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#05, MAY 2017

€19 / SEK 199

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01

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03

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EDITORIAL RAYS OF SUNSHINE **Bimo's cello ensemble + Astor**

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issues: Sweden €39, Europe €73, Outside Europe €77. Buy at

subscription@meetingsinternational.com or

www.meetingsinternational.com. Single copies

are €15 + postage when ordered online.

CONTACT **Meetings International Publishing, P.O. Box 224,**

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Commercial Office +46 73 040 42 96, info@meetingsinternational.com,

meetingsinternational.com INSTAGRAM [@meetingsinternational](https://www.instagram.com/meetingsinternational)

PRINTED BY **Trydells Tryckeri** – environmentally certified

(ISO 14001) PAPER **Arctic Paper Munken Lynx 240g/100g.**

FSC labeled paper Cert No SGS-COC-1693 FONTS **Adobe:**

Berthold Akzidenz Grotesk, DS Type: Leitura Display,

Hoeffler & Frere-Jones: Chronicle Text, Chronicle Display, Knockout

ISSN 1651-9663



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Site



MPI

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Meetings International Publishing uses environmentally certified printing, paper and distribution.

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The Importance of BEING VILNIUS

VILNIUS UNIVERSITY, the largest and oldest Lithuanian scientific institution, was founded back in 1579 and is today a centre of learning of tremendous intellectual potential, engaged in promoting and developing ties with the major research centres both in Europe and in the rest of the world.

Highly acclaimed independent research work and a broad spectrum of research in the different areas of science, alongside close cooperation with other respected research centres throughout the world, have deservedly earned the university a leading status in science and research.

Courses offered by the university are based on international-level standards, with European university traditions, academic freedom and diversity of opinions, the ability to deal with new challenges in a constantly changing world and social responsibility all being part of its fundamental values.

The university's student body currently numbers 21,000 and it is annually listed by *QS World University Rankings* among the top four per cent of the best universities in the world. Vilnius University clearly attracts

the country's best and most talented secondary school graduates.

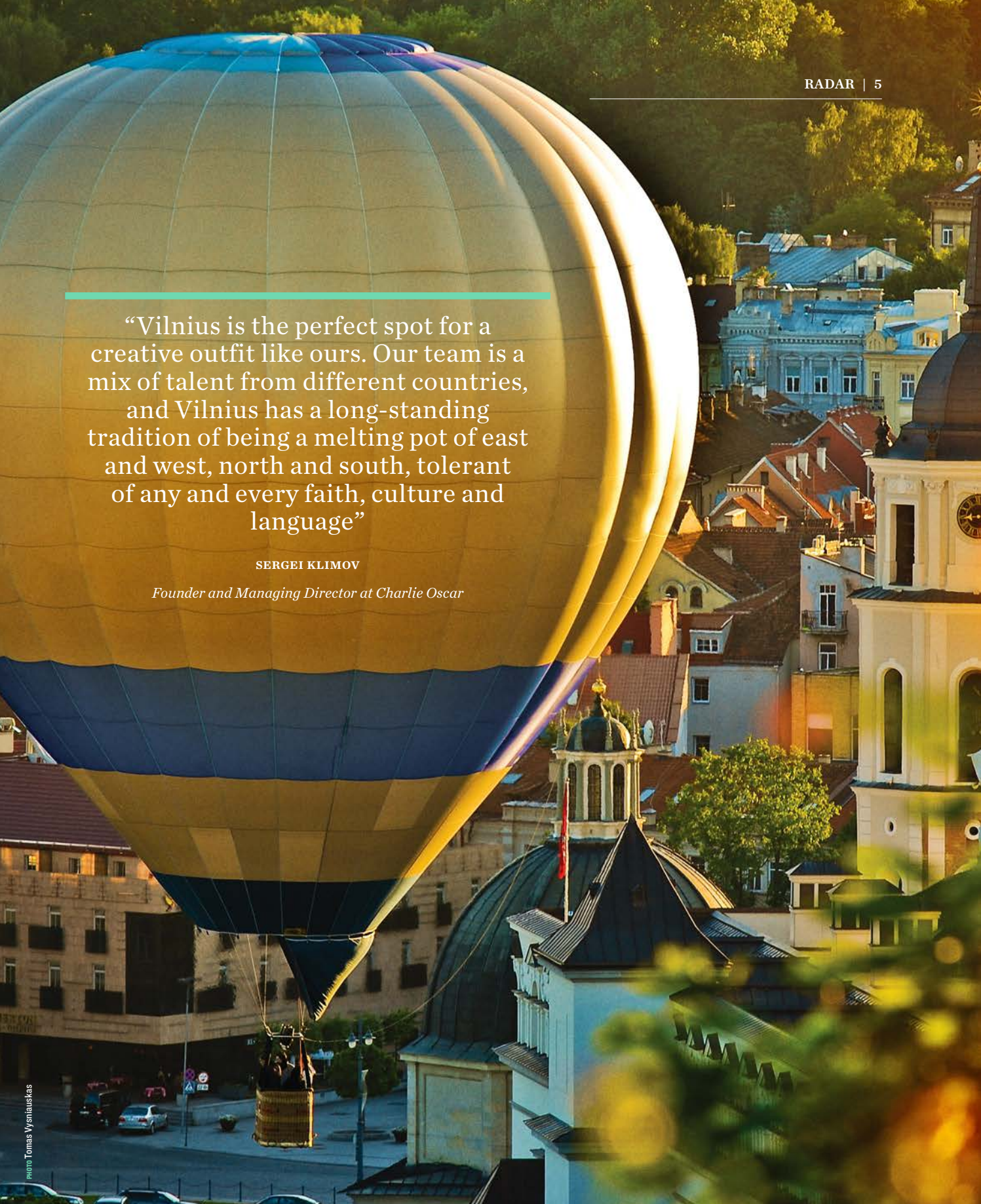
Consider this against the clusters that we have covered in this *Meetings International Business Intelligence Report on Vilnius* and a really amazing image starts to emerge, one that we've been analysing to better understand the importance of research and innovation to the city environment for its life science, laser, biotechnology, nanomaterials, Fintech, game development, and cyber security industries. Carry this further to look at it from the perspective of the meetings and event industry and it is easy to see why the Baltic capitals have been steadily climbing the ICCA rankings.

The number and quality of hotels and restaurants is growing too, and in a fast forward manner to enable them to catch up with a Vilnius and Lithuania that has already moved into the future. When the new congress venue is built Vilnius will then be ready for even bigger and more important meetings and events. Keep a close watch on what the future holds for Vilnius.



Swedish-Indonesian **ATTI SOENARSO** has worked as a journalist for close to 40 years. She has worked for Scandinavia's largest daily newspaper, was TV4's first travel editor, has written for many Swedish travel magazines and has had several international clients. She has travelled the length and breadth of the world and written about destinations, people and meetings.

PHOTO Magnus Malmberg



“Vilnius is the perfect spot for a creative outfit like ours. Our team is a mix of talent from different countries, and Vilnius has a long-standing tradition of being a melting pot of east and west, north and south, tolerant of any and every faith, culture and language”

SERGEI KLIMOV

Founder and Managing Director at Charlie Oscar



Vilnius

Creates a meeting point FOR EASTERN AND WESTERN COMPANIES

TEXT PHOTO

Roger Kellerman Saulius Ziura

“MY NAME IS Remigijus Simasius and I am the Mayor of Vilnius. Before I became the Mayor of Vilnius I was the Minister of Justice and then a Member of Parliament, but prior to either of those positions I ran the *Lithuanian Free Market Institute*, which is a Libertarian think tank.”

How important is the Meeting and Event Industry to Vilnius?

“In general, the city is very welcoming to both business people and tourists and we now see that the majority of people visiting Vilnius are for either business or leisure. Those visiting for business are especially surprised, in a positive way, as they didn’t expect Vilnius to be as good as it is. Now, word is getting out. This is the reason that we see the meetings and events industry as a big opportunity for Vilnius.”

“Vilnius has very good quality hotels and restaurants, and a very nice atmosphere. It also offers good value for money and, of course, we have a duty to use this. That is one of the reasons why we are investing so much in *Convene* – the Exhibition for Meetings, Events and Incentives – and the wider industry. We are also providing these types of events and conventions plus providing a good

atmosphere for organisers and all those who are involved in this kind of business.”

What are the most important knowledge hubs in your country?

“Well, ‘in the country’ and ‘in Vilnius’ are not necessarily the same thing, as we have areas, such as Vilnius in particular, where we have strong development in the Fintech industry and other large industries, both of subsidiaries and financial institutions, such as Nasdaq.”

“People are happy to move to Vilnius for work and many Eastern countries are also moving their business to Vilnius, as it is safer here. This creates a meeting point for Eastern and Western companies, so Vilnius also has a number of conferences as a result of this. We had a legal conference for the gaming business, for example, which is the only one of its kind in the world. We also have biotechnology that is strongly connected to the university area and with our strong intellectual potential we also have certain start-ups. We also have some established companies that were like start-ups twenty years ago, but have grown into huge companies or even international companies with very sophisticated production centres

here in Lithuania, such as in the biotechnology and laser industries. This comes from our deep knowledge in these fields and we are very good in them.”

“We have similar companies that are expanding today alongside both companies that started twenty years ago and those that existed long before that, and they are all showing good results.”

Some of your strong areas of knowledge are connected to the universities in Vilnius. How many such universities are there in the city?

“We have two main universities that provide services and education in technology, ITC and engineering, as well as some universities specialising in social sciences and economics, which is also very important. There are several other strong institutions of higher education.”

Alongside the business and academic realms, does the city also have a rich cultural offer?

“Our cultural life is both deep and wide – we have theatres, music theatres, orchestras, galleries and museums, so there is no lack of cultural life.”

“Intellectual people nowadays move to cities where they like to work

“It isn’t even labeled as organic food, as for us it’s just normal”

and live, so we are very happy that Vilnius is admired by its citizens. The latest Eurostat survey showed that 98 per cent of them are happy to live in Vilnius, which is the best result in Europe, even beating Stockholm and Copenhagen by a few percentage points.”

“We actually look at what people do and what companies do to attract people, and then we make the city more international and friendly. We invest a lot in the public, such as more pleasant parks, gardens and public transport, better culture, restaurants, nightlife and so on. This is very important so the public can have a good life.”

Does Lithuanian food and cuisine also play a part in this good life?

“It is true that the food industry is very important and we also have a lot of organic food. When the Western world went through industrialisation with chemicals in the middle of the 20th century it was not the case in our country, so we have lots of organic food. It isn’t even labeled as organic food, as for us it’s just normal.”

“As for restaurants, we have a lot of choice, including having one of the highest rates of vegetarian restaurants in Europe, even compared to a major city like London.”

Looking five years ahead, what do you think will be the tricky political questions for the Meeting and Event Industry?

“In general, and with reference to the political landscape of Europe, it seems as if Vilnius is a political safe haven. I can remember 20 years ago, when we were suspiciously casting a glance towards a Europe and America that were politically stable and safe. We didn’t know what to expect from those countries and they did not know what to expect from us.”

“Today, however, we don’t have any strong nationalist movement or any communist movement – it doesn’t even attract half a percent of votes. Of course, we have political debates on these themes in both urban and rural areas, but our issue now is whether the European Union will continue to be as stable as it is today. That is our main concern and we will know more about that in five years. We are looking at what is happening with democracy, as nationalist parties are strong in almost every country.”

“There is also always the issue of the wider ‘neighbourhood’, and we have good relations with our Nordic neighbours, of course, and with Poland. We did have some issues

in the past, but these are more or less settled now. There is always a question about the issue of Eastern countries and we want to do business with them. We feel we are in a safe part of Europe, with our membership of NATO for instance, and in general things look stable as never before.”

How is the country's economic situation?

“The economy is running well compared to how it was 20 years ago – we have trade partners, good productivity and a knowledge-driven economy that is growing. At the same time we have an issue with migration, which is different for Vilnius than for other parts of Lithuania that are shrinking, as with young people moving especially to Vilnius the population here is growing. The main issues that we therefore experience are economic and political.”

When will Vilnius have the new Convention Centre?

“The actual date is not clear yet, but in no more than a couple of years. There will be a tender for construction and afterwards it will be clearer. A realistic assumption is that it will be ready by 2020.”



Dr. Darius Udrys

Business People

LEARN TO SPEAK THE LANGUAGES OF THE SCIENCES

TEXT
Roger Kellerman

AS VILNIUS continues to build on its reputation as a dynamic city with a little bit of something for everyone, there is one thing that hasn't changed much over the years: the value that visitors find there. From spending a few days discovering the city's *UNESCO World Heritage Old Town*, to taking in the local arts and restaurant scenes, Lithuania's capital affords visitors a lot more for a lot less.

The *UK Post Office's 9th Annual City Costs Barometer of 2017* supports this claim. Of 36 cities surveyed across Europe and scored by a comparative cost analysis Vilnius was ranked the second most affordable on the list, just behind Paphos in Cyprus. Vilnius offers considerable value

compared to its Baltic Sea region counterparts and other Western European destinations on the list.

In addition to this tourism draw, *Go Vilnius*, the official business and tourism development agency of the city of Vilnius, is also very keen to promote the appeal of the meetings industry in both Vilnius and Lithuania. Alongside promoting the city for general tourism they understand that meetings and events generate much more – in terms of money spent on events and the value that goes beyond them, as well as bringing people with ideas, talents and diversity to the city – and are therefore trying to maximize their resources to help achieve that.

“We want people not just to see Vilnius, but to feel and experience the opportunities and lifestyle the city has to offer, and for them to give us their honest opinion so we can keep getting better,” says Dr. Darius Udrys, director of *Go Vilnius*.

“I moved from Los Angeles six years ago and many people questioned my decision. But after six years here I can say I really love the place. Of course, it helps that I have a Lithuanian background. Although I had visited and grew up in a Lithuanian family, I hadn't lived in Lithuania before. It was a very nice experience coming to where my ancestors are from and even better to find what a great vibe Vilnius has. It's marvellous

to be here and to feel the energy of a place that is making such progress so quickly. Young people in particular are really very hungry to open up to the world.”

“I don’t think I would have stayed here very long if there weren’t interesting things to do and interesting people to meet. I would say on both accounts that I find my social life here

Whilst Vilnius would appear to have all the underlying conditions for growth and future prosperity, it still faces the challenge of needing to bring more talent into the city. Vilnius is growing, yet as a country Lithuania is experiencing a declining population. There are now companies that are focused on looking for workers and Vilnius wants to attract more

themselves and value creativity are the kind of people we want to attract to the city – those who are looking not just for jobs and a functioning economy, but also for a great lifestyle.”

It’s a task that will keep Go Vilnius busy in the years ahead, but with the speed of change in the world and in particular the leaps being made with advancements in technology, successes in the short term will be especially important and there are some priority areas for this.

“In general I would like to see a greater connection between science and business, as I think that is now one of our underdeveloped areas and in many cases these two groups speak somewhat different languages,” says Dr. Darius Udryš. “That is a bit of a generalisation, because there are plenty of cases where scientists have realised that they have ideas that are remarkable and that can generate profit, not only for themselves but also for the people who need it in the city. Everyone can benefit when technology is commercialised.”

“But that is not to neglect long-term research. I think even to achieve commercial success, a nation also has to carry out long-term research that has no immediate commercial benefit, as things can spin off later. But we must not neglect the potential for scientific and business collaboration. For their part, business people should learn to speak the languages of the sciences. They could discover, identify and help commercialise the science being done in the city.”

“I would therefore wish that those ties would be strengthened and in Go Vilnius we have a person with the specific task of promoting the link between our scientists and business people,” says Dr. Darius Udryš. “We will be focusing strongly on that. I think we have great scientists and

“We are really hungry for a better future”

and the many active leisure opportunities here enormously satisfying. Every day I have offers to attend concerts, exhibitions or other special events of one kind or another. Meeting up with people for coffee or drinks is easy, given how compact the city is. The feeling is of a city that is small enough to be cosy, but big enough to offer plenty to do. There is no lack of things to do, which, I must admit, I was a little worried about when I moved from Los Angeles.”

“We want to get the word out about the cosiness of the city. Everything in Vilnius is close. The airport is only 15 minutes from the centre, so you can save a lot of time compared, for example, to Los Angeles with its traffic,” says Dr. Darius Udryš. “The ease of meeting up with colleagues and friends is very necessary for a creative economy to flourish. People see each other frequently and interact very easily. And I was just reading a report by KPMG that highlighted what I had suspected all along: that many creative and innovative people don’t want to live in a megacity. The appeal of the size of Vilnius should be strong.”

people not only from Lithuania, but from abroad as well, from both EU and non-EU countries, creating a further task for the Go Vilnius office to bring in more such tourists and for business to attract more such talent to benefit from an appealing lifestyle.

“We do not have very detailed analyses of the Vilnius economy yet, but since we started Go Vilnius last year we have been conducting an analysis in collaboration with data-gathering institutions,” says Dr. Darius Udryš. “We think we have a pretty good idea already of what Vilnius is good at, but perhaps there are some additional niches that we should be promoting and developing, especially given the fact that a lot of people here are very modest and not keen on boasting about the city, although I’ve seen some amazing things our scientists are developing that we are not telling enough people about. I see progress everywhere and that is the nice thing – it is so visible. We are really hungry for a better future.”

“This is actually something very important for Vilnius to communicate – the creativity, the artistry that is here. People who are creative

“The ease of meeting up with colleagues is very necessary for a creative economy to flourish”

scientific potential in the city. We just need to kick start the relationship.”

“The second main thing is that I would like to see meetings continue to grow and for that we need to develop a downtown Congress Centre. I am very keen on mentioning this when people are talking about the meetings industry, which in Lithuania is still seen in terms of ‘conference tourism’, because it is not ordinary tourism. People certainly can and should enjoy the location of these meetings, but the main point is not to come and have a look and do some touring. The purpose is for minds and ideas to be developed and for intellectual capital – the most valuable form of capital in an information economy – to be formed through these international meetings.”

To be able to accommodate growth in such meetings Vilnius currently has 4,500 hotel beds with more than ten hotels under development and due to come on stream over the next few years. Some of that is connected to the development of the *Vilnius Congress Centre*, to be situated in a renovated Soviet sports palace near the historic city centre, which is a part of the wider city transformation that Go Vilnius is bracing itself to see completed.

“We are looking forward to these projects being successfully implemented over the next few years,” says Dr. Darius Udryš. “The Vilnius Convention Bureau, which is part of Go Vilnius, will be focusing in particular on those areas where we are already strong, including ICT in general and especially Fintech, game development and cyber security, Business Process Outsourcing and Legal Process Outsourcing, and high-end manufacturing and related services. The shared service centres that have established themselves here over the past decade are growing and evolving into full-service centres. They are no longer simply back-office operations. Some of our oldest centres, which started with 100 or 200 people providing back office support, have already evolved into multifunctional centres employing thousands of people. Business leaders tell us the talent we have here is exceptionally flexible and capable. Undoubtedly that explains the rapid growth of employment in the outsourcing sector here in Vilnius. It is great to see this evolution and we hope it continues.”

“Our approach is not to push Vilnius on people using conventional-style marketing, but to create pull

by showcasing success stories and testimonials, and the benefits of work and life here in Vilnius. What we are focusing on is the experience – you come not just to look and see, but to feel and enjoy our well-balanced lifestyle, our vibrant cultural life and the ample opportunities for unique experiences. For example, did you know Vilnius is one of the few European capital cities you can fly over with a balloon to take in the views? And all around Vilnius we have more than one hundred lakes where people go for weekends to relax in a lakeside cottage, take a walk in the forest, pick some mushrooms, take a swim after a sauna ... even snowboarding or skiing on our ski slope is just ten minutes from the centre. Our restaurant industry is evolving nicely and the focus on locally-sourced products is growing, with several of our restaurants making the *Nordic White Guide* for their compelling cuisine and we have burgeoning street culture as well.”

“All in all, Vilnius is developing very nicely. It is great to be in a place making such progress and to be part of it,” says Dr. Darius Udryš. “That dynamism keeps it very interesting for me.”



Vilnius Sets focus on attracting MEETINGS OF ITS PRIORITY INDUSTRIES

TEXT

Roger Kellerman

CHAMPIONING the Convene trade show and putting the spotlight on their full offer for meetings and events is the city of Vilnius and the wider Baltic Sea Region. The story behind the event is a simple one – they needed to do something quite striking to promote Vilnius as a meetings destination and to shatter the stereotypical images of a sequestered Eastern European country in an inaccessible region, and the best ways to get results are often the simplest ones – by bringing people together and showing them your hospitality, talking to them and connecting them with potential partners.

“In order to keep the event personalised we keep it small and describe it as ‘boutique’,” says Jolanta Beniuliene, Director of the *Vilnius*

Convention Bureau. “The quality of the organisation and communication process, hosted buyer programme and the professionalism of suppliers – these are the main focus areas of Convene. The next outing will be 14–15 February 2018, which will be the 6th year of the event.”

This year is one of strategically positive change for the city. Vilnius Convention Bureau has been absorbed into *Go Vilnius*, the newly created *Official Business and Tourism Development Agency of the City of Vilnius*. The integration of business development, investment attraction, the Convention Bureau, city tourism and marketing activities should drive future city development to new quality levels for city profile, destination awareness, service delivery

and further development. The whole business community supports the initiative and this support is based on higher expectations of public sector performance and outcomes, which may translate into higher expectations from Convene too.

“Vilnius is small and is not suitable for huge international events like for 5,000 delegates, so it seems that in the future Vilnius will continue to focus on the same size of event,” says Jolanta Beniuliene.

“If you want to maintain all the relationships, offer individual attention to those we invite and make our visitors happy, we have to keep this event at the size we have now and not make it bigger. It is a not for profit event and there is no reason for us to expand it – Vilnius is not Barcelona

**“We want to have high quality for quality buyers,
not in terms of amount of people, but in
terms of business exchange”**

or Berlin, so we prefer to keep it, like our German friends say, ‘klein, aber fein’ – small, but with quality.”

After a near five year hiatus on infrastructure upgrades, Vilnius has now got the green light for some major infrastructure development in the city. The new *Vilnius Congress Centre* in the heart of the city will come on stream in just a few years’ time, a project that has been setting pulses racing with its location offering the UNESCO heritage old town, hotels, shops and restaurants all within a ten-minute walk.

The second major change on the horizon is the imminent uplift in hotel infrastructure. By 2020 Vilnius will have a brand new *Double Tree by Hilton*, *Hilton Worldwide*, *Design Hotels*, *Courtyard by Marriott*, *Radisson Red by Carlson Rezidor* and *Ibis by Accor Hotels*, hotels that together will account for some 1,200 new rooms in the city, a 25 per cent increase. Such developments will have a significant positive influence on the meetings industry and for the Convention Bureau it will mean many new challenges in attracting events and promoting the city, perhaps pushing a reconsideration of the scale of Convene and challenging its quality versus quantity rationale.

“It is the quality in the relationship that is more important, as we want to have high quality for quality buyers, not in terms of amount of people, but in terms of business exchange,” says Jolanta Beniuliene.

“Every destination is looking for international associations, Vilnius as well as Convene, so if we can get more international associations and provide what they require, then it will be one of our quality successes. In fact, quality should convert into business, so if we develop the quality of the show, step by step, we can keep on inviting more quality associations and buyers and then we can calculate how many events or how many delegates we have got in the region thanks to Convene, and that will be our main movement.”

“Last year we started to work with ICCA on the priority sectors for Vilnius,” says Jolanta Beniuliene. “We can therefore use the ICCA database and, of course, our neighbouring cities, and the Convention Bureaus could also work more together. If we join forces to invite international events from international associations and from specific fields we need to develop the attractiveness of our destinations. That will be the way to success. I believe that if you have your

goal and if you focus on it and have your strategy for it, then you have to succeed. Time is needed for that.”

“It’s enough to start sharing information and we would already benefit, because if someone has chosen Tallinn once there is a huge possibility that the same association would choose Riga or Vilnius. It means that at a certain point we are competitors, but if we look deeper than that we should collaborate more and exchange the contacts we have. The three Baltic cities are so close to each other.”

On the road ahead Vilnius will have to manage the expansion of business partners and learn how to work on their targets and priorities in a more focused way, but the road is a promising one and there is one clear route to follow in the future – maintain the focus on attracting meetings in the priority industries of the city or the country. The main goal will be to target biotechnologies, Fintech, ICT and several other sectors and secure the hosting of events for them in Vilnius.



Lithuania's Life science industry

THE FASTEST GROWING IN EUROPE

TEXT

Roger Kellerman

LITHUANIA'S life science industry has been rapidly expanding and at the same time attracting worldwide recognition. The country has the noble ambition of becoming the centre and European hub of life sciences by 2020, and judging by the statistics it is clearly on the right track already – with 25 per cent annual growth Lithuania's life science industry is the fastest growing in Europe.

In fact, there seems to be something in the air in the wider region, as

the Baltic countries are all trailblazing locations for scientific advancement: Estonia has taken the lead in Genetics and heredity, Latvia leads the way in the subsector pharmaceuticals industry and Lithuania, as noted, is the fastest growing life science industry within EU.

“More than 90 international pharma and medical devices companies have conducted 1,200 clinical trials in Lithuania since 2007,” says Donata Mauricaite, *Head of Life Science Industry* at Enterprise Lithuania

in Vilnius. “The life science industry has almost doubled since 2009. Today there are more than 200 companies in the industry, 30 per cent of them in biotechnology, 28 per cent in medical devices, 17 per cent in pharmaceuticals, 13 per cent in research and 12 per cent in consulting.”

The bulk of this work takes place across three major science cities in Lithuania. In Vilnius its clusters are in biotechnology, innovative medical technologies, molecular medicine and biopharmacy, ecosystems and

“Lithuania is among the top five EU countries with the highest ratio of well educated young people”

sustainable development, informatics and communication technologies, laser and light technologies, material science and nanotechnologies, semiconductor physics and electronics, and civil engineering.

Over in Kaunas, Lithuania's second largest city, the focus is on sustainable chemistry, mechatronics and related electronic technology, information and communication technologies, agro-biotechnology, bioenergy and forestry, food technology and safety, and health.

In Klaipeda, the third of Lithuania's science cities, work on the marine environment and marine technologies takes place. Across the three cities there are more than 40 institutes.

Complementing the strong presence of institutes in the country, there are also approximately 22,000 people employed as research and development (R&D) personnel, 80 per cent of whom are proficient in English and 50 per cent speak at least two foreign languages. Furthermore, according to a survey 69 per cent of the population aged 18–35 would like to work for an international company and Lithuania is among the top five EU countries with the highest ratio of well educated young people: first

in the EU for mathematics, science and technology graduates per capita, fifth for speaking at least one foreign language and seventh for at least two foreign languages.

The country is also focused on R&D, being number ten in the world for R&D personnel and with an 11 per cent year on year increase since 2015.

“In Lithuania there are eight universities and eight colleges providing programmes in biotech, molecular biology, chemistry, genetics, medicine and other related fields,” says Donata Mauricaite. “There are also approximately 10,000 students studying health and life science at these universities and colleges.”

“Having a labour productivity in pharmaceuticals that is five times higher than the overall economy labour productivity is of course something else that is very important if we want to continue being one of the top countries within the science industry. We also have to acknowledge our dynamic business environment, as it only takes three days to set up a company to register property, 60 days for a clinical trial approval and 210 days for a European Medicines Agency evaluation procedure. It's also important to note that 99 per cent of enterprises submit documents to

public authorities online and there are no boundaries on the movement of goods, people and capital within the EU.”

In September 2016 the *Life Science Baltics Forum*, the only International Forum in the Baltic Region for World-Class Biotechnology, Pharmaceuticals and Medical devices, was held in Vilnius and attracted experts from all over the world. It provided an opportunity to explore the new horizons of partnerships, exchange ideas and seek progress through networking.

The bi-annual forum, organised for the third time by Enterprise Lithuania, gathered around 1,500 scientists, businessmen, entrepreneurs, start-ups and students from more than 30 countries working in the life sciences industry, including a Nobel Prize winner and world-renowned experts in the various fields of science.



The Life Science Centre HAS MARKED A NEW ERA FOR RESEARCH IN THE BALTIC REGION

TEXT

Robert Cotter

THE END of the construction work on one of the biggest, most ambitious and innovative buildings in Lithuania's capital Vilnius has marked a new era for research in the Baltic region.

The three institutes of Biotechnology, Biosciences and Biochemistry were merged into the Life Science Centre, creating Lithuania's largest life science hub that hosts scientists, M.Sc/B.Sc and Ph.D students. Today the *Vilnius University Life Science Centre* (LSC) not only offers one of the most advanced laboratories in the region, but also a prime location for clinical trials, with hospitals and university facilities at one's fingertips.

The mission of the centre is to pursue top level research, education and technological development at the

frontiers of life sciences and biomedicine, including biotechnology, genome technologies, molecular biology and biochemistry, and serve as a bridge between science and business.

Apart from aiming at top level research and education, LSC goals also include reducing brain drain, encouraging knowledge circulation and the creation of new work places especially for groups of young researchers.

The Bioincubator, located next door, is hosting start-ups and enterprises that will pursue process development of biotechnology and molecular medicine. A brand new *Centre for Physical Sciences and Technology* situated nearby makes up an environment perfect for the creation

of interdisciplinary research groups as well as attracting scientists from abroad.

Opening Vilnius University Life Science Centre has already encouraged knowledge circulation, as more and more Lithuanians are returning from overseas to pursue their careers there.

Dr. Linas Mazutis is a researcher who returned from *Harvard University* and was one of the first to establish a lab of microfluidics at LSC. His new lab has already attracted visiting scientists from the *California Institute of Technology* and Spain's *Institute of Evolutionary Biology* who came to Lithuania to learn about microfluidic technology. Dr. Urte Neniskyte, another promising Lithuanian

researcher in neurosciences, returned to her home country after Ph.D studies in Cambridge and an internship at the *European Molecular Biology Laboratory* in Italy, and she is now building her lab at LSC supported by a Marie Curie Fellowship.

After re-settling in Lithuania, genetics Professor Sonata Jarmalaite established her lab with the aim of

CRISPR-Cas9 was recognised by the 2017 *Novozymes Prize*, established by the Novo Nordisk Foundation in Denmark. Such biotechnological discoveries have also caught the eye of the business world. The American company Du Pont Pioneer recently announced a technology license and research collaboration agreement with Vilnius University to further the

Centre, not only because of the modern laboratories and qualified staff, but because the building itself has been recognised by ArchDaily, one of the most visited architecture websites worldwide. The monumental expression of the building's architecture symbolises the austerity of science and resembles the different cells of matter. The vertical lines of facades inspired by the impressiveness of nature and the textural images of the adjacent trunks of the pine trees creates a playful abundance of different points of view. The Life Science Centre has been nominated for *Building of the Year 2017*.

“The mission of the centre is to serve as a bridge between science and business”

understanding molecular mechanisms of cancer and adapting them to translational research. Crossover cooperation is also happening: biologists are collaborating with physicists and medical doctors in tissue engineering.

The Life Science Centre is also focusing on cooperation with business and attracting foreign investment, as well as the creation of new, innovative business. A team of scientists led by Professor Virginijus Siksnys were among the first to discover that the Cas9 protein could be repurposed to precisely edit targeted sections of an organism's DNA and thereby achieve a specific outcome. The team's pioneering research activities that have been key in developing the CRISPR-Cas9 genetic tool, a type of molecular scissors, have already been noticed by the international scientific community.

In 2016 Professor Siksnys was awarded the *Warren Alpert Foundation Prize* by the *Harvard Medical School* and he is also the first Lithuanian to join EMBO, an international organisation working for excellence in sciences. This year the research on

technical and commercial utility of guided Cas9 genome editing technology. Vilnius University and Du Pont have entered into a multi-year research collaboration to advance the development of the technology.

Students in LSC have equally lofty ambitions – the Vilnius iGEM team, supported by Professor Siksnys, has twice participated in the prestigious international synthetic biology iGEM competition, on both occasions returning with gold medals.

Although the centre has been opened for only about a year, it is always buzzing not only with studies and research, but with various events going on as well. In fact, its schedule is positively brimming with various events such as the *Vita Scientia international conference on life sciences*, the *COINS 2016* student conferences, and the common visits of prominent scientists and journalists. In 2018 LSC is going to host an international conference on CRISPR and other genome editing technologies, with hundreds of scientists from all over the world expected to attend.

It is well worth paying a visit to Vilnius University Life Science

Vilnius University Life Science Centre, with an area of 24 thousand square metres, is equipped with 24 classrooms, ten science teaching laboratories, three computer classes, 23 modern open access scientific laboratories and quiet workrooms.

The indoor premises are planned universally, the on-going research and training processes can be organised as needed – jointly or separately. General spaces are adapted for recreation and independent studies.

The premises are buzzing with 800 students all aiming for a degree in Life Sciences, 160 doctoral students and 200 research-teaching staff.

The LSC operates on the principle of Open Access of biotechnology and molecular medicine research and development centres. This is probably the only project in the Lithuanian Valleys programme, whose priorities are tackling youth problems and the development of globally competitive study programmes. The centre is also frequently visited by schoolchildren from all over the country, which provides them with an opportunity to get acquainted with life sciences via tours and workshops. Last year, the centre attracted foreign direct investment of 220.000 Euros.



Vilnius Targets top score IN GAME DEVELOPMENT

TEXT

Roger Kellerman

FOR QUITE SOME time now Lithuania has been highly regarded for the quality of its laser and biotechnology industries, but it appears that a new player is set to join the fray: mobile games and mobile platforms are about to become the latest technology to join the roster of the country's current successes.

With a total of 31,500 IT specialists, 12,100 of whom are developers and more than 500 specialising in Game Development, Lithuania is well placed to propel new tech industries and the capital city of Vilnius has many highly talented individuals raring to get started. Furthermore, setting up a company in Lithuania takes only three days and in the 2016 Mercer Cost of Living index Vilnius ranks as one of the five least expensive cities in the EU. Then factor in that according to a survey based on user experiences Lithuania has emerged as the country providing the

best public Wi-Fi services worldwide, trumping wealthier nations such as Singapore and the UK, and all the ingredients for growth would seem to be in place.

"We were seeing a lot of movement in the game industry in Lithuania, but the local businesses are quite small, so we started to approach companies actively, with our primary focus on countries like Russia, Ukraine and Belarus," says Vytautas Juskevicius, Senior Investment Advisor Technology at *Invest Lithuania*. "We saw that because Lithuania is a part of the European Union and already having the lifestyle and living standards that are getting close to Western countries that we could really be a gateway for business in Russia, Ukraine and Belarus to the European countries and markets. That is how it all started and naturally we were able to establish some great connections in the game development field."

One of the remits of Invest Lithuania is try to identify potential industries interested in expanding in the country, so about two and a half years ago they started to work quite proactively with the game development industry, meaning a lot of PR, marketing and direct contact with companies in this specific field. They pursued this prospect energetically as they realised that they already had quite a lot of large corporate IT companies in Lithuania, such as the internal units of banks doing support activities for a number of groups, like that of the large Barclays IT Unit, or Danske Bank's IT-office. It was the potential in supporting these more product-focused companies rather than the service and support-focused that fitted quite well with Invest Lithuania's direction, being a field combining creativity with strong technical knowledge and then the Video Tele Conference (VTC) product,

meaning that companies in the gaming field are usually a lot more well-known.

On the back of their efforts Vytautas Juskevicius believes that several things are going to happen in the game development industry over the next five years, the first of them being that local companies that are already starting to grow will strengthen.

presence and development of local companies, and then foreign companies coming in and bringing their knowledge and talent. With support systems like clusters and the universities getting stronger I think we can form a complete, really strong cluster that would be the best in the region.”

To help deliver this vision Vilnius currently has two universities that

creating their own games – a kind of back-end engine that is used as a base for other games.”

Further along the line famous companies have also been lured by the benefits and attractiveness of Vilnius, with Charlie Oscar being one of the major successes, a company that moved its diaspora of staff from Russia, Ukraine and Sweden to the Lithuanian capital.

“The government agency wants to proactively attract game development business and so introduced us to other companies and friends, mainly from Russia, Ukraine and Belarus,” says Vytautas Juskevicius. “One of the first companies that came to Vilnius was Charlie Oscar, a company started by Sergei Klimov, who is originally from Russia but at the time about three years ago lived in Stockholm. He had some people working for his company in Stockholm, some in Russia, some in Ukraine and others in Belarus.”

“The first game is quite popular and doing quite well, and Sergei Klimov has done a lot of ambassadorial work to suggest Vilnius as a location to a lot of his friends and game contacts. He is a veteran in that field with about 15 years of experience and has a strong network. Support and insight from industry insiders combined with our proactive approach allowed us to build a strong case for other gamedev companies.”

“Game development is a very interesting field in that sense; it is a very tight community,” says Vytautas Juskevicius. “It is a community based on recommendations and word of mouth. If you can get several game developers interested, you can provide a great service to them and then you are more likely to get referrals from them through these recommendations. That’s how it works.”

“The government agency wants to proactively attract game development business”

People behind the companies in Vilnius will have been in the gaming industry for five to ten years, so there is already a bit of experience on how to develop games, how to launch them, how to publish them and, of course, how to sell them.

“I think that in five to ten years at least several local companies will launch games that will be well-known in the region or worldwide. We already have strong titles by a local company called Nordcurrent. They have about 100 people here in Vilnius focusing only on game development. I think other ones will pop up as well.”

“Another trend will be that as we get quite a bit of interest from foreign companies, then hopefully we will be able to attract really strong names from the game development field. Our ambition is to have the very best businesses established here, such as Electronic Arts, Bethesda, Ubisoft, Blizzard, Valve and the likes.

“The overall trend will be that we can hopefully improve and that we can have a really strong cluster in this field,” says Vytautas Juskevicius. “That will mean connecting a strong

have dedicated game development programmes alongside several other universities that have optional game development courses. Students at Vilnius University who study information technology can, for example, study game development for half a year, and as these people are already at university they will have some knowledge on how to develop games.

“Broadly speaking, at this point in Lithuania I believe we have been able to secure and support about 15 companies, mainly from Russia, Ukraine and Belarus, that have now pretty much established themselves in Vilnius,” says Vytautas Juskevicius. “A lot of that has come through the support of our first contacts in the game development industry. It all started really well and we approached a company called Unity Technologies and their technical evangelist Oleg Pridiuk here in Lithuania, who are probably the most successful Danish startup and have an office in Vilnius currently with 70 people. They do research and development in quality assurance and develop a platform that is used by other game developers



Telesoftas in VR Premier League ALONGSIDE GOOGLE AND FACEBOOK

TEXT

Roger Kellerman

CONCEIVED AND BUILT by Italian architects in the 17th century, Sapiegos park was originally home to the palace of the famous Lithuanian noble family of the same name, until being sold to the Tsar in the 19th century. At that time it was re-purposed to house a military hospital and the complex was later added to, with the site continuing to provide medical services until 2015, when the hospital was transferred to new premises. Private investors then partnered with the Vilnius City Municipality to re-fashion the existing park and its buildings into today's bold new vision: *Sapiegos Vilnius Tech Park*.

"Set amidst eight hectares of parkland and adjacent to the *UNESCO* listed old town of Vilnius that is just

ten minutes away, the tech park is naturally the perfect place to grow," says Agne Jakimaviciute, Communications Manager at Vilnius Tech Park.

There have been over five million Euros invested to date to improve the premises and there are now offices for technology companies, a restaurant and a bar that are also open to the public. There is also a conference centre here for up to 250 persons.

"Today there are over 60 international start-ups and other innovative companies here in the 9,000 square metres of office space, where they really can come together, co-operate, and develop different projects," says Agne Jakimaviciute.

"We say: 'Here you can be a part of something bigger. Sapiegos Vilnius

Tech Park, where global meets local, and innovation meets experience. All with the purpose of making the ideal future a reality'. Sounds like PR, maybe, but it is what is actually happening here."

Vilnius Tech Park is also active beyond the boundary of its landscaped grounds, engaging in several cooperation projects with national schools, public organisations and corporations.

"We try to build relationships with various organisations and also involve them in the community," says Agne Jakimaviciute. "Also, we encourage our community members to be active participants at the park. For our opening event in November last year, we tried to involve all the

“Making the impossible happen is one of the things that keeps us together”

organisations and asked them to be open that night, and to have some activities in the offices, and that is what they did. Basically, you could walk around the offices with different teams and see what they were up to.”

One of the companies that has already moved to Vilnius Tech Park is *Telesoftas*, a software development house already active for more than 13 years with a focus on consulting and software development services to provide high-end, bespoke solutions in mobile, big data, Fintech, communications and other sectors. *Telesoftas* has also offices in Zurich, Dubai and San Francisco.

“The company is working on mobile applications and solutions development for the telecommunications industry, and we also build virtual reality products,” says Vytas Taujanskas, Chief Business Development Officer. “We are a telecommunications company with 140 employees, 120 of us in Kaunas and the rest in Vilnius and abroad. The team in Vilnius only started on the 3rd of January, so maybe Vilnius will be the same size as Kaunas soon enough.”

Telesoftas has partnered with the *Ministry of Health, Invest Lithuania, State Mental Health Centre* to create a gadget that empowers patients

to overcome life-limiting phobias. The app will be free of charge and available as a self-help tool for the public. Its content will offer cognitive behavioural therapy and the ability to monitor emotional well-being, all through the innovative use of virtual reality.

“Our mission is to improve our customers’ businesses through innovation and we believe that in today’s world, being mobile is one of the core elements of being successful, so that is what we do inside of our company and for our clients. We empower innovation by making everything more mobile,” says Vytas Taujanskas.

“To stay at the edge of innovation we follow the four core values of our company: one of our goals is to keep an ‘innovation first’ attitude and we then encourage our employees to search, build and innovate, because that is what really makes things happen. Making the impossible happen is one of the things that keeps us together. We believe that only by being ambitious can you help change the world.”

“Trust is what we have gained from our clients throughout 13 years of experience in the development world and we strive to keep it this way,” adds Vytas Taujanskas. “Some

people say if you are going to do something, you had better be good at it. We say if you are going to do something, you had better be the best at it.”

Striving to be the best has taken *Telesoftas* deeper into the realm of Virtual Reality, where they have some very interesting projects (one of them being the *Medusa*) and alongside only Google and Facebook have joined an exclusive club delivering Virtual Reality.

Compared to the capital cities of major countries Vilnius is undoubtedly at the smaller end of the scale, yet there are numerous hackathons taking place monthly in Lithuania where many people can come and code and they also have programmes specifically for women. Nowadays even some of the corporations have their own IT-forces where people are able to come and train for several months and join their team, despite their background perhaps being in another field. It is beyond doubt that the city is punching well above its weight.

In terms of attracting new people to this field, all appears to be going quite well and Vilnius is clearly on a solid trajectory.



Dr. Algirdas Juozapavicius PHOTO: Roger Kellerman

Our Main scientific clients FOR LASERS ARE A STRONG GROUP OF UNIVERSITIES

TEXT

Robert Cotter

THE YEAR 1960 was a significant one for the advancement of science, with the creation of the world's very first laser and what it might hold in store for the fields of medicine and beyond. Just six years following that breakthrough the first laser was built in Vilnius and a mere four years later, in 1970, *Vilnius University* started the studies and research in laser physics, followed up by the establishment of a department of *Quantum Electronics* in 1974.

Two decades later and following in the footsteps of the earlier advancements made in the scientific and academic realms, private companies connected with the laser industry

started to spring up in the Vilnius commercial landscape, one of the first of them being *Light Conversion*, a company that was established 23 years ago as a spin-off from the *Vilnius University Laser Research Centre* and that today works with manufacturing and is engaged in developing new products for the market.

"The company has built its strength on the deep knowledge accumulated by its people in the fields of optical parametric generation and amplification," explains Dr. Algirdas Juozapavicius, CEO of Light Conversion.

Since its formation in 1994 around 30 companies connected one way or another with lasers have come on stream in Vilnius, some of them producing or creating lasers with notable complexities, others focusing on specific laser components, and many of them being suppliers to Light Conversion.

Furthermore, *The Lithuanian Laser Association* today has 30 company members and there are scientific institutions in Vilnius that belong to the association, such as *The Centre of Physical Science and Technology*. Another significant fact is that in Vilnius you can today find three photonics specialists per 10,000

“Of the world-wide top 100 universities, 81 of them have our products”

people in the population. All of this is helping drive healthy trade in the laser industry.

“From 1994 to 2005 we had only one product: optical parametrical amplifiers,” says Algirdas Juozapavicius. “In 2006 we brought solid state diode pumped femtosecond laser to the market and from 2008 we found the way to make ourselves visible in the industrial market as well. I think the scientific market is very narrow, but they are rather stable and whilst the industrial market is very large, sometimes customers can place one very large order and then silence.”

“Today we have two markets; firstly the industry market, which in general means microelectronics automated for medical equipment, but not directly for medicine, although there are some devices being used in medicine.”

“The other line is in wavelength convertors; we are converting different wavelengths in different ranges. This is really a small area, a niche market, and according to estimates our products have more than 80 per cent of the Nano market.”

This market penetration has meant that today Light Conversion together with Lithuanian partner

Ekspla is producing large laser systems for Extreme Light Infrastructure – Attosecond Light Pulse Source in Hungary, funded by the European Union. They are also producing light systems based on scientific investigation undertaken by Vilnius University.

“Growth this year will be a bit bigger than last year and world-wide you will find our products in the United States, Europe, Japan and, more recently, China has been increasing very rapidly,” says Algirdas Juozapavicius.

“In Europe it is in Germany, the UK, Sweden and Spain. For Sweden, more specifically it is in Lund, as the laser science departments in Vilnius University and *Lund University* are working together and we have had a very long collaboration with different groups in Lund. Our main scientific clients are very strong groups of universities and it is interesting that of the world-wide top 100 universities, 81 of them have our products.”

The company currently stands at 170 employees, and the anticipated annual sales growth is to develop at a not insignificant 25 per cent. As for the floorspace to house them, they started out in a 2,500 square metre space and business now takes place

over a 5,500 square metre area, with the next step to increase this by a further 1,500 square metres.

Whilst securing additional floorspace should be a straightforward task, securing the right kind of people with the right skill sets for the industry may prove to be more challenging, especially so given changes that may lie ahead in terms of the advancements in technology and how Vilnius will be able to continue to profile itself as an attractive destination for such a specialist field.

“This is a matter of opinion, but in ten years I think we will be working with new products to cover different markets and new types of lasers, because right now we are working with making scientific activities in the purpose of helping other products, which we will produce and sell in three to five years,” says Algirdas Juozapavicius.

“This is necessary, because these products we are producing right now will maybe diminish after ten years and because the technology of industry always changes, but we will still work very closely with the universities.”



Global Network Rise

IS OPEN FOR BALTIC STARTUPS

TEXT Robert Cotter

IN JULY, 2016, Vilnius joined the ranks of only six other world cities – London, Manchester, New York, Cape Town, Tel Aviv, and Mumbai – in hosting *Rise*, the international financial technology (Fintech) start-up network created by Barclays. Rise Vilnius is now an open shop where Baltic start-ups can work together, create together and enjoy the full benefits of a virtual global network.

It is also a tribute to the Lithuanian capital's rapidly growing reputation as a European Fintech hub. Lithuania boasts the fastest Fintech licensing in Europe and offers Fintech companies direct access to SEPA as well as a one-year sandbox regulatory environment – key to promoting innovation.

The official opening event for the 550 square metre facility located in the Vilniaus Vartai centre of downtown Vilnius was attended by the Lithuanian President and other state officials.

Since then, Rise Vilnius has gone on to sign five non-disclosure agreements (NDAs) with start-ups, hosted 62 Fintech and entrepreneurship

related events and has been selected as the best co-working space in Vilnius by Nomad Capitalist. It is currently home to 50 start-up members from the global network, from mobile payment developer *Wora Pay* and alternative investment designer *Welltrado* to loyalty card umbrella service provider *Dealoyal*, offering them a place to work, a meeting space and an auditorium to host and live-broadcast different events, such as mentor events, hackathons, and creative workshops.

“Rise is a community of Fintech companies that grow and create together with Barclays and we see it as an opportunity to embrace and to discover innovation that disrupts our business models,” says Mariano Andrade Gonzalez, Head of *Barclays Global HR Service Centre* in Vilnius.

“It is also an opportunity to implement these ideas faster, whilst bearing in mind how they can be adapted by Barclays or other companies,” he adds. “Think of an early stage start-up – finding the first clients is of tremendous importance to it, and so we can be their first customer and a

partner at the same time, given our experience.”

“We’re seeking to connect some of the most innovative ecosystems in the world to drive and accelerate innovation, particularly within financial services,” says Lubaina Manji, Barclays Head of Rise and Group Innovation Office. “We’re excited about tapping into the skills and expertise that Baltic start-ups have to offer.”

Ensuring that the innovative drive of Rise can be sustained, Barclays have been clear that the start-ups will not be pulled into any kind of corporate environment, but will be left to concentrate on creativity, collaboration and scaling instead. At the same time, the team at Barclays consider that Lithuania alone is too small for a Lithuanian-only Fintech start-up incubator, so they expect to see young creatives coming from the wider region, including Poland, Ukraine and Belarus, and that in addition to financial technology they would like to see human resources (HR) or gaming start-ups take root at the premises.

“We are open not only for Fintech start-ups by definition; we are

open for all start-ups that work with contemporary buzzwords, such as artificial intelligence, virtual reality, cyber security, big data, blockchain technology and biometrical data,” says Darius Kavaliauskas, Ecosystem Manager of Rise Vilnius. “Barclays opened Rise in Vilnius because we know that the competition is really huge with all those start-ups and

sector, whilst remaining receptive to other supporting innovation that may also arise from the creative hubs and their huge energy pools.

“We are looking particularly for the Fintech start-ups and my role in this is to bring that kind of innovation to the company and show them that this start-up could be interesting for them, because you are dealing

students and for anyone who wants to know more about the networks, the academy and so on,” explains Darius Kavaliauskas. “Events can also be organised by anyone else from the market and if you’re talking about Fintech, the Fintech community or start-ups, then you can come and work for free and invite all your external guests – that is what we do and that is how we are collaborating with all the start-ups and how we want to help them to skill their business.”

“I brought one of our recent success stories along so they could share their story that last week we launched free sites at Barclays. Their service is now running and we hope that it will bring a lot of value and save a lot of time for our employees.”

The success stems from being not just a hub in its physical sense – more importantly, it is a global virtual community bringing together start-ups from all around the world to shape the future of financial services. By joining the community, regional start-ups have instant access to people, workspaces and talent based in some of the world’s most important financial technology ecosystems, enabling them to grow and scale faster and more easily.

Barclays is already enjoying the benefits of its start-up collaborations, entering into over 60 partnerships with start-ups from the Rise community each year. Some examples of these partnerships include working to develop automated FAQ answer-phone systems and offering customer experience solutions for Bitcoin banking apps.

“We’re seeking to connect some of the most innovative ecosystems in the world to drive and accelerate innovation”

rather than try to acquire them or to hire so many different specialists inside our company. For us and for the start-ups it is a win-win situation when we are looking for innovation and the start-ups are looking for businesses to sell their product. Through the community, Baltic entrepreneurs can connect, co-create and scale up their ideas.”

“We have several locations of which Lithuania is one and we also have a Barclays accelerator programme in four of the seven offices – the New York, London, Tel Aviv and Mumbai accelerator with Techstar, the biggest Fintech accelerator programme in the world,” continues Darius Kavaliauskas. “So, we are gathering all those start-ups into the community and then from the Barclays perspective we go into that community and see what they are doing, what kind of products they are creating.”

Spreading the net wide to capture talent from Lithuania and around the wider region, the core purpose of Rise remains to unearth talent that will help drive innovation in the Fintech

with the same issues and problems,” explains Darius Kavaliauskas. “Then they start a conversation and in this way they can find a way on how to start a collaboration.”

“There is also the case where we might have an issue but we do not know how to solve it,” he adds. “Maybe we do not have a specialist who can solve a technological problem or another kind of problem, so we can go in and say, ‘look, this is our problem’ and maybe someone there has a solution or their product is pretty near to the solution we are looking for. That is another way we interact.”

Given so much going on at the hub, Rise Vilnius have plenty of events to organise and Barclays makes sure they visit Rise to tell their own stories and share their knowledge. There is also a lot happening with local universities in Rise locations – 77 employees at the bank are lecturers in different universities.

“We thought it would be much better and that we could achieve a wider audience if we could come to Rise to open those sessions for the

Meet THE DIGITAL FUTURE

TEXT

Roger Kellerman

THE RISKY BUSINESS of dealing in stocks undoubtedly remains the absolute preserve of those with expertise in such matters and direct access to the relevant markets. Or does it? A Lithuanian-based company, *Stock Invest*, now offers you recommendations for more than 5,600 US stocks

One of the key reasons that brokers would like this to remain their preserve is, evidently, that they earn commission through their reasoned endeavours, which raises the question of how making the information available at no cost can be a profit-generating venture.



PHOTO: iStock.com/scanrail

“To me personally, this is more of a statement; it is a challenge”

in the simplest way possible through a system that uses a combination of well known technical analysis variables and self-developed scoring systems to rank each stock.

As the force behind this new innovation into global stock dealing, we had the chance to meet Vytautas Matuzas, the company's founder and CEO, over a cup of coffee (that we ordered by *Wora Pay*, another start-up that we chanced upon at the same time).

“The common stock trader doesn't want to waste time trying to understand or find necessary information,” says Vytautas Matuzas. “Like all other internet users, they look for pure information in a clear and readable manner. It's a global trend, so why should sources like this be the preserve of the brokers?”

“Actually, we are not yet sure,” says Vytautas Matuzas. “We know that people are tired of ads [for dealing in stocks] everywhere and subscription services are not a user's first choice, so the team has built a brilliant product that we need to bring to the public. I firmly believe that if our users find this useful, we will be able to find a way to make a business out of it.”

“Currently, we are running two ads and we have a donation button. To me personally, this is more of a statement; it is a challenge to show how information should be presented and to simplify the richness and deep knowledge that can be found in technical analysis.”

Given the richness of technical analysis going on it is no surprise that the company is based in Lithuanian

capital of Vilnius, a city that is the current hotspot for new IT businesses in Europe.

According to Matuzas, this was a strategic choice, as some of the IT people here are the best in the world and with a low-cost base compared to many other countries, with the consequence that they can see an increase in Foreign Direct Investments. Many external investors also see Lithuania as a country of opportunities, which could serve up a situation where investors can be drawn to the capital and thereby elevate everything to the next level.

With this focus on growth, the company plans to increase the quantity of stocks analysed and has already had to change its server location twice to meet the growth in traffic and to have enough computer power to run the highly advanced and extensive algorithms needed to analyse each stock.

“From thousands upon thousands of lines of code we have managed to create a useful tool for the common stock trader, so why would we want to ruin it by presenting it in a complex way?” says Vytautas Matuzas. “If we wanted to, we could present the results for each and every one of the many hundreds of parameters we analyse, but that would not change the end result – it would just complicate things and take attention away from the real question of whether it is time to buy or sell.”



Payment **WITHOUT THE QUEUE**

ONE OF THE ONLY things that can possibly diminish the pleasure that a quality coffee can bring to a hard day is the amount of time you sometimes have to queue to finally get your hands on it. It doesn't have to be that way, however, and it certainly isn't if you've come across *Wora Pay* (as we did), which is a *payment without the queue* platform.

Founded in 2012 by Vaidas Adomauskas and Aurimas Bakas, who had been studying solutions for how to beat queues for several years, the platform specialises in helping retailers increase sales and profit by allowing their customers to avoid the need to queue to pay. Alongside providing the technology they also give retailers practical advice too.

Initially launched in the Baltics *Wora Pay* quickly gained acclaim, securing some major retailers as its clients before subsequently being launched in November 2015 in the UK, where it has already saved thousands of hours of queuing for UK customers. Not only are queues shortening, but the service is also increasing turnover

and profit for catering companies and other retailers.

"People are wasting their time when they queue and we can save that time or they can spend it on other things," says Tadas Bakutis, Chief Technology Officer at *Wora Pay*. "It could be a meeting, it could be talking to a colleague or something like that. You can then calculate how much value they are adding to their company, by taking how much time they would be spending in a queue, calculating average salary for one person and you get the numbers of how much you are saving for the company for helping their business needs."

The platform supports many orders for shops and pay without the queue scenarios, such as ordering food and drinks to beat the queue and have instant pick up, shop and pay directly from a self-service counter in a café or retail store (and thus leave without having to queue for the till), pay at the pump without the need for any self-service terminals, pay directly at the table or order to the table at a restaurant or venue,

and much more besides. Any mobile wallet (a payment app), including retailers own branded apps, can be integrated and work with the platform and its projections indicate that there are significant efficiencies to be had.

"Lloyds Banking Group staff using the *Wora Pay* service could save up to 75,000 hours per year, the equivalent of over 10,700 working days that would otherwise be spent waiting in line to pay," says Tadas Bakutis. "We are also seeing that the caterer is experiencing an uplift of five per cent in total sales as customers return to vendors that improve their overall experience."

"People are wasting their time when they queue"



Bringing Leading Minds TOGETHER IS CRUCIAL

HE IS KNOWN as ‘the laser man’, as aside from his first year of study he has spent all of his life at the *University in Vilnius* and become inextricably linked with lasers, and whilst they have a laboratory there and also develop lasers today the main job of Dr. Gediminas Raciukaitis, Head of the *Department of Laser Technology at the Centre for Physical Sciences and Technology* in Vilnius, is to create applications for their use.

At the outset of his work the first lasers in Lithuania were run by semi-conductor physicists rather than by dedicated laser specialists, but that was before the laser industry itself came to the fore, which is when *Ekspla*, a laser company, invited Gediminas Raciukaitis to look into their lasers. He joined the company in 1995, which was when he started to develop laser technology for both small and big lasers, trying to advance them and introduce them to Lithuanian companies.

“When we started all this, initially my department was a laboratory and we were two people – me and one other,” says Gediminas Raciukaitis. “Now we are about 70 people across six laboratories, with close to 20 Ph.D. students and about 20 people with doctorate degrees here too.”

Engaged with the *Ekspla* laser company since 1995, Gediminas Raciukaitis currently holds the position of consultant on laser technologies. His activity related to the application of lasers in industry was moved to *the Institute of Physics* in 2004 and in February 2011 the laboratory was converted to the *Department of Laser Technologies*.

Starting out with their picosecond Nd: glass laser and a small series of mechanical mounts, *Ekspla* has significantly increased its production range and can now offers its customers solid-state lasers, laser systems and accessories for Research and Development (R&D) applications, optical parametric oscillators/generators, complete spectroscopy systems, laser power supply and cooling units, laser optoelectronics, industrial DPSS lasers and a custom designed laser system.

“Lithuanian companies today produce ultra-short pulse lasers and I manage to propagate some nice speeds – 300,000 km per second,” says Gediminas Raciukaitis. “*Ekspla* is today a manufacturer of lasers, laser systems and laser components for R&D and industrial applications, and from its very beginning the company has aimed at the production

of high performance advanced solutions. New ideas and the broad knowledge of its engineers and physicists, coupled with skilled and experienced staff, have made it possible to create an exclusive company.”

On top of this *Ekspla* is also a member of the Lithuanian photonics cluster, as well as the Baltics photonics cluster. The close cooperation with academic and industry partners has enabled it to contribute to EU and international projects, such as *OPTIX* (an advanced system for detecting explosives in terrorist attack situations) and *APPOLO* (a consortium for establishing and coordinating connections between end-users and manufacturers).

Over at the University, starting out with simple laser microprocessing experiments in 2004 the activities of the Department of Laser Technologies have also evolved to now cover nanophotonics, laser science and applications including modeling of nanophotonic structures, development of optical components for lasers, new design of fibre and solid-state based lasers and their application in precise material processing.

“We offer services on the development and implementation of laser technologies for surface and

intra-volume marking, microfabrication, modification, scribing, dicing, cutting and drilling using ultra-short pulsed lasers,” says Gediminas Raciukaitis. “We also work with the development of specialised solid-state and fibre lasers, the design and small-batch fabrication of dielectric optical coatings for diverse photonics applications, the modeling of

(LPM), which provides an opportunity for researchers from a variety of fields to exchange ideas and techniques, and fosters discussion on fundamental aspects of laser-matter interaction and the state-of-the-art laser materials processing among pure scientists, end users and laser manufacturers. We expect that LPM2017 will play an important role

not so strong when compared to the French Riviera. Nevertheless, this was quite tiresome competition – it was at a conference two years ago, in Australia, and it was a very tiresome battle for who would win.”

Not quite matching the romantic imagery of the French Riviera, Vilnius and Lithuania nevertheless do have a number of competitive advantages when it comes to hosting an event, none more so than that of affordability and value for money alongside the wealth of talent in the city.

“It is not only the price of the hotels and food that matters in these conferences,” says Gediminas Raciukaitis. “If you look at real scientific conferences it means that nearly every attendee is a presenter – this is not like having two or three speakers, because 200 people can be presenters. It is completely different and it means discussing and showing results, and seeing what others are doing, so normally they choose more relaxed places and not necessarily even the most affordable.”

This characteristic of scientific events and attendance at them implying a speaking role means that Gediminas Raciukaitis has also found himself in that position on, it would be fair to say, ‘more than a few occasions’.

“Absolutely, maybe 100 times, I have never really counted them. Normally when I go to conferences I have a presentation. Now I bring students and I allow them to make a speech. In 2015 I brought 15 of my students to Munich. In June we have seven presentations in Japan, but I have to go to that one as I am organising special sessions and I will present two posters.”

“Bringing leading minds together is crucial in being able to share the latest advancements”

light propagation in waveguides and photonic-crystal structures, and with the structures themselves.”

From the highly specialised nature of both this field of science and the nature of its work, the significance of bringing its leading minds together – minds that are scattered right across the world – is crucial in being able to share the latest advancements and learn from leading industry figures, making attendance at such gatherings hugely important.

“Apart from the local ones and some that we must attend, I normally attend five or six such conferences a year,” says Gediminas Raciukaitis. “There are some very important topic conferences and now the students are organising some of the meetings, such as the student conferences that take place every four years and at which there are sometimes Nobel Prize winners as speakers.”

“If you are working in this industry you just have to attend [these events]. At the beginning of June we are going to Japan to attend the annual *International Symposium on Laser Precision Microfabrication*

not only for understanding fundamental knowledge of laser precision microfabrication, but also in forecasting future technologies to be developed and the future laser market.”

In addition to attending events of international repute, industry leaders in Vilnius have also been putting themselves on the map by organising them and bringing globally recognised figures to the city.

“We organised the *15th International Symposium on Laser Precision Microfabrication* in Vilnius and we still are discussing whether to have more of our own conferences,” says Gediminas Raciukaitis. “It is quite difficult because of the amount of competition. In my field, we have three important conferences, which means one per year in one place, with the second one after two years in another place. We have submitted a bid for one of them maybe three times, but have still not won. Another one we have applied for once, but we did not succeed. This is normal, because that conference has to take place in a nice place with good beaches. Our destination is



Vilnius Awaits 300 delegates FOR EUROPEAN YOUTH CONGRESS 2018

TEXT

Roger Kellerman

SINCE 1987, the *European Youth Parliament* (EYP) has been supporting the development of young people towards becoming responsible and politically aware citizens. Its overall mission is to inspire and empower young Europeans to be open-minded, tolerant and active, and it does this by involving them in European political thinking and promoting intercultural understanding.

This makes the EYP a unique educational programme that brings together young people from all over Europe to discuss relevant current topics in a parliamentary setting. As a network of independent associations, EYP is present in 40 European countries and organises almost 600

events and 1,500 days of EYP activity every year, involving just shy of 35,000 participants. Thousands of young people right across Europe are active as volunteers, making EYP a programme truly ‘for young people, by young people’, as well as one of the largest European platforms for political debate, intercultural encounters, European civic education and the exchange of ideas among young people throughout Europe.

In winning the *88th International Session of the European Youth Congress* in July 2018 Vilnius managed to dislodge Stockholm’s hosting bid, giving the city the opportunity to showcase its young and upcoming people and also give visitors a practical view

of both Vilnius and Lithuania. We had the chance to speak to Vilius Paskevicius, President of the EYP, to get his views on the event and its host city.

“Three hundred people are expected to come and we would like to show the very best of what Vilnius has to offer – the old town, the meeting venues, the people, the atmosphere and the lovely coffee shops,” says Vilius Paskevicius. “Also, we will organise this event according to our policies.”

Beyond the obvious city charms that Vilnius is clearly not short of, the congress programme has also shown its desire to include as many topics as it can about both the innovative side

“We should show what Vilnius has to offer in terms of innovation, technology and gamification”

of Vilnius and the future prospects of Lithuania.

“We should show what Vilnius has to offer in terms of innovation, technology and gamification, and that our company Telesoftas is number three in the world when it comes to Virtual Reality, after Google and Facebook,” says Vilius Paskevicius.

Securing this opportunity to parade the qualities of both the congress and the city meant trumping Stockholm’s equally strong hosting aspirations, which in turn meant a solidly prepared and strongly supported bid.

“The bid was read by our governing body and our International Office has been helping us to organise this event,” says Vilius Paskevicius. “The governing body oversees the entire development network and we are a huge youth network, one of the largest in Europe, with about 35,000 participants and with several events a year. We had one in Vilnius in 2016 and we are planning to have another one later this autumn as well. EYP Lithuania has hosted eight youth conferences in Vilnius in total; a lot of activity has to be done, as we have to fundraise the entire budget.”

With a tight fabric of agents all coming together to help deliver the

bid and the event, yet dependent on a budget that is entirely fundraised, the matter of delegates’ fees and discussions around them then becomes a rather tricky topic, as does the scope of opportunity for how much the city of Vilnius can itself become properly embossed upon the programme.

“The payment is kind of complicated – there is a fee, but this money is used to run the International Office,” explains Vilius Paskevicius. “In return the International Office helps us with the applications – there is a lot to do.”

“The programme for these days ... the fact is that we can only add a few things, as most of it is already outlined and prepared. The final programme is not developed yet, but we have some recommendations as, for example, we have to include at least 20 hours of academic work and we have to have one day of networking opportunities. The evening programmes also have to be developed very nicely, so again we have recommendations for them too. The evening events are quite flexible, which is when all the countries that are coming will have the opportunity to present themselves, including their culture, music and so on.”

The presence of so many keen eyes and minds at the congress and the buzz created around the city may also offer windows of opportunity for key players, such as the University of Vilnius or the key economic drivers in the city, to have a small but related exhibition integrated into the congress.

“We had an example of such an exhibition during one of our sessions at an event recently in Switzerland, where the topic was sustainability,” says Vilius Paskevicius. “They had a sustainability exhibition where they invited all the ecological sustainable companies to present their topics and their visions. We also like to show Vilnius as a friendly city, so such an event as ours should definitely show all the possibilities we have in our city.”



That is What R&D is looking at **WHAT TO DEVELOP NEXT**

TEXT

Robert Cotter

JARED ISAACMAN was just 16 years old when he founded *United Bank Card* in 1999 in the basement of his family's house. Since then he has been recognized as one of America's Best Entrepreneurs by *Business Week Magazine* and 30 Entrepreneurs Under 30 by *Inc. Magazine*. He was also named as a finalist for the Ernst & Young *Entrepreneur of the Year* award for 2006, 2007 and 2008, and was the youngest person ever named on the list of Industry Leaders by the credit card industry's leading publication, *The Green Sheet*. The company is also credited with introducing the first "free credit card terminal

program" in 2004, a business model that is now standard in the processing industry.

First launched in early 2008, Harbortouch started out as a division of United Bank Card, but since 2012 it has become the name of the entire company. The company provides payment processing services for many electronic payment methods, such as credit cards, debit cards, gift cards and loyalty cards.

The company also offers various merchant services, such as check services and cash advances, as well as multiple online merchant services and processing options.

Harbortouch is furthermore a supplier of point-of-sale (POS) products distributed through Independent Sales Offices and in 2011, the company launched a POS system program that allows merchants to obtain a Harbortouch POS system with a monthly service fee and quarterly software support fee required, which has become the company's flagship product.

Harbortouch has now set up a new research and development (R&D) company in Vilnius and has hired Tadas Vizgirda as the CEO of this new division. He was born and raised in America where, by his own account,

his parents “tortured” him with Lithuanian schools every Saturday, Lithuanian scouting, Lithuanian folk dancing, Lithuanian choir and church and Lithuanian parties that they wanted to go to, all whilst his American friends were out playing football and basketball. That’s what he thought back then, but then in 1993 and following university he

increasing the labour force is one of the main focus areas of the Lithuanian Government, as is trying to get specialists in key industries where needed in the country.

There is definitely a gap at present, but there is also great domestic talent and the salaries are better when working with IT than being a professor at the *University of Vilnius*, all

“A former colleague of mine started to work for us and then he called me up and said the company was looking to create an R&D Centre in Europe. There were a couple of choices as far as the country went and Lithuania was one of them, so he asked if I could help show them Lithuania, which is when the relationship started.”

The owner of Harbortouch, Jared Isaacman, flew in with board members and part of the senior management team and they went on a tour, showing them around and meeting with the Mayor, who presented Lithuania very well.

“I guess we had the same vision and I then showed them Vilnius Tech Park and then, obviously, Lithuanian culture. You have to feel the culture before you can really understand the country, and less than 24 hours after the visit started they asked me if I would like to join the team.”

In discussions with Tadas Vizgirda the topic of innovation and driving forward new products hinted that Jared Isaacman may have invented something for Harbortouch that is even better than anything else previously produced.

“That is something that I cannot talk about. Absolutely everything is very security-based; high security is extremely important and we are trying through our engineering efforts to further develop it. There are still some huge possibilities to be even greater with our innovation.”

“So, what’s next? That is basically what R&D is looking at – what to develop next. The main thing is an innovative POS solution with state-of-the-art security. And we will do it here, in Vilnius.”

“There are 120 US companies in Lithuania”

came to Vilnius with his stepsister for six months as they wanted to see what it was really all about.

“I was here also for a brief visit already in 1992, for one week, then I decided to do the six months. One of the reasons why I am still here is because maybe in Lithuania, in a small country, I can make a real difference, instead of being trapped in a cubicle in the USA, especially so in Los Angeles. And the traffic! There is no traffic here. Lithuanians always complain about traffic, but they don’t know what traffic is. Two hours to work is traffic!”

Straight out of university his first job was to be country manager of Mars Incorporated. Tadas Vizgirda then became CEO at the US company Gtech and seven years after that the CEO of Air Baltic, Lithuania.

“After Air Baltic I joined the British-Swedish company Astra Zeneca and then came IT – Gtech was IT – and then venture capital, then Revel, and now Harbortouch.

Something that is currently very big in Vilnius and in Lithuania is immigration. Talented people are finally starting to return and

dependent on the level of education.

“IT is definitely the way to go,” says Tadas Vizgirda “There are really great engineers working here and the US companies that are here are always talking about how highly skilled the specialists are, so it is a question of Lithuania having such high skill levels in numerous areas. In Vilnius University there has always been a high level; they are continuously trying to partner with companies and looking at innovation, which is obviously how people get hooked. It is really getting the youth to actually go to the university and no longer choosing something like business administration, as was the case 25 or 30 years ago. That is something I like.”

“There are 120 US companies in Lithuania and they are always talking about the talent here,” adds Tadas Vizgirda. “The startup ecosystem here is fantastic and I want to see more success stories, but our ecosystem is still very young. Our office is now in Vilnius Tech Park and it is a fantastic environment. It is one of the only places with a solid ecosystem for developing. But, of course, each startup requires an engineer.”



At the Forefront OF NANOTECHNOLOGY RESEARCH

TEXT

Roger Kellerman

THE *Centre for Physical Science and Technology (FTMC)*, established in 2010 when the *Institutes of Chemistry, Physics and Semiconductor Physics* in Vilnius combined with the *Textile Institute* in Kaunas, is today the largest scientific research institution in Vilnius and one of the leading scientific institutions in Lithuania. It carries out fundamental research and technological development work in fields such as laser technologies, optoelectronics, nuclear physics, organic chemistry, bio- and nanotechnologies, electrochemical material science, functional materials and electronics. The work undertaken at

FTMC is not only innovative science, but also of the utmost importance to state, society and business needs too.

Being equipped with modern laboratory facilities and uniting the best of Lithuanian researchers, most of the centre's scientific investigations are unique not only in Lithuania, but also in the world, and many of its technological discoveries and scientific successes have become renowned at the international level. Boasting 38 habilitated doctors of science, 246 doctors of science, more than 500 researchers and 60 Ph.D students working at FTMC it has carried out more than 300 scientific

investigations on order of business entities and contributed to the accomplishment of business goals of more than 100 enterprises.

Of such an illustrious set of minds working collaboratively, Dr. Rasa Pauliukaite is one of the centre's frontrunners in Nanomaterials. She received a Ph.D in the field of physical chemistry from the Institute of Chemistry, Vilnius, in 1998 before going on to postdoctoral studies in 2000 at *Karl-Franzens University*, Graz (Austria) and then further studies in Slovenia, Switzerland and Portugal. She is today the Head of the *Laboratory of Functional*

“The Nobel Prize might be just around the corner”

Nanomaterials and a chief research associate at FTMC.

“I did my Ph.D here in Lithuania as a physical chemist and afterwards I left Vilnius for Graz, in Austria, where I was working mainly with analytical chemistry,” says Dr. Rasa Pauliukaite. “After that I went to Slovenia for a postdoctoral position for one year and then to Switzerland for one year to work with biosensing. After that I did my last post-doctoral studies in Portugal’s *Coimbra University* for seven years, which is a very old and beautiful academic city in Portugal.”

“I had by then changed from a focus on pure physical chemistry to more bioanalytical chemistry, but now I am working with electrochemical biosensors. One of our biggest projects – and one that is already complete – was a development sensor device for food quality control, or in other words the development of an artificial food ‘taster’. It was found by Japanese scientists that glutamate is responsible for a very delicious taste, so you can put it on any food and it will taste delicious. The biosensor for glucose, sugar, is needed because many producers do not set out all the ingredients on the label. We can also control methanol, cholesterol and

hypoxanthine, the latter appearing in meat or fish when it is decomposing, so you can tell how old it is. The problem is that you cannot do this directly in the shop.”

Alongside such advanced scientific research and technological development work going on at the centre Ph.D studies and post-doc fellowships are also organised there, as well as the training of qualified researchers capable of performing independent, high level work and solving scientific problems. Research work is also carried out on the order of business entities, offering versatile expertise and scientific consultations. FTMC disseminates its scientific knowledge to the public and contributes strongly to the development of an innovation-based economy and the education of a knowledge society.

Complementing FTMC’s knowledge share and innovation boosting there are also a number of open access centres and technology parks actively contributing to the commercialisation of the research results: the *Open Access Centre of Electronic Microscopy, X-ray Diffractometry and Spectrometry*, the *Open Access Centre of Processing Technologies* (BALTFAB), the *Science and Technology Park of*

Physics Institute and the *Park of Science and Technology*.

On top of all this FTMC also closely cooperates with scientists from Germany, France, Great Britain, Scotland, Poland, Taiwan, the USA and other countries in the development of new technologies and innovative devices, and is implementing joint European Union and bilateral scientific projects. FTMC and its researchers are also members of various international organisations, such as EPIC (*European Photonics Industry Association*), OSA (*Optical Society of America*) and LIA (*Laser Institute of America*), all of which ensures that at any one time the work is extremely varied, as with that of Dr. Rasa Pauliukaite.

“We are creating new conducting polymers from vitamins for application in sensors and our aim is to create uses in space for the examination of astronauts’ health,” says Dr. Rasa Pauliukaite. “The sensor should be attached to the skin, but some compounds used in sensors are somehow poisonous, so we are looking for natural polymers, for natural substances. Vitamin B is very good for this.”

“These are the main projects of my group and the other group is working

**“The work is not only innovative science,
but also of the utmost importance to state,
society and business needs”**

with the fabrication of nanostructures with possible applications to regenerative medicine and diagnostics. This is probably one of the best groups in Europe that is very skilled in ‘nano writing’. We use two main methods for nanostructure fabrications: one of them is ‘stamping’, so called ‘micro contract printing’, i.e. stamp printing of micro-size shapes. The second one is ‘writing’ with a very small tip of a so-called ‘atomic force microscope’. In principle, this microscope works like a blind person using a stick, with the difference that it is checking the relief in an area of a few nanometres. Instead of this we cast a chemical ink into the tip and then choose a pattern to ‘draw’. We can write and draw the figures we need. It is unique.”

“We belong to *Open Access Facility* BALTFAB and have orders from Belgium and Holland to prepare some kinds of nano-patterns, which is a unique skill in our groups,” says Dr. Rasa Pauliukaite. “The other subjects of our groups are hydrogels for regenerative medicine used as the platform for the eye cornea, skin and other uses, which was established together with a group in cell investigation. The aim of that project was to investigate

how a single cell behaves under the same conditions as it would in the human body. For this, especial microstructures are fabricated where cells are attached and have the same shape as in tissues.”

“There are many competent people of various fields in our department: physicists, laser physicists, biophysicists, biochemists, chemists, electrochemists, analytical chemists and biotechnologists. This is actually very interesting and very good to see subjects investigated from different points of view. Moreover, our department is rather young and ambitious.”

Dr. Rasa Pauliukaite is one of these young, ambitious and highly competent people. As a co-author she has published 58 scientific papers in the *ISI Clarivate Analytics* database and her current interests are the development and application of functional nanomaterials and conducting polymers in electroanalytical chemistry. Furthermore she is the Regional Representative from Lithuania at the *International Society of Electrochemistry*, a member of some *National Societies of Chemistry* and a board member of the ‘*Futura Scientia*’ association that unifies Lithuanian scientists abroad.

Our visit to FTMC laboratories was reasonably quiet, as many of the staff were working on scientific papers or theses. One could feel in the air, however, and see in all the technical equipment and machines around us the intensity of research at the forefront of nanotechnologies that is going on here. Whisper it quietly for now, but for the FTMC the Nobel Prize might be just around the corner.

Smart Specialisation

ESSENTIAL FOR THE GROWTH OF KNOWLEDGE

TEXT

Robert Cotter

CONTINUOUS investment in research and development (R&D) and in the various fields of innovation is a must, but a problem arises in trying to decide on which areas the focus should be concentrated to produce the optimum results. With the approach of the new *Multiannual Financial Framework (2014–2020)* all EU members have been obligated to formulate *Research and Innovation Strategies for Smart Specialisation (RIS3)*, which will guide further R&D and innovation system development in every member state.

Each EU country and region has its own characteristics and different assets that will need to be harnessed to foster competitiveness. This aim is achievable only if EU member states reach internal agreement on clear and deliverable priorities, challenges and needs for knowledge-based development. If the strengths of a country are not properly highlighted then there is a risk that investment in R&D and innovation will not be effective. The objective analysis of potential for excellence and competitive development directions creates the framework for identifying investment priorities and prepares recommendations for a long-term R&D strategy in a country.

RIS3 encourages each EU member state to identify the competitive advantages and potential for excellence of every economic sector and for research and innovation. Development of R&D and innovation priority

areas and strengths within every area are provided in the updated *Conception of Integrated Science, Studies and Business Centres (Valleys)* approved by the Government. Smart specialisation in Lithuania will be essential for accelerating the growth of knowledge-intensive business, encouraging excellence driven technological and non-technological innovation, and exploiting long-term Lithuanian economic development efforts and investment. Furthermore, it will support the implementation of EU R&D and innovation policy trends.

Lithuania has already implemented the first steps in drawing up RIS3. In September 2012 the *Review of Science, Studies and Innovations* was prepared by the *Research and Higher Education Monitoring and Analysis Centre (MOSTA)*. On the basis of this document a group of international, independent experts prepared *A Contribution to Priority Setting for Future Research, Studies and Innovation in Lithuania* – a guided analysis for setting steps on future priorities.

The priorities of R&D and innovation development should be determined considering the business potential for excellence, the strengths in research, technological development and innovation, and also a capacity to foster collaboration among different stakeholders to respond to national, regional and global challenges.

The first stage of the priority setting procedure will result in a focus

on general priority areas. In the next stage a consensus building and future foresight exercise will deliver the exact priorities in every priority area. In order to achieve this result it is necessary to evaluate the perspectives, potential and challenges in every field with a high growth potential and identify key global and national trends, assets and challenges that are likely to have the largest effect on innovation and a market's growth and welfare.

It is important that all partners be fully involved in developing and implementing smart specialisation strategies. In such a way, outlining the future perspectives of Lithuanian strategy would lead to R&D and innovation development, the potential for excellence and competitive advantages.

“Competitive development directions creates the framework for identifying investment priorities”



PHOTO Sara Appelgren

ROGER KELLERMAN Publisher, business intelligence analyst, trend creator, educator and networker. Has over 30 years' experience of the global meeting industry. Founder of Mötesindustriveckan. twitter.com/thekellerman

Vilnius

ONE OF EUROPE'S FASTEST GROWING INNOVATORS

"**MOST DYNAMICALLY** developing city" (CEE Shared Services and Outsourcing Awards 2016, 2017), one of Europe's fastest-growing life sciences industries, fastest Fintech licensing in Europe, world's fastest public Wi-Fi, a tech park bigger than any in the Baltic region, a global market-dominating scientific laser industry, and a thriving game development sector ... all of this you can find in Vilnius, the capital of Lithuania, a country the *EC Report on Innovation in the EU* calls one of Europe's "fastest growing innovators".

With such a dynamic economy, it's no surprise that foreign direct investment is growing, too, with the major presence of companies like AT&T, Barclays, CISCO, Danske Bank, Nasdaq, SEB, Swedbank, Teva, Thermo Fisher Scientific, Western Union, as well as a burgeoning sector of tech-oriented SMEs setting up shop in Vilnius.

A cosy, compact, business-friendly and tech-oriented city with a well-educated, multilingual, and flexible talent pool, vibrant artistic and cultural scene, UNESCO-listed architectural heritage dating back to the Middle Ages, clean air and water, green space galore, and a great work-life balance (#9 in the world,

according to Business Insider) – Vilnius offers all of the advantages of a contemporary European capital at a fraction of the cost. Ninety-eight per cent of the city's residents seem to agree, telling *Eurostat* they are satisfied with life in Vilnius – the highest satisfaction level of any EU capital.

With newly-introduced fast-track Startup Visa and Blue Card procedures for key industries, Vilnius is now poised for further growth, with an expanding pool of talent and entrepreneurs bringing new ideas and expertise to the city.

As a city historically open to new people and ideas, Vilnius is keen on promoting meetings and conferences in its key growth industries, such as Fintech, Game Development, Cyber Security, and other Information and Communications Technology (ICT), life sciences and lasers, and business process and legal process outsourcing.

The Vilnius Convention Bureau's importance is growing as well. The Bureau is playing an increasingly significant role in developing key industries and the city's knowledge economy in general. Convene, the Baltic Sea Region's premier trade show for meetings, events and

incentives, is organised by the Convention Bureau and has become a powerful platform for the development of business and the intellectual capital it needs to create value and generate earnings throughout the Baltic region. Over the past five years, Convene has transformed Vilnius into a regional knowledge and networking hub for the meetings industry and a focal point for the development of their own.

Dr. Darius Udryns, Director of *Go Vilnius*, said to me that he believes it is this winning combination of flexible, fast, and business-oriented government, world-class infrastructure, an appealing and comfortable urban environment and, most importantly, great people who are open and ready for the opportunities that the knowledge economy offers that will keep Vilnius going and growing in the foreseeable future.

Many of us are eagerly looking forward to following this journey of *The Importance of being Vilnius*.

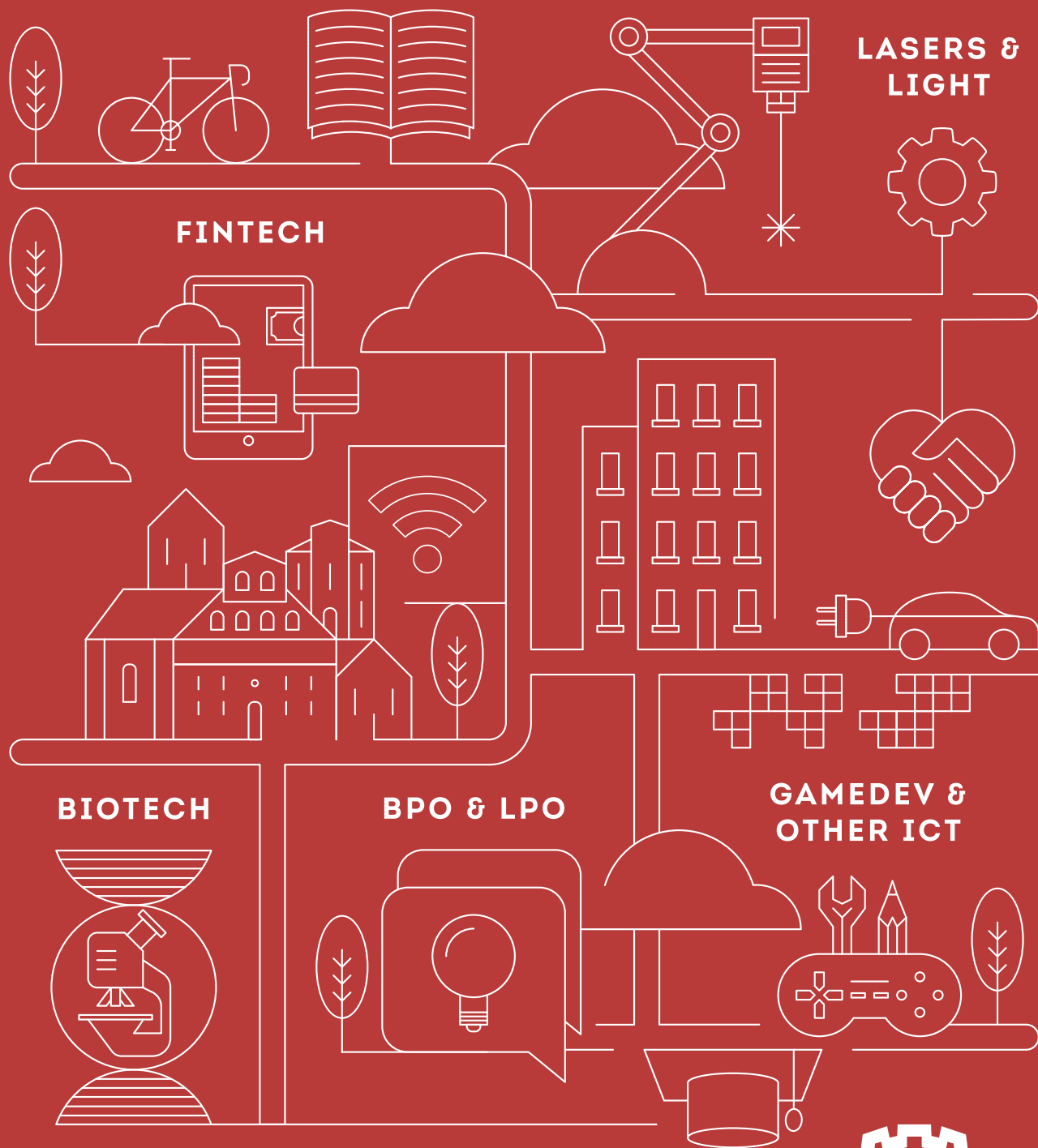
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