

SOLUTIONS | ERA

NEWSLETTER
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For those who follow the trends in intelligent engineering solutions

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News stream

➤ A consortium consisting of FIMA and Thales Transportation Systems **has signed a contract with Latvian Railways to modernise Liepaja Railway Station in Latvia.** As part of the project, a new microprocessor traffic control system will be introduced and the power supply system and the lighting on platforms and the track switch will be upgraded.

The company will also install point heating and SCADA management systems as well as a video surveillance system at level crossings.

The project is planned to be completed by the end of September 2015.

➤ **FIMA has signed an agreement with the State Social Insurance Fund Board under the Ministry of Social Security and Labour (“Sodra”) to equip a data centre in Kupiškis.** Specialists will equip technological rooms, install video and audio detection and air conditioning systems, a computer network, and will carry out electrical work.

➤ **FIMA has signed a contract with the Vytautas Magnus University (VDU) to equip a data centre.** Although not of the highest capacity on the market, the data centre will stand out for its peerless energy efficiency. This will be the first time that the **server cooling system built by FIMA’s partner, AST,** will have been introduced in Lithuania. For a large part of the year, the data centre is able to use cool air from the outside thus saving on electricity costs. FIMA will also equip the data centre with advanced power supply and security systems, a computer network and a gas extinguishing mechanism.

ROAD INFRASTRUCTURE

New traffic monitoring systems are highly effective in updating travellers and road maintenance services

As part of its obligations under an agreement with the Lithuanian Road Administration under the Ministry of Transport and Communications (LRA) last year **FIMA expanded the technical infrastructure used for analysing traffic on national roads by installing more than 200 sensors and cameras to record traffic flows.** The new systems provide more efficiency and detail when it comes to analysing traffic density, identifying types of vehicles and monitoring the state of the road as well as ensuring that road maintenance services are mobilised faster and providing comprehensive updates for drivers and the public.



“ A special application enables drivers to find the fastest way to their destination, warns them about traffic restrictions and congestion on the road or helps them to plan an alternative route.

Traffic density meters analyse traffic flows and measure the speed of vehicles. Video cameras monitor the state of the road – whether it is covered with snow, fog bound, etc., taking pictures of the road section being monitored at 15-min intervals.



FIMA's project manager Marius Babachinas. "Traffic analysis offers more efficiency when it comes to planning and controlling road maintenance while travellers have the opportunity to prepare for adverse weather conditions or change their itinerary following an alert about congestion or a blockage on a particular road section."

Over the year, FIMA installed a total of 126 video cameras and 50 traffic density meters at 161 points on national roads on behalf of LAKD.

„Traffic density meters analyse traffic flow, categorise vehicles by type and measure their speed. While video cameras are designed for monitoring the state of the road – whether it is wet, covered with snow, rutted, etc. These cameras are programmed to take photos of the road section being monitored at about 15-minute intervals. They differ from the ones used to detect speeding vehicles as they don't have the functionality

to record the registration plates of offending vehicles," FIMA's project manager, Marius Babachinas, said.

Upgrade to the traffic information system

The new installations have complemented the National Roads Traffic Information System which FIMA and its partners developed back in 2010-2011 to collect information on roads and their condition. In addition to the video cameras and traffic density meters, the system includes state-of-the-art weather stations. Data recorded by all these technologies is automat-

ically transferred over a GSM network to the Traffic Information Centre set up by LAKD to control the system. Relevant information about the situation on the roads is displayed on a high-tech video wall.

LAKD professionals monitor and analyse this information regularly and are able to provide immediate traffic and weather updates both to road maintenance services and travellers.

„Knowing the actual road situation enables road maintenance services to start work in time, plan and control road infrastructure operations in a better way, determine the useful life of the road, monitor and respond to road accidents and address other important aspects. Meanwhile drivers and other travellers have the opportunity to prepare for the weather conditions on the road and if the road is blocked after an accident or there is a congestion, to adjust their itineraries or postpone their trips," Mr Babachinas said.

Further development planned

Regularly updated traffic information for drivers and passengers is available in real time on the website of the LAKD Traffic Information Centre at www.eismoinfo.lt. A special application enables drivers to work out the fastest route to their destination, warns them about traffic restrictions and congestion or

helps them to plan an alternative route. The traffic information system is also accessible via a mobile phone or tablet.

„The new traffic monitoring systems and the whole of the meter network is marked on the eismoinfo.lt map. Data regularly transferred from different installations is available to all drivers while system users with special rights granted by LAKD can access more detailed information, for example, on the usage intensity of roads, statistics of vehicle distribution by type, etc. The newly installed meters will help collect information from even more places than before, which means that the information will be more accurate," Mr Babachinas pointed out. He added that in the future, the National Roads Traffic Information System will probably be provided with dynamic information signs on the roads.

Special equipment developed by FIMA for more efficiency

According to Mr Babachinas, the biggest challenge with this project was that traffic infrastructure-related activities are time-consuming and require a lot of investment and that one year is too short for a project of this scale. „To install the new systems we first had to carry out design work, which involved aligning the design documentation with various authorities in

different regions, obtain permits for operations from different road maintenance companies and arrange traffic restrictions on the roads. Installation and programming required substantial arrangements to prepare infrastructure, including building of special posts to mount the equipment and safety barriers, electrical work and fitting of induction contours in the road surface," he explained. Special units developed by the company's engineers helped to ensure faster and more cost-efficient performance.

Lithuania sees rapid progress of traffic infrastructure

Modernisation of national transport infrastructure, which includes the traffic information system, is one of the country's priorities and is co-funded by the state and by the EU. According to FIMA's project manager, Marius Babachinas, there has been substantial progress on Lithuanian transport infrastructure when compared with neighbouring Latvia and Estonia. He pointed out that as transport flows continue to grow while advanced mobile technologies open up more information exchange opportunities, in the future traffic monitoring installations will increase in number and the system that provides updates on traffic conditions will be further developed.

Prospects for electricity supply: advanced engineering solutions and innovations

The power distribution network operator, LESTO, serves 1.609 million customers across Lithuania and runs a total of 930 110/35 kV transformer substations and distribution points. **They are extensively being modernized by implementing control and communication systems.** The intelligent engineering solutions company, FIMA, has been upgrading the substations since 2010. Once reconstruction of the power substations in Jonava and Kaišiadorys districts is complete by June 2015, **modernisation of all of LESTO's dispatching centres will be finished.** The new state-of-the-art systems will ensure faster reporting and location of malfunctions in the electrical grid. Staff will be able to remedy faults faster so that the power supply to residential customers can be resumed much more quickly. This will allow the **upgraded substations to be integrated into a single dispatching network** which will be installed in 2018 **that will optimise LESTO's performance.**



The director of LESTO's Substation Operation Department, Ligitas Bernatavičius, talks about the technological solutions being implemented and the power distribution company's future plans.

What are the benefits behind modernising the power substations and integrating them into a centralised dispatching network for private customers?

Improving the efficiency of customer service and the introduction of state-of-the-art technology are the priorities of our long-term strategy out to 2020. This means that renovation of power substations is part of a long-term plan. Although customers will not notice the change right

power supply, faster fault repair and more efficient company operations. Staff will be the first to see the benefits of modernisation including faster alerts on network faults which will result in shorter response times. Customers should eventually appreciate the changes, which will improve overall satisfaction with our service.

How are customers satisfied with power supply services today?

We conduct annual customer satisfaction surveys¹. The findings show that Lithuanian electricity consumers have been increasingly satisfied compared with those served by the same type of companies in Europe. LESTO boasts a higher level of customer

Czech Republic and our figures are well above the EU average. Of course, the reason for this is not only modernisation of substations but also many other changes introduced in the recent years on the customer self-care website, reorganisation of the customer care network and the optimisation and centralisation of the company's different processes, which have ensured faster and more customer-friendly provision of regular services.

Which of LESTO's qualities drive customer satisfaction the most?

Respondents are concerned about the quality and speed of service. The company's ability to communicate important information in a clear way, promptly respond to queries and fulfil its obligations and agreements in a timely fashion are the things that customers appreciate the most. We think that in the future, the critical growth factors for customer satisfaction will include being able to connect new customers to the distribution network more efficiently, better reliability of power supply and shorter repair times for faults that cause interruptions of power supply.

What is your view of LESTO's prospects for the next few years?

I am very positive about the company's prospects. We have defined clear and tangible goals for the next few years that include supplying safe, reliable and accessible power and dynamically adjusting to the changing internal and external environments. So we will continue focusing on improving customer satisfaction and on the quality of our services and will upgrade our operations by optimising the way resources are used and by focusing on state-of-the-art technologies. We contribute to achieving the goals defined in the Lietuvos energija strategy and in the National Energy Strategy and to EU initiatives on energy saving, environmental protection and integration into the single electricity market.

What are the measures you'll implement to achieve the strategic goals?

In view of growing customer awareness and boosting expectations for quality, we will continue extensive development of electronic customer care and information channels with more and more services being provided in a customer-friendly way. The rapidly evolving pace of life, higher requirements and increasing dy-

namics of the market all call for us to employ the highest-qualified professionals and to adjust ourselves to a change-focused organisational culture. For this reason staff competence, efficiency, motivation and teamwork improvement schemes are being developed.

What technologies are you introducing at the power substations?

Introducing new technologies is on the company's priority list. The substations are being equipped with advanced and reliable SCADA control and communication systems. Systems of the same type will also be installed by the FIMA specialists in the Kaišiadorys and Jonava substations during this year and in 2015. Their existing systems date back to the Soviet era and have prevented the prompt reporting of power malfunctions to dispatchers, which results in delayed detection and location of network faults. Repair of faults has also been taking too long. Once upgraded with these advanced systems, the substations will be ready to be integrated with LESTO's planned single dispatching system. It will help to control networks remotely in a centralised way, to distribute resources more efficiently and to ensure quality of

“ Once upgraded with these advanced systems, the substations will be ready to be integrated with LESTO's planned single dispatching system. It will help to control networks remotely in a centralised way, to distribute resources more efficiently and to ensure the quality of the power supply to consumers. Operation of the substations which have already been upgraded has become much more efficient and far less costly for the power distribution company – says L. Bernatavičius

away, the centralised dispatching service and the updated systems will ensure greater reliability of

satisfaction than its counterparts in countries such as Finland, Norway, the United Kingdom and the

¹LESTO's customer satisfaction survey was conducted using the Global Customer Satisfaction Index (GCSI) research methodology, which is based on the American Customer Satisfaction Index (ACSI). GCSI is a global franchise of ACSI. The tool includes 17 questions grouped into six index categories: customer expectations, perceived quality, perceived value, customer satisfaction, customer loyalty and customer complaints. SYNOPTICOM conducted this customer satisfaction survey on behalf of LESTO in November 2013. The sample was 1,106 private and 921 business customers. The level of customer satisfaction with LESTO is affected the most by the perceived quality index component, i.e. the way customers perceive the quality of services and customer care.



Substations will be upgraded into a single dispatch network to optimize LESTO activities.

power supply to consumers. Operation of the substations which have already been upgraded has become much more efficient and far less costly for the power distribution company.

What other requirements do you think these solutions must meet?

Control and information collection processes used for a modern electricity grid cannot be

planned or even considered without information technologies and technological information systems or without the introduction of modern electronic communications. So in order to localise

the negative effects such as loss of critical electronic information or electronic crime, new control systems are being introduced that ensure the required level of security in line with the organisa-

tion's risks and security requirements. As LESTO develops and expands the management and control systems of the electrical grid with an increasing part of the grid being integrated with techno-

logical control systems, it is vital to prevent electronic crime being committed over the internet.

In the energy sector, cyber security is being ensured by complying with requirements for organising data security in information systems and organisational measures for public authorities established in the applicable legislation of the Republic of Lithuania: the Law on enterprises of strategic relevance to national security, information security standards for enterprises and facilities of strategic or critical importance to national security falling within the remit of the Minister of Energy as well as best security practices and international standards.

SCADA substation control systems software and the data communication network conform to the IEEE 1686-2007 international standard (IEEE Standard for Substation Intelligent Electronic Devices (IEDs) Cyber Security Capabilities). This ensures confidentiality, accessibility and integrity of information.

Have you already planned the engineering solutions you will be introducing in the near future?

Improved performance will stay on the company's priority list in the year to come whereas cost optimisation will mean that a sufficient level of investment in network renovation and modernisation can be maintained. Once this intensive optimisation phase

is complete, we plan to invest in reducing losses in the electrical grid by introducing network automation solutions, advanced systems to control the power network and disconnections and other state-of-the-art engineering and technological solutions.

Development of advanced technologies in the electricity sector will, without doubt, greatly affect our operations because the electricity grid will be integrated with plants producing power from renewable resources such as wind, solar, water and biofuels; the electric car charging network will expand; and smart meters will be introduced.

SCADA systems are central for infrastructure facilities

When you add all the modernisation work currently being carried out by FIMA and that which has already been completed, the control system hardware that the company will have installed at the substations and distribution points will account for one tenth of all tele-information collection and transmission hardware operated by LESTO.

According to FIMA's project manager, Valentas Titarenka, the SCADA control system being introduced in the substations is one of the infrastructure projects'

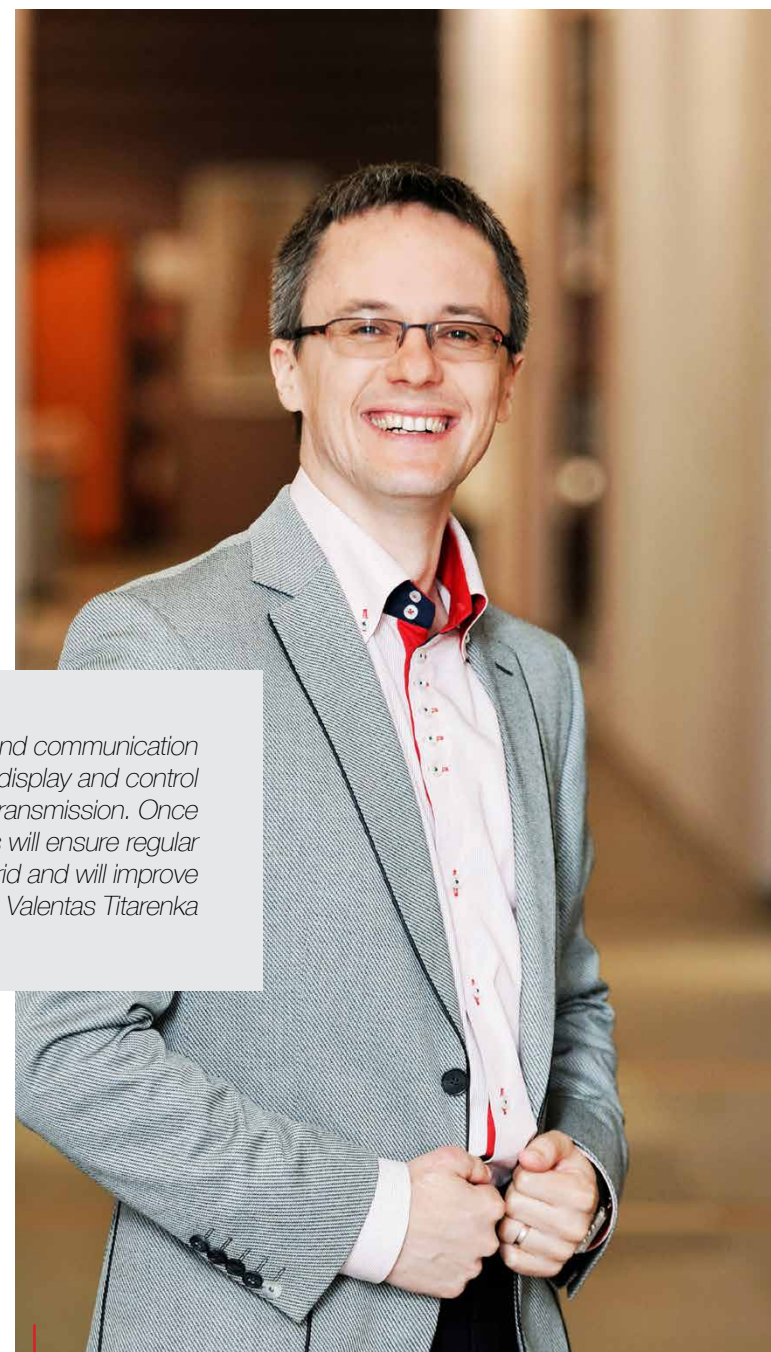
central engineering systems that collect and analyse network information and is used by the majority of power, water and gas suppliers in Lithuania and around the world. "SCADA automated control and communication systems integrate data collection, display and control processes and ensure prompt data transmission. Once installed, these advanced systems will ensure regular monitoring and diagnostics of the electrical grid and will improve network performance and security," Mr Titarenka said.

FIMA has been working to upgrade Lithuanian substations and to update their communication systems since 2006 while

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SCADA automated control and communication systems integrate data collection, display and control processes and ensure prompt data transmission. Once installed, these advanced systems will ensure regular monitoring and diagnostics of the electrical grid and will improve network performance and security – says Valentas Titarenka

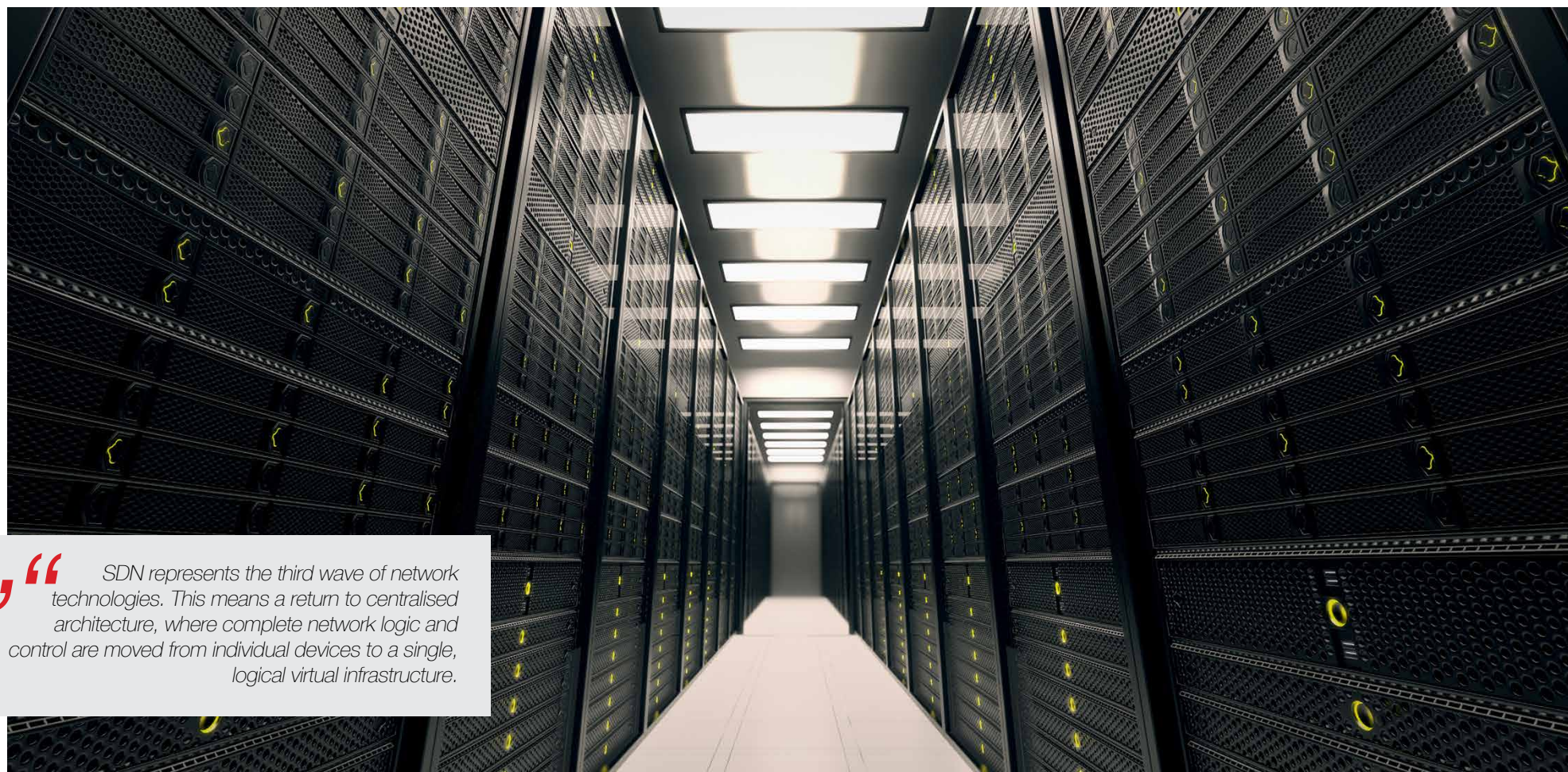
LESTO has been renovating its substations since 2010. Over this period, FIMA has already upgraded LESTO's substations in Šilalė, Kėdainiai, Rokiškis, Prienai, Pakruojis and Vilnius and will finish installing power substations control systems and a data transmission network in Kaunas city and district in the near future.



FIMA's project manager Valentas Titarenka.

Software defined networks as a new approach to design, build and manage networks

As the amount of digital information increases, the control over it becomes increasingly complex: the need to combine both new and existing data communication equipment, devices and applications is on the rise. **The 'Internet of Everything'** is emerging, while virtualisation trends, which have been developing in corporate information technology (IT) solutions for a decade, are accelerating rapidly. Today, **organisations are focusing on SDN, Software Defined Networking**. This represents the virtualisation of networks, opening up new opportunities for network speed and innovations.



“SDN represents the third wave of network technologies. This means a return to centralised architecture, where complete network logic and control are moved from individual devices to a single, logical virtual infrastructure.”



Vaidotas Černiauskas, director of the Telecommunications solutions department at FIMA: "The evolution we see today on the network level is comparable to the evolution on the level of personal computers and servers we already experienced: to detach from network equipment offered by specific vendors, there's a trend towards the network architecture based on open-standards".

Changes taking place on the network level can be compared to the development of personal computers. The software of the first computers was proprietary, i.e. once a consumer purchased a device, he or she would become tied to the operating system (OS) of a single vendor, thus limiting his rights and opportunities. As open PC architecture emerged, it became possible to

choose which OS to use: Mac OS, Windows, etc. According to Vaidotas Černiauskas, Director of the Telecommunications Solutions Department at FIMA: "What we see today is that comparable evolutionary processes are under way on the network level. The number of vendors' proprietary protocols are falling and there's a trend towards open-standard based network

architecture. Virtualisation of servers has been around for a long time but now the processes of virtualisation have expanded into network management".

Changes in network management

According to Mr Černiauskas, network management is undergoing substantial change. "Smooth data communication

Software Defined Networking (SDN) is an open-standard based and vendor-neutral network architecture:

- where network logic and control is moved from individual devices to a single logical and virtual infrastructure controlled from a single controller;
- that allows network engineers and administrators to more effectively control data communication processes, thereby allowing a more immediate response to evolving business needs;
- that releases companies from attachment to specific vendors;
- that automates and facilitates network management;
- that reduces both the need for IT resources and the operating costs of a company.

and IT support processes depend on network infrastructure. This is a system composed of numerous physical elements: routers, switches, firewalls etc. These and thousands of terminal devices are connected by fibre or copper cables. Whenever a need arises to add new addressees and services, connect new devices and equipment or if their location changes, company IT professionals need to configure network elements manually. That is a very time-consuming task and as the need for configuration operations increases, the situation becomes extremely difficult: businesses find it increas-

ingly difficult to reach or transfer data; important processes can be hampered by lack of flexibility and other disturbances. The task is made still more difficult by occasional issues of incompatibility caused by equipment produced by various vendors."

New network management concept helps in tackling obstacles

SDN network infrastructure frees a company from attachment to specific vendors and automates and significantly simplifies network management. Mikael Holmberg, EMEA senior principal systems engineer



Mikael Holmberg, EMEA senior principal systems engineer at Extreme Networks: "SDN allows for the optimisation of networks for mobile devices and applications, the combination of different virtual environments and their convenient control from a single central controller".

at Extreme Networks (being a long-term FIMA partner in the field of network infrastructure) is convinced that SDN will be at the center of what some analysts call the third wave of network technologies.

Mr Holmberg said: "The first wave was the networks for mainframes, where everything was centralised and the resources of a single mainframe were used by a number of connected terminals. The second one was decentralisation or networks for PCs and the Internet. And the third, SDN, means a return to centralised architecture. In this case, however, com-

plete network logic and control are moved from the complicated control of individual devices to a single, logical virtual infrastructure. SDN allows the optimisation of networks for mobile devices and applications, the combination of different virtual environments and their convenient control from a single central controller".

According to Mr Holmberg, open SDN architecture is flexible in that it allows easier and faster network expansion; automated control reduces the demand on IT resources so that IT professionals can concentrate on other tasks while a company is free

to choose the most appropriate hardware that supports open standards. This saves money while allowing far better network control.


Even more advantages

According to Mr Holmberg, Extreme Networks implements SDN, to automate data centre operations, thus ensure the security of BYOD (Bring Your Own Device), and to accelerate the work of applications. SDN architecture is based on open standards like OpenStack and OpenFlow. OpenStack is an orchestrator of the new generation data centres, a unified tool to control resources of storage facilities, servers and networks, to set-up and configure key network elements in ways that don't require a lot of manpower. OpenFlow technology allows an entire network intellect to be moved to a single controller which becomes responsible for network performance and the provision of services and for the way that those services are distributed. "In qualitative terms this standard allows for completely better opportunities to automate the network for better support of mobile devices and mobile applications", - Mr. Holmberg adds.

A solution that extends beyond large service providers

According to Mr Černiaus-

Extreme Networks in the field of SDN



- The company's strategy is to accelerate the deployment of SDN as well as to support advanced software protocols such as like OpenFlow and OpenStack. The protocols in question are being implemented across the entire company's product portfolio;
- Extreme Networks implements SDN to automate data centre operations, thus ensure the security of BYOD (Bring Your Own Device), and to accelerate the work of applications.
- By enabling OpenFlow across its line of Ethernet network switches, application developers can build SDN applications for campus, cloud and carrier networks using a consistent framework powered by ExtremeXOS.
- By supporting multiple controllers, Extreme Networks offers customers a set of choices when it comes to their SDN deployment.
- The company has signed a new go-to-market agreement with one of the major OpenFlow controller vendors.

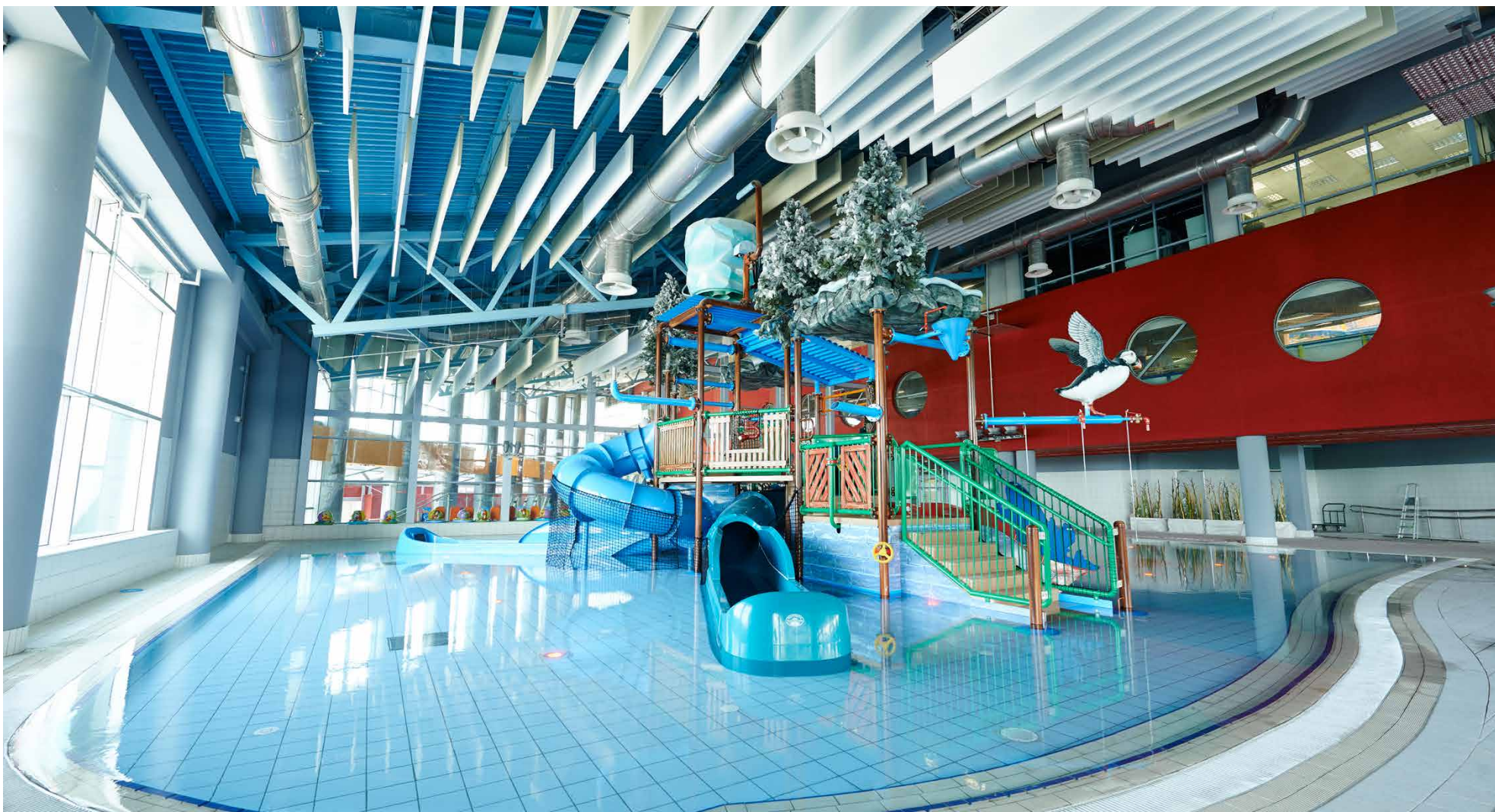
“ Open SDN architecture is flexible in that it allows easier and faster network expansion; automated control reduces the demand on IT resources and a company is free to choose the most appropriate hardware that supports open standards. This saves money while allowing far better network control.

kas, SDN is most suitable for data centres and large service providers, e.g. telecommunications operators, railways, energy companies and other owners and operators of large networks that process large amounts of data regularly and are spread

across wide geographical areas. Yet SDN solutions are also targeted at both small and medium-size companies, with the solutions in question relevant to their activities particularly when they are faced with a shortage of qualified IT staff.

Lithuanian and Belarusian specialists team up to equip one of Europe's largest water parks in Minsk

In May, **the country's largest and Europe's fifth biggest water park**, Lebyazhij («Лебяжий»), was opened in Minsk, the capital of Belarus. A **joint team of 70 FIMA specialists** from Lithuania and Belarus have made a major contribution to this important project by installing more than **20 advanced engineering systems** including a few unique solutions.





FIMA's development manager in Belarus, Dmitrij Šadčenev. "It usually takes much longer to install sophisticated engineering solutions like those in the Minsk water park. Completing works of this scope in just a few months and ensuring quality is a huge challenge even for an experienced contractor. We mobilised a lot of staff to meet the ambitious needs of the customer".

In May, the country's largest and Europe's fifth biggest water park, Lebyazhij («Лебяжий»), was opened in Minsk, the capital of Belarus. A joint team of 70 FIMA specialists from Lithuania and Belarus have made a major contribution to this important project by installing more than 20 advanced engineering systems including a few unique

solutions.

Sited in the vicinity of the Dam («Дрозды») on Winners Avenue (пр. Победителей), the entertainment complex including the park area covers 32,135 m². It is three times as big as the water park in Druskininkai. The park's indoor and outdoor zones feature 11 water slides of various complexity, four different

swimming pools, various water play areas, an impressive water town with a cinema for children and other entertainment facilities.

It also houses seven snack bars and a fast food restaurant. A SPA centre offers various health packages and several types of saunas while a gym on the third floor is the coun-

Other engineering systems installed by FIMA in the water park and integrated into a single information system:

- ▶ **Access control system for visitors.** Based on the acquired service package, visitors will have access to only some zones, e.g. saunas, swimming pools, etc.
- ▶ **Access control system for staff.**
- ▶ **Customer service system,** which includes a queue control system and a customer information system (information terminals).
- ▶ **Automated accounting and billing system for catering services.** While in the water zone, visitors will pay virtually using their bracelets. This system is integrated with the access control and video surveillance system.
- ▶ **Locker system.** The park offers more than 3,000 lockers for keeping belonging and valuable items (phones, wallets, etc.). Visitors will be able to lock/unlock their lockers using their bracelets. If the locker number is forgotten, it can be checked at information terminals.
- ▶ **Gaming hall control system.** It will ensure electronic payment at gaming halls, play areas or 5D cinemas – visitors will be able to buy a special card and top it up.
- ▶ **Parking system** with registration plate recognition and automatic parking checkouts. The system will scan the car's registration plate upon entry and exit and will calculate the time spent in the parking lot.
- ▶ **Metal detector system.** Security of visitors will be ensured by metal detectors installed in the access control gate.
- ▶ **Building control system** will provide staff with a convenient way to easily set automatic system operation modes and save energy.



More than 20 engineering systems were installed in Europe's fifth largest water park in Minsk, including a unique drowning prevention solution and a video surveillance system of huge scope. All solutions are integrated into a single information and control system.

try's largest boasting an area of 630 m². The park can accommodate about 2,000 visitors simultaneously. It is designed for 7,800 people a day during the summer and 6,700 during the winter. As many as 2.5 million people are expected to visit the park a year.

Ambitious project – the biggest of its kind in the Belarusian market

Following a competition, FIMA was selected to install more than 20 engineering systems at the water park. It already has an extensive track record of

projects in the Belarusian market and a reputation as a reliable and competent partner with the capacity of implementing quality integrated solutions. FIMA signed a contract with the customer, Belarusian Akva Park, in January 2014.

The project was extremely ambitious in terms of deadlines and FIMA completed all the work in a record-breaking four months. According to FIMA's development manager in Belarus, Dmitrij Šadčenev, special resources were mobilised to meet the customer's needs.

"It usually takes much lon-

ger to install sophisticated engineering solutions, like those in the Minsk water park. Completing works of this scope in just a few months and ensuring quality is a huge challenge even for an experienced organisation. We mobilised a lot of staff to meet the ambitious needs of the customer and the project required intense focus and commitment. As many as 50 FIMA specialists from Lithuania worked on the project together with their colleagues from Belarus with activities extending beyond regular working hours. Under strained conditions they

Key facts

- **It is FIMA's largest project in Belarus to date.**
- **FIMA installed more than 20 electronic engineering systems** at the Minsk water park. All of them are **integrated into a single information system.**
- The systems were installed in a record-breaking four months.
- **Unique engineering solutions:** the only drowning prevention system in the Baltics, a video surveillance system of exclusive scope and a single system control and information system.
- **A joint team of 70 specialists from the FIMA group** across Lithuania and Belarus worked on the project.

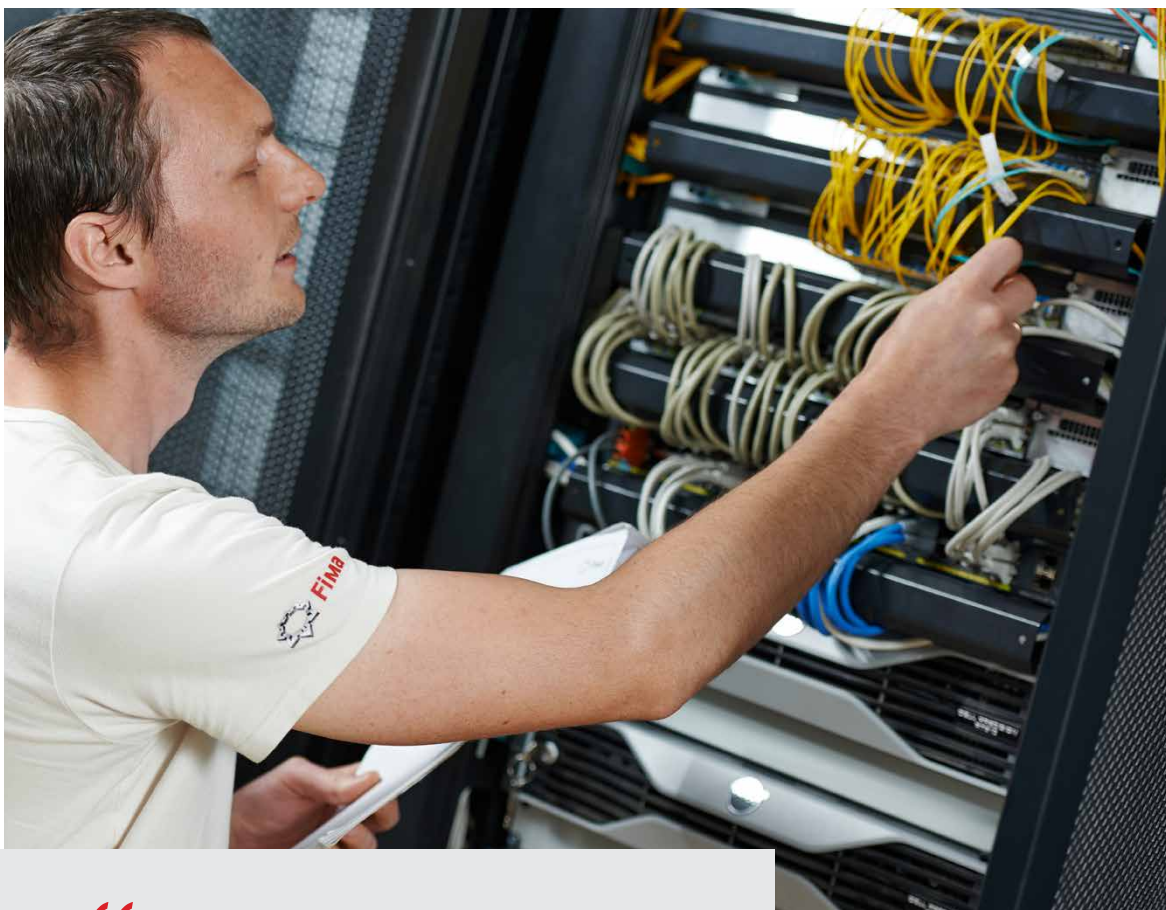
often found themselves in situations where they quickly had to make prompt and non-standard decisions. Despite this, the staff coped with the challenges and produced work of a very high standard. This was thanks to the experience of managing big projects and the efficient teamwork of the employees from the two countries. The opportunity to cooperate and to share expertise and know-how with the staff of FIMA BR is another important aspect of this valuable professional experience," Mr Šadčenev said.

This project, which was ambitious both in terms of deadlines and scope, is also the largest one FIMA has ever undertaken in the Belarusian market.

Bespoke engineering solutions

The project is also exclusive for state-of-the-art engineering solutions that it employs. FIMA installed more than 20 electronic engineering systems at the park all of which are integrated into a single information system.

One of the solutions is a video surveillance system of enormous scale designed to process and store a huge amount of video information. It includes nearly 500 exterior and interior high-resolution IP video cameras. The system will ensure processing and storage of a massive flow of information and will be able to archive video recordings and store them for a specific period of time. Unique software will also allow images to be associated with events. For each event (e.g. access to the park's specific zones, payment



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The project was extremely ambitious in terms of deadlines and FIMA completed all the engineering solutions in a record-breaking four months. Special resources were mobilised to meet the customer's needs.

for specific services) the image of a person's face will be recorded. This will allow staff to track the actions of individual visitors back to when they visit the water park. The system will also perform a preventive function because it will help to ensure

compliance with the park's internal rules and security for visitors.

Unique drowning prevention system

All the swimming pools are equipped with about 50 special ultrasonic sensors integrat-

ed with ones fitted in visitors' bracelets. If a person stays at a defined depth for too long, the bracelet sensor automatically transmits an ultrasonic signal to the ultrasonic sensors installed in the pool which locate the person in trouble and immediately report the location to the lifeguards. Because the lifeguards are in charge of the park's different zones, they are able to ensure immediate assistance in the case of emergency. The special

sensors are heat-resistant, so the bracelets are suitable for using in the saunas. Lithuania has no similar technology. The system introduced in the Minsk water park is the only one of its kind across the entire Baltic region.

A single information and water park control system

integrates electronic engineering systems (locker control systems, gaming halls, video surveillance, access control, etc.) as well as

finance and accounting, customer service, HR management and other systems that are used to manage the park's operations. Such a system is required for the efficient organisation of such a huge operation.

Now that all planned work on the project has been completed, FIMA is continuing to cooperate with the new water park and will provide warranty services for the engineering systems for two years.

How the drowning prevention system works

- The pool area of the water park is divided into ten zones.
- **48 sensors that detect ultrasonic signals** are installed in the walls of the swimming pools.
- A **specially pre-programmed pressure sensor and timer** as well as an ultrasonic signal sensor are **built into each visitor's bracelet**.
- Once the bracelet has detected that a **visitor is at greater depth than defined for a longer time than pre-programmed on the timer**, the bracelet's sensor transmits an ultrasonic signal to the sensors built into the walls of the pool.
- Once the sensor has detected an ultrasonic signal, it **automatically reports** information about possible drowning and the zone of the incident **to the system's four information terminals**: three in the swimming pool zone and one in the dispatching office as well as to walkie-talkies carried by the lifeguards. **An audio alarm with a flash activates in the zone of the incident.**



Šarūnas Povilionis acquainted seminar members with the key trends that formed during transition from analogue to IP systems, and gave advice on choosing video surveillance equipment according to functionality and the specific customer needs.

Workshops for security managers and specialistst

FIMA has delivered **a series of workshops to security managers and specialists entitled “Trends and latest updates on video surveillance systems”**. The May events took place in Klaipėda, Kaunas and Vilnius. FIMA's expert engineer, Šarūnas Pavilionis, introduced the major trends formed during the transition from analogue to IP systems and gave advice on choosing video surveillance equipment according to functionality and the specific needs of the customer. There was a discussion on the use and possibilities of advanced video analysis, which has already become indispensable for many businesses. The workshop participants were also introduced to a user-friendly interface and Digifort software which offers broad opportunities for integration with security systems.

FIMA honoured with AVAYA award

At the end of May, Sweden hosted AVAYA partner days, one of the year's most important events for the Nordic and Baltic community. FIMA, which is a long-standing partner, was honoured with the **Avaya Growth Partner of the year 2013 Nordics and Baltics** award for notable growth in Lithuania, as well as successful entry entry and growth in the Latvian market

Left to right: Chi Peng – AVAYA Regional Channel Leader Nodics and Baltics; Chris De Jong – AVAYA Vice President Benelux and Northern and Eastern Europe; Vaidotas Černiauskas – FIMA's director of Telecommunications solutions; Jesper Larsen – AVAYA Managing Director Nordics and Baltics



FIMA provides engineering solutions for one of Latvia's largest buildings

FIMA's daughter company in Latvia was recently involved in a project to fit out one of Latvia's most spectacular landmark buildings – the Latvian National Library, which is one of the largest 21st century structures built in Latvia.

FIMA's specialists installed a Pelco Endura video surveillance system, which is integrated with other engineering systems and includes more than 150 video cameras, at the library which covers an area of more than 40,000 m2. The video surveillance system is tailored to the library's specific needs and is integrated with its exposition security systems, ensuring a prompt response to different incidents including fires, break-ins, etc.



About FIMA companies

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FIMA is the leading electronic engineering system integrators in Baltic countries, offering telecommunications, security, automation and data center solutions as well as individually tailored solutions for transport and energy sectors.

The company implements intelligent engineering solutions for businesses and governmental organisations in the Baltic states and Belarus and is continuously involved in projects of technological innovation. In two decades of operation, FIMA has carried out several thousand projects of a various scale and degree of complexity.

FIMA's headquarters are based in Vilnius, Lithuania. The company has subsidiaries in Latvia, Poland, Belarus.

Do you have ideas, suggestions or comments? Email us at solutions.era@fima.lt.

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