriers digitalise public transport,” says a representative of the company Turnit Tiina Tori.

Thanks to the developed system, passengers have access to modern ticket purchasing solutions, including self-service machines at stops and on buses as well as remote ticket purchasing online.

“ We help carriers digitalise public transport.”

It is not only passengers for whom buying tickets has become simpler that are benefiting from the technology, but also the carriers themselves because it can reduce reporting and make things proceed faster. Reports and summaries which previously had to be prepared using vast data sets can now be prepared automatically. This is particularly appreciated by the company T Grupp, which is a ticket sales operator for inter-city bus passenger transport in Estonia. “Our support team has fewer requests to resolve relating to ticket exchange or adding extra services to a ticket. Our clients can now do these activities in the self-service section,” explains the company’s client support.

The Latvian company BMS Technology, which uses the ticket management system and provides ticket readers and other smart hardware solutions, is very pleased with the achievements. “We are very pleased with this unique opportunity to implement the project alongside our Estonian colleagues,” explains Member of the Board Andrejs Blažko. “This co-operation strengthens the export position of the Baltic States on the European market.”

A JOURNEY TO THE WORLD OF FLAVOURS AND AROMAS

Astra Spalvėna



Joint cooking masterclass in Riga
Ülle Jukk

Livonia – the name of a long-dissolved union of states which united a part of Latvia and a part of Estonia during the Middle Ages. This name has inspired the creation of the travel route Flavours of Livonia. Historian Ülle Jukk from

the Jõgeva County Development and Business Centre says that the chosen historical title encourages conversation about the joint culinary heritage of Estonia and Latvia. "The climate is similar in both countries, so the cultivated products and traditional preparations are similar, too. Besides, the Livonian culinary traditions were further developed in the manor kitchens of the Baltic Germans," explains Ülle.

"From the viewpoint of tourism, Latvia and Estonia are small countries and might not be interesting enough destinations for international travellers, so it is good that, based on our shared history, we can create an offer that encourages travellers to stay for two or three days. If tourists plan to visit points of interest in the area, the route offers the opportunity to explore good local food and to buy local souvenirs that cannot be found in the bigger cities or supermarkets," explains Asnāte Ziemele, President of the Latvian Country Tourism Association Lauku ceļotājs.

More than 300 producers and caterers along the route are united by the use of local products and food with local character. Travellers can learn how local products are cultivated, harvested, processed and prepared, try out some age-old trades, prepare a dish and, of course, smell and taste everything. The route Flavours of Livonia offers the opportunity to learn how to smoke fish and churn butter, make carrot pies and blood cakes and taste sweet treats and local wine, cider or beer. This is a voyage in a world of flavours and sensations. The opportunities on offer are very diverse: you can have dinner in a modern restaurant whose chef surprises you with a new take on traditional dishes or you can visit masters who show you how to make cheese or bake bread a very similar way to how they used to several centuries ago.

“ Learn how to bake bread and churn butter, make carrot pies and blood cakes and taste sweet treats and local wine, cider or beer.

The culinary heritage is a source of inspiration for caterers. Ilze Bērziņa, hostess of the cupola house 'Beyond time' in Salaspils tries to make modern dishes following ancient recipes. "All that is new is well-forgotten old knowledge. Our menu contains desserts from old recipe books but with modern names and a modern presentation. Certainly, culinary legacy is inspiring, but first and foremost we think about how to satisfy our guests, so it must be borne in mind that the modern person will not always enjoy old recipes in their traditional form. The main thing is local home-grown produce, which is rather similar to that of Estonians. With this, we each create our own culinary stories."

TAKING CARE OF THE WELLBEING OF A SOURCE

Ieva Alberte



Project partners in Kazu Grava, Latvia
Jaanus Terasmaa

I'll travel out towards the border to meet you. How far are you? This was how the telephone conversations between Inga and Jaanus usually started. When plant and water samples had been collected at the Kazu Grava near Valmiera, they had to be handed over to Jaanus to take to Tallinn. Whereas Jaanus gave what he had collected at the Võru County Matsi spring bog to

Inga to take to Riga. This is because the laboratories of both cities had equipment with different research methods. "We regularly exchanged boxes if we took samples on the same day," remembers Inga Retiķe, a researcher at the University of Latvia. It was her who created GroundEco with the objective of studying ecosystems dependent on groundwater. "I wanted to use my experience with springs to discover something new about them. I wanted to prove to myself that I can do big things." But Inga had never been involved in any international projects. Having learned about ESTLAT, she googled a centre of ecology in Estonia, got in touch with Jaanus Terasmaa and told him of her idea to research the ecosystems of Gauja and Koiva. "The spring is difficult – it feeds from a large surrounding territory. The ecosystem purifies the water, which is why it must be protected," explains Inga. One of the ways to do this is to monitor the ecosystems in order to understand how the groundwater 'feels'. It is also required by EU directives. "I chose Gauja because to me it is equivalent with the name of Latvia, since Gauja is the quintessential Latvian river. With a steep precipice," explains Inga.

The first step was to set the criteria for determining the dependent ecosystems. On the Estonian part, one of the researchers, doctor of ecology Marko Vainu explains that Estonians could participate in GroundEco in capacity of experts and offer cooperation. "We knew methods for how to recognise a potential ecosystem, how to monitor it and how to gather data. Each time, we had passionate discussions with the Latvians until we established the criteria," remembers Marko. Sampling and analysing followed. Inga was unpleasantly surprised by the data – the quality of the source in the Kazu Grava almost corresponded to the criteria of bad potable water. Marko also confirms that the level of nitrates was high. "The farms in the area have done their part, but it is difficult to convince people because, to a Latvian, a source is sacred and the water from it is good," concludes Inga.

“ Inga was unpleasantly surprised by the data – the quality of the source in the Kazu Grava almost corresponded to the criteria of bad potable water.

It is difficult to assess the 'wellbeing' of sources just by looking at them. To collect more data about them, GroundEco will continue with WaterAct – the vast monitoring of sources in both countries, in which everyone can get involved. By downloading the application Allikad, the nearby sources will be shown. You can collect data, photograph the place of outlet and determine the speed with a stopwatch. Inga says that training is planned in Latvia to prepare biotope experts. "The concept of dependent ecosystems is a new one, and WaterAct will be a way for us to study them in practice," says Inga.

MEN TO LIVE LONGER

Ieva Alberte



Vitālijs Skrīvelis
Mareks Gaļinovskis

If Lote knew Vitālijs, she would invite the Latvian to move to the Village of Inventors. Vitālijs with his PharmIdea team would certainly be able to come up with a COVID-19 vaccine, too. PharmIdea has managed to create world-class products which are exported to 53 countries: cancer medicines, postoperative anaesthetics as well as medicines for injections to delay premature birth. Several other products are under development. One such product is being created in cooperation with Estonians at the Tartu TBD Biodiscovery OÜ laboratory to diagnose prostate cancer using the positron emission computed tomography (PET/CT) method. Positron emission computed tomography is one of the most accurate cancer diagnostic methods in the world and it incorporates two tests in one, allowing the detection of tumours quickly, accurately and in the early stages. This is a way to determine whether and where cancer cells are found in the prostate. “Until now, we had not addressed this cancer type due to very simple reasons: firstly, we did not have the necessary machinery, secondly, prostate cancer is mostly treated with tablets, but we specialise in injections,” explains Vitālijs Skrīvelis, co-owner of PharmIdea. In order to implement the project, they needed a laboratory highly skilled in synthesising. Tartu had one. Yes, it could have been done in Latvia, too, but it is TBD Biodiscovery OÜ that has the good manufacturing practice (GMP) standard certificate, which is a prerequisite and an important quality label for developing and manufacturing

medicines. The company PharmIdeia also has the GMP certificate. The EstLat programme was perfect for kick-starting the research: PharmIdeia gained new important equipment and good partners.

The study lasted for two years. The necessary active substance was synthesised at the Tartu laboratory, while PharmIdeia developed the finished pharmaceutical form as sterile

injections. With the Estonians, they developed the precursor for cancer diagnostics – a product one step before the final ready-for-use version. On the bases of this product, the

““ *We had not addressed prostate cancer because we didn't have the necessary equipment for research.*

Nuclear Medicine Centre, in cooperation with the Radiology Science Laboratory of the Riga Stradiņš University, developed the radiopharmaceutical preparations that are used for both diagnostics and treatment. Diagnostics is performed as follows: a preparation is injected into the prostate to accurately identify even the smallest amount of cancer cells. The areas exposed to cancer cells are shown on the computed tomography screen as glowing areas. This method helps plan further treatment with the ultimate goal of ensuring that men can live longer. According to the World Cancer Research Fund data, the highest morbidity from prostate cancer is found in France, while Estonia ranks 5th in Europe and Latvia 17th. Prostate cancer is the third most common malignant tumour in Latvia. “Therefore, the research was very important for both countries,” says Vitālijs. Whereas the treatment is organised as follows: the released radioactive radiation destroys cancer cells specifically in their grouping areas. 80 men from Latvia took part in the study. The diagnostic method is planned to be used for Alzheimer's and Parkinson's patients, too. The production of the radiopharmaceutical drug has been slightly delayed by the pandemic.

“It was a wow moment!” exclaims Olga Tšubrik, co-owner of Biodiscovery, as she remembers the moment she heard about Vitālijs' idea. She agreed straight away because she “wanted to cooperate with Vitālijs – he has millions of contacts across the globe, amazing ideas. His job is his passion”. However, there were some concerns about whether these needs could be technologically met, whether the cooperation would be successful. “As it seems that our neighbours think similarly, it will be fine, but you never know how it will end up.” Everything ended up fine, and Olga is glad that she has gained reliable and knowledgeable partners. “Yes, we taught them well in some areas,” laughs Vitālijs, who is passionate about the pharmacy – there is no doubt about that. He is adamant that people should live better quality lives. As medicine in Europe becomes more individual-based, medicines get more specific, diseases more varied, research more complex. “Niche products in pharmaceuticals have increasingly better opportunities because smaller batches of medicines for small groups of people are now more in demand,” admits Vitālijs.

WE CAN FINALLY UNDERSTAND EACH OTHER!

Madis Enrik Must



Tilde team
Mareks Gaļinovskis

Hearing the name of the world's most famous translation programme brings a smile to your face that can only be understood in two ways. Firstly, you might be sceptically smirking over a text that probably isn't correct. Secondly, you might be remembering peculiar translations that only the wittiest translation guru could come up with.

From spring 2021, the fun is over and we can finally focus on what's important. Namely, a high-quality machine translation software EstLat Translator has been launched by the language technology innovator Tilde and the translation agency Avatar with its big data set. The smart website provides exceptionally good Latvian-Estonian-Latvian translations, helping us understand and communicate with our neighbours.

In addition to other enthusiasts, it is an everyday tool for professional translators who can now use the help of machine translation for two Livonian languages.

Maria Rand, manager of Avatar, says the waiting list for Latvian translations is often very long. "Machine translation will cover the initial operations by speeding up the completion of the text by 20-30%, depending on the difficulty of the text," she says, adding that the demand for translations between these two languages has grown steadily. Despite the fact that there are about a dozen translators and editors in the company, Ranna says there are still not enough language speakers.

☞ *Machine translation speeds up the completion of the text by 20-30%.*

The intelligence of the locally developed application is based on an analysis of 24 billion bilingual sentences, most of which had accumulated on the hard drives of the 20-year-old translation agency. As these texts were generally of a technical or legal nature, everyday vocabulary was added to the memory of the machine from daily news and multilingual websites.

The technology of artificial neural networks which has only been widely used in language technology in the last decade is somewhat similar to the human brain making connections. Finding new connections between sentences translated from one language to another, the artificial intelligence invents its own system for translating languages without knowing any real grammar rules.

"Instead of combining phrases and words based on statistics or rules as previous machine translation methods did, the artificial neural network looks at the whole sentence," Mārcis Pinnis, Tilde's artificial neural network engineer, explains. "That way, it can create more coherent sentences that are usually more accurate."

Tilde has earned a respectable second place in an international machine translation systems competition for four consecutive years, successfully coupling Estonian, Latvian, Lithuanian and Polish with English. Although they remained winners next to all well-known large companies, the first place has been held for years by someone else – the human.

MAKE RADIATION MEASUREMENT EASY AND EFFICIENT!

Madis Enrik Must



Project partners
Kaspar Kõöp

Scientists use radiation measuring instruments called “gamma spectrometers” to measure ionizing radiation at nuclear power plants, radioactive waste storage sites, and other industrial and environmental areas. These devices help characterize local conditions and avoid hazards to humans and nature.

Located right here in Riga is Baltic Scientific Instruments (BSI, www.bsi.lv), globally one of the three largest companies that develops and industrially produces these devices using top quality high purity germanium detectors. In producing these portable gamma spectrometers, there is usually a trade-off between performance and weight. But is it possible to have the best of all worlds?

Previously, BSI had produced a compact, high-performance gamma spectrometer with a weight of about 13 kilograms. Weight reduction is not so

easy, as the detector must be cooled down and maintained at a temperature of -180 °C, and the cooling process is power-intensive. At the same time, portability and long operation times are very important for field applications.

Fortunately, Dr. Alan Tkaczyk from Tartu has a professional interest in this topic and arranged a technical visit to the BSI R&D laboratory, where he was kindly hosted by Dr. Vladimir Gostilo, CEO of BSI. This meeting resulted in several creative ideas.

Having seen the current model of the spectrometer, Dr. Tkaczyk suggested to apply the expertise of his co-founded company Estflow Consulting (Estflow, www.estflow.ee) to conduct a more accurate simulation of thermal processes in the spectrometer and, as a result, find a solution to reduce the power required for cooling the germanium detector.

"We were convinced, thanks to our skills, experience and ability to develop computational models of heat flows, that we could innovate and enhance product performance in cooperation with the BSI technical team," explains Dr. Tkaczyk. Indeed, Estflow is to their knowledge the only company in the Baltics that specializes in computational simulation of fluid dynamics and heat transfer. Dr. Tkaczyk clarifies, "Estflow makes a "digital twin" of the physical device, to cost-effectively optimize all design parameters."

"When we simulated the new cooling system, we closely examined the thermal processes in the vacuum chamber with a germanium detector. Using our simulations and BSI's experimental data, it was possible to solve all foreseeable problems before building the prototype," specifies Estflow engineer Dr. Priit Priimägi.

“It was possible to solve all foreseeable problems before building the prototype.”

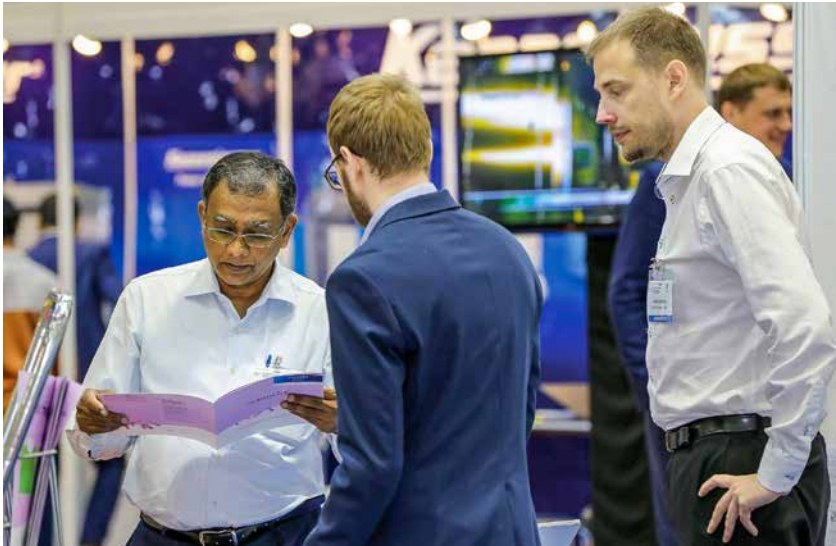
Estflow's analysis identified the locations for the highest heat losses and simulated different options to reduce losses. Estflow engineer Dr. Marti Jeltsov summarizes the results: "A solution was found to significantly reduce losses by adding a heat shield. This addition meant it was possible to use a lighter cryocooler with low power consumption."

As a result of the joint work, the weight of the spectrometer decreased by approximately five kilograms and the operating time from one battery charge was extended.

"Our jointly developed handheld gamma spectrometer weighs 8.2 kilograms and has a good battery operating time for field use. Internationally competitive devices may weigh between 6 and 11 kilograms, but detection quality varies significantly," explains BSI researcher Dr. Vladislav Malgin. The creators of the innovative device are confident that their product has an attractive position in the market.

LET'S HELP ASIA DIGEST!

Madis Enrik Must



Project partners at the fair „SEA Healthcare & Pharma Show“
Linda Litiņa

Hopefully your digestion is also supported by a number of lactic acid bacteria and fiber, i.e. pro- and prebiotics. If you prefer to avoid fermented dairy products or cabbage, you can usually get useful lactobacilli and bifidobacteria from various finished products. Help can also be found in pharmacy preparations, many of which are surprisingly produced in Estonia or Latvia.

When the best of our supplement and pharmaceutical manufacturers decided to get their foot in the door in Asia, they were in for a completely different type of digestive system. It is very difficult for lactic acid bacteria to survive in the spicy and acidic intestines of the average Asian, who is accustomed to consuming a lot of chilli. Yet, this challenge seemed achievable for our Baltic tigers.

Malaysian and Singaporean markets were targeted by visiting various trade fairs to establish contacts and promote their products. According to Vaido Mikheim, the project manager of Tartu Science Park, it was initially thought that in remote countries, small nations should join forces to look bigger and more capable. Turned out upon arrival that there was no need to worry about being a small, distant and unknown country – in Southeast Asia they tended to think of Europe as one big country.

“In general, Western products have a good reputation, but it is critical to have the presence of local partners. An entrepreneur must have enthusiasm, patience and resources,” Mikheim says referring to a certain protection circle of the local producers. However, the preliminary work gave confidence that the grounds for exporting would be favourable. Instead of competing with each other, Estonian biotechnologists from BioCC and Latvian pharmacists from Lotos Pharma joined forces to create an effective supplement for Southeast Asians from local raw material.

“The superstar of the food supplement produced by BioCC is called *Lactobacillus plantarum*, which is currently considered to be the most valuable probiotic in the world,” pharmacist Madara Jēkabsone says from Lotos Pharma, whose factory produces the food supplement with fiber and dandelion extract.

“*The superstar of the food supplement is definitely *Lactobacillus plantarum* / An entrepreneur has to have enthusiasm, patience and resources.*”

In addition to distance and cultural peculiarities, the specific requirements of packaging and product characteristics must also be taken into account regarding Southeast Asia. For example, the capsule must be of a material strong enough to pass through intense gastric acid and bile before opening in the intestine.

“The main problem is maintaining the stability of the product in hot and humid climates, where the room temperature can be up to 40 plus degrees,” Justin Hein, Marketing Manager of BioCC says, describing the production of a product called Suprabiotic. The equatorial climate requires packaging strong enough to withstand live lactic acid bacteria.

In order to be taken seriously in Southeast Asia, both the more rigid and regulated approach of the Latvians and the more flexible approach of the Estonians were beneficial, according to Mikheim’s comparison. To answer the question of where Latvia and Estonia are located on the map, the explanation that works best is in the middle of a triangle with London, the President of Russia and Santa Claus at its tips.

A SMART SAUNA FOR A SMART HOME

Madis Enrik Must



Project partners at exhibition "Comfort Home" in Riga, in 2019

Smart home solutions are not installed to impress friends or because it's cool to change the temperature from your phone. The reason is that setting a boiler, underfloor heating and radiator according to the desired time, temperature and activities of the household can save a significant amount of energy.

Don't get me wrong, smart homes are fun, convenient and impressive. Especially when you can look forward to a hot sauna in addition to a heated room after coming home from the cold. Tartu heater manufacturer Huum was one of the first in the world to create an electric sauna heater, ventilation and evaporator that can be controlled from a smart device. If you happened to lose your phone in an ice hole, the temperature can also be regulated from a control panel mounted to the wall.

Which is what caused a bit of concern. Namely, when installing the wires of the control panel, it was usually necessary to drill holes and remove sauna lining. The challenge was creating a wireless connection between the user interface and the contactor controlling the sauna sensors and regulators.

"We found Istabai, a manufacturer of smart home solutions, contacted them and found out that our know-how and needs were a perfect match," Siim Nellis, the founder of Huum says. The regulators of Istabai devices connected to the central station on the radio frequency, but at the same time their smart home solution didn't have a screen interface – which Huum could help them with. *Know-how and needs were a perfect match.*

Toms Stålmans, the project manager of Istabai says that there was no need for a separate control panel before and the smart phone application seemed to be enough. However, after discussing the proposal from the sauna makers and analysing the market, they found that there could be a demand for such a solution.

"In principle, a similar alternative might already be found in the world, but then it wouldn't be suitable for the European Union market which is why we realised that our own solution would be very valuable," Stålmans says and praises the technical side of the cooperation between the two companies that followed, but curses the impact of the pandemic to some joint plans. Nearly a year and a half after the idea came about, Huum heaters were already sold with a new control unit, while preparations for upgrading the Istabai assortment took a little longer.

The control panel is assembled in a factory in Pärnu, making it easier to implement changes and quality control more effective. "One of our missions from the start has been to be able to earn our bread and butter within the Land of Mary," Nellis says, referring to the region of Old Livonia.

Their invention was soon noticed by others – the same control-panel has already been taken into use by competing heater manufacturers in Estonia and Finland among others.

ENVIRONMENTALLY FRIENDLY HOUSEHOLD CHEMICALS FOR THE GOOD OF THE EARTH

Silja Paavle



Joint training in Latvia
SIA "Field and Forest"

Mayeri Industries AS, the largest consumer chemical plant in the Baltics with its increasingly popular washing gel capsules, liquid and dishwashing soap, general cleaning aid and laundry rinse with natural fragrances are a good example of how neighbouring countries can do a lot together for a cleaner environment.

As environmental awareness increases day by day and people want to use products that are environmentally friendly, the company started to look for options to replace synthetic fragrances with natural ones. "Fragrances are also one of the biggest allergens," says Anni Raudsep, Accountant-Project Manager of Mayeri Industries AS.

Even when the idea arose, it was clear that, if they were successful, Mayer's products would have a major competitive advantage among the dozens of washing gel capsules sold in stores.

““ *Fragrances are one of the biggest allergens.*

This innovative desire meant the company had to find the closest partner possible to grow the plants in sufficient quantities for industrial production. They found this partner in Latvia.

The company joined forces with SIA Field and Forest that grows medicinal and aromatic plants as well as distinctly scented conifers in the forests and fields of the Vidzeme region. The numbers show how wide the scope of the Latvian company is: 338 hectares are used for organic farming, of which 80 percent is used for growing medicinal and aromatic plants; FSC certified* forest land is over 640 hectares.

SIA Field and Forest also cooperates with other large European industrial companies. According to Liene Kienkas, the manager of the biorefinery, state-of-the-art agronomic techniques and scientific approaches are used to develop suitable fragrances.

Mayeri Industries AS usually makes the decision within the company: the marketing and sales department selects a few suitable fragrances and then the whole team can have a say. In the capsule project, seven fragrances were up for the vote. For the four detergents that reached consumers this year, there were two options.

The delightful and fresh peppermint aroma added to the washing gel capsules was the right decision and paid off – consumers praised the factory and sales increased. This encouraged the company to take the next step, namely the production of detergents enriched with natural fragrances.

While the largest consumer chemical plant in the Baltics developed competitive products thanks to the Capsules and Herbal Water projects, SIA Field and Forest also gained a lot of new knowledge about flower water production and its development. In fact, many people in Estonia and Latvia, as well as in Lithuania, Finland and Russia, benefit from this cooperation, because the use of environmentally friendly household chemicals helps to significantly reduce everyone's ecological footprint thus improving the health of the planet.

* FSC certification is awarded to companies that follow sustainable principles of forestry.

GETTING TO KNOW YOUR COMPETITORS ENCOURAGES LOCAL COOPERATION

Silja Paavle



Vastseliina fair in 2017
Daiga Bojäre

Cross-border cooperation and getting to know other small businesses increases self-confidence, boosts your determination and inspires you to think of new ideas for future development.

“As long as you don’t know what’s going on in the area, you’re a competitor to other businesses. From the moment you get to know them, you can become a partner instead. Partnership is a driving force,” says Kaja Tullus, a craftswoman in Setomaa. Project Coop Local, which helped small businesses and craftspeople operating in the Estonian-Latvian border areas of Setomaa, R pina, Vastseliina, Orava, Ape and Smiltene discover more about each other, encouraged the start of partnerships.

The project resulted in a partnership network and international collaboration encouraging small businesses to use sales channels where it is possi-

ble to achieve direct contacts with end users in their region but also more widely. Compared to selling products to large chain stores, this promises higher income for border residents, thus also promoting the development of the region.

One example of this is the Kaabsoo handmade unique lace candles. Agur Piirisild, one of the owners of the candle house, says that he sells his natural wax candles through his online

store and has visited fairs to sell them there, but information about the candles is primarily spread through word of mouth or experience. However,

☞ *If you don't know what's going on in the area, you're a competitor to other businesses.*

the advertising material created with the support of a joint project between Estonia and Latvia helps to disseminate information about nontoxic candles in a wider scope and that promises to attract new customers.

However, as many of the participants in the project learned, the men of Kaabsoo Candle House are also convinced that in addition to the appearance of the product, it must also have a good story. The handiwork of Agur and his partner and friend Reimo Ani has it – when they were looking for something else to do, a local municipality gift finding competition directed them from handmade soaps to making candles instead. And not just any candle in an already over-saturated market. What makes their handicraft unique is that they use olive stearin, which decomposes on combustion to carbon dioxide and water vapour. The physical properties of this randomly found natural raw material give the candle a beautiful lace pattern.

In addition to having stories and information, product development tips from colleagues are also important for small businesses and their growth. “Sometimes you spend a long time to try to find a solution for something, but after seeing what other people are doing you might come up with a solution in a second,” Kaja says.

Having daily cooperation partners also promotes entrepreneurship. In addition to buying plants from each other, it is no wonder nowadays that berries grown in Estonia are squeezed into juice in Latvia or vice versa.

In addition to Kaja, Daiga Bojāre, the project manager of the Ape city government, confirms that the project has strengthened relations between small businesses and the area. This was facilitated by all kinds of joint activities, practical lectures, study and organised visits to fairs. “All this broadened their horizons, the new knowledge gave them strength to find solutions to problems and start developing their own company,” says Daiga.

She encourages all small start-ups to come out of their homes, farms and production sites and look around – this is the only way to find inspiration to diversify, improve and grow their business.

HACKATHON BRINGS A SHINE TO EVEN EXPERIENCED SPECIALISTS

Silja Paavle



Foldable plywood boat, Viisk
Garage48

Bringing together talented people and students for the Garage48 Wood hackathon is a good way to find innovative solutions. That is probably why this year's event is already the fifth Garage48 Wood hackathon.

Garage48 is an organisation that looks for ways to encourage people to see new opportunities. While hackathons are mainly held in the field of IT, project Wood and Furniture included the world's first hackathon in Väimela called Garage48 Wood.

The aim was to bring together professionals and students of woodworking from both Estonia and Latvia to help solve problems regarding the wood

and furniture industry and build prototypes made out of wood, also to encourage people to think more broadly than the familiar and safe technologies and fields of wood use.

Participants have left every hackathon with more ideas and more determination than they had before. Something new and exciting always happens at every hackathon as well. For example, who would have thought that plywood could be used to build a foldable boat? That's an idea a group of Võrumaa men came up with.

"The light and conveniently transportable boat is intended for recreational fishermen," says Remo Allikas, CEO of AS Võru Empak, also one of the leaders of the Viisk watercraft project. A prototype of the boat also took them to the top 30 in the Ajujaht competition. The production has yet to be started, but Remo uses one of the boats during the summertime and it has endured three years of use well.

Remo says that these types of hackathons are a great stepping stone and encourage people who might usually not be very initiative. "These events are proof that anything is possible," he says, and hopes that this programme, initially intended to improve cooperation between timber producers in Võrumaa and Vidzeme, will be implemented in other border area counties as well.

““ *These events are proof that anything is possible.*

Lauri Semevsky, a development specialist at the Centre of Competence for Wood Processing and Furniture Manufacturing Tsentër in Võrumaa, and Laima Engere-Levina, the director of Vidzeme Business Centre, also consider the exchange of ideas and contacts to be important. Lauri explains that it is not usually necessary to get to know your competitors and cooperate with them in everyday life despite the fact that there are many similar companies to learn a lot from on both sides of the border.

There are definitely other project activities that could boost the generation of ideas and cooperation, such as filming introductory video clips for companies, participating in international furniture fairs and creating a comprehensive design and export guide. "Working together at hackathon, you can notice a boyish glimmer even in the eyes of experienced professionals," Lauri describes, adding that sometimes it only takes a little to bring something new to the business.

In addition, such hackathons show that there's force in numbers. Not just cross-border wise – Laima says that the project has also brought along an idea to develop a local cooperation network as well as motivated people to start working together.

NEIGHBOURS PUT THEIR HEADS TOGETHER IN THE MARKETPLACE OF GEODATA

Tiia Kõnnussaar



GeoDataHub is ready! Reach-U and Jāņa Sēta teams at product launch

Estonian enterprise Reach-U and Latvian enterprise Jāņa Sēta are both associated by their expertise in their home markets. “Shared passion for maps and geodata is no less important,” added Valdis Karulis, project manager of geographic information systems of Jāņa Sēta.

Geodata is something you can not imagine modern logistics without. Let's assume your courier company needs to visit 200 clients a day and there are five parcel couriers. Internet-based geodata is the basis for the algorithm that determines the most economical route. There is a computer inside the courier's vehicle that shows the route on the map so the driver doesn't have to wander or drive around.

Geodata is also needed by vital agencies such as the rescue service, police, ambulance and fire brigade and governments also can't go without them.

“ *Geodata is also needed by vital agencies such as the rescue service, police, ambulance and fire brigade and governments also can't go without them.* ”

Reach-U and Jāņa Sēta with their 30-year-long international experience each decided to put their heads together to develop a new product – a web-based self-service portal GeoDataHub. Until now, different service providers had to be used in each of the Baltic countries to obtain up-to-date and accurate information, but now customers who need to do business across borders can access the data from one place. This makes customers' lives easier and more comfortable.

If teams are working on different sides of the border and meetings are not held very often, they will probably encounter some obstacles. “Fortunately some of the confusion was counterbalanced by successful experiences,” Sander Tammesoo, team leader of Reach-U software development, says. “It is important that participants have a common understanding, transparency in their aims and, of course, close communication.”

“Before starting the launch, team leaders were changed both in Latvia and in Estonia,” Valdis Karulis recalls. “But we managed to accommodate the change quickly and our cooperation went well.”

Spending a day or two together also helped develop a mutual understanding – Jāņa Sēta's team visited Tartu, Reach-U visited Riga. The Estonian side invited the Latvians to Otepää for a sauna and go-karting was organised in the evening in Riga. Their most powerful memories are of their presentation of GeoDataHub - finally presenting the fruits of your labour is always an exciting moment.

Once, when the partners had a meeting in Tartu, it was February and the temperature was 23 degrees below zero. When the meeting was over, the Latvian guests discovered that their car battery refused to start. “Fortunately, we quickly found friendly Estonians who helped get the car up and running,” Valdis Karulis says cheerily. “It was a wonderful experience of neighbours working together!”

ONE SMALL STEP FOR A HOUSEHOLD, ONE GIANT LEAP FOR PLANET EARTH

Tiia Kõnnussaar



Energy day in Rõuge, lamp test
Martin Mark

Anda lives in a small town in Latvia in a five-storey apartment building in Alüksne. Her hobby is orienteering.

Antti lives in Tartu, a university town in Estonia. He likes to drive his car. "The trinity of me, my car and the traffic is what's most important to me," he says.

Anda and Antti are among twenty ordinary Latvian and Estonian families who kept an energy diary for a month. Global warming has entered the conscious minds of both Estonians and Latvians. More and more people are realising one simple truth: if every family consumed energy more wisely, our total ecological footprint would shrink significantly.

What is the one thing the diary keepers changed in their life? Anda discovered that she can mostly control the electricity consumption in her household. "I'm gradually switching to LED-lamps and replacing old home appliances with more energy-efficient ones," she plans. The most shocking discovery for Anda was how much electricity is consumed by the small red standby light on internet devices. "Now when I leave home for several days, I'll turn off the Wi-Fi router," Anda says.

While keeping a diary, Antti discovered that three-quarters of the money spent on energy in his household is used to buy petrol. When compared to flying, however, one flight to and from Berlin is equivalent to 403 commute trips to work – that's the cost of almost two years. "From an environmental point of view, it is not sensible to fly to some European city for cheap weekend getaways," Antti says.

“From an environmental point of view, it is not sensible to fly to some European city for a weekend getaway.”

These small observations represent only a fraction of the experiences of the

twenty families after monitoring their energy consumption, summarized both online and in the book "Energetic people". The Tartu Regional Energy Agency conducted a survey in 2017/2018 under the auspice of a smart energy community among 94 families in Southern Estonia and Northern Latvia. 73% of Estonian and 80% of Latvian respondents agree unconditionally or in general that climate change is a growing global problem. A quarter of both Estonian and Latvian respondents consider it possible to reduce their energy use by changing their consumption habits. Personal willingness to help mitigate climate change is stronger in Latvia than in Estonia.

"The survey showed that the size of the technological environmental footprint is still unknown to us and our neighbours," says Antti Roose, environmental, energy and urban geographer from Tartu Regional Energy Agency, also an active leader in energy monitoring. He emphasizes that school plays an important role in raising awareness. Several hundred students who belong to the smart energy community from the Rõuge, Haanja, Lizums and Valmiera Viesturs schools and the E. Glück's Alüksne Gymnasium, participated in experiments and seminars together with teachers and discovered the objective reality behind the invisible electronic flow. "Climate issues should be included in school curricula on a daily basis, linking even geography, physics and physical education," says Antti Roose. The future is for the new generation to keep.

Programme in numbers

ESTONIA-LATVIA PROGRAMME 2014-2020 IN NUMBERS

Data as of 16 June 2021

CREATED/IMPROVED/MARKED HIKING TRAILS



| Cross-border hiking trails | Kilometers in Estonia | Kilometers in Latvia |
|----------------------------|-----------------------|----------------------|
| 2 | 622 | 1919 |
| Kilometers in total | | |
| 1919 | | |

INFORMATION BOARDS AND SIGNS FOR VISITORS



| In Estonia | In Latvia | Signs in total |
|------------|-----------|-----------------------|
| 7943 | 1317 | 9260 |

HERITAGE BASED TOURISM SITES IMPROVED

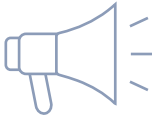


| In Estonia | In Latvia | Sites in total |
|--|-----------|-----------------------|
| 77 | 72 | 149 |
| Number of network members in the tourism products (restaurants, guest houses and farms offering products etc.) | | |
| 1512 | | |

TOURISM MARKETING



| Tourism maps created | Other tourism material created |
|----------------------|--------------------------------|
| 53 | 196 |



| | |
|--|------------|
| Marketing and promotion events in total | 195 |
| In Estonia | 81 |
| In Latvia | 87 |
| Marketing events outside Estonia and Latvia | 27 |
| Finland | 6 |
| Germany | 9 |
| Japan | 1 |
| Luxemburg | 1 |
| Ireland | 1 |
| Netherlands | 2 |
| Belgium | 4 |
| Lithuania | 2 |
| Poland | 1 |

Events related to the tourism product development
441

Handbooks
32

(Sets) of products or services that are created based on cultural or natural heritage
7

IMPROVED VALGA-VALKA URBAN AREA



Square meters in Valga **78 098**

Square meters in Valka **63 078**

Square meters in total
141 176



Swings on the state border
1

IMPROVED NETWORK OF SMALL HARBOURS



Improved
small harbours
in Estonia
11

Improved
small harbours
in Latvia
13

**Improved
small harbours
in total
24**

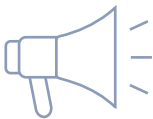
- ▷ Meters of floating piers installed **1343**
- ▷ Cubic meters sediments excavated during dredging works **14 8162**
- ▷ New mooring places in total **950**
- ▷ Distributed copies of Coastal Guide **11 000**
- ▷ Distributed copies of Cruising Guide **16 500**
- ▷ Attended marketing fairs **17**
- ▷ Regattas in the small harbours **16**

COOPERATION BETWEEN COMPANIES

Employment
increase
106

Products created
jointly
31

Marketing
activities
2255



Participants at
trainings for
promoting and
developing
business
4074

| Events to promote entrepreneurship | |
|------------------------------------|-----|
| Events for pupils and students | 377 |
| Fairs | 39 |
| Hackatons | 10 |
| Mentoring session | 67 |
| Trade missions and B2B | 32 |
| Trainings | 78 |
| Study trips | 17 |
| Networking and matchmaking events | 59 |
| Pitching event | 7 |
| Bootcamps | 6 |
| Contact visits | 14 |

OTHER PROJECT OUTPUTS

- ▷ Participants at project events 12 289
- ▷ Jointly organised events 177
- ▷ Public campaigns that are targeted at environmentally-friendlier behaviour 5
- ▷ Small scale investments for environment 52
- ▷ Joint management initiatives for water and coastal areas 6
- ▷ Harmonized geodetic reference systems 1
- ▷ New and/or improved services for job seekers and/or job providers 5
- ▷ Number of people participating in Job Fairs 1100

TOTAL DURATION OF ALL PROJECTS



46 375
days

1524
months

127
years

NUMBER OF PEOPLE INVOLVED IN PROGRAMME MANAGEMENT



Women
93

Men
34

In total
127

ORGANISATIONS THAT IMPLEMENTED THE PROJECTS

| | | | |
|-------------|----------------------------------|----------------------|--|
| Enterprises | Nongovernmental organisations | Local authorities | State and other public institutions |
| 72 | 61 | 58 | 36 |

TOTAL NUMBER OF SUPPORTED PROJECTS – 55

| | | |
|------------------|--|----|
| Objective 1.1. | Increased entrepreneurial cross-border cooperation in the programme area. | 9 |
| Objective 1.2. | More jointly developed products and services in the programme area. | 20 |
| Objective 2.1. | More diversified and sustainable use of natural and cultural heritage. | 7 |
| Objective 2.2.a. | Increased awareness of energy-saving, sorting waste and re-use, and the more efficient management of common water resources. | 6 |
| Objective 2.2.w. | Increased awareness of energy-saving, sorting waste and re-use, and the more efficient management of common water resources. | 6 |
| Objective 2.3. | More integrated Valga-Valka central urban area. | 2 |
| Objective 2.4. | More harmonized geodetic reference systems. | 1 |
| Objective 3.1. | An improved network of small harbours with good levels of service. | 2 |
| Objective 4.1. | Improved conditions for accessing jobs across the border. | 2 |



Number of site visits performed
by the joint secretariat

180

UNIQUE PARTNERS – 227



Estonian partners

109

Latvian partners

118

SOCIAL MEDIA AND WEBSITE



Facebook page
followers
3121

Visits at
estlat.eu
144 525

Visitors at
estlat.eu
61 478

ELECTRONIC MONITORING SYSTEM (eMS)



Progress
reports
approved
370

eMS
versions
(updates)
27

Expenditure
lines
in the reports
20 916

NUMBER OF USERS OF eMS

Programme authorities
97

Applicants and partners
836



Word "**cooperation**" is used in the applications
1539 times

Satisfaction level with project results
very high and high – 100%

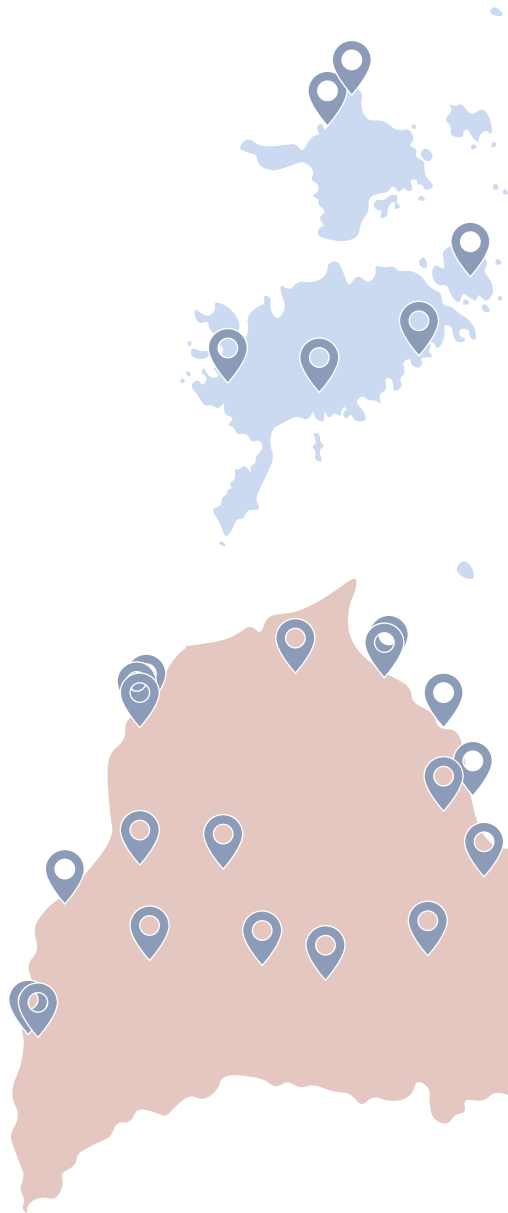
PROJECTS AND BUDGETS

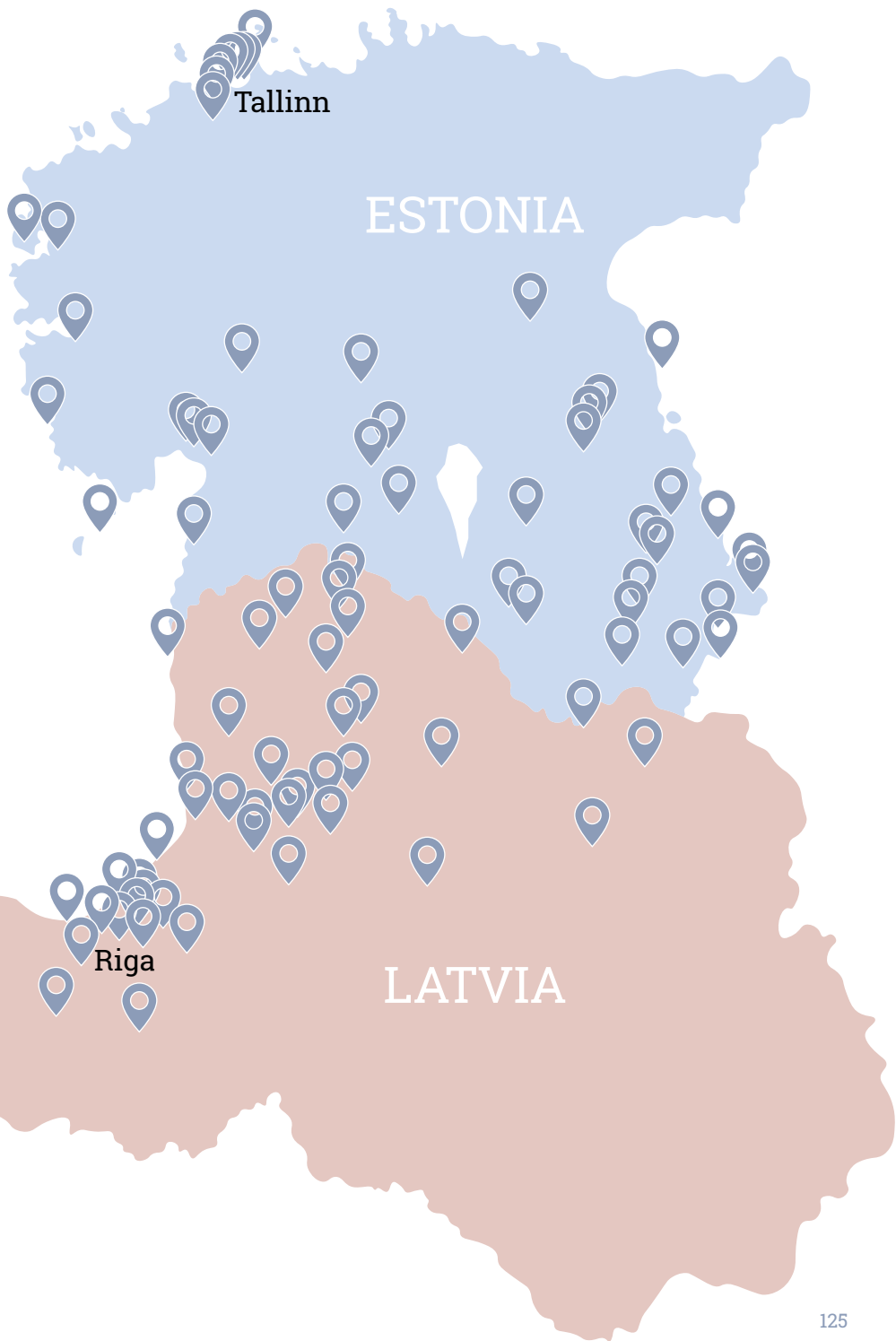
| Active and attractive business environment | | | |
|--|---------------------|----------------------------|------|
| Project | Total budget EUR | ERAF contri- bution EUR | Page |
| HIADEX | 346 010 | 253 359 | 100 |
| DELBI 2 | 447 547 | 380 415 | 20 |
| SpaceTEM | 583 350 | 466 707 | 12 |
| COOP Local | 338 756 | 255 717 | 106 |
| HADEDE | 363 066 | 305 624 | 98 |
| EstLat BioBoost | 230 500 | 193 923 | 32 |
| Baltic Geodata Marketplace | 765 584 | 491 686 | 110 |
| PET-Diagnostics | 580 887 | 469 913 | 94 |
| Organic Candy | 183 209 | 118 063 | 18 |
| Social&Creative | 171 555 | 129 220 | 28 |
| waldur.eu | 315 770 | 264 290 | 62 |
| Wood and Furniture | 324 878 | 238 325 | 108 |
| How The Shammies learned | 445 449 | 368 336 | 54 |
| Whey valorization | 536 349 | 370 267 | 42 |
| EstLat-Accelerate | 535 200 | 450 863 | 30 |
| ID Future | 322 000 | 273 700 | 38 |
| B-idea | 389 366 | 293 745 | 10 |
| ESTLAT BUSINESS | 99 402 | 50 948 | 34 |
| Capsules | 623 653 | 380 302 | 104 |
| PFM – AIHEN | 530 787 | 407 113 | 44 |
| Ticketeer | 462 614 | 353 969 | 88 |
| MyTree Alert Service | 134 121 | 106 104 | 46 |
| Smart Heat | 257 675 | 219 024 | 102 |
| PDS | 602 244 | 460 273 | 64 |
| GeoTranslate | 356 166 | 251 044 | 14 |
| Herbal Water | 492 083 | 337 258 | 104 |
| Bio4ASIA | 466 312 | 306 963 | 100 |
| EstLat Translator | 536 707 | 376 432 | 96 |
| SpectroScreen | 439 400 | 373 490 | 66 |
| Total | 11 880 637 | 8 947 073 | |

Clean and valued living environment

| Project | Total budget EUR | ERAF contri- bution EUR | Page |
|-----------------------------------|---------------------|----------------------------|------|
| Industrial Heritage | 1 143 135 | 917 375 | 74 |
| UNESCO-tourism | 1 116 703 | 916 426 | 84 |
| SAFE SEA | 547 815 | 434 927 | 72 |
| GURINIMAS | 423 546 | 348 764 | 58 |
| SEC | 289 730 | 204 989 | 112 |
| COASTAL HIKING | 1 089 738 | 912 609 | 26 |
| Green Railway | 1 144 575 | 952 068 | 80 |
| Green Public Events | 400 475 | 280 828 | 52 |
| Livonian Culinary Route | 1 053 311 | 862 725 | 90 |
| Valga-Valka Centre | 5 303 203 | 3 000 000 | 92 |
| Energy Advice | 259 721 | 214 370 | 22 |
| GroundEco | 411 765 | 335 065 | 92 |
| WasteArt | 344 453 | 292 785 | 40 |
| WBWB | 410 256 | 310 536 | 68 |
| Garden Pearls | 749 755 | 611 072 | 76 |
| Military heritage | 1 928 992 | 1 639 644 | 16 |
| DAML | 304 804 | 259 083 | 58 |
| Smart Living | 386 536 | 328 556 | 48 |
| WaterAct | 411 765 | 350 000 | 92 |
| Valga-Valka Recreational Area | 926 137 | 787 217 | 82 |
| GeoRefAct | 500 000 | 425 000 | 50 |
| PACKGDEPO | 300 000 | 255 000 | 60 |
| Total | 19 446 416 | 14 639 040 | |
| Better network of harbours | | | |
| ESTLAT Harbours | 10 811 189 | 9 189 510 | 78 |
| EASTBALTIC HARBOURS | 3 304 286 | 2 808 643 | 78 |
| Total | 14 115 474 | 11 998 153 | |
| Integrated labour market | | | |
| Valka-Valga mobility | 326 460 | 210 299 | 56 |
| ESTLAT-WBL | 464 254 | 357 988 | 24 |
| Total | 790 714 | 568 287 | |
| Total | 46 233 242 | 36 152 553 | |

PARTNERS ON MAP





ESTONIA-LATVIA PROGRAMME 2014-2020. IN THE IMPLEMENTATION PARTICIPATED

Agne Peetersoo
Agnese Dimante
Aiga Meri
Airi Roots
Aita Teder
Alise Aneraude
Andreas Kalm
Andres Agran
Anna DE LUCA
Anna Djakova
Anna Škabireva
Anneli Kivirand
Anneliis Rätsep
Ansis Bērziņš
Anu Roomere
Arta Frolova
Arvīds Vanags
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Ege Ello

The Head of the Managing Authority
of the Estonia-Latvia programme

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