ENTERPRISE AUTOMATION FORUM 2018

TOWARDS COGNITIVE ORGANIZATION

24TH OF OCTOBER 2018 | WARSAW, POLAND
Ladies and Gentlemen,

This report is one of the results of the Enterprise Automation Forum 2018. The ambition of the conference is to be a place for the exchange of knowledge and experience on broadly understood business automation – from the use of artificial intelligence, robotisation, business process automation, up to IT operations. This is a megatrend visible particularly at the large organisations where automation is a practical aspect of the digital transformation implementation. The conference is fully multinational and open to participants from all over the world.

The report will provide you with a summary of the conference and its key presentations; I especially recommend the information on the study and report prepared annually by Dan Twing, being one of the prime sources of assessments and evaluations in the area of automation implementation.

Enjoy the reading!

Przemysław Gamdzyk

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At the “Enterprise Automation Forum 2018”, numerous topics were discussed, such as challenges and key trends in the business process automation, from RPA (Robotic Process Automation) tools that are used for the simplest processes to WLA (Workload Automation) systems, which help control the ever increasing complexity of environments and systems in large organizations. It was also pointed out that one of the main development criteria is the use of progress in research of artificial intelligence, machine learning and deep learning.

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For the majority of businesses, automation has a strategic dimension. Its foundation is the Workload Automation (WLA). This is the most often used form of automation – as indicated by the research conducted by Enterprise Management Associates (EMA). During the “Enterprise Automation Forum 2018” conference, Dan Twing, CEO and COO of EMA, has presented the current state of the automation market, talked about the challenges of its application in organisations, the changing role of WLA, and the latest tools of this type.

16 OBJECTIVE: MAKING A COMPLETE CONTROL EASIER
The degree of complexity of business environments in big organisations is increasing. More and more data is processed, more diverse processes are launched. Optimisation of their management requires increasing automation of decision-making tasks. The challenges of integrating data processing and execution of business processes are discussed by Mirosław Andziak, co-founder and managing director of InfiniteDATA.
At the “Enterprise Automation Forum 2018”, numerous topics were discussed, such as challenges and key trends in the business process automation, from RPA (Robotic Process Automation) tools that are used for the simplest processes to WLA (Workload Automation) systems, which help control the ever increasing complexity of environments and systems in large organizations. It was also pointed out that one of the main development criteria is the use of progress in research of artificial intelligence, machine learning and deep learning.

Automation is encompassing the organizations on a large scale. The most automated areas include: IT operations, Big Data analytics, data center support and business processes. According to the information gathered by Enterprise Management Associates, automation is used the least in the implementation of new application releases and new personnel onboarding.

There is a growing need for automation. No wonder that it is becoming more and more widespread. It supports business agility and efficiency, helps reduce costs as well as the number of errors. Automation also helps increase profitability, customer satisfaction level, time to market as well as the offer value” – said Dan Twing, President and COO of Enterprise Management Associates during
his speech at the “Enterprise Automation Forum 2018” in Warsaw.

“Automation is a strategy for most businesses. Workload automation is the foundation of the strategy, as it is the most commonly applied form of automation” – added Dan Twing. The tools represent the most important element of this strategy. Most organizations admit that they have too many automation tools and so-called schedulers. Moreover, advanced IT solutions pose significant challenge for the older WLA products, in particular in the area of audits, integration, workflow design efficiency or high availability. That is why so many businesses have been interested in new generation solutions.

According to Dan Twing, what should be the features of the strategic and fundamental product? First of all, such product must have advanced architecture, offer high scalability and be user friendly. It should also be automatic and support easy and fast integration, not only by ready-made connectors but also by reliable API interfaces.

Mirosław Andziak, President of Infinite Data, presented Automate NOW! solution. It may well become the foundation for the business automation complex strategy. “In 2015, we introduced ScheduleIN – an automation solution developed based on the latest methodology. We made it available to the business users and offered easier implementation, user friendly and faster operation. Now the time has come for another step leading to an even higher level. We are entering the era of the intelligent, cognitive automation based on artificial intelligence” – said Mirosław Andziak.

The starting point for such new solution was to become aware of the challenges we face in the modern business environment. We need the data from the omnipresent sensors and monitors to understand such issue. Log information must be analyzed using Big Data analytics technology as well as the deep learning mechanisms, because a human being is unable to grasp the enormous amount of data and events. Moreover, we must ensure communication with the system in a natural language. The utmost goal is to create a solution that would be the extension of human intelligence.
“All of this helped build the third generation WLA platform. Automate NOW! is 10 times faster than other solutions and its integration is even easier than before. In the future, the system will be operated by artificial intelligence” – said Mirosław Andziak.

During further discussions at the session on cognitive systems, key functions of the new generation automation solutions were discussed. Paweł Cimosz of Alior Bank stated that in his opinion, automatic mechanisms as well as high flexibility were the key factors that would help realize all the plans.

“We can do absolutely everything we can imagine” – stressed Paweł Cimosz.

Ariel Kenneth Ampol of InfiniteDATA pointed out the application intelligence aspect. “So far, one of the key problems for our clients was to have multiple solution operators that would perform manual operations whenever something happened. Automate NOW! platform will be able to learn how the users operate and suggest actions to be undertaken by the administrators. This will generate savings and help release human resources for other tasks” – stressed Ariel Kenneth Ampol.

Bold but cautious

Automate NOW! is the response to the key automation development trends as well as the changes in the artificial intelligence field. Such conclusions were presented by Aleksandra Przegalińska, Assistant Professor at Network Society Management Department at Kozminski University and Research Fellow at MIT (Massachusetts Institute of Technology). Aleksandra Przegalińska talked about long-term consequences of mass automation and robotics of businesses and pointed out the business changes that might be caused by cognitive technologies and artificial intelligence.

Over the past two years, we have witnessed ground-breaking events: from purely symbolic ones, such as Saudi Arabia’s granting citizenship to robot Sophia, to significant scientific achievements, such as the results of the AlphaGo Zero program, which was the AlphaGo version developed by DeepMind Technologies owned by Alphabet group. In the opinion of Aleksandra Przegalińska, AlphaGo Zero helped to achieve the strategies used in Go game that were previously unknown and not used by human players and represented the growing trend. Perhaps, we will soon be able to witness how the artificial intelligence is able to optimize business processes or diagnose...
diseases in the manner we have never known until today.

ToMnet by aforementioned DeepMind Technologies is yet another project representing new developments. The company has developed a new type of artificial intelligence, which similarly to a human being, is able to understand mental states of others — emotions, beliefs or intentions and predict their behavior accordingly. Over the upcoming months and years we can expect other ground-breaking developments in this area.

What does it all mean to the organizations that wish to apply artificial intelligence and related technologies in automation? What should we do and how?

First of all, we should pay attention to virtual assistants and chatbots. As research shows, the users, millennials especially, expect to be given a single system that will be able to solve a variety of problems. What is more important, all of these processes should be voice activated.

One of the most interesting examples of such trends is the Google Duplex, an extension of Google Assistant, which supports conversations in a natural language. The model, which has been tested for six years, can not only understand sentences said with different accents but also recognize meaningful context, even in case of an unfinished utterance. As a result, the system can independently perform such tasks, as:

The use of robotics was nothing new. It is very close to test automation. Even though they differ in terms of objectives and areas, they have many similarities.

PIOTR ŻOŁOPA
PROJECT MANAGEMENT DEPARTMENT MANAGER, SOFLAB TECHNOLOGY

Automatic mechanisms as well as high flexibility were the key factors that would help realize all the plans.

PAWEL CIMOSZ, ALIOR BANK
arrange a meeting, book a hairdresser appointment or a table at a restaurant. More importantly, as the creators promise, the system will be able to pass the Touring Test. Most of the Google Duplex users are not aware that they are dealing with a robot.

Obviously, not all the ventures in this area are successful. We need to remain cautious. Business has to pay attention to what knowledge is aggregated by the artificial intelligence and they decide, what to do with it. Improper implementation of the new solutions might lead to serious image crisis. Chatbot experiments conducted at the Kozminski University have shown that purely physical reactions to robots with human faces are much stronger. However, people perceive such robots as less competent. The opposite happens in the case of a text chatbot.

Secondly, deep learning mechanisms are able to effectively support the initiatives involving switching from Big Data to Smart Data. Artificial intelligence helps retrieve important information from the vast amount of data and discover data correlations, which a human being would never be able to spot.

However, it seems that the machines will never completely replace humans. Contrary to popular opinions, we will never become merely passive consumers of the artificial intelligence products. Aleksandra Przegalińska sees the future as the synergy of humans and technology. Technology helps make difficult tasks easier. It also helps humans to reach beyond their cognitive horizon.

**Intelligent combination of technologies and experience**

The subject of intelligent automation was touched upon by Wojciech Zajączkowski, Head of Cognitive Automation Accenture. More than a half of all employees perform their tasks based on routine and repetitive actions. It applies, in particular, work involving texts. Many people perform repetitive tasks, whose volume increases in time. Such boring and time consuming work produces may errors. It could be just as well performed by robots. More importantly, robots are given more and more human attributes. Not only can they read and understand documents but also conduct meaningful

**Automate NOW! platform will be able to learn how the users operate and suggest actions to be undertaken by the administrators.**

**ARIEL KENNETH AMPOL, CUSTOMER SUCCESS MANAGER AND PH SITE LEADER, INFINITEDATA**
conversations with the users and plan and monitor actions. In Gartner’s opinion, as a result of all of this, nearly half of tasks currently performed by humans could be automated. Gartner analysts estimate that it would help generate even 80% cost savings.

“In addition to a standard Robotic Process Automation, we could achieve so much more. Some have just started thinking about it, while the others have already been doing it. The key issue is to combine various methodologies. As a result of such combination, artificial intelligence solutions may recognize texts and classify them as emails, documents or letters and then retrieve data from them” – explained Wojciech Zajączkowski.

Machine learning based text analyzers that are able to classify text and retrieve information may be used for even more complex tasks. They are able to analyze practically any text: help desk requests, tickets in the technical support department or HR department or the information emailed to banks or insurers. When combined with RPA mechanisms, they will help achieve the next phase of automation and further optimization of the entire business process. Most importantly, the implementation of such system could be achieved in up to 9 months, including the time required for proof of concept, pilot project and production implementation.

During the session dedicated to IT automation, Maciej Sowa, Director of Development at SimpliciTy talked about

Perhaps, we will soon be able to witness how the artificial intelligence is able to optimize business processes or diagnose diseases in the manner we have never known until today.

ALEKSANDRA PRZEGALIŃSKA, ASSISTANT PROFESSOR AT KOZMINSKI UNIVERSITY AND RESEARCH FELLOW AT MIT SLOAN SCHOOL OF MANAGEMENT

Employees must finally become aware of the benefits of such new tools. If not used, the tool will be forgotten.

MACIEJ PIOTROWSKI, CHIEF TECHNOLOGIST AT DXC TECHNOLOGY
clients, who had implemented interesting automation projects. Businesses usually start building customized solutions as they believe their needs are rather specific. As a result, they face challenges they would otherwise be able to avoid, had they decided to use off-the-shelf solutions. Usually, they are unable to handle the development of a customized system.

“It is advisable to use experienced consultants, in particular during the project initiation as well as implementation phase. Consultants offer know-how, technology and experience to help achieve best results. An outside opinion helps see problems better” – said Maciej Sowa. And what could we expect from such support? We would be able to reduce errors and processing time as well as the use of human capital, which would translate into increased productivity and efficiency of the people and the entire organization. Last but not least, it would help reduce the costs.

Łukasz Majer, Chairman of the Board of Nova Praxis and Piotr Żołopa, Project Management Department manager at Soflab Technology talked about the
challenges arising from robotics and business process automation. Łukasz Majer pointed to areas that could be robotized, such as: controlling, reporting, procurement processes, accounting and HR, recruitment as well as all the processes handled by less qualified personnel. He also recommended to implement robotics to succeed.

“The most important thing is to remodel the process, to define the supporting process and to implement a pilot project. It is also important to provide implementation support to make sure that we would not end up with a malfunctioning, useless robot” - said Łukasz Majer.

Piotr Żołopa also pointed out that the use of robotics was nothing new. “It is very close to test automation, which my company has been dealing with for years now. Even though they differ in terms of objectives and areas (test automation is not applied in production environments), they have many similarities, such as: effecting business operations based on available functions, eliminating manual and repetitive tasks, time savings or the need to maintain robot environment and scripts” – explained Piotr Żołopa.

**People like simple solutions**

During the discussion held at the end of the cognitive solutions session, Paweł Cimosz of Alior Bank pointed out that WLS ScheduleIN solution offered numerous advantages, of which automatic module was the most important. “Nearly 100 business users are able to generate automatic reports, which are then visualized and published on the platform to be shared with other users. The system is user friendly and does not require IT support” - claimed Paweł Cimosz.

Maciej Piotrowski from DXC Technology presented key success factors of automation in the form of simple migration. “Minimized business interruptions mean low risk faced by the entire project. Most employees are not even aware that something has changed” - said Maciej Piotrowski. Employees must finally become aware of the benefits of such new tools. If not used, the tool will be forgotten.

Paweł Cimosz also mentioned the human aspect. “People are usually opposed to changes. However, ScheduleIN will greatly improve any new changes” – stressed Paweł Cimosz. If the employees are shown such simple and user friendly solution, the automation implementation will be much easier.
Modern WLA:
a strategic foundation

For the majority of businesses, automation has a strategic dimension. Its foundation is the Workload Automation (WLA). This is the most often used form of automation – as indicated by the research conducted by Enterprise Management Associates (EMA). During the “Enterprise Automation Forum 2018” conference, Dan Twing, CEO and COO of EMA, has presented the current state of the automation market, talked about the challenges of its application in organisations, the changing role of WLA, and the latest tools of this type.

There is no doubt that automation is a hot topic now. The management staff is increasing its understanding of the benefits of automation – the ability to increase agility and speed of operations, cost reductions and a decrease in numbers of employee human errors. Automation also allows increasing the profitability, raising customer satisfaction levels, cutting down the time to market for innovations and increases the value proposition. This is why companies are declaring increasing need for automation. And it doesn’t stop with declarations – it is followed by a rapid growth of usage of automation tools in business.

The most automated areas are the IT operations, Big Data analytics, data centre operations as well as business processes. The least automated areas are new application release deployments and new staff onboarding.

The most popular form of automation is WLA. The second place goes to business process automation, followed by the RPA (Robotic Process Automation) and scripting. Interestingly enough, the only area where scripts are more popular than RPA is the IT operations.

The goals of automation must reflect the business goals. At the same time, the goals must be viewed in the context of the value they bring to the business.

Last, but not least: always bear in mind the effects the automation will bring for the clients.

Dan Twing: How do you automate a success?

Access automation is a journey and not a destination. It makes sense to focus on quick wins to build a proper climate in the organisation that will facilitate the next steps.

Integrating data stores is better than data replication – a guarantee of higher accuracy and consistency.

A comprehensive view of the processes is needed and so is looking at individual tasks as a big picture.

Technology is not the key to automation. People are the most important part!

Despite employee concerns, automation typically does not mean massive layoffs. 87% of companies do not reduce employment as a result of automation. It only impacts (in case of 67% of organisations) their future plans for new jobs. In 20% of cases the employees whose duties were taken over by robots were shifted to other more value adding jobs.

In the majority of organisations surveyed by EMA, automation is treated as an element of the strategy. 61% of the companies surveyed have a centralised automation strategy.
### Which of the following tasks have you automated?

<table>
<thead>
<tr>
<th>Task</th>
<th>2018</th>
<th>2016</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Operations</td>
<td>64%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big Data Analytics</td>
<td>56%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Center</td>
<td>48%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Processes</td>
<td>47%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Warehouse/ETL</td>
<td>44%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure Configuration</td>
<td>43%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managed File Transfer</td>
<td>41%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DevOps</td>
<td>32%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application Release</td>
<td>30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onboarding new employees</td>
<td>29%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Which of the following demands recently made the management of job scheduling more complex?

<table>
<thead>
<tr>
<th>Demand</th>
<th>2018</th>
<th>2016</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT projects initiated by business units</td>
<td>67%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Container deployment</td>
<td>38%</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Maintenance of scripts</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital transformation projects</td>
<td>32%</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Deployment of big data applications</td>
<td>48%</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Permissions, auditing and reporting for reg req</td>
<td>43%</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Application integration limitations</td>
<td>24%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting cloud-based applications</td>
<td>24%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tighter SLA requirements</td>
<td>39%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>Self-service provisioning of jobs by developers</td>
<td>41%</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>DevOps scheduling requirements</td>
<td>35%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Self-service provisioning of app env by business</td>
<td>33%</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Limited scalability of the WLA tool</td>
<td>33%</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Rogue schedulers introduced through business applications</td>
<td>26%</td>
<td>17%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Presentation of Dan Twing, Enterprise Management Associates (EMA IT & Data Management Research, Industry Analysis & Consulting)
You indicated that your organization migrated to a new WLA software within the last 4 years. What was your motivation for making the change?

<table>
<thead>
<tr>
<th>Motivation</th>
<th>2018</th>
<th>2016</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>More efficient change management</td>
<td>27%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simpler root cause analysis</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Better high-availability capabilities</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower annual operations cost</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easier workflow design</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Better user interface/ease of use</td>
<td>22%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easier agent management</td>
<td>22%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More proactive SLA management</td>
<td>22%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Better auditing capabilities</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less scripting required</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile access</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to easily and securely place workloads in private and public clouds</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More efficient lifecycle management</td>
<td>19%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simpler queue management</td>
<td>19%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to better tie jobs and workflows to business processes</td>
<td>19%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easier management server upgrades</td>
<td>19%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-of-the-box connectors with big data, BI, and analytics solutions</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More comprehensive API (ability to build our own connectors)</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More flexible licensing model</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available as a hosted service</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We originally overbought and decided on a simpler, more appropriate solution</td>
<td>12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issues with our previous WLA vendor</td>
<td>12%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nearly half of all CIOs consider WLA as a key aspect of the operations they are in charge of. Much less perceive WLA as an important element of the automation strategy, and even less – of the digital transformation strategy. However, this picture looks slightly different in the case of business departments.

The challenges of modern IT

The research by EMA indicates that the older WLA products badly cope with the challenges presented in the modern IT environments. Their traditional architecture results in a lack of appropriate scalability, self-service mechanisms and out-of-the-box connectors and APIs that would allow simple and swift integration. Most of the older solutions are also difficult to operate and maintain.

What causes workload automation management to be increasingly complex? First and foremost, the fact that IT projects are initiated by the business side. But it is also a result of the implementation of containerised technologies and the need to maintain the scripts.

The top three places on the list of issues related to WLA are occupied by costs, software upgrades and scalability.

So what criteria do companies apply when looking for solutions for the older WLA systems? Not surprisingly, the operating expenses...
take the first place, followed by licensing costs and then ease of use and implementation.

The quest for new WLA solutions is motivated not only by problems with the traditional systems. At the same time, the role of WLA is changing. However, there are plenty of motives for migrations and they are diversified. The list begins with the need to improve the change management effectiveness, looking for simpler solutions for root-cause analyses and the need for higher availability and to drive down the costs. Users are also critical of certain practices by the WLA vendors.

Interestingly, migration is sometimes easier than imagined and even if it was more difficult, then still it is considered worthwhile. The most difficult part of migrations is workload moving and balancing the migration tasks with other day to day duties. As already mentioned earlier, the migration, though sometimes troublesome, in the majority of cases is considered worthwhile. Only 18% of those surveyed say that only the list of problems has changed or that the effort was disproportionately higher than the results. Probably this is why many companies are planning to migrate to a new WLA solution. In Europe, this is nearly half of all organisations. The smaller percentage in the USA means that in that region more companies have already done the actual migrations. When planning migrations, companies are thinking mainly about gaining better auditing possibilities, better integration and easier workflow development.
Objective: making a complete control easier

The degree of complexity of business environments in big organisations is increasing. More and more data is processed, more diverse processes are launched. Optimisation of their management requires increasing automation of decision-making tasks. The challenges of integrating data processing and execution of business processes are discussed by Mirosław Andziak, co-founder and managing director of InfiniteDATA.

Business process automation and robotisation is not a uniform domain. Many tools and applications appear that are supposed to support various areas of operation of organisations. In what the Workload Automation solutions differ from Robotic Process Automation tools?

Robotic Process Automation (RPA) solutions appeared in response to the need to move data from systems to other systems. They were developed as the easy way of filling the inter-system integration gap. They are intended to automate the operations on user interfaces designed by humans for humans. Instead of people rekeying data from one system to another, bots were produced that automatically port data between one interface and another. Such tools use various methods that determine what is where on the screen and from what place to what place it should be copied and where to map data from a file.

The concept is simple and known for a long time; however, the exceptional attractiveness of these solutions is proved by the promise that with time the RPA solutions will be gaining intelligence and ability to learn – good enough to dynamically adapt their operations to the changes in business processes. I think that the RPA systems have a long way to go to meet this promise. Recent research shows that among all processes in organisations on both sides of the ocean merely 15% is being automated by RPA type solutions.

Challenges faced by big organisations are much more complex. Their data must become an integral element of the business process. It is not enough to have Big Data, Business Intelligence
or Data Scientists and their hypotheses. The results of analyses need to be integrated into the day to day business process operations so that actions can be triggered automatically on the corporate operations level. Data and process orchestration is needed. It is hard to do manually and there is no place for half measures. Automation on the corporate scale is necessary.

Implementation of automatic orchestration at advanced maturity levels of companies processing large amounts of data, starting big numbers of processes, is inevitable. RPA works with simple processes. However, when processes become more complex when they include decision making, when they are replaceable, a different approach is needed. This is the right place for Workload Automation (WLA) solutions. They have been known for 40 years but are still being developed and they keep delivering new values. Their functionality works very well in the current business and technology reality. A niche appeared on the market that we have entered with our products.

**How will artificial intelligence impact the business process automation?**

The tools that will use artificial intelligence and employ machine learning methods, initially will support operational decision making. With time, if the organisations employing them will so wish, they will be making operational decisions by themselves. In 8–12 years they may replace the operators and developers.

When a business process changes, the robot that handles it has to be reprogrammed. Today, implementing changes requires developers with analytical skills. However, with time, the bot itself will be able to take over a new process from the business environment and update itself for the new requirements. In future, the software using artificial intelligence and machine learning will be automatically
reacting by creating new solutions in case of modifications or swaps of processes or deployment of new ones. It is difficult to achieve but necessary. Without this, business environment automation will not meet the new challenges. This is why development work in this area is progressing all the time.

**What is the necessary condition for the effective use of artificial intelligence in business process automation solutions?**

Effective operation of solutions using artificial intelligence requires the biggest possible amounts of data. It will not be possible to create artificial intelligence without studying the environment. Loads of information has to be acquired via sensors. Systems must use sensors and have interactive interfaces. This will be the foundation for artificial intelligence. We need to make it all communicate together, to have everything share information with everything. We are not talking anymore about the Internet of Things but about the Internet of Everything.

For instance, sensors may be providing information on how many customers have entered a bank or a shop. They may be

informing how fast a server hard drive is wearing out. This information will then be used by the system to automatically make decisions in business processes. This is the growth direction that also our software is following.

**What are the key challenges of today that result in a significant increase in the need to automate the IT environment management in organisations?**

Today’s problems with IT environment management mainly come from the growing numbers of new technologies. Organisations allow the use of many solutions, technologies, also often open source. Therefore, there is a need to create an easy way of integrating diverse systems to allow customers themselves to make integrations with any technologies, even with a coffee machine. This is the difficulty to be overcome.

**What will the future use of IT environment handling automation tools look like? Where in practice will the Work-load Automation solutions work best? In what areas and how will we be able to use them efficiently?**

Let me use an example. A company that deploys such a solution will be able to store all system logs in one place. This will allow it to determine the system operation patterns. It will allow the development of automated responses to specific results of analyses. When a specific pattern arises, the system will automatically activate defined actions or provide the operator with recommended responses to specific situations. These patterns may be picked out of a single data repository.

This is what machine learning is about – the system is teaching itself by itself. It is more effective than the creation of specific action templates by people, as it is difficult
to imagine all the possible scenarios of development of situations or courses of events. Artificial intelligence based solutions will be learning by themselves and identifying all the appearing event templates on the fly.

If we supplement it with an avatar, then we will be able to communicate with the system, ask it questions when something will happen, for instance, when the month or year closing report will be ready. With an avatar in place, people from the business areas will be able to use the system without the help or assistance of the IT department and, among others, produce reports or analyses by themselves. They will also be able to find out themselves, for instance, if the computer network is running in one branch or another and how well.

**How can we measure the benefits provided by the use of such solutions?** In case of Robotic Process Automation do we count how many employees would be needed for such work? How about Workload Automation?

It all depends on company circumstances and needs. Workload Automation solutions allow some general control over the growing complexity of environments and systems in big organisations. The benefits depend on the situation. They are hard to count explicitly. We are not bringing in a toy but the building blocks for building anything. What will be created depends on the user.

Some use this tool to cut down the time to perform certain actions. For example, a month-end process may be cut down by 400–500%. This leaves more time to check the report.

In other cases, the system allows decreasing the number of incidents in the IT environment. One of the companies, after one year of use, managed to eliminate 14% of incidents and after two years - 52%. This was possible as the system “knew” what was happening and what will be happening. It actually anticipates the course of events.

You can automate software testing. This results in application development time reduction. The system may also be used for infrastructure monitoring. Due to its estimation capabilities, it may also be used for orchestrating the cloud computing environment. Before a job is launched, the system calculates the data processing end-time. This allows for effective use of processing capacity.

**Your solution is mainly designed to support the IT environment management. To what extent can it be used by business departments?**

We understand the needs of business departments and are trying to meet them. Also, we are trying to sell our solutions via business structures, as the role of a CIO today is not too strong in companies. Expectations of IT departments are big but their budgets are modest.

The new generation companies must be sure that their IT systems are really able to cope with the challenges of meeting their customers’ needs. IT environment automation is of key importance here.
Our offering includes a self-service automation module addressed to business people. For example, analysts may configure a task that will make the system automatically generate a report when something specific occurs. However, it still operates on the IT infrastructure resources. Business benefits also come from the fact that the representatives of business departments know the stage the given task or process is at without the need to ask the IT people for reports. They know, for instance, when the results of automated analyses will be coming in, so they may use their work time until then more productively. Upon the occurrence of specific circumstances, the system may automatically launch relevant processes on weekends or after hours. And the results are ready for the morning or a defined hour.

Who is using your solutions? What customers do you have on the Polish market?

Our customer base includes the majority of Polish banks. We also have implementations in numerous insurance companies. In addition, our customers include telecommunications companies, FMCG manufacturing companies and retail chains. However, right from the outset, we have been also targeting the foreign markets to gain global presence.

What was the decisive factor? Is the Polish market too small, not promising a guarantee of solid revenues?

It is a matter of aspirations. We have ambitions to become a global player. We are counting on success as we operate in a yet unconquered area. Only big companies with expensive solutions have entered it. We tell those who have already implemented them, that we will lower their TCO. This allows us to gain the interest of potential customers even in the most developed markets.

What conditions have to be met to effectively expand the offering outside the Polish market? How do you manage to gain a presence in the international markets? What does it take?

We keep going outside of Poland. It is hard. There are not many examples of global successes by Polish companies. We keep trying various methods. For example, with global reseller contracts, we have managed to sell our system to a big global manufacturing company. We are also reaching the global customers by a partnership with a company offering analytical solutions; we collaborate with the integrator and consulting companies. Also, we are looking ourselves for partners in various countries.

We operate flexibly. We may postpone sales to next year to gain territory. We do not need to finalise contracts immediately because the sales plan has to be achieved at large companies. Customers appreciate it. In international markets, more and more organisations are opting to collaborate with small companies that operate flexibly.

What counts more in international markets – recommendations for implementations or position in rankings?

Both. Global markets have no trust in organisations unnoticed by the analysts. If a company is not known, customers are afraid it either is too small or its products’ functionality is insufficient or not fine-tuned. This is why it is hard to make it to the international markets. Recommendations are thus very much in demand. Luckily we keep our customers happy so they gladly accept reference visits.
On the other hand, presence is needed in market rankings and ratings. Besides collecting references, one has to open up to analyst assessments, make the product available for their research. Assessments give a lot. So we gladly accept audits that allow positioning of our solutions. The studies are very in-depth, many diverse factors are considered. The software is inspected as with X-ray machine. However, this provides us with a confirmation that our solution is adequate for the enterprise market needs we are aiming for.

**What is your definition of the enterprise segment?**

We take it as companies with over PLN 100 million (EUR 430 million) annually in revenues.

**Where do you look for such customers outside Poland? Which regions or countries are particularly important to you? On which markets would you wish to gain presence with your solutions in the near future?**

We are looking for customers mainly in Europe. Now we are mainly targeting the Nordic countries, the United Kingdom and German-speaking countries. Recently, we have signed a contract with the biggest Finnish telecom operator. We have a presence in the United States. We are making our first steps in Asia; we have an office in the Philippines.

**Can artificial intelligence change the market structure? Today’s customers for process automation systems are large organisations. Will such solutions be available in the future also to small businesses?**

The enterprise segment is a natural customer for our solutions as it has huge data processing needs. Naturally, in product lifecycles typically the solutions initially targeted at big players with time are adapted for use by smaller organisations. In the case of the WLA systems, however, the situation may be different. These solutions do not provide small and medium businesses with substantial benefits. This sector can cope using their existing systems. They have no needs that would justify investing in more advanced solutions.

Workload Automation brings substantial value to big organisations where it is difficult to embrace the entire IT environment, though it has to be done as otherwise competitive advantage is at stake. And it is not just about cost optimisation. As Dan Twing of Enterprise Management Associates points out, the new generation companies must be sure that their IT systems are really able to cope with the challenges of meeting their customers’ needs. IT environment automation is of key importance here. The goal of automation is not cost-cutting, though it is one of its results too. It is first and foremost about being able to do things no human can do. Automation may bring new possibilities as it is able to do more than people. This is the target market for all solutions like ours, as they allow full control over the business processes.

Effective operation of solutions using artificial intelligence requires the biggest possible amounts of data. It will not be possible to create artificial intelligence without studying the environment. Loads of information has to be acquired via sensors.
Miroslaw Andziak
President & CEO, InfiniteDATA

Miroslaw is a Co-Founder and CEO of InfiniteDATA, an Data and Automation Company. He is responsible for all aspects of managing the growth of the company: finding new business opportunities, engaging new customers, assure a world-class software product development, leading the group of amazing individuals, pioneering new approaches and developing business partnerships, but foremost he is devoted to bring value to customers with the approach of uncompromised automation. Miroslaw co-founded InfiniteDATA in 2010 and joined the origination as CEO in 2015 from TERA-DATA - the worldwide leader of advanced analytic where he was a Country Executive responsible for Professional Services. Prior to Teradata, Miroslaw held multiple management positions in global departments of Hewlett-Packard and Procter&Gamble. He brings overall over 18 years of industry experience gathered in environments of FORTUNE 500 companies. He holds a degree in Information Technology from Technical University of Gdańsk, Poland and Master from Ecole Supérieure de Commerce de Rouen, France.

Joanna Erdman
VicePresident, Member of the Board, ING Bank Śląski

Joanna Erdman – Vice-President of the Management Board of ING Bank Śląski S.A. In her capacity, Joanna Erdman is in charge of the Strategic Clients Division and Financial Markets Division at ING Bank Śląski S.A. in Poland. She started her professional career in 1995 in the Marketing Department in Bank Pekao S.A. She joined ING in 1996 and has since then been related to the area of Strategic Clients, as Department Director, Division Director and, prior to her appointment to Vice-President in 2013, Head of the Strategic Clients Division of ING Bank Śląski. Joanna Erdman is a graduate of the Finance and Statistics Faculty at the Warsaw School of Economics.

Grzegorz Bartler
Business Intelligence Department Director, Polkomtel and Polsat Cyfrowy, Member of the Board, Technology Director, Netia

With Business Intelligence since the beginning of his professional career. For over 15 years he has been mastering BI as a supplier of solutions to the public sector (NBPI), the banking sector (Bank Handlowy), the insurance sector (PZU), the energy and telecommunications sectors (Play, Telekomunikacja Polska, PTK Centertel, Dialog, Polska Telefonia Cyfrowa) and to Polkomtel. He was dealing with a broad range of BI-based solutions – data warehouses, reporting systems and MIS, analytical CRM systems (among others implementing one of Poland’s first churn management support solutions), marketing campaign management systems and other solutions utilising the information embedded in data. At one of the BI suppliers, he was in charge of developing the analytical CRM area for customers in Poland and worldwide. Since 5 years he has been working “for the opposite side” – at Polkomtel, making sure that the BI solutions are effectively supporting the execution of corporate strategies and achievement of business goals. Since December 2014, he also has been responsible for the Business Intelligence area at Cyfrowy Polsat. Regardless of which side he is working for, his motto is “to make the customer happy”.

Przemysław Gamdzyk
CEO & Meeting Designer, Evention

Every day he is engrossed with business development. He is passionately creating the concepts of new meetings and their formats. He is building conference agendas that bring together interesting speakers and valuable content. For 20 he has been involved with the information and communications technology market in Poland. He has delivered hundreds of publishing and event projects in total. For many years, he was working for the Computerworld and CIO magazines published by IDG. He was a journalist, editor, head of events department, manager of executive training programmes. His core value, fundamental to his operations, has been creating effective areas of communication in business – whether in writing, online or in face to face meetings. He graduated from the Faculty of Mathematics, Informatics, and Mechanics at the University of Warsaw and from postgraduate "Social Communication" studies organised by the Institute of Literary Research of the Polish Academy of Sciences.

Herve Hachet
Director of Financial Shared Services Center, Amer Sport

Herve Hachet is the Director of Amer sports (Salomon, Atomic, Wilson, Precor, Suunto, Arc-teryx, Mavic, Peak Performance brands) Shared Service Center based in Krakow since 2012 200 employees are working in Amer Sports service center, delivering Financial, HR and IT services to Europe and North America business entities. Herve has 30 years of experience managing financial teams, as a Chief Accountant for Supermarket companies, setting up several accounting teams from scratch to maturity, then Head of accounting department in Salomon Headquarter and finally setting up and leading the Amer Sports Service Center in Krakow, Herve is aiming to lead the Krakow team to the Center of Excellence level, focusing on increasing internal capabilities, change management, and process efficiency, including Robotic Process Automation and Analytics Amer Sports Shared Service in Krakow won the prestigious “2017 SSC of the year – Poland award” at CEE Shared Services and Outsourcing Awards ceremony in Warsaw and is short listed in the “RPA implementation of the year in CEE” in the 2018 USA-Europe Shared Service Summit in New York the 20th of June in New York. Herve holds a Business Administration degree from French university and is an Aspire (Krakow Shared Services Center association) board member.

Oktawiusz Kacza
Managing Director, Head of Operations, Bank BGŻ BNP Paribas

Experienced senior executive manager with over 20 years of experience in the IT and banking industry. He graduated from the University of Science and Technology in Cracow, faculty Telecommunications and holds Executive MBA title. From the beginning of his career associated with new technologies, building and implementing systems for various sectors of the economy, successively as a programmer, consultant, and department director. He joined BGŻ BNP Paribas in 2008, supervising its development in the field of project management, and then also process management as well as analysis and design of system functionalities. As the Managing Director, actively involved in all mergers and integration processes.
Szymon Kowalczyk has graduated from the Legnica Higher Technical School with specialisation in computer systems and networks. He has been professionally involved with IT for 23 years. He has broad experience in execution of merger projects, consolidation of systems and infrastructures, process and IT costs optimisation. In 2007 he received a prize for taking the 1st place in the Infrastructure Simplification category of the international competition organised by Common Europe with his project of consolidation of platforms through virtualisation. In 2009 he received a prize for taking the 1st place in the Undertaking of the Year 2008 category of the competition organised by HDI Poland with the delivery of a project on “Optimisation and Business Improvement through Consolidation of IT Services”. In 2010 -2012 he was the Director of the “Annapurna” programme aimed at developing a state of the art bank based on mobile solutions utilising the sales and technology potential of one of Poland’s key cellular operators. In 2012-2013 he was working on a project of reorganisation and consolidation of IT organisational units aimed at improving the effectiveness and process optimisation while at the same time providing high availability parameters for the IT Services.

Łukasz Krause
IT Director, Group CIO, Polpharma

Experienced Executive Director and CIO with a demonstrated strong skills and attitude to business / IT transformation and reorganisation projects. Build and implement IT strategies, business and IT governance models, shared service centers, IT&OT security capabilities. Focused on supporting corporate strategy, business values and business drivers, not forget about cost optimization and savings. Digital leader with strategic and hands-on experience, enabling and supporting business transformation by implementation of digital platform, enterprise / business / IT architectures and roadmaps. Senior change and project manager leading and supporting key business / IT initiatives working with key corporate stakeholders. Supervisory board member experienced in shared service centres and financial institutions. Honoured for business / IT transformations and visions:

• Digital Leader of the Year 2016 CIONET Poland,
• CIO Diamond 2016 „Macro strategist of business technology”,
• TOP10 Intranet Nielsen Norman Group 2015,
• The most interesting of the best in category of IT strategy PTWP 2014.
Eager to learn and develop. Holds Executive MBA title, has practical and theoretical knowledge of AgilePM, PRINCE2, IPMA, MSP, M_o_R, P3O, MoP, ITIL, COBIT5 methodologies, proven by certificates.

Patryk Nowakowski
CIO, Bank Zachodni WBK

Expert in developing IT systems and services for the financial industry. As of 2016, he is the CIO at the Bank Zachodni WBK SA. He has commenced his involvement with the BZ WBK in 2002, working on development of market risk analysis systems. In 2004 – 2008 he worked in Switzerland as data warehouse engineer and director in charge of data analysis systems at UBS and Credit Suisse. In 2008 he recommenced his involvement with the Bank Zachodni WBK. He served as the director of the Information Management Competence Centre, responsible for the development of the data warehouse and also was the director of the Systems Development Area, responsible for implementation of solutions that built the Bank’s product offering and services. Presently serves as the CIO. He graduated from the Poznan University of Economics and Business, Faculty of Computer Science and Econometrics. His areas of interest include electronic services development, data analysis systems and implementing technical innovations.

Jakub Żmuda
Acting IT Director, LOT Polish Airlines

Jakub worked in several Telecommunication Companies, where he gained experience in telecommunication branch. Jakub started as an IT Analyst and was responsible for developing and maintenance of IT systems, according to business-site expectations. Experienced in complex IT systems, J2EE, ORACLE, PeopleSoft, WebMethods and others. In 2005 became a project manager in key project portfolio and responsible for running various IT Projects. Jakub is Certified Project Manager(PMI PMP) in fields of specialties in: Risk Management, Planning and Control, Change Management, End to end and integration management, Team working and leading, Issue management, Knowledge management, Schedule management.