

# yourK

KVADOS magazine

AUTUMN / WINTER 2018

## ARTIFICIAL INTELLIGENCE IN THE WAREHOUSE

AUTUMN / WINTER on page 10

**ARTIFICIAL INTELLIGENCE IN THE WAREHOUSE**

In the next five to ten years, artificial intelligence may fundamentally change logistics processes not only in warehouses, but throughout entire logistics chains. Together with Big Data analytics, the Internet of Things and 3D printing, it has a real chance to become a key mover in the industry. At KVADOS, we believe an intelligent WMS should be able to dynamically respond to every situation and automatically adjust control parameters, to set current system behaviour and individual strategies.

**Crete: Olive paradise**

Crete offers beautiful beaches and priceless historical monuments. However, no visitor should forget to visit the vast olive groves and sample the local olive oils, of which the islanders are extremely proud. Greece is the third largest producer of olive oil in the world.

**“8” - a symbol for the ultimate experience**

The new Audi A8 is the clear choice for anyone who longs for the consummate luxury sedan. The Audi R8 is the sportiest Audi in the current product portfolio of the famous four-ring brand. Audi Q models now also have an “eight” in the family.

4	VISION <b>Communication is the foundation of long-term cooperation</b>	28	IN <b>A dynamic hardware and software platform</b>
6	REPORT <b></b>	30	PASSION PIOTR KOMOROWSKI <b>The bar continues to be raised</b>
8	AUTOGRAPH <b>Pampering for loyalty</b>	35	ACUMEN <b>The voice as a powerful tool</b>
9	FLASHBACK <b>1961 Smart assistant</b>	36	STATION <b>A chateau feast in Petrovice</b>
10	KEY <b>ARTIFICIAL INTELLIGENCE IN THE WAREHOUSE</b>	39	APPETITE <b>Japanese whisky KAMIKI</b>
20	KNOW-HOW <b>New platform for electricity</b>	40	ESSENCE <b>“8” - a symbol for the ultimate experience</b>
23	MILESTONE <b>KVADOS gateway</b>	44	FOCUS <b>In the wild west</b>
24	POP-UP <b>Crete: olive paradise</b>		

**yourK** your key to KVADOS

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# COMMUNICATION IS THE FOUNDATION OF LONG-TERM COOPERATION

Dear readers,

let me introduce the department that you most often turn to with your requests, the Service Desk. We are a team of young people, mostly graduates of technical universities. Since the portfolio of KVADOS services is broad, we are divided into two separate teams. One is primarily devoted to myAVIS®, myFABER®, mySTOCK® and myTEAM® products and is led by Markéta Gálová. After 12 years at another software company, she brings a great deal of experience and initiative to KVADOS. The second team handles the VENTUS®, myCASH® and mySTOCK® solutions and is led by me.

People interested in working at the Service Desk don't always have a clear idea of what the job entails. They tend to be influenced by visions of service desk consultants at phone companies, for example, where dozens or even hundreds of calls are handled every day, always addressing the same situations, and where the added value of consultants is quite low and the work routine. However, the job of a KVADOS consultant is miles from that. Work at the Service Desk requires considerable expertise and it takes months for new colleagues to be able to handle even some requests on their own.



Consultants must not only have technical expertise, they must also understand the needs of clients and be able to communicate with them accordingly. We can certainly agree that not everyone in IT fits the bill :-). We place great emphasis on the quality of communication and try to get consultants to understand that even bad news is better than no news for the client. Silence is generally perceived negatively – there's nothing worse than if a client feels we are not responding to their request.

It's important for consultants to be interchangeable and to work on client requests together, which is why they work in pairs and at least one person is always available for the client. That means they can't go on holiday together :-). Consultants always take care of a select group of several clients and on average handle four requests a day. They handle both errors and service requests, with the more experienced ones occasionally handling a change request.

Many also take part in the implementation of new products, where they help another one of our departments – the design office. Thanks to this, when taking on a new project they are already familiar with the specifics of a given client and ideally already know them personally. They handle a large part of requests by themselves, and if necessary, work with programmers or project managers on more complicated matters. They are responsible for each client request the entire time it is handled, including compliance with contractual SLA.

We try to make sure every consultant knows his or her client. During training they are therefore sent to the client's workplace to become familiar with the processes and nature of the client's work – for example, they might work a few hours in a warehouse or store.

When it's technically feasible, we try to organise regular meetings with you, our customers. Together we discuss open requests, a great many of which are resolved on the spot or at least progress is made. This is an effective and often more pleasant form of communication than keeping records on the extranet or entering client requests via the web interface. Despite the advantages of personal meetings, however, the extranet remains an essential tool for client administration and communication.

Our credo and philosophy is that the best request is one that's never made. And if one does arise, we must identify it before the client. That's why our work focuses on much greater detail than simply responding to requests during working hours. Every day, selected consultants arrive before six in the morning to carry out an entire range of checks aimed at achieving a single result: for clients to be able to start their business day with fully functional systems, entirely free of limitations and complications. But that's not all. Every system, server and application is overseen by the ICINGA system, which monitors key processes and calls designated Service Desk employees as soon as it detects a loss of functionality or unavailability of service. This service is provided around the clock, 24/7.

Last but not least, we provide clients with an on-call service that they can call within a defined time – after work and on the weekends – to request help or consultation and immediately address any problems, which will naturally minimise the impact on their business. This above-standard service is offered on an individual basis at specific times and in the agreed scope.

There is always something going on in our department and as the company grows it's common for some consultants to move on after several years to the design or production departments, where they are in great demand because of their experience. Of course, some have been working at the Service Desk for a long time, and as senior analysts they are an invaluable source of knowledge and information for new colleagues and, above all, our clients.

Client satisfaction is the driving force behind all Service Desk activities. Our team of experts strives to provide you with specialised services at the highest professional level. We believe that in this way our department will continue to fulfil its mission.



**David Färber**  
Service Delivery Manager

## The autumn issue of myRELEASE newsletter has arrived!

My, how time flies. Another quarter has passed and so we'd like to share all the interesting things that have taken place with our KVADOS products. It's no exaggeration to say that the entire work process is all about performing tasks. So why not simplify it? The new generation myTEAM® solution is based on the feedback we've steadily collected from you, our clients, as well as our own experience. myTEAM® takes into account the user's every need – a task can be returned to the owner if incomplete or it can be saved as a concept and added to later. The VENTUS® system can easily keep track of goods that have been repackaged. The myCASH® register system moves most tasks from the server section directly to the application to make work even more convenient. And we've expanded the options for adding your own information about a client in our myAVIS® CRM system. That way, you can quickly access all the information you've acquired during your business relationship.

But that's not all you'll find in the new issue of the newsletter. If any of our innovations catch your eye, don't hesitate to contact our sales team at: [obchod@kvados.cz](mailto:obchod@kvados.cz).

You'll find the video here:



### PRODUCT INNOVATIONS AT CLIENTS

#### Ostrava Transit Authority becomes a new KVADOS customer

In June, the Ostrava Transit Authority signed an agreement to use myTEAM® software. In the tender, the client was impressed by the quality and user-friendliness of the solution, the ergonomic design and ability to customise the product, all for a reasonable price. The Ostrava Transit Authority has never used similar software before, so KVADOS is introducing an entirely new document management system (DMS). The product will be set up for users based on client needs, with specific requirements worked into the standard agendas of the myTEAM® system to cover all processes.

The myTEAM® solution will be used by all OTA employees from top management down to rank-and-file employees, on desktop computers, tablets and mobile devices. The total number of users will reach 2,000.



myTEAM® is up and running at PSP Engineering, which supplies machinery, systems and technology for the production of cement, lime and other materials. We are currently addressing the fundamental area that drives the whole company for the client, namely tasks and permanent overviews of which tasks have been completed. We have also implemented a module to manage both strategic and operative meetings, and plan to expand the application to manage processes in other areas.

Our long-time client, Astur & Qanto, expanded its line of KVADOS products to include mySTOCK® Lite, enabling warehouse workers here to finally throw away their paper documents and process shipping orders online.

After seven years of using myAVIS®, HET, the second-largest manufacturer of water-based paints and varnishes, will be migrating to the Android

platform. They expect the change to adapt the product to the current market situation. The myAVIS® solution will now also be expanded to their Slovak branch.

We are also enjoying success with the myCASH® register system. The system will go fully online on the first registers at TOBACCO DanCzek a leading distributor of tobacco products. myCASH® will be installed on all 23 registers in the future.

The ranks of our clients have also grown with the addition of the exclusive distributor of Italian cosmetics, ITALY STYLE LINEA, with whom we have signed an agreement to supply myAVIS®. The deployment of the system is currently underway.

## Success with our Polish neighbours

When seeking potential clients, we also fish in foreign waters. We've enjoyed considerable success with our Polish neighbours. Both BZK (a leading producer of spirits) and CEFARM (one of the oldest online pharmacies) have expanded the number of employees using KVADOS solutions. Both companies have deployed the myAVIS® mobile solution.

### IN THE EYES OF AN EXPERT



Marek Lušovský

#### How to keep meetings from being a waste of time?

What's the most common reason for long, unproductive meetings? They lack a clear agenda and objective established in advance. Formulating meeting agendas will save lots of time for both the organiser and participants. Our myTEAM® software tool lets you create an agenda before invitations are even sent out. You can define what will be discussed under each point, indicate whether preparation is required, estimate the duration in minutes or add related attachments. Just information on the agenda alone will keep you from losing precious time at a meeting that perhaps does not even concern you.

The assignment of tasks is the most frequent outcome of every meeting. Tasks may have been assigned at the last meeting that you probably wrote down on a piece of paper, or perhaps you're waiting for the minutes, where certain tasks will be listed. But frankly speaking, who has the discipline to keep track of every task from every meeting? Never mind making sure that your subordinates have carried out their tasks. One of the greatest advantages of the myTEAM® tool is the ability to create tasks right at the meeting. Naturally, according to SMART rules, with clear assignments and deadlines. As a manager, you no longer need to keep track of whether a task has been completed or what stage it's at.

Of course, you don't have time to attend every meeting at the company either. But naturally, you need an overview of the outcome, if you want to see whether assigned tasks have been performed. Maybe some people attending diligently take notes, but how can you be sure that the outcome is uniform? We've had great success with a method where the minutes are projected on a screen where they are seen by all in attendance in real time. Anyone can raise comments if the information is unclear.

The advantages of using myTEAM® to keep track of meetings are clear: you can return to the minutes from meetings at any time, see who attended, display analytical views of meetings and tasks and look at the agendas of meetings planned for the future. If all the participants in a meeting are well-prepared, then the meeting is fast, constructive and yields effective results.

## Meeting with other project managers is a valuable experience for us

One of the goals of the Chamber of Project Managers (KPM) is to share information and experience among project managers and cooperate with other associations in the field of project management, regardless of industry. One such informal networking meeting took place in June at KVADOS, which is a KPM partner. Project managers from all over Moravia discussed various guides and templates that help them in their work. There were presentations from PBS, EVM matic, striking minis and detailed reports.

*"I think it was very useful to discuss approaches and experience with other colleagues without the sense that this might give others a competitive advantage. Just as instructive were the stories about what didn't work, or why some decided to reinvent the wheel,"* said Pavel Kořenek, organiser of the Moravian KPM event.

In addition to smaller friendly meetings, KPM also organised the 10th annual Project Management Conference. This year's programme delved into trends in robotization and automation that are currently impacting individual projects. *"I try to go to conferences regularly. For me it's a valuable opportunity to meet with more experienced colleagues and broaden my project management horizons, not just in the field of IT,"* says Aleš Gasiorek, KVADOS Project Manager.

# PAMPERING FOR LOYALTY

Retail is constantly evolving, seeking new avenues and improving and perfecting the old. As the manufacturer of the myCASH® retail solution, we closely monitor all key trends and respond to them accordingly. One area in which we have excelled is loyalty programmes.

myCASH® allows you to define several loyalty programmes that can be active at the same time, each with its own rules and conditions. One programme, for example, can focus on a company's own employees, another on individual groups of customers. Some may emphasise discounts, others exclusive offers.

Clients can be identified for loyalty programmes via customer cards or simply a QR code on their mobile phone. The system enables you to search for a customer by name, e-mail or telephone number. And because we all know what it's like to have wallets stuffed with various credit cards and loyalty cards, we are looking for other ways to identify customers while inconveniencing them as little as possible. We've therefore started working with major credit card operator, Global Payments, to find a way to combine credit cards and loyalty cards. We believe we will be able to put this innovation into practice soon.

Each retailer can set up loyalty programmes in myCASH® exactly the way they need them. For example, they can keep sales records for an individual customer over a given period and set the discount the customer will get on subsequent purchases. Another option is to collect points: the retailer defines the rules for gaining points and the way they can be used, either to get discounts or gifts. Loyalty programmes can be shared between affiliated



brick-and-mortar stores and e-shops, and even between markets. Versions are currently available for the Czech, Slovak and Polish markets.

And there are even more opportunities to support loyalty programmes in myCASH®. For example, the permanent and online collection of points that can be used throughout an entire network, which also includes franchises. Alternatively, you can define discounts and promotional events for club members only.

And what's more important: information from the loyalty system can be used to effectively differentiate individual customer segments, naturally in full compliance with GDPR. The better a retailer knows its customers and their purchasing habits, the better it will be able to respond to their needs. Big Data is simply the way of the future, which is why we will continue to focus on loyalty programmes at KVADOS in the future.



# SMART ASSISTANTS

1961

FLASHBACK

## How machines learned to speak

The beginnings of voice assistants may reach further back in history than we realise. First it was necessary to teach computers to be able to identify speech, and to perform tasks based on simple commands. A pioneer in this area was the IBM company, which introduced the first voice recognition device that they named Shoebox in 1961. This was back in 1961 and you can imagine that it couldn't do much compared to today. To give you an idea, it was only able to recognise numbers and a total of 16 words.

But development moved forward quickly. By 1972, Carnegie-Mellon University in Pittsburgh, PA created a program called Harpy. The successor to Shoebox was much cleverer – it could identify a thousand words. So far, all progress had been made on campuses, but soon the first devices would make their way to the market.

The first tool available to the public came from the company Dragon and was called Dragon Dictate. The most important function of this tool was to convert speech into text. Although it could already work with an enormous number of words, it was not entirely without errors. One of the main disadvantages was that a sentence had

to be broken down into individual words for the words to be correctly understood. Another drawback was the extremely high price. If you wanted to buy this nifty device, it would cost you about 6,000 dollars.

Anyone who used Microsoft Office 97-2003 probably remembers the “smart” paperclip that popped up whenever you got a little “lost” in a document. “Clippy” had plenty of good advice and tricks, but could sometimes get on your nerves. Clippy could respond to pre-defined types of questions. Today's assistants are much more advanced. They aren't just able to identify a pre-defined command, but they try to understand what was meant by a given command.

Voice assistants as we know them today appeared on the market relatively recently. Apple introduced Siri in 2011, offering a combination of voice recognition, voice

synthesis and search results. Google was not far behind, coming out with Google Now one year later. Another well-known assistant that didn't take long to appear is Cortana from Microsoft. You'll also find voice assistants in smart speakers such as Amazon Echo or Google Home.


At KVADOS, voice control is also a relevant topic, particularly with respect to the introduction of artificial intelligence in warehousing or facilitating the work of sales representatives when checking stores.

Dr. E. A. Quade presents IBM's Shoebox system.



KEY





# ARTIFICIAL INTELLIGENCE IN THE WAREHOUSE

In the next five to ten years, artificial intelligence may fundamentally change logistics processes not only in warehouses, but throughout entire logistics chains. Together with Big Data analytics, the Internet of Things and 3D printing, it has a real chance to become a key mover in the industry. While logistics is still waiting for a major breakthrough in artificial intelligence, it is already being introduced into daily operations in other industrial sectors like engineering or the processing industry,, especially on manufacturing and assembly lines. The most compelling example of the real application of artificial intelligence in the automotive industry, for example, is undoubtedly the production of self-driving (autonomous) cars with the ability to learn.



The greatest anticipated benefits of applying artificial intelligence in logistics include the automation of all logistics and warehouse processes, predictive (and learning) management of operations, and the general development of robotization. Robots will simplify or completely take over routine, repetitive or physically demanding activities such as warehouse operations or transportation. This will ultimately lead to greater efficiency in logistics operations and lower costs, hence increasing competitiveness.

Improvements in artificial intelligence, its availability and lower implementation costs are largely due to the development of algorithms, Big Data analytics, cloud computing and improved connectivity in general. A condition for the further development of artificial intelligence and automation, not just in logistics, will be the expansion of a new generation of wireless networks, their standardisation, and of course, legislative support.

*The greatest anticipated benefits of applying artificial intelligence in logistics include the automation of all logistics and warehouse processes, predictive management of operations, and the general development of robotization.*

People will naturally remain at the heart of logistics, although robotization and software automation will change the way in which human resources are used in this sector. Repetitive and physically demanding activities will be supported by advanced technologies, enabling people to devote themselves to more meaningful tasks. It will also be necessary to create new work concepts to make the tasks of current and aging employees easier, but also to attract young employees and keep them in the field.





## THE IDEA HAS BEEN AROUND A LONG TIME

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The first mention of some kind of artificial assistants dates back to Greek mythology. Humans have been contemplating ways of making work easier since time immemorial. According to legend, Hephaestus, the god of blacksmiths fashioned his own mechanical servants such as the giant Talos, who was charged with guarding Crete. There is also the well-known story of Pandora, who Hephaestus created from earth and water and sent to men as punishment for Prometheus stealing fire from the gods. The first design similar to a robot was created by Archytas of Tarent in the 4th century. This was a mechanical bird powered by steam.

### Automation is here right now

Automation is nothing new in logistics. In recent years, warehouses have employed many technologies to take over an increasing share of warehouse operations, albeit these are often isolated systems. An example is the deployment of enclosed automated storage towers known as Kardex systems with vertical lifts to store and pick smaller parts. Another example is automated transport and sorting lines, semi- and fully automated pickers/stackers (unmanned carts) or entire transport (warehouse) trains that run through warehouses along magnetic strips in the floor or, more recently, using laser navigation. These automated solutions require investments of tens of millions of crowns and are not feasible for many small and medium businesses. But one thing that is worthwhile for nearly everybody today (even warehouses with just a few employees) is a transition from pencil and paper to management via mobile terminals (PDAs). When combined with even a simple WMS, this can significantly increase warehouse efficiency.

Automation in warehouses affects entire processes, but especially shipping. Here, emphasis is placed on precise timing (loading or unloading material and shipments within precisely determined windows of time) or planning and pooling shipments according to the physical dimensions of packaging to maximise the capacity of containers and vehicles, or to minimise transport distances. This is beneficial for both customers and carriers, who can better plan their shipping capacity based on online shipping data.

Big Data analysis can lead to more precise estimates of vehicle arrival times at warehouses based on the current situation (movement of packages, weather, traffic, etc.) and thus more precise planning of receiving warehouse operations. For example, an analysis of social networks helps estimate future customer demand, which is essential for modelling the flow of goods and more accurate supply of places near consumption (stores, distribution centres); at warehouses it helps optimise inventory – goods expected to move more are shifted to closer positions.

## TURING TEST

The question of how to determine whether machines are intelligent has troubled scientists for several decades. British mathematician and logician Alan Turing proposed a method of how to determine whether a machine thinks in 1950. The Turing test is conducted as follows: the tester sits in front of a screen, which he cannot see behind. On the other side is a person and a machine. The tester asks questions using natural language and the machine or the person answer randomly. If the tester is unable to tell whether he is communicating with a machine or person, then the artificial intelligence has passed the test.


## The importance of localisation is growing

Thanks to a number of advanced technologies, it is now possible to follow general movement in a warehouse and digitalise the position of all elements (workers, handling equipment, packaging and goods/material) and display these online in a digital map of the warehouse. This provides a very valuable resource for making further system decisions – it is possible to immediately respond by changing the tasks of individual warehouse workers to prevent conflicts or delays while at the same time maximising the use of staff and equipment without needless (empty) trips. Based on this online data, it is also possible to optimise the placement of packaging and warehouse goods and dynamically change system parameters to optimise warehouse processes. The data obtained can then be used in business intelligence tools to assess worker performance.

The most commonly used technology for the online location of warehouse elements is the current Wi-Fi network. Of course, more precise results can be obtained by using the new Bluetooth Low Energy (BLE) communication standard, which is ideal for connecting readers (signal receivers – “anchors”) and chips attached to

monitored objects. Chips are powered by regular button batteries with sufficient capacity for several years of operation. In this way, the location of warehouse elements can be determined within a few dozen centimetres. This localisation technology has great potential for the future and may significantly help identify bottlenecks and reduce operating costs and worker errors.





*We believe that vision picking will soon become a readily available technology that will increase the precision, speed and safety of warehouse operations*

### The near future

Systems and technology that “see”, “think”, “show” and “speak” for warehouse workers are almost within reach. While they are completely new to warehouses, we are already familiar with them in the automotive or gaming industries. These include smart 3D glasses that a warehouse worker can wear like normal glasses, or head-up displays installed in the field of vision of forklift drivers.

We believe that vision picking (“smart glasses”) will soon become a readily available technology that will increase the precision, speed and safety of warehouse operations, leaving workers “hands-free”. The glasses will be able to direct a worker, show him warehouse tasks and instructions or bar codes (through a built-in camera). They can be integrated into WMS systems as another work device, enabling online management and communication with workers. A user-friendly interface will display a worker's current “score” – so he will always be informed of his performance and accuracy in completing tasks (gamification). A study by DHL showed that the deployment of this technology increased performance by 15–25 %.

But, of course, the use of smart 3D glasses or other optic sensors goes even further – they can be used to scan location and handling units and assess dozens of parameters at the same time (condition of packaging, location capacity, they can perform automatic stock-takes, check incoming and outgoing items, etc.). All of this takes place outside the warehouse worker's normal tasks (while the worker performs his routine activities).

Of course, using 3D glasses will not always be the best solution. In some situations it may be better to project all necessary information for workers on warehouse floors or walls (video mapping).

Another useful technology is the use of 3D cameras to measure dimensions and distances and calculate volumes. It's possible to measure individual goods, packed items or shipping units. The system will receive the immediate information necessary to calculate shipping capacity or to optimise costs, if shipping is charged according to dimensions.

## Cobots – messengers of the future

It will probably still take some time before we see the deployment of cobots, (collaborative robots), although the first prototypes are already available. These devices will either function autonomously in designated work areas, such as unloading packages from a container, or in cooperation with warehouse workers, who they will accompany to perform demanding, dangerous or repetitive operations. Among the most widely used will undoubtedly be autonomous robotic carriers that will carry pallets without human operators.

A hot topic in logistics is the use of drones. The biggest players on the market are competing to see who will be the first to deploy drones in real operations and distribution (globally Amazon, or Mall.cz in the Czech Republic). Of course, experts admit that drones will initially be used in logistics not to distribute goods to end customers

(for legislative and safety reasons), but will more likely be limited to inspecting inventory in difficult-to-reach locations (high-bay warehouses) or vast outdoor complexes (inventory of empty pallets, containers or vehicles), where there is a better GPS signal and lower risk of collision.







## UNCONVENTIONAL USE OF ARTIFICIAL INTELLIGENCE

Can a computer paint a fine painting? It appears that artificial intelligence is also starting to make inroads in art. At an auction held this year in London, the first picture of its type was auctioned off for \$432,000. The work was titled Portrait of Edmond Belamy and was created by using an algorithm and data set of 15,000 portraits painted between the 14<sup>th</sup> and 20<sup>th</sup> centuries.

A combination of all elements has the greatest effect in WMS

Intelligent mySTOCK®

Each of the aforementioned principles and IT solutions help warehouses in particular areas (receiving, managing material flows within the warehouse, and shipping). Of course, they tend to have the greatest effect when combined in a single functional solution, a properly implemented WMS (Warehouse Management System). That is the most recent trend – customers not only want to connect classic warehouse management systems to their current ERP systems, but they also want to integrate them with various storage technologies (Kardex, conveyor and sorting lines, label applicators...) or deploy EDI communication including communication with carriers.

Regardless of warehouse technology, it makes the most sense to consider EDI communication. This is becoming essential in a number of industries and offers the advantages of immediate data transmission, process automation and minimisation of errors when overwriting data (data is guaranteed by the sender). The greatest practical benefits are achieved when receiving goods,

where EDI helps eliminate identification errors and generally improves capacity planning.

In conclusion, let's look at where we see the potential for developing our WMS systems (mySTOCK®) and significantly increasing benefits for our customers. Businesses are often unable to precisely define their processes so that they are optimal. Moreover, a single (optimal) strategy for storing or picking does not exist, because warehouse conditions are constantly changing (seasonality, fluctuation of workers, equipment outages, carriers' arrival/departure windows, etc.). This makes the design and production of a custom WMS more expensive.

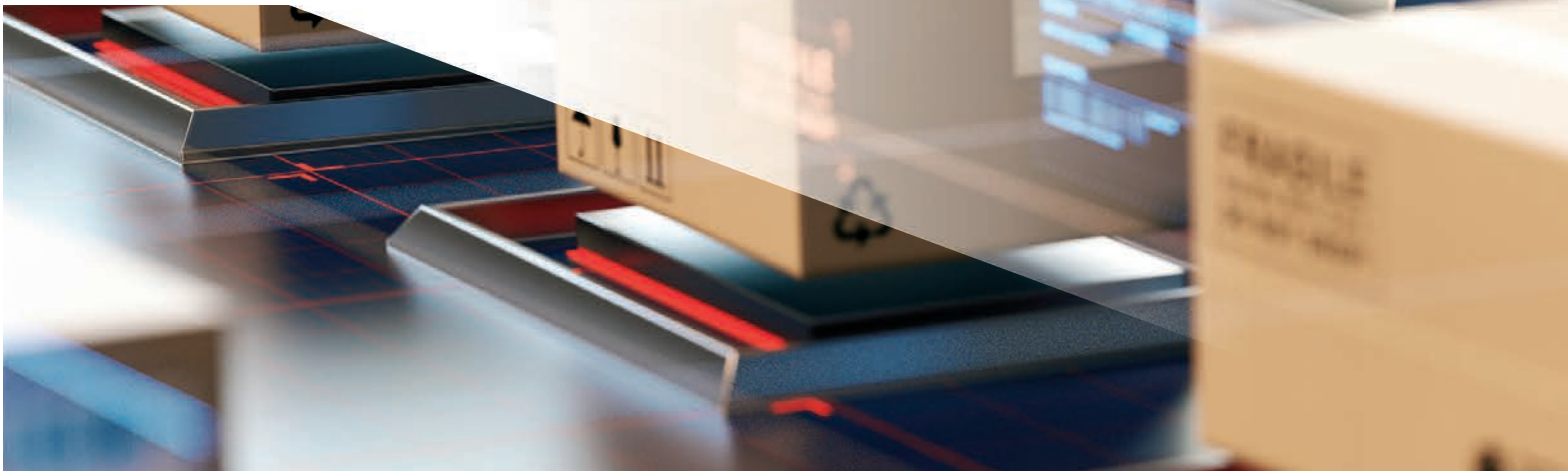
And if a business is able to define optimal warehouse processes and verify them with the assistance of an external consulting company (even this tends to be a problem), this is still only verification of the given model at a certain time with the given variables, which of course may change significantly in the future.

At KVADOS, we believe an intelligent WMS should be able to dynamically respond to every situation and automatically adjust control parameters (or propose changes to be approved by an authorised employee), to set current system behaviour and individual strategies (for storage, picking, etc.) and ensure the behaviour of the entire system (warehouse) is optimal. And what is optimal behaviour? Partial goals may differ for individual customers, but in general they all want to minimise total costs while maintaining the desired service level.

Our mySTOCK® WMS solution allows the parameters of all warehouse processes to be set manually according to the client's current needs and strategy, with subsequent assessment and possible changes. The goal is to create a system that learns. This means automatic assessment and adjustment of control parameters in real time to achieve better results: shorter overall times to prepare orders, minimum distance travelled by equipment, minimum number of workers per shift, minimum claims from customers (returns or damaged goods, damaged packaging) or minimisation of the number of shipments, which impacts total shipping cost. As part of this development, we are exploring the possible use of voice control in warehouse processes to free the hands of warehouse workers.

Customers often put a great deal of effort into fine-tuning individual processes, but they don't realise that the entire warehouse is only as effective or strong as its weakest link. Similarly, true success is not about cutting costs in just one area, but keeping total costs for managing and operating the warehouse to a minimum. We want the mySTOCK® system to continue serving you well in this endeavour.

*Customers often put a great deal of effort into fine-tuning individual processes, but they don't realise that the entire warehouse is only as effective or strong as its weakest link.*



## Examples of “smart” solutions from KVADOS in the field of WMS

### PEMIC BOOKS

Book wholesaler PEMIC BOOKS uses a robust, customised WMS that we developed and expanded, which includes the advanced online management of all system elements taking into account their current position in the warehouse (for example, the current position of crates on the conveyor, current position of shift workers, etc.), total work inventory and the priority of all tasks. The system intelligently and automatically sends workers and equipment to individual work areas, assigns tasks to the closest suitable employees and minimises downtime and empty trips.

### MARLENKA

Honey cake manufacturer MARLENKA launched the operation of a new automated refrigerated warehouse facility in 2017 (nicknamed the biggest and most expensive refrigerator in the Czech Republic), which is intelligently managed by the mySTOCK® WMS system. The second stage of the project is currently underway, in which WMS processes will be expanded into all production and warehouse processes to streamline them with respect to the current movements of raw materials and goods in stock.

### Démos trade and WT WINTECH

At Démos trade and WT WINTECH, we deployed systems to manage warehouse operations using Kardex-type automated storage systems that communicate with the mySTOCK® WMS system. Kardex supports optical navigation and everything is further integrated into a comprehensive system that assigns tasks to warehouse workers via mobile PDA terminals.





# NEW PLATFORM FOR ELECTRICITY

The myAVIS® service module designed to read household electricity meters has been used by ČEZ Group employees on a daily basis for many years. Since 2004 to be exact. Now the time has come to move the application to a more advanced and powerful Android platform. A project team under the guidance of Martin Hamala was up to the task.

The solution that made it possible to manage, plan, read and assess the amount of electricity consumed by ČEZ customer households and automatically send this data for further processing and billing functioned on a Windows platform to date. For a number of reasons, however, this no longer suited current needs and a change had to be made. The market is basically dominated by Android and iOS. The whole project started with the selection of a suitable mobile device that met all requirements in terms of performance, durability, availability and price. Finally, the decision was made to migrate myAVIS® to an Android platform and in January this year analytical work began.







In less than six months, the application was being tested by a select group of users and after incorporating their feedback, the myAVIS® system began operating on the new platform for the daily readings of all 30 employees in the Moravia region. *"I must say the members of the ČEZ Group testing team were quite precise and their feedback helped immensely when fine-tuning the application. When we launched full operations in early August, we weren't surprised by any serious complications,"* said Martin Hamala, who was also on hand when KVADOS and

the ČEZ Group began working together on reading electricity meters 14 years ago.

In the East Bohemian Region, the migration to the new platform took place in early September, and by early October they will be joined by all the other regions of the Czech Republic. In total, the change in user environment will affect roughly 140 end users.

*"Based on the feedback we've received, ČEZ employees are happy with the new user interface. Operation is simpler. For example, instead of clicking on a small control*





## THE ČEZ GROUP

The ČEZ Group is a leading provider of electricity in Central and South-eastern Europe. It is the largest producer of electricity in the Czech Republic and among the three largest producers of heat. In addition to producing and selling electricity, it is active in telecommunications, informatics, nuclear research, the design, construction and maintenance of power plants, mining raw materials and processing secondary energy products.

element, you can now just swipe the screen with a finger. After all the changes we've made, the system is much faster, which is particularly appreciated by people in the field," said Martin Hamala. In addition to the migration of myAVIS® to the Android platform, a number of other modifications were made to the infrastructure and the solution was connected to new servers. At the same time, the application required the implementation of all necessary GDPR-related tools.

Pavel Šuška was involved in the ČEZ Group project as a consultant, programmers included Radek Pindora, Radim Czopnik, David Grygar and Marek Pavlas, while testing and documentation were the responsibility of Ondřej Bochnák and Honza Kašpar. "Excellent cooperation with the ČEZ project team helped the entire project run smoothly" concludes Martin Hamala.

# KVADOS GATEWAY

MILESTONE

A request is understood as a wish, need, necessity, desire or interest. But in KVADOS jargon the word has one more special role and meaning. For us it's the gateway to communication. Once a request has been entered in our system, we know that we can help you – through consultation, modification or development.

## We communicate in a familiar environment

You can communicate your request to us in various ways. By telephone, e-mail or most often through our web portal. That's where we keep records of all customer requests. Our long-term aim is to display all collected information clearly, quickly and comprehensibly. Last year we concluded that the current portal is not entirely satisfactory in terms of what we expect from a modern communication environment. It didn't take long for us to decide that it was time to make a change.

But how to choose the right solution? There are so many technologies. The aim was to use a tool that would be familiar to both customers and KVADOS staff. A tool that would correspond to KVADOS products and be easy to navigate. We wanted to come up with something that users already knew, but that was also advanced and innovative. The interface of the new generation myTEAM® and myVENTUS® solutions gave us the answer we were looking for.

## New portal, new capabilities

The fact that we chose a tool from our own product portfolio to communicate with clients is a direct invitation for us to develop it further. The Extranet will certainly not be a closed system. The changes associated with developing myTEAM® will be incorporated into the extranet and vice-versa.

We should also mention a few of the new changes that we have already been able to implement in EXTRANET NG. One of these is the home dashboard that clearly summarises the status of requests. Work with requests takes place in panels that are neatly placed side by side. By using the “eye” you can tack them behind one another, if you always want to open them in a given order. Each panel is equipped with full-text search. You can use pre-set views from the dashboard for filters or select the desired filter from the menu. We have also significantly simplified the status of requests. This means that you always know

whether a request is being worked on, whether it's waiting for your approval, or whether we are requesting more information.

## Interrelated solutions

What applies in everyday life also applies to software requests. Many things are related and often build on one another, others repeat themselves or may be similar. At KVADOS, we've made it possible to “bundle” requests before, but now of course our customers will also be able to do this. Bundling requests is easy and can be done in two ways. A user can add a new request to an existing one, automatically linking the two. Or, two requests that have already been entered can be linked by using full-text search and then the “bundle” function. In both cases, the system lets the user enter the reason for bundling the requests. The user will either choose from a code list or enter a text description. When one request is resolved, the second related one is often also resolved and it's possible to test both that are directly related. This is a major benefit.

## Making and responding to requests

Some of our clients use the extranet as their own Service Desk for internal support. The extranet system is adapted for this and provides tools for those responding to requests and expands communication options. EXTRANET NG takes the same approach. The dashboard can display requests from the perspective of the person making or the person responding to the request.

## Still in development

The EXTRANET NG is currently in full operation for its first clients. You too can become a user. In doing so, you will be taking part in testing and the further development of the application. If you want to use the new extranet, just contact KVADOS support. We will provide you with additional information and set up a user account. We look forward to working with you in the new environment!



POP-UP


# CRETE

## Olive paradise

Women sit in front of a house, clothed in black despite the oppressive sun, talking together or attending the embroidery on their lap. The men will most likely be found sitting in one of the many cafés with a cup of coffee or glass of ouzo. Apart from its exceptionally relaxed atmosphere, Crete also offers beautiful beaches and priceless historical monuments.





An aerial photograph showing a vast, terraced olive grove on a hillside. The trees are small and green, planted in neat rows on a dry, yellowish-brown soil. In the background, the blue sea meets the shore under a clear sky.

However, no visitor should forget to visit the vast olive groves and sample the local olive oils, of which the islanders are extremely proud. Greece is the third largest producer of olive oil in the world. And perhaps this cornerstone of the Greek diet hides the secret to healthy living in the Mediterranean.

### **Native home of olives**

One theory claims that the cultivation of olives began on Crete 6,000 years ago. Today, over 35 million olive trees grow in groves, gardens and along roads. It is a very resilient and hearty tree that doesn't mind extreme cold, heat or drought, and thus can grow for many years. Of course, it grows slowly. It takes thirty years before you can expect a full harvest. Interestingly, some olive trees are over 2,000 years old.





## Winter harvest

Olives in Greece are harvested in November and December and the harvest employs the entire family. Harvesting is becoming more mechanised, but mechanically harvested olives are only used to make olive oil. The traditional way of harvesting olives is to shake ripe olives onto a large tarp under the tree. The olives are then stored in large containers, where they are soaked in brine.



## Green versus black

Perhaps you thought that there were two different kinds of olives, but that's not the case. All olives growing on trees are green. The difference is only in the amount of time they are aged. Green olives are not aged. Their colour changes gradually to yellow, red, blue and black. Some black olives are made from green olives once they are processed.







## Olives everywhere you look

It's said that every Greek owns at least one olive tree. The traditional blessing for newlyweds is: "May your home never lack bread, wine and olives." Olive oil is used for church rituals, during baptisms, weddings, funerals, for heating, light, and cooking, it is rubbed into the skin for medicinal and cosmetic purposes, and even olive wood is processed.



## A bit of history

In the ancient world, olive trees were highly prized. Most were the property of the state and could not be cut down. They were understood as a symbol of peace and wealth, the centre of life. Olive wreaths and branches were awarded to the victors in athletic competitions. Homer called olive oil liquid gold, while Aristotle and Plato philosophised about life in the shade of olive trees...

# A DYNAMIC HARDWARE AND SOFTWARE PLATFORM

## **Mobility Edge™**

A platform for Android Enterprise devices

In early 2020, Microsoft will end support for Windows Embedded operating systems. And since the majority of mobile terminals currently run on these systems, it's time to start planning a move. Android™ is continuing to gain users, but using multiple devices with various operating systems within a single company is quite ineffective in terms of administration time and costs.

One possible solution is Mobility Edge™. This uniform, dynamic hardware and software platform offers agile access to enterprise IT. Its manufacturer, Honeywell, also happens to be one of the leading

producers of Auto-ID technology, and has concluded technology partnerships with Google and Qualcomm for Mobility Edge™ products.

One of the main advantages of the Mobility Edge™ platform is faster and easier deployment with lower costs. This is largely possible thanks to the uniform chipset (System on Module). An application need only be certified once and can then be deployed on all devices with this platform. In terms of the development or certification of applications, testing, deployment and technical support, you basically just have a single product.

## **Integration of applications**

Honeywell has added a number of tools to help with deployment. These include Enterprise Provisioner, a free application enabling easy mobile terminal setup. You can use it to customise device settings, create commands or bar codes, define protection against unauthorised interventions, or install applications thanks to the built-in HTTP server. If you manage multiple devices, you can use the Staging Hub, another free application to organise and manage Honeywell devices running on the Android™ operating system (enables the administration of up to 400 Android™ devices).

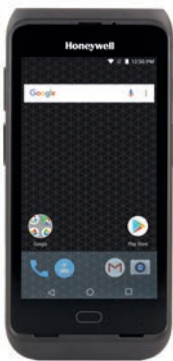


There's even an option to create a custom keyboard that meets your needs. Mobility Edge™ products significantly increase productivity and work efficiency. Built-in tools like the terminal emulator or Enterprise Browser help capture data more quickly and enable safe and easy communication. Users can use the Launcher program to allow company applications only.

## Mobile terminals

Honeywell Dolphin™ mobile terminals that run on the Mobility Edge™ platform enable all-day online operation and thanks to 4G LTE and Wi-Fi connections can send files faster and facilitate remote access to company applications. Thanks to the long battery life (ranging from 12 to 24 hours for individual terminals), employees

can stay online all day long. The rugged device can survive falls and the ergonomic design is ideal for everyday use since it fits right in your hand. Device durability is also enhanced with a Corning® Gorilla® Glass display, allowing for use both indoors and in the field. It can be easily operated with a finger, glove or stylus.



**Dolphin™ CT40** is a device suitable for retail, T&L and DSD applications, making it an excellent warehouse assistant. Users will appreciate the fast search for inventory on the shop floor or the immediate view of inventory in stock.



**Dolphin™ CT60** enables fast and precise 1D/2D scanning, and can also handle damaged bar codes with no problem.



**Dolphin™ CN80** is a model suitable for more demanding environments, where workers wear gloves. It is equipped with either a numeric or QWERTY keyboard for quick and easy data entry, and includes a touchscreen for future migration of applications. The battery lasts up to 24 hours.



**Thor VM1A** is ideal for use in forklifts. It features an 8-inch display with a hardware keyboard, easily replaced front panel and the Smart Dock unique solution for mounting on a forklift, which lets you retrieve or place the device on a forklift in just a few seconds.

In any case, the Mobility Edge™ platform is a good investment for mobile solutions, with the unique option to upgrade from Android™ N to Android™ R while retaining hardware and support until 2025.

PIOTR KOMOROWSKI:

# THE BAR CONTINUES TO BE RAISED

Since its establishment in 1989, the Polish company Bakoma has specialised in food processing. This initially involved onion farming, then processing fruit and vegetables. Today, the company focuses on processing milk and producing dairy products, and is the leader in this field on the Polish market. We spoke with the company's CEO Piotr Komorowski about trends in the dairy industry, as well as working with KVADOS.





**What led you to focus on dairy processing?**

This industry is both demanding and very rewarding. Producing and supplying the market with healthy, high-quality foods gives us great satisfaction. There is also a lot of room for innovation and the creation of new products and eating trends in the dairy industry. By supplying a wide range of products, we give consumers the opportunity to diversify their diet. Our products are available in a variety of ways and are very high quality.

**Today, Bakoma is the largest supplier of dairy products in Poland. What's the driving force behind this success?**

I would say four things are most important: high quality, a good product concept – with corresponding marketing, an affordable price and effective distribution.

*“From the beginning,  
we have tried to instil  
a relaxed and friendly  
atmosphere.”*

**Bakoma has also expanded to foreign markets since 2004. How many countries do you currently export dairy products to and how successful are you abroad?**

We currently export to ten countries; in Europe this includes Belgium, Great Britain, Portugal, and Hungary, with smaller shipments to Slovakia and countries in Asia like China and Thailand.

**You already operate in Slovakia. Will Bakoma be entering the Czech market anytime soon?**

We have always been a bit impulsive in offering our products on foreign markets and haven't had the opportunity to test the Czech market as yet. While we did work with a Czech company for over a year to develop two products, in the end both parties decided not to enter into a joint venture. Of course, we plan to introduce a product line on the Czech market in the future.

**The foundation of every company is reliable, qualified and motivated people. Have you been able to find enough employees on the Polish labour market?**

We have a very good team that we have put together over the past 20, actually 29 years. Some people have been with us from the very beginning. The company has around 1,200 employees, outstanding specialists. From the beginning, we have tried to instil a relaxed and friendly atmosphere. Of course, the situation on the labour market today is not easy, and like every company we need to hire new people. In certain professions it's more difficult, although our guiding principles help us overcome these problems.

**Bakoma takes great pride in the first-rate quality of its products, which undoubtedly means investing in quality technology, but also carefully monitoring the quality of raw materials. Which suppliers of milk or fruit do you work with?**

The high quality of our products is certainly due in part to the high quality of the ingredients we use. Over the years, we have built up a wide range of trusted suppliers of both milk and fruit. We also recently entered the organic products market with full ecological certification. We use state-of-the-art quality control technology in every phase at the company, and hold numerous certificates including ISO, HACCAP, BRC, CHIC and RCT certification. Our suppliers are mainly private farmers and growers.



## BAKOMA

Founded in 1989, Bakoma has become the largest Polish producer of dairy products, and has also established a major presence on foreign markets since 2004, when Poland joined the European Union. All products are produced from premium milk and the best quality fruit. The company continually modernises its production lines, seeks the best technological solutions, and introduces innovative natural products to offer customers the highest quality and best taste.



*”myAVIS is a very functional system that has fundamentally improved the flow of information and also increased our sales.”*

---

**Have tastes changed in Poland over the nearly thirty years that Bakoma has been producing dairy products?**

There are undoubtedly certain trends that have shaped the market. In the early years, sales were dominated by fruit yogurts. In recent years, there has been an increase in the sale of plain yogurt. Before that, quark and dairy desserts had their five minutes of fame, and right now yogurt drinks are very popular.

**There is quite a wide variety of dairy products with different flavours available today. Is it even possible to come up with something new?**

Certainly – there are still plenty of opportunities, but the bar continues to be raised.

**Bakoma has been working with KVADOS for a number of years; your sales representatives use the myAVIS solution when working in the field. Looking back, in what way has this application been beneficial for them?**

It's a very functional system that has fundamentally improved the flow of information and also increased our sales.

Another joint project was the implementation of the myAVIS solution to manage “van selling”, where the driver gets detailed information on his PDA about the planned route, delivery conditions, and amount to be collected for deliveries. How has the myAVIS system performed for over 350 employees?

It was a good choice – we have been very happy with our cooperation with KVADOS on our distribution system. We deliver goods directly to twenty thousand stores, which means it's vital to have a reliable, functional system like myAVIS. It's quite effective at handling all new sales challenges, because, as we know, product lines and sales environments change.

*”It was a good choice – we have been very happy with our cooperation with KVADOS on our distribution system.”*

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**In your opinion, what trends will be most important for the dairy industry in the near future? Do you see any opportunity for further cooperation with KVADOS within these trends?**

Innovation is the driving force behind development. Individual purchasing systems continue to gain followers and the greatest motor behind these changes is the internet. I believe that in the future, online shopping and services like individual diets, recipes and all the necessary ingredients, including dairy products, will open up and are already creating new areas of opportunity for companies like KVADOS and Bakoma.

# THE VOICE AS A POWERFUL TOOL

I often think about the direction new technology will take in the coming years. I'm certainly an IT fan, I love the latest gadgets and I follow all the trends. Of course, advanced technology has long ceased to be the domain of just a small group of developers and visionaries. It's becoming increasingly embedded in the fabric of our daily lives, surreptitiously surrounding us in our homes, workplaces, on the road and at play. It's driven by a simple idea – to make life easier.



Smart technology responds to simple commands and knows how to automate many tasks. Just click or touch the screen a few times and you're done. But what about freeing your hands entirely? If you teach software to respond to voice commands, it could be a snap. This evolution started with the conversion of text into speech. Thanks to voice synthesisers, people with impaired vision could, for example, gain access to written documents. Gradually, however, technology has learned to do much more than just convert written symbols into spoken words. It can recognise speech and respond to commands. Imagine that you're heading home, and since everything is "smart" today, you have a smart car and a smart home. Naturally, there's a security system that constantly guards your house. You can navigate, make phone calls or listen to music by voice. On the way home, you turn on the heat and hot water remotely.

Once at home, just a few voice commands turn on the lights or play your favourite tune. Not long ago this would have been a scene from a sci-fi film, but today it's commonplace. That reminds me that the first intelligent car I remember was KITT, controlled by the voice of Michael Knight.

For KVADOS, voice control is not just a question of following trends. We are seeking areas in which this technology could be truly helpful. For example, if a warehouse worker's receives tasks through a headset, his hands will be free to handle goods. We are presently incorporating artificial intelligence into our WMS solution, mySTOCK®, and would like to introduce this new approach next year. Voice control could also considerably simplify the work of sales representatives when checking goods displayed in stores. That's why we will be adding this capability to the KVADOS CRM solution myAVIS® soon.

So, where else will development take us? Today, computers are already learning to interpret foreign languages in real time. Soon you will be able to have a remote conversation with a friend in Norway, even though you don't speak a word of Norwegian. Of course, as in all other areas, the development of technology depends on the goal. Whether it's to make work easier and increase the quality of life, or consolidate power. The ability to listen to and identify speech in real time could be used by governments to prevent terrorist attacks, but do we really want them eavesdropping on our everyday conversations? And what about the misuse of data for commercial or political purposes?

**Antonín Vaněček**  
Director of Research and Development



A portrait of Miroslav Hampeš, a man with short dark hair wearing a blue and white checkered shirt, set against a solid red background.

MIROSLAV HAMPEŠ'S STATION

# A CHATEAU FEAST IN PETROVICE

For today's culinary stop, I would like to invite you to a chateau in my native region. Specifically the Chateau Petrovice restaurant. Like many other buildings in the Karviná region, Chateau Petrovice is associated with the aristocratic Larisch family, who owned it for quite some time.







The chateau was painstakingly restored to its original appearance by successful entrepreneurs from the nearby TRESTLES company, who purchased the building in 2012 and carried out extensive renovations. They also attended to the adjoining park and driveway, which have also undergone significant changes. But before I invite you to take a seat at the local restaurant, whose kitchen is currently run by head chef Pavel Čadil, I first suggest a walk through the magnificent chateau park. A lovely stroll beneath the towering trees will also take you through a permanent exhibition of sculptures by Blanka Matragi and a piece by Alexandra Kolářková.

### Local delicatessen

But let's get down to culinary business and shift our attention to some good food and drink. As I mentioned in the introduction, the menu here is

compiled by head chef Pavel Čadil. The food features local produce and changes with the seasons. Pavel places a premium on quality Czech ingredients and doesn't needlessly overwhelm the food with artistic creations. Of course, he does enjoy preparing well-known dishes a bit differently or likes to add something unconventional.

After perusing the menu for several minutes, I decide on a warm appetizer of foie gras prepared from sautéed goose liver. The geese have been specially fed for this dish. This delicacy is subject to passionate discussions today, but I, for one, am a fan. To bring out the flavour it's good to add something sweet, in this case onion marmalade did the trick. I was accompanied by my wife Hanka, who chose the same appetizer, so I can't comment about the rest first-hand. The beef tartare or



a version with oysters sounds enticing, as do the pork rillettes or pumpkin gnocchi with goat's cheese, spinach and cherry tomatoes.

### Cod with mussels

I'm "old school", so no meal is complete without soup. The menu offers strong consommé, traditional potato soup, or Thai Tom Kha Gai soup. I opted for the seasonal roast pumpkin soup and was very happy with my choice. It was seasoned with cardamom, a spice from the ginger family originally from India, and coconut milk. The final impression was accentuated by hot peppers I believe, excellently combined with roasted pumpkin seeds.

Over a glass of white Riesling from the Mikrosvín winery, we waited serenely for the main course, cod fillet with mussel risotto and crustacean sauce. For many years



cod was among the fish that I overlooked somewhat. It was not until I went to Norway and had the opportunity to pull one out of the sea myself and enjoy it a few hours later that it found a place on my menu. Of course, it has to be really fresh and I prefer it caught on the rod. And if the fish is longer than 80 centimetres, ideally one metre, then there are several centimetres of white steak behind its enormous head near the spine, which when well-prepared simply melt in the mouth. And it was my lucky day at the Chateau. The mussel-flavoured risotto was an excellent accompaniment to the tasty white meat. I personally would have left the crustacean sauce out of the recipe, because it slightly overpowered the flavour and changes the ideal viscosity of the risotto prepared in the Italian style. The three-course meal left me pleasantly sated, but

not stuffed, so I decided not to have any dessert. The cherry on the cake was an excellent espresso served with all the regalia – whipped hot milk, several kinds of sugar, and a small biscuit.

For her main course, my wife chose a different delicacy, roast Barbary duck breast. The original side of cabbage ragout with bacon and roast chestnut dumplings was changed to grilled vegetables at her request. The cabbage remained and put a pleasant spin on the commonly used vegetables. Prepared to medium plus, the duck retained a juicy flavour, pink colour and a slight crunch in the mouth. The skin was roasted to crispy perfection. I can attest to the excellent flavour first-hand, since Hanka and I have the habit of tasting each other's dishes.

If your mouth is already watering, then this article has done its job. I can certainly recommend a visit to this exceptional restaurant and don't forget to enjoy the enchanting surroundings. Whether you come for a Sunday lunch or romantic dinner, I'm sure that you will be as perfectly satisfied as we were.

**Restaurace**  
**Zámeček Petrovice**  
 Prstná 1, Petrovice u Karviné  
 49.9018978N, 18.5513350E  
 +420 606 740 810  
 info@zamecek-petrovice.cz  
[www.zamecek-petrovice.cz](http://www.zamecek-petrovice.cz)

## JAPANESE WHISKY

APPETITE

# KAMIKI

The story of Kamiki whisky begins far away in the ancient Japanese city of Nara, a place of spiritual and physical harmony. Nara was the capital city of Japan in the 8<sup>th</sup> century and has retained some of its importance to this day. It is a popular destination because of its many magnificent temples.

One of these is Ōmiwa, one of the oldest Japanese Shinto shrines. It lies at the foot of Mt. Miwa, a sacred mountain worshipped since antiquity as the seat of God. The name Kamiki is inspired by the fresh breeze blowing from the holy mountain, as “kami” means “God” in Japanese and “iki” means “breath”. Nara is also home to many well-known family producers of alcohol who maintain a centuries-old tradition – their alcohol is served as a blessing in Shinto shrines. Kamiki whisky celebrates the timeless history of alcohol in the region and exemplifies the harmony of Japanese nature and artisan craft.

The whisky itself will captivate you with its perfectly balanced flavour and tones of heather honey, sweet caramel, Japanese plums, oak and peat. You can also detect the aroma of sandalwood and a touch of green tea in the finish. Kamiki whisky is produced in limited batches and has won a numerous awards at international competitions. It is made with rare Japanese malt whisky, the finest malt whisky in the world, and the highest quality spring water. It should also be noted that the whisky is not cold filtered. The final Kamiki blend (Blended Malt Whisky) is aged in Japanese cedar barrels, refining the taste to perfection.

### Where can you find this exceptional whisky?

Global Wines & Spirits  
Václavské nám. 53, 110 00 Praha 1  
+420 221 965 217, [eshop@global-wines.cz](mailto:eshop@global-wines.cz)  
[global-wines.cz](http://global-wines.cz)





ESENCE

# "8" - A SYMBOL FOR THE ULTIMATE EXPERIENCE





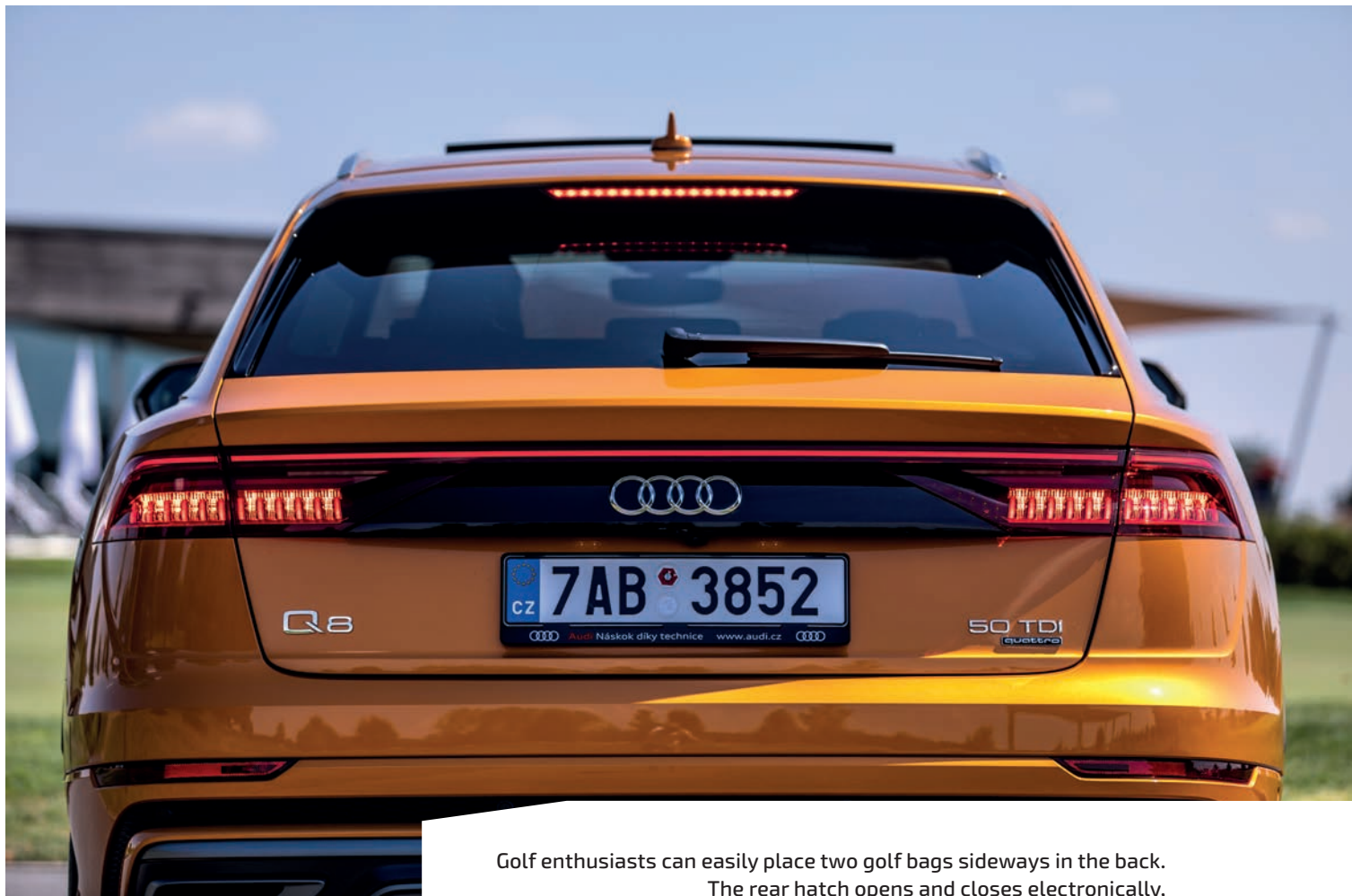
**The new Audi A8 is the clear choice for anyone who longs for the consummate luxury sedan. The Audi R8 is the sportiest Audi in the current product portfolio of the famous four-ring brand. Audi Q models now also have an “eight” in the family.**

The Audi Q family previously consisted of the Audi Q2, Q3, Q5 and Q7 models, which are traditionally very popular with Czech buyers. However, the Ingolstadt manufacturer recently experienced dynamic growth in the popular SUV segment, now headed by the new Audi Q8, which as a crossover combines the practicality and spaciousness of an SUV with the dynamic and attractive lines of a sports coupe.

Compared to the Audi Q7, the new Q8 is shorter, lower and slightly wider, but both models share the same wheelbase. This means that the generous room for passenger and their luggage hasn't changed dramatically in any way. Indeed, this is evident from the manufacturer's official data on luggage space, which is 605 litres in the basic configuration, increasing to 1,755 litres after folding down the back seats. Golf enthusiasts will certainly appreciate the ability to fit two golf bags sideways in the back. Access is facilitated by a rear hatch that opens and closes electronically, even touch-free on request, thanks to a sensor that detects leg movement beneath the rear bumper.

### **Classic luxury**

The interior of the new Audi Q8 is a real eye-catcher with its remarkable blend of innovative technology, minimalist design, classic luxury materials and renowned painstaking craftsmanship to even the smallest details. The layout of the dashboard and controls clearly says the driver is in charge here. A slew of advanced assistants at his command, willing to help with driving or prepared to step in at any sign of danger. Comfort, safety and dynamic driving are writ large in the construction of the new Audi Q8.



Golf enthusiasts can easily place two golf bags sideways in the back. The rear hatch opens and closes electronically, even touch-free on request.

All functions are easily controlled with the most advanced 10.1" and 8.6" MMI touch displays with haptic feedback and the flat structure of all menus. The layout of controls can also be customised to meet the driver's needs.

The MMI Navigation Plus multi-media system with LTE Advanced fast Internet connection also attests to the car's flagship standing. The navigation system works with artificial intelligence and can predict destinations based on previously travelled routes. Another innovation that fundamentally defines the user space is the Audi virtual cockpit, a digital instrument panel with a 12.3" display controlled on the multi-function steering wheel. By pressing a button, the driver can replace the classic instrument panel with a map display for easy navigation.

### **Dynamic and economy**

The first version of the new Audi Q8 to hit the market will be the 50 TDI quattro tiptronic. This has a three-litre, six-cylinder diesel under the hood, complemented by an

innovative, mild-hybrid drive system. Thanks to a powerful generator, the Audi Q8 can recover a relatively large amount of kinetic energy when braking, which is stored in a compact battery for later use. In addition, the dynamic SUV can maintain its inertia with a disengaged engine from 55 to 160 km/h and when stopping, the start-stop system can shut down the engine at 22 km/h. Everything works so smoothly and seamlessly that the driver hardly notices the mild-hybrid system. The diesel engine, itself quite refined, is also perfectly insulated from the interior and always starts very quickly and comfortably.

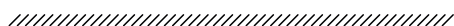
During normal driving, the mild-hybrid system in the Audi Q8 saves up to 0.7 l/100 km. The official figures on combined fuel consumption are 6.6 to 6.8 l/100 km. That's truly remarkable economy for a car of over two tonnes that, in addition to its refined, unmistakable style, also offers the highest level of safety and luxury combined with sporty handling.





The interior is characterised by a blend of innovative technology, minimalist design, classic luxury materials and renowned painstaking craftsmanship to even the smallest details.

## You can purchase a Audi Q8 at



Authorized Audi dealer  
**Porsche Brno**  
Řípská 13a  
Brno  
+420 548 421 122  
[www.porsche-brno.cz](http://www.porsche-brno.cz)



4 986 mm

2 995 mm



1 705 mm

1 995 mm

### Audi Q8 50 TDI quattro tiptronic

Engine	3.0 TDI MHEV
Transmission	tiptronic
Capacity	2 967 cm <sup>3</sup>
Cylinder	V6
Maximum power	210 kW (286 PS)
Maximum torque	600 Nm
Maximum speed	245 km/h
Acceleration 0–100 Km/h	6,3 s
Axle drive	both/quattro

# IN THE WILD WEST

At KVADOS, we know that life is not just about work, and that people get to know each other best when they meet in an informal setting and have some fun. That's why we plan regular events for our employees, who always turn out in great numbers. One such event is our traditional myDAY gathering, which took place on a ranch in Kostelany this September.



Who doesn't remember films from their childhood where Winnetou and Old Shatterhand stood side by side like brothers! We wanted to relive those times and experience some adventure with them for at least one day.





In the Wild West every little boy could crack a whip, and all the local girls could hit the bullseye with an arrow. Law and order was kept by the sharp eyes of the sheriff, who was ready to draw his Colts at any time.



The evening entertainment took place at the local saloon, accompanied by Can-Can dancers. We dusted off old cowboy hats and put on Indian headdresses. It was a wild night!



# WE DEVELOP SOFTWARE.



We are a software company that has been operating on the market since 1992. We develop and supply software to 12 countries all over the world. We believe the successful operation of every business is founded on the right processes customised to meet the client's needs. We invest 10% of turnover each year into research and development. Some of our satisfied clients include ČEZ, Henkel and L'Oréal.

**KVADOS®**  
SOFTWARE SOLUTIONS

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