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by **RUSLANAS IRŽIKEVIČIUS** and
VYTAUTĖ KAZANAČIŪTĖ

How the Baltic countries are guarding against tough times

“All economic imbalances should be confronted and addressed while they exist”, warns Latvian SEB economist Dainis Gašpuitis, noting that after a period of rapid growth, a period of slowdown always occurs.

The economic cycle is changing irreversibly, and a slowdown is imminent. We are now experiencing hyperinflation, energy price increases, supply chain disruptions, and economic war, all while working to strengthen and innovate our military capabilities and defence. Smart preparation is required if we want to avoid repeating what happened in 2009, when the Baltic economies experienced a so-called “perfect storm”. Financial crisis and a property bubble burst

occurred at the same time, and many hard lessons were learned as a result. Chief economist at INVL Group Indrė Genytė-Pikčienė observes that it was the first serious lesson for the entire Baltic region, because after joining the European Union all three Baltic countries lived in a world of rose-tinted glasses – overly optimistic about their prospects and rapid converging with average European Union living standards regarding salaries and other indicators. Both the real estate and credit bubbles

burst in 2009 as a result of excessive optimism, great euphoria, and a desire to live much better than one’s income allows. In response to the crisis in Lithuania and Latvia, massive budget deficits were imposed. Only Estonia had a fiscal reserve in place for this bleak scenario. However, the Baltic economies have come a long way since 2009. “When looking at the different economic indicators from the pre-financial crisis era, all the lights were flashing red, and the bubble

would also have burst at some point, even without a global financial crisis. In 2007, the account deficit ranged from -15% in Estonia and Lithuania to -21% in Latvia, while annual credit growth was between 35% and more than 50%. Today, it is hard to find any imbalances in the Baltic economies”, notes Mihkel Nestor, the Chief Economist of SEB Estonia. According to Aleksandras Izgorodinas, a Lithuanian economist, it was during this period that people and businesses learned to live within their means. “Looking at the debt dynamics of the Lithuanian private business sector, we can see a lot of stability there. Lithuanian business and personal debts now have some of the lowest rates in Europe.” The pandemic era was another challenge that the Baltic states overcame. “One of the most important factors is the reduced reliance on tourism and the consumer service sector as a whole. The tourism industry’s contribution to GDP is difficult to measure, but its economic clout is definitely lower in the Baltics than in the EU on average”, states Nestor. During that time, economic activities such as manufacturing and transportation were at the centre of attention. As it turns out, these are

significant sectors in the Baltics too. As new niches surfaced, many new opportunities to generate more profit emerged. Because of the disruption to logistics chains caused by epidemics, new orders and collaborations with the East became available. “We were the other option. Lithuanian industry, for instance, seized this chance quickly and was able to fill many orders for logistics. Industrial production and exportation experienced rapid growth. We actually saw significant export growth in the first half of last year and this year. All of these aspects were economic steps that assisted us not only in offsetting the losses caused by the pandemic, but also in dragging ourselves out of a hole and rising to new horizons. We can celebrate being more reliant on transport and logistics. In fact, Lithuania was one of the countries with the highest resistance to the negative impacts of the pandemic, and it had positive outcomes both during and after the crisis”, says Genytė-Pikčienė. Izgorodinas highlights another positive event, namely the government’s decision to fund Lithuanian businesses by €2.5 billion with a newly planned budget. The post-pandemic era was also marked by the beginning of the war. However, the Estonian economist

claims that the Baltic states have been engaged in an economic war with Russia for a significant amount of time preceding the outbreak of fighting in Ukraine. This is also the reason why the economies of the Baltic countries have been much more prepared and will weather the backlash better than other countries, like Germany, for example. “One of the biggest misconceptions about the Baltic economies is that the loss of direct trade relations would hurt business. Despite high headline figures, most trade with Russia is re-export, which has low economic value. Before the war, 2% of total exports in Estonia and Latvia went to Russia, and it’s hard to find a company whose main market was Russia, Belarus, or Ukraine. Substituting Russian imports seemed a bit tricky, but this hasn’t caused large supply chain disruptions”, explains Nestor. Despite this, some markets and niches remain reliant on Russia. “The tricky part is that the Russian market remains important, particularly in Latvia. Of course, this significance has plummeted in recent months. However, the fact that volumes are not decreasing indicates that trade, despite its political or ethical issues, is still relatively resilient”, observes Gašpuitis.

“I see a great deal of potential in the areas of electronics, optics, communications, drones, surveillance products, AI, AR, and DL. Through our 5G testing field, we are already testing all of the technologies we are developing to connect those systems”,

ELINA EGLE-LOČMELE,
HEAD OF THE FEDERATION OF SECURITY &
DEFENCE INDUSTRIES OF LATVIA



by RUSLANAS IRŽIKEVIČIUS

From troll's house to the army

“My family was always keen on attending music festivals. So we used to rent an RV for the occasion until we understood that all we needed for the night was just warm walls and a roof, no kitchen and no other accessories. That’s how Trollhuset was born”, says Darius Antanaitis, CEO of Vilnius-based Ostara Company.

Krampus Mk1 can conduct manned, partially-manned, remotely-controlled and autonomous civilian and military missions.



Photo: personal archive

Trollhuset, or Troll’s House, is a foldable compact camper for people with minimalistic outdoor needs. Trollhuset is the latest development from the company Ostara, and is robust enough to be hooked to an all-terrain vehicle and towed wherever the adventurous mind of its owner may lead. Antanaitis hopes that Trollhuset will become successful on the market and bring additional resources for the next stage of the Krampus project. The international premiere of the Krampus Mk1 hybrid propulsion all-terrain vehicle was held earlier in June at the Eurosatory 2022 exhibition in Paris. “The five-year development of Krampus was sometimes gruelling, with ongoing successes and disappointments, but Ostara’s scientific and engineering team finally prevailed. Things get done only if one never stops doing them”, Antanaitis says.

1000 km without refuelling

The company has invested nearly €1.2 million into the development

of the Krampus project, with 10% of this amount coming from European Union programs. As a result of these investments, the Ostara project has reached technology readiness level 6. Krampus Mk1 can conduct manned, partially-manned, remotely-controlled and autonomous civilian and military missions. Hybrid diesel-electric propulsion in its battery mode ensures a 200 km range, which brings perfect capabilities for silent and stealthy operations. In comparison, the vehicle is capable of covering 1,000 km in diesel-generated power mode without refuelling. Krampus Mk1 is designed to carry a crew of two and a 500-kilogram payload, which may include manned or remotely-controlled weapons systems. In unmanned mode, Krampus is intended to navigate to the mission area and back.

Fit for any scenario in a hazardous environment

Ostara also envisions the wide use of a vehicle in non-military areas, such as medical evacuation, border

protection, law enforcement, public security, civilian demining, firefighting, response to chemical or nuclear incidents, and mining. It could be for any scenario which may require prolonged autonomous or remotely-controlled operations in a potentially hazardous environment. With a global path towards green energy and environmentally friendly solutions, less challenging jobs are up to Krampus, such as last-mile supply or commercial delivery. “Our first vehicle has become a laboratory where we’ve tested and implemented our ideas on hybrid propulsion, endurance, autonomy, and off-road capabilities. Now it’s time for Krampus Mk2 – a larger, more powerful and robust hybrid vehicle, which will include all the lessons learned, findings and solutions we’ve found”, adds Antanaitis, walking around the company’s new facility, which is still fresh from construction and spacious enough to accommodate equipment and machinery for the implementation of new projects.

by **RUSLANAS IRŽIKEVIČIUS**

Three brothers defending Lithuania with ingenuity



The Short-Wave Infrared (SWIR) targeting system

After Russia invaded Ukraine in 2014, Brolis Semiconductors decided to focus on the defence industry. Therefore, they began to cooperate with the Lithuanian army in search of ways to improve the existing capabilities of the armed forces.

Brolis Semiconductors was founded in 2011 by three Vizbaras brothers after two of them completed PhD studies focused on semiconductor laser technologies at the Walter Schottky Institute of the Technical University of Munich (TUM), Germany. The company started operations in 2012 by opening a modern semiconductor component manufacturing facility in Vilnius, Lithuania. From the start, the company focused on developing gallium antimonide (GaSb) laser diode technology for various applications such as spectroscopy and sensing. After Russia invaded Ukraine in 2014, Brolis Semiconductors decided to focus on the defence industry. At that time, almost all company employees joined the local Riflemen's Union and remained active members by participating in various events and training. Currently, the company employs ex-military personnel who have tactical experience in real battlefields and have an excellent understanding of end-user needs.

Providing a technological advantage

As a small country, Lithuania does not have a large amount of active military reserves. Therefore, to defend itself, it needs ingenuity. One way is to equip every soldier with the most advanced military products that give



The founders of Brolis Semiconductors Augustinas Vizbaras, Dominykas Vizbaras, Kristijonas Vizbaras

them an edge on the battlefield. This is the path that Brolis Semiconductors decided to pursue – the development and manufacturing of electro-optical military devices that provide a technological advantage compared to conventional military systems. One example is the Short-Wave Infrared (SWIR) targeting system designed by BROLIS. It is capable of not only passive night vision, but also detects all lasers and other light sources used on the battlefield by opposing forces while still being completely hidden from them. “Undetectable”, “out-of-band”, or “invisible” – are the main objectives in the development of electro-optical devices at BROLIS. Since 2014, Brolis Semiconductors has quickly expanded its production capabilities; in 2015, an affiliated company named “Brolis Photonics Solutions” was set up in the United Kingdom, and in 2018 the

company's revenues exceeded €10 million, recording 6000+ systems delivered to end-users worldwide.

A very timely decision

Recent global crises did not fly past the company – Brexit impacted the company's operations in the UK. In addition, the Covid-19 pandemic created uncertainties in the global supply chain, forcing the company to redesign some products and implement new risk management strategies to mitigate fluctuations and delays in the supply chain. Finally, the escalation of Russian aggression in 2022 was a reminder of the core values that led the company to turn to the defence industry, meaning that the decision was very timely. Today, Brolis Semiconductors is able to support Ukrainian forces with products specifically designed to counter enemy technology. Brolis Semiconductors expects the Lithuanian government to encourage local manufacturers to expand and grow, understanding that every euro invested will be returned to the budget with interest through collected taxes, creating added-value workplaces, not to mention greater defence capabilities for the country. For the company, an aggressive neighbour is a great motivator to continue business in developing cutting-edge products for defence applications.