Civitas Sapiens 2019

Smart City Conference, Hungary

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Smart City Conference, Hungary

19 September 2019
National University of Public Service,
Ludovika Campus – Education Center

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„SMART Pitching”

Exhibitors

artificial intelligence coalition

AI CHALLENGE

Get ready for the first AI challenge in Hungary!

Learn about the basics of Artificial Intelligence.
Earn an AI Certificate.

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By the end of 2020, 1 million Hungarian people will be able to learn about AI-based technologies and 100 000 can take a basic course in AI.

digital success programme

Welcome Speech by Dr. Bence Tuzson, State Secretary for Public Services at the Prime Minister's Office

The Hungarian Government is committed to **turning Hungary into one of the most liveable countries in Europe by 2030**. In order to achieve this, we must implement large-scale developments in several areas. These developments need to be carried out systematically, with a complex view as opposed to individual, isolated developments to ensure that each region in the country can progress at the same scale. Our towns and villages, the built environment convey intangible, aesthetic and human values. They symbolise our nation, our history, something we can proudly identify ourselves with. However, in addition to our existing values, we need to create innovative solutions and developments that are responsive to unique needs and can **help to improve the quality of life of local communities whilst improving their competitiveness as well**.

DR. BENCE TUZSON
State Secretary for Public Services,
Prime Minister's Office,
Chief Patron of the Conference

It is crucial that our towns and villages continuously improve the quality and efficiency of their services in line with community needs. We have to ensure that these services used or requested by local people and communities are delivered as fast and efficiently as possible while also considering environmental aspects. When designing the Smart City System, care should be taken to secure appropriate data collection to ensure that there is enough data available to help public stakeholders make good decisions. **Artificial Intelligence has to be involved in public decision-making**, including the preparation phase and, if necessary, the whole mechanism has to be reorganised in a way to suit our new, data-driven world.

The Smart City Conference provided an excellent opportunity to identify tasks ahead of us and to coordinate proposals for intervention.

https://onkormanyzati.tv/globopolis/2019_szeptember_19?pos=1327

Introduction to Civitas Sapiens

Civitas Sapiens works to **realise the goals set in the Digital Success Programme 2.0 in relation to smart cities and urban development**. This fits well into the original goals of the Digital Success Programme to make every citizen and business in Hungary a winner of digitalisation.

The Smart City concept builds on grouping services (decision mechanisms, ICT solutions) in line with development priorities of **sustainability, efficiency and participation**, typically through the integration of digital technologies and urban services.

Smart City priorities involve improving the quality and efficiency of urban services, saving energy and other resources, increasing participation and quality of life of citizens and creating economically sustainable systems. In order to achieve these goals, Civitas Sapiens develops trainings and sets up projects to enhance the digital development of Hungarian towns and villages.

Orsolya Biczi (Ministerial Commissioner, Prime Minister's Office), **Dr. János Danó** (Digital Success Programme, Head of Smart City Division), **Péter Mikulák** (Marketplace Leader, Civitas Sapiens Workshop) and **Marcell Tóth** (Civitas Sapiens Workshop) in the exhibition area of the Civitas Sapiens 2019 Smart City Conference

Our trainings

Digital Area Development Specialist

This is the main training of the Civitas Sapiens Workshop and the first comprehensive post-graduate Smart City Training Programme in Hungary, providing a degree for successful participants. **It aims to produce specialists with comprehensive knowledge of digitalisation in settlements and the criteria and practices of making a smart city.** Those attending the course will have sufficient knowledge to launch and implement smart city projects.

The next course will start in Autumn 2020. Deadline for application: 15/09/2020.

www.edutus.hu/oktatas/szakiranyu-tovabbkepzes/digitalis-tersegfejlesztes/

Digital Area Development Executive

NEW!

This is the simplified online version of our **Digital Area Development** post-graduate training, targeted for practitioners and decision-makers in small towns and villages. **The whole training is delivered online through webinars**, both the teaching and the evaluation part of the course take place using modern digital technologies. It aims to produce specialists who can **identify and assess possibilities for urban development and consciously apply the experiences gained at the course while performing or supporting leadership tasks**. Since they are aware of the principal theory and practice of digitalisation, smart cities/villages and the related institutional system, they can take part either as decision-makers or specialists in the management of processes.

Deadline for application for the Autumn 2020 course: CONTINOUS.

www.edutus.hu/oktatas/felnottkepzesi-programok/digitalis-tersegfejlesztesi-referens-webinariumi-kepzes/

Degree Ceremony at the Conference

The conference hosted the Degree Ceremony for the graduates from the **Digital Area Development Specialist post-graduate training** initiated by the Civitas Sapiens Workshop. The training, launched in 2018, was implemented in cooperation with the **Hungarian National University of Public Service**, **Moholy-Nagy University of Art and Design** and **Edutus University**. The certificates of the 35 graduates were handed over by *László Vígh PhD*, Deputy Rector for Scientific and International Affairs of Edutus University and *Dr. Gábor Kovács*, Deputy Rector for Education.

The first graduates of the programme finished in 2018/2019, the second cohort of the programme started their studies with 17 “smart” subjects on 20 September 2019, one day after the conference.

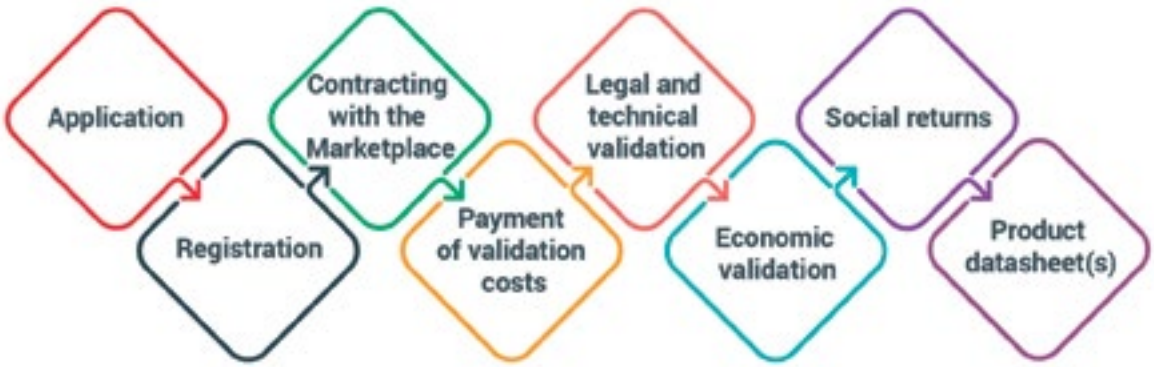
The Marketplace

The Civitas Sapiens Smart City Marketplace is an info communication platform that allows access to **validated and quality-assured suppliers and products**, primarily for municipalities, public sector institutions and businesses. The platform showcases mainly Hungarian solutions, providing a space for Hungarian small and medium size enterprises to present themselves. Its goal is to support smart city projects across Hungary.

The Marketplace is a **complex software solution** for developers and suppliers to present their smart city products and buyers to learn about the detailed features of the products.

In order to be featured in the Marketplace, products must pass through a validation process. **This quality assurance involves the technical validation of the product**, the assessment of economic and financial impacts of its use (e.g. investment and operation, sustainability, return on investment), the assessment of social impacts and the legal validation of the company and the product.

Following the quality assurance, a smart city **product datasheet** is created containing all relevant information about the product in an easy to use format. Based on this **shared and validated** information prospective buyers can make sound decisions on purchasing certain products.



Marketplace vendor and product validation process

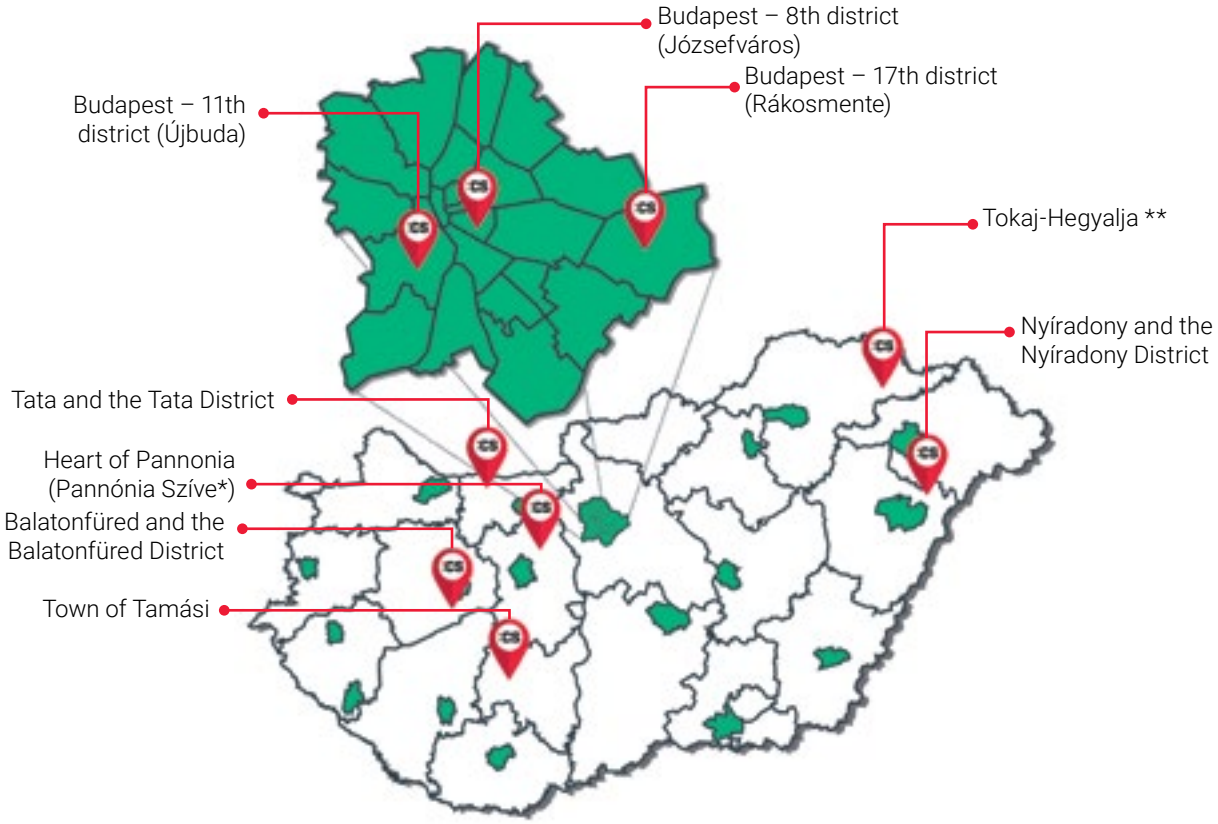
Smart Cityshowcase projects 2019

The showcase projects of the Digital Success Program are based on **sociometric research** and the **assessment of local demands** by involving **user communities** and identifying **specific directions** for development.

This methodology can serve as a model for (Smart City) municipal developments: a data-based, integrated development considering the size and demands of the user groups, the financial and sustainability aspects of the project and the unique context of the settlement. Smart city developments can be implemented in all sizes of towns/villages or regions, not only in the context of big cities. During the research the following tools were applied:

- public surveys – sustainability, digitalisation, smart city focus
- processing of secondary data – examination of the administrational, economic, technological and social context of the town/region based on statistics
- inventory of existing smart city related developments
- processing of development plants already adopted
- interviews – local decision-makers, institution leaders, civil society organisations
- use of Marketplace results – products, costs calculations, economic sustainability, social impacts
- measurement of the level of digitalization

The showcase projects have been implemented at nine different areas in Hungary.



*: Lake Velence and the Lake Velence Region, Valley of Vál, Vértes Regional Development Council's area of authority
**: Tokaj Wine Region Development Council's area of authority

The Digital Export Development Strategy of Hungary

Due to the high level of professional trainings and expertise of Hungarian professionals, Hungary has a traditionally **strong presence in the digital market**, which was further boosted by the establishment of the **Digital Success Programme** in 2015. **Today the digital economy represents over 20% of GDP and employs almost 15% of the active workforce in Hungary.** With this high contribution to the national economy, **Hungary is among the leaders in Europe** together with Great Britain, Ireland and the Nordic states.

The **Digital Export Development Strategy of Hungary (DEDS)** was adopted by the Government in Government Decree 1491/2016. (IX. 15.) with a view to achieve a strong increase in the exports of value-added digital products. The main goal of the Digital Export Development Strategy is to support the access to foreign markets for digital solutions specified in the strategy and the improvement of export activities for the developers and users of these solutions, predominantly small and medium sized IT companies.

The export growth of the digital economy is of national strategic importance. Understanding and using the digital sphere is **a key to the economy of the future** – without this a serious long term economic presence is unimaginable. The scene already creates a large number of attractive value-added **jobs for young people**, stimulates **domestic digital innovation** and through the use of Hungarian knowledge and innovation **improves the perception of Hungary abroad** – now and in the future.

The operative unit of DEDS is the **Digital Export Development Centre**, which – with the aid of participating **economic attachés** – presents the programme to stakeholders in other countries and searches for **potential partners** for Hungarian businesses registered in the programme to **improve their export activity**.

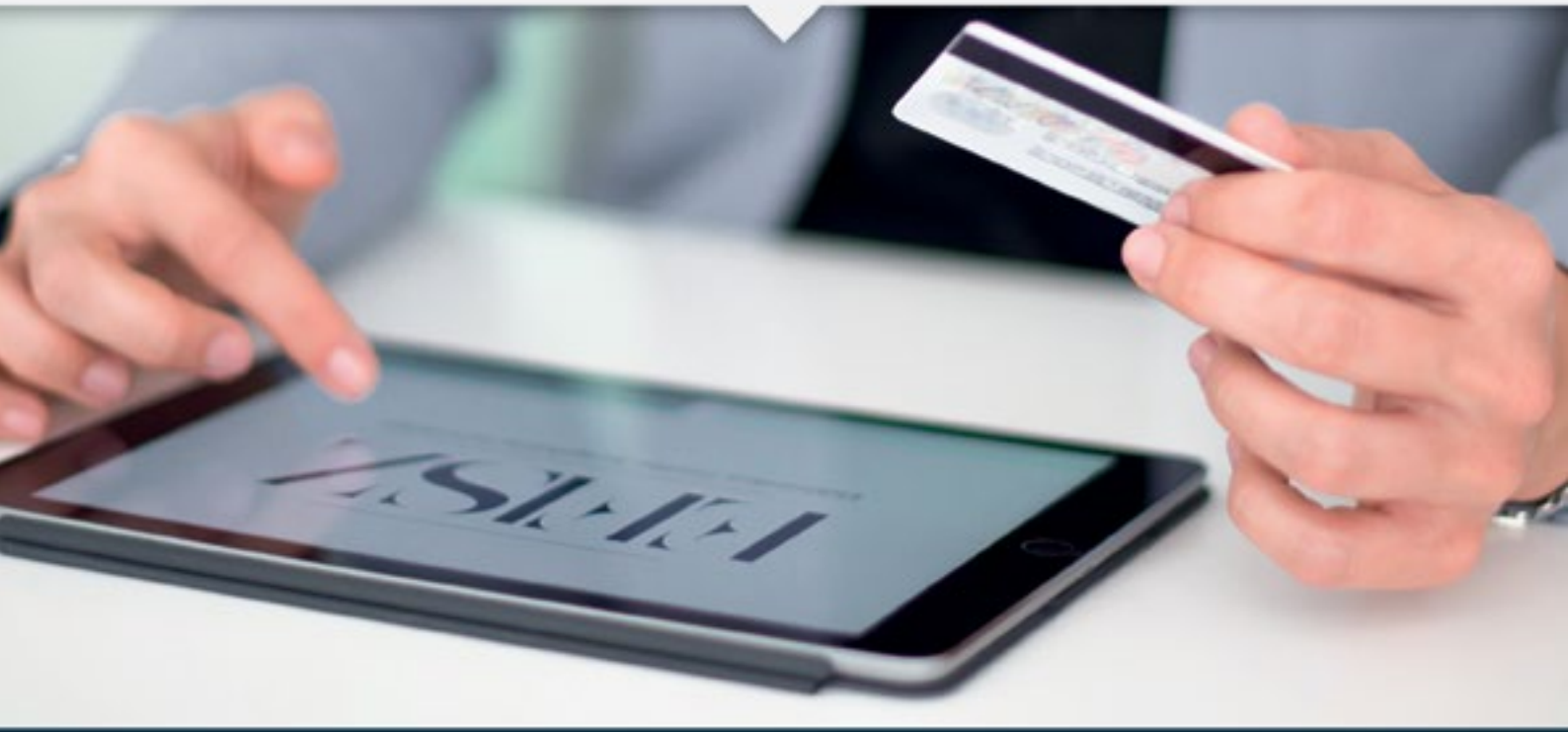
https://digitalisjoletprogram.hu/des

EFISZ

Electronic Payment Service Providers Association

THE ELECTRONIC PAYMENT SERVICE PROVIDERS ASSOCIATION PERFORMS THE FOLLOWING DUTIES:

- To support the improvement of the Hungarian non-cash, electronic payment ecosystem and the development of new service and business models (new value chains).
- To support the cooperation of Hungarian non-cash, electronic payment service providers and decision makers
- Facilitation and improvement of domestic and international professional cooperation in the electronic payment value chain
- To support the education of the public about the use of non-cash, electronic payment services
- To develop a role of continuous coordination in relation to the introduction of non-cash, electronic payment services in public administration and services
- To create the Code of Conduct of Electronic Payment Services, which is of great significance from a consumer protection aspect as well, and to monitor the implementation of the principles set out therein
- To develop the Electronic Payment Strategy with the involvement of industry operators (government and financial stakeholders)



SMART URBAN FURNITURES TO SMART CITIES

Important benefits for municipalities and residents

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Bike rack
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Safety

Our solar benches are equipped with a variety of safety features.

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www.acelkft.hu
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Civitas Sapiens 2019

Smart City Conference

19 september 2019

www.youtube.com/watch?v=YmR9sEdVfsU

Civitas Sapiens 2019 – Smart City Conference

400 participants, 2 countries, 6 breakout sessions, 35 speakers and 28 smart city exhibitors – the essence of the first Civitas Sapiens Conference in figures. In 2019 the Guest Country was Poland so attendees could have an insight into Polish smart city solutions as well as user and provider experiences. The conference also hosted the Degree Ceremony of the graduates from the Digital Area Development Specialist post-graduate training initiated by the Civitas Sapiens Workshop.

At the plenary session of the conference *Dr. András Koltay*, the rector of National University of Public Service and *Dr. András Levente Gál*, the Program Leader of the Digital Success Programme signed a Memorandum of Cooperation to reinforce the results of collaboration between the university and DSP. As laid down in the Memorandum, the experiences gathered by the Digital Success Programme will be part of the university teaching while the university's research activity will support the operation and development of the Programme.

Following the plenary presentations, stakeholders interested in digitalisation and urban management could exchange ideas and good practices in six workshop sessions. At the smart pitching, attendees had the possibility to evaluate smart solutions by voting. These smart solutions were also displayed in the large exhibition area of the conference, where attendees could try them out.

The next section presents the plenary speeches and presentations, the workshops, the smart pitching and the exhibitors of the 2019 conference.

https://onkormanyzati.tv/globopolis/2019_szeptember_19?pos=0

Speech by Dr. Károly Balázs Solymár, Deputy State Secretary for Digitalisation at the Ministry for Innovation and Technology

Digitalization processes in Hungary

Regarding the deployment of broadband infrastructure, Hungary is among the global leaders but if we look at the Digital Economy and Society Index (DESI) ranking, which measures the performance of digital economy, digital skills and e-government services in addition to connectivity, we can see that Hungary is below the EU average. This contradiction highlights that although our broadband coverage is among the best in the EU, the users – small and medium enterprises and citizens – do not have sufficient digital skills. We have recognised that one of the greatest challenges the Government has to face in the next period in the field of digitalisation is to prepare small and medium enterprises for the digital age. We must allocate appropriate resources for developments to show even to the smallest businesses in Hungary that without the use of digital technologies they cannot improve competitiveness in the 21st century.

The DESI results also reveal that 16% of the Hungarian population has never used the internet, compared to 11% of the total EU population, meaning we have important tasks in this respect as well. It has to be pointed out that without digitally competent citizens we cannot talk about smart cities: it does not matter how many intelligent solutions we have if people do not have the skills or confidence to use them. Therefore, with a view to boost digital skills, the Ministry for Innovation and Technology has so far financed the training of 180 000 adults from EU funds and has set up 1500 Digital Success Points across the country. The infrastructure developments will continue in the next years, as 5G is coming after 4G. Hungary's 5G Strategy is ready and will be soon presented to the Government. Artificial Intelligence (AI) attracts even more attention, which is no wonder as AI will be present at all levels of society, including the Government. Digitalisation is no longer only a question of competitiveness but sovereignty as well – addressing this issue will be a priority task in the coming years.

https://csc-bp.hu/hu/tartalom/media

https://onkormanyzati.tv/globopolis/2019_szeptember_19?pos=0?&type=1&w=530&h=330&agendas&pos=1880

Speech by Dr. Miklós Dukai, Deputy State Secretary for Municipalities at the Ministry of Interior

The Smart City Development in Monor, supported by the Ministry of Interior, aims to serve the people, the municipality and the state. The project idea arose in the Autumn of 2019 with the intention to try out every smart solution and development available at the moment.

Its size, location and institutional network made Monor an ideal candidate for the project. The major local developments include the development of street lighting, the introduction of intelligent building management, the creation of a smart street and a smart school and the modernization of transportation. What makes this project beautiful and difficult at the same time is that technology evolves so fast in this field that by the time a development is finished, it is already outdated. At the end of the project all experiences will be made accessible and any municipalities can join Monor under certain conditions.

https://csc-bp.hu/hu/tartalom/media

https://onkormanyzati.tv/globopolis/2019_szeptember_19?pos=3320

Speech by Károly Hajzer, Deputy State Secretary for Informatics at the Ministry of Interior

KÁROLY HAJZER
Deputy State Secretary for Informatics at the Ministry of Interior

Károly Hajzer presented the Smart City Pilot Project launched in Monor, Pest county, the success of which can bring about dramatic changes across the country. Intelligent public toilets, parents receiving text messages about their children's checking in and out of school, smart benches and smart pedestrian crossings – just to mention a few of the smart solutions to be introduced.

Regarding the Ministry's plans Mr. Hajzer said that the Ministry is looking for ways to integrate all existing services into a central platform so that anyone can benefit from the solutions and not only those cities or regions that have actually applied them. The aim is to avoid isolated or unnecessary parallel developments, and to enable other cities to adopt these solutions instead of having to develop them from the beginning.

Therefore, another important aim of the pilot program is to gain experiences on how the central services and local developments can work together.

Speech by Aldo Vargas, Coordinator of the National URBACT Point for Poland

Smart City is a concept that is constantly changing, therefore, it is important to clarify what we understand by it at the moment.

The concept is constantly evolving in response to new challenges that we recognise in our urban environment and as a result something that we consider to be smart today, might not be so smart tomorrow.

The more we develop smart solutions, the more we also develop a lot of new challenges at the same time, which means urban development is a never-ending process. We also have to understand that although the concept of a smart city started first as something related to technology in the urban area and how these new technologies can help us in the urban space, nowadays we tend to understand it in a slightly different way. Smart cities are much more about the smart use of technologies for the city.

The Smart City initiatives in Poland started in 2017 and will last until 2021, involving dozens of cities. The programme has been designed to help mostly medium and small size cities because these cities are experiencing a threat from bigger urban centres that attract young people to live there. The goal is to put people before technology to create a friendly living space for which the residents are also responsible.

https://csc-bp.hu/hu/tartalom/media

https://onkormanyzati.tv/globopolis/2019_szeptember_19?pos=4140

Speech by Dr. András Koltay, Rector of National University of Public Service

As a result of the cooperation between the National University of Public Service and the Digital Success Programme the university hosted the Smart City Conference in the autumn of 2019. This event revealed among other things that if Hungarian higher education wants to be competitive in Europe, we have to reform our teaching methodology. The National University of Public Service would like to take a leading role in this endeavour.

The case of smart cities and the use of digital technologies is the way to good governance and a good state.

The National University of Public Service is to take an active role as in the near future, we would like to become a modern campus with contemporary facilities and services. However, digitalisation has its dangers as well and we must not forget that technology has to serve humans at all times. Human will and decision-making cannot be left out of the formula.

onkormanyzati.tv/globopolis/2019_szeptember_19?pos=325

Speech by Dr. András Levente Gál, Program Leader of the Digital Success Programme

We need to integrate smart solutions in the day to day life of the cities that **make people's life easier, more liveable and safer**.

One of the greatest challenges nowadays is digitalisation, which is perceived as a threat by some people although this process cannot to be survived or avoided. **We must prepare for the changes and developments affecting our lives and we have to be proactive**, which is a task for us all – academics, SMEs and policy makers in Hungary.

The Hungarian government is firm in its dedication and support, but without the professionals who will be part of this ecosystem, our goals cannot be achieved. That is why we have initiated an international conference series to provide **a forum for information exchange** among the cities, the government and the business actors offering solutions to create smart and sustainable urban areas.

We would like to establish a tradition with this conference **to connect various stakeholders** regularly in the long term as co-thinking and co-working represent the very essence of what we understand by the smart city ecosystem.

ASURA TECHNOLOGIES

Custom AI-based video analytics technology for smart parking, traffic, safety and security

ALPR
License plate recognition application built for easy integration

MMR
Vehicle Make, Model, Color and Category recognition

Parking Monitor
24/7 parking enforcement for barrierless parking sites

ACE
license plate recognition-based automatic access control

Parking Space Occupancy Detection
On-street parking space monitoring

Digital Chalking
On-street parking enforcement

Access Shield
high security vehicle access control with driver facial recognition

What makes or solutions smart

Camera agnostic

Plug and play

AI-based

Cloud service or on-premise

Modular design

Fixed or mobile application

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FUTURE-PROOF LUMINAIRES AND SMART LIGHTING SYSTEM CONNECTION BETWEEN TECHNOLOGY AND THE CITY

Conception and design of **FULLED street luminaires** have been created to incorporate the latest technologies available in LED lighting. These streetlamps are perfect alternatives for modernizing the existing and generally obsolete streetlight systems.

Intelligent brightness control, lenses and smart features!

The system's built-in day-to-day control routines will completely prevent light loss!

Joyfully low operating and maintenance cost!

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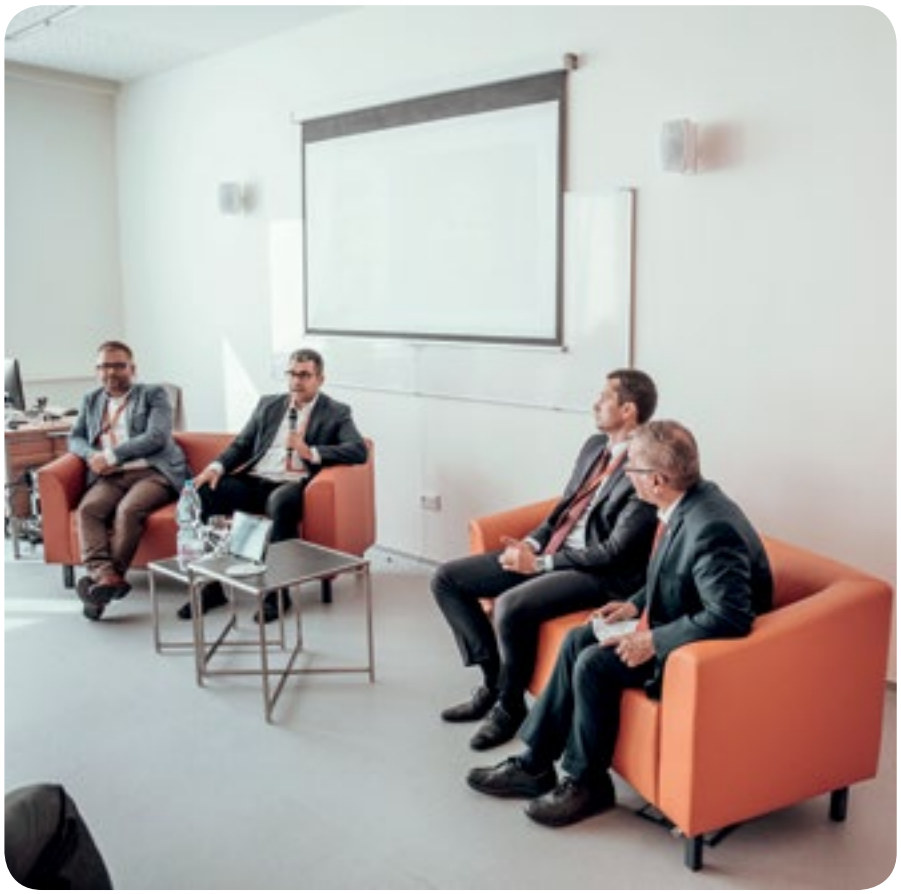
I. Digitalisation in urban development



In his keynote speech Dr. András Sik talked about the Lechner Knowledge Centre's spatial data applications – many of which have been developed as part of the 3D-based data infrastructure project – that can be used in urban developments and the guides created to support professionals dealing with spatial planning. When discussing the greatest challenges and threats, the experts mentioned sustainability, keeping up-to-date with the technological evolution and depersonalisation.

- DR. ANDRÁS SIK
  Director of Geoinformatics Services, Lechner Knowledge Centre
- ZOLTÁN RÓZSÁS
  R&D Coordinator, ZalaZone Ltd.
- DR. ZOLTÁN RUPP
  Project Director, National Infocommunications Service Company Ltd.

Moderator:
- PROF. DR. ISTVÁN TÓZSA
  University professor, National University of Public Service

II. Smart Cities – Examples of good practice

The workshop reviewed possible URBACT Good Practices to be adapted and other projects implemented in various cities, drawing 5+1 conclusions.
Smart cities steal – ideas from each other.
Do it QUITE good – don't try to find the perfect solution at once.
Accept that change takes time.
Build on what you already have.
You need a team.
(+1) Think in ecosystems.

- BÉLA KÉZY
  URBACT Expert, Managing Director, Megakom Development Consultants
- ANITA DEUTSCH
  Artistic Director, Budafok-Tétény, Wine District of Budapest, URBACT
- JUDIT SALAMON
  Project Manager, Budafok-Tétény, Wine District of Budapest, URBACT
- LAJOS VASS
  Deputy Director for Development, ÉMI Nonproft Ltd.

Moderator:
- ÁRPÁD RAB PHD.
  Senior Researcher, National University of Public Service

III. Introduction of the Marketplace

In order to support domestic smart city projects, the Digital Success Programme has created the Smart City Marketplace, an info communication platform that allows access to validated and quality-assured suppliers and products, primarily for municipalities, public sector institutions and businesses. Péter Mikulák talked about the development of the platform, the quality assurance process at the centre of it and the related Civitas Sapiens projects.

PÉTER MIKULÁK
Marketplace Leader, Digital Success Nonprofit Ltd.

www.civitassapiens.hu/okos-varos-piacter

IV. International review





The participants presented exemplary initiatives and highlighted the cooperation of V4 countries. Samu Szemerey suggested governmental level coordination in certain areas such as technical standards, establishing joint professional forums, making professional knowledge accessible for V4 towns and villages and launching collaborative pilot projects.

- ALDO VARGAS
  URBACT Contact Point, Poland
- SAMU SZEMEREY
  Lead Expert of Urban Technologies, Lechner Knowledge Centre
- GÁBOR KELEMEN
  Head of Division, Digital Export Strategy
- SAROLTA BESENYEI
  Expert, European Commission
- SZILVIA KŐVÁRI
  Expert, Digital Export Development Strategy

Moderator:
- ANDRÁS FAZAKAS
  Director, Deutsche Telekom, European Smart Solutions Centre

V. Urban management

As an introduction Mátyás Sain outlined the main focus areas of smart city developments. Presenting good practices from the URBACT programme he talked about the adoption of digital tools, innovative service developments, data management and conscious cooperation. After this, attendees had an insight into the background of smart city developments, successes and challenges from the viewpoint of the municipalities of Békéscsaba, Tamási and Székelyudvarhely. The experts agreed that only tailored service developments can bring about real improvement in the quality of life of people.

- MÁTYÁS SAIN
  Senior Spatial Planner, URBACT Contact Point
- ANDRÁS SZÉLES
  Vice Mayor of Tamási
- ATTILA JAKAB
  City Manager, Székelyudvarhely
- ISTVÁN GYÖRGY BORBOLA
  Adviser to the Mayor, Békéscsaba

Moderator:
- DR. TAMÁS KAISER
  Vice Dean for Science Affairs, National University of Public Service

VI. Marketplace participants

The invited members of the Marketplace talked about their experiences so far, their roles in the Marketplace and presented briefly the smart solutions they offer. Krisztián Orbán and Zsigmond Bihary discussed the economic and social factors behind becoming a member of the Marketplace and the validation process of suppliers and their products.

- GYÖRGY OROSZI
  National Mobile Payment Plc.
- ÁRPÁD AMBERGER
  Managing Director, Globomax Ltd.
- LÁSZLÓ JOBBÁGY
  Managing Director, Digital Success Nonprofit Ltd.
- ZSIGMOND BIHARY
  Nibada Analytics
- KRISZTIÁN ORBÁN
  Navidea Kft.
- PIOTR HOŁUBOWICZ
  Co-Founder & CEO, SEEDiA

KUUBE SMARTBENCH

KUUBE

SMART DESIGN FOR SUSTAINABILITY

THE WORLD'S FIRST COVERED PUBLIC BENCH

Similarly to the smaller model, the batteries use renewable energy only. You can charge your devices via USB ports or wirelessly. This smart bench also functions as WiFi hotspot and it monitors UV level, air quality, humidity, and air pressure. This is KUUBE+.

COMPACT BENCH WITH RENEWABLE ENERGY

Smart bench with USB ports, wireless chargers, and WiFi hotspot function. Charged exclusively by solar energy, the place of installation is flexible. The bench continuously monitors its environment – changes in UV level, air quality, humidity, air pressure – and forwards the data to the server, or notifies the owner if necessary. – KuubeNANO

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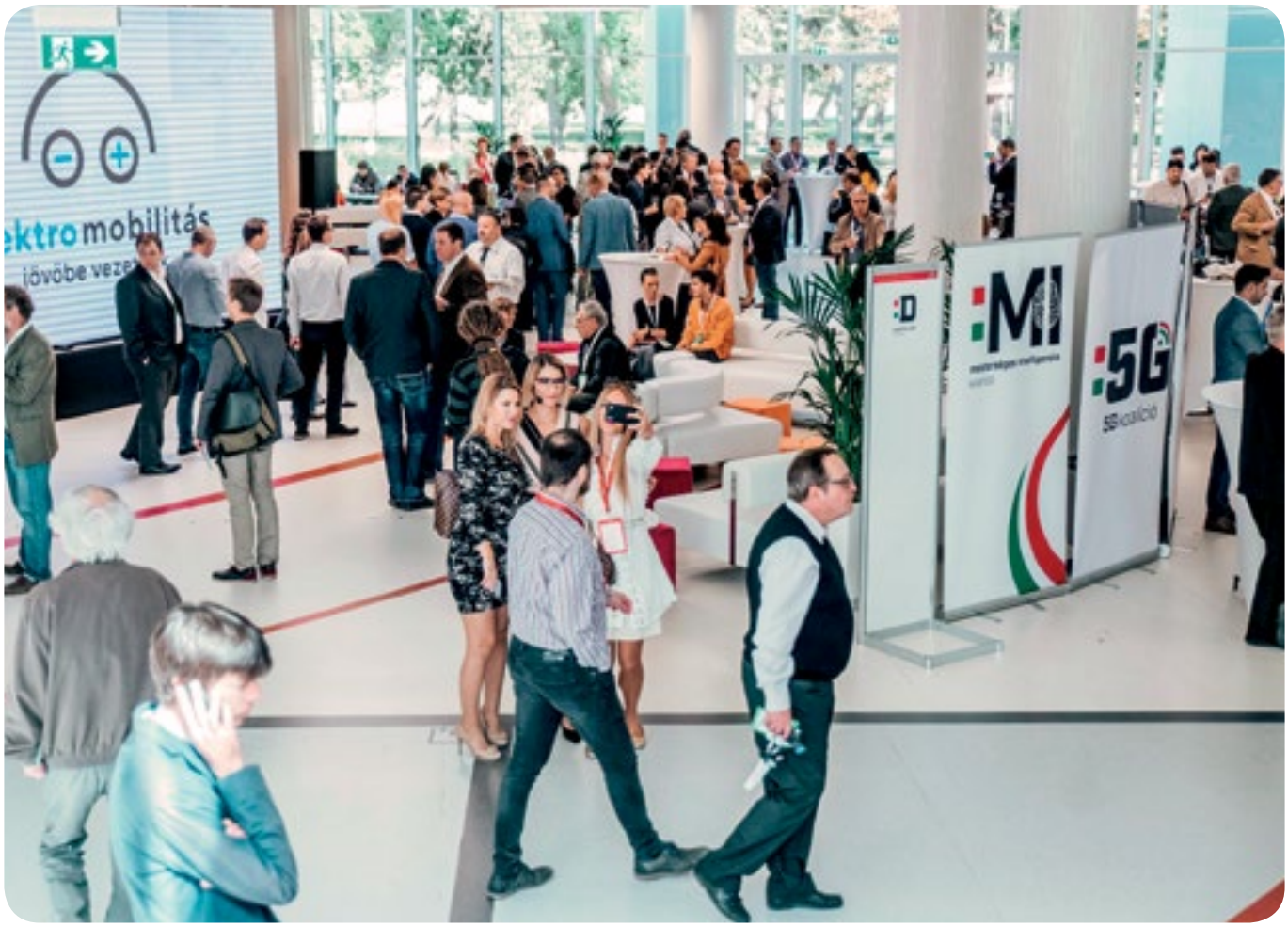
„SMART Pitching”: Smart City Product Presentation and Audience Vote

The morning session of the 2019 conference contained a “SMART Pitching” competition where **10 Hungarian businesses had the opportunity to present their smart solutions**. After the 3-minute pitches the audience could evaluate the presentations through a voting system using their mobiles. The winner was announced by László Jobbágy, Managing Director of the Digital Success non-profit Ltd.

The audience chose the SafeCross System Smart Pedestrian Crossing product by Pearl Enterprises Ltd. as the winner. The award-winning product will be presented by the Digital Success Non-profit Ltd. at Hannover Messe 2020 in April, the world’s leading trade fair for industrial technology. The presented products and smart solutions were displayed in the exhibition area of the conference where attendees could try them out.



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Smart bubble – Hello Wood

BALÁZS HOMOLKA
International Sales Manager

Balázs Homolka introduced one of their smart installations, a smart bubble where people can retreat to relax in the urban environment, listen to music with the in-built amplifier and its function as a hotspot.

Hello Wood specializes in design and build projects **developed with people in mind, being driven by social responsibility and an unwavering passion for great design**. They work with wood and other sustainable materials to create temporary installations that are not only artistic but also socially relevant.

SafeCross Smart Pedestrian Crossing – Pearl Enterprises Ltd.

ALFRÉD SZŰCS
Project Manager

Pedestrian crossings are those problematic areas in urban transport where most of the potentially dangerous incidents occur. In 2016 hundreds of accidents occurred at zebra crossings as a result of neglecting the rules of giving way. Currently used traditional systems are often not eye-catching enough.

The SafeCross technology employs **a motion detector and far-reaching LED lights to alert drivers to pedestrians crossing the road**. The system uses very precise sensors and cameras to process pedestrian movements. The first smart zebra crossing was installed in Debrecen in 2016 and presently there are 64 smart zebra crossings working across the country. At the areas where this system is in use, **there were no accidents in the past few years**.

solarway.hu/okoszebra

Future Smart/Solar Bench – Aba-Szer Metal Furniture Ltd.

MÓNIKA RÁPÓTI-FEKETE
Chief Executive Officer

A solar powered smart bench for smart cities to develop community spaces. Designed to be the smart bench of tomorrow, it has a simple, minimalist construction with intuitive usage. It functions as a free WiFi access station and can operate up to 120 hours without solar power. Besides making the urban areas, parks and streets more attractive, it also helps to acquire information. **It functions solely on clear solar energy which is free and eco-friendly.**

www.acelkft.hu/termekeink/okos-padok/see-future-okospad

ForteMap and Smart City App – Intermap Ltd.

ZSÓFIA EŐRY
GIS expert

ForteMap is an intelligent GIS tool providing a common platform for people taking part in city management to see objects, their position and condition and to manage and edit their maps. **The AI module can automatically recognise, classify and position the objects recorded by the GeoMeter mapping device.** The 3D viewer module is for displaying, measuring and analysing data.

The Smart City mobile application allows for two-way communication between the citizens and the local government. Citizens can submit photo reports about illegal waste disposals, potholes based on accurate GPS coordinates. The local government can publish news, events and other relevant information. Users can track the real time traffic situation of local buses and with the adjusted timetables they can see if they need to hurry to the bus stop or still have some time to catch the bus. The local government staff can check timetables, news and reports in the Smart City App through ForteMap and can edit them or make decisions based on the data.

www.intermap.hu

LoRaWan-based solution in elderly care – Antenna Hungária Zrt.

KRISTÓF BÁRSONY
Sales Team Lead

The Antenna Hungária’s system to support **care for the elderly** uses LoRaWAN sensors to monitor the environment of the most vulnerable care recipients ensuring that an **emergency situation** (e.g. lack of heating in the property, home break-in or increased level of carbon monoxide) **can be recognised in time and the assigned social worker or relative alerted**.

The wireless LoRaWan technology enables the transmission of small data packets sent by machines, devices and sensors. The endpoint communication devices and sensors **use minimal power resulting** in very low power consumption, which **extends the battery lifetime** of devices. It allows **wireless data communication over long distances up to tens of kilometres**.

Narrow Band IoT solutions – Albacomp RI Ltd.

ÁKOS MAJOR
Business Development Manager

The Hungarian-owned Albacomp RI believes the future is **NB-IOT**. They design and produce endpoints that embrace the benefits of this new technology. As they say, there has been a long demand in the Smart World for **cost-effective wireless data transmission which can transmit small amounts of data securely and can operate for many years on battery.** All is possible with commercially available NB-IOT data transmission: well-suited, among others, for smart metering, street lighting management or smart buildings.

www.albacomp.hu

Video Personalization Engine – Everengine Ltd.

ISTVÁN KEREK
CEO, Digital Marketing
and SEO Specialist

AI-powered personalised video advertising system.

The system uses AI to identify and analyse personal data (**age, gender, emotions**) then creates personalised video content **automatically**. It can automatically generate **local ads** based on data related to age, gender and emotional behaviour. It can direct a potential customer to the personally relevant local service provider.

videopersonalizationengine.com/smart-city
www.youtube.com/watch?v=YmR9sEdVfsU

SmartDashboard

ÁDÁM TURCSÁN
Technology Leader

SmartDashboard allows for users to view and manage data of complex IoT and SmartDevice systems in one place.

Today IoT – the Internet of Things– and Smart Devices can be found everywhere. Every electronic device is connected to a network and these networks are increasingly connected to the internet. As a result, we can reach our systems effectively from a distance and monitor and manage them. **Through distant monitoring we can react to changes much faster.** It is true for optimising everyday processes but also in business life when making decisions. It can be crucial to have accurate information on what our manufacturing equipment and devices are doing. We can access them anytime and from anywhere. The product can offer a solution as an endpoint of **complex, multi-component systems** for users to **display disparate data sources** (sensors, measuring units) **on an integrated platform** in an easy to use format both for internal and external (marketing, PR) use.

www.smartdashboard.io

Mobile ticket system – National Mobile Payment Plc.

GYÖRGY OROSZI
IT Operation Expert

The mobile ticket is a Budapest public transport ticket or pass purchasable through a mobile application. The first mobile ticket could be purchased for the 100E airport shuttle bus from June 2019 in the pilot project. **Through the National Mobile Payment Plc. application and joined retailers the ticket can be purchased anywhere and anytime**, even in the stop directly before the vehicle departs.

The travelcards and passes purchased as a mobile ticket with a mobile phone can be used for travel in the same way as paper based travelcards and passes. The passes purchased through the application – similarly to the 24-hour Budapest travelcard – do not have to be validated but when boarding through the front door on buses or to access guards at metro stations the validation codes must be scanned using a smart phone and the appearing animation must be shown to the driver or access guard. **This solution makes ticket inspection simple and cost-effective.**

www.bkk.hu/mobiljegy
nemzetimobilfizetes.hu

Smart City Cluster

MIKLÓS VITÉZ
Chief Executive Officer

An intelligent system – a smart city, a special educational platform, public or business integration – is made of several layers. In most cases these layers or solutions are managed by different suppliers. The hardware comes from a different place than the software or the producer is different, meaning quite a few disparate solutions must be brought together into a well-functioning and easy-to-use system.

The Smart City Cluster connects and integrates these tasks and companies to make communication with one another smooth and efficient. The Smart City Cluster understands these actors, speaks the industry language and as an **umbrella organisation** can effectively help members to achieve their goals and contribute to their success.

The professionals of Smart City Cluster, ranging from system engineers to software developer project managers and financial consultants believe that only effective joint work brings results.

Exhibitors

Interested in exhibiting at our next conference?
Contact us at konferencia@civitassapiens.hu

Aba-Szer Metal Furniture Ltd.

Aba-Szer is one of the biggest companies dealing with the **production and distribution of street furniture and lamp posts** in Hungary. The company was established 18 years ago by professionals with decades of experience. They offer their products and services to municipalities, educational institutions, constructors, institutions, hospitals, baths, sport facilities, retailers, investors, operators and citizens. Their aim is to produce and sell high quality street furniture in a wide range of colours and styles. Both their general and uniquely designed products are produced with the highest expertise. They place customers at the heart of their activities.

www.acelkft.hu

Albacomp RI Ltd.

The Hungarian-owned Albacomp RI, based in Székesfehérvár is one of the oldest companies in the Hungarian **IT market**. Since its establishment the production of **electronic products** has been a focus area of the company.

Among the company's strategic objectives defined in 2015 are two major areas are the development of **NB-IOT smart city solutions** and the establishment of **renewable energy sources**. The company has a large base of dedicated hardware and software developers and a supporting team. It provides excellent technical background to professional activities through its **Albacomp Innovation Centre** created a few years ago.

www.albacomp.hu

Antenna Hungária Zrt.

Antenna Hungária (AH) has been a **key player in the Hungarian telecommunication market for decades. Its main activities are national terrestrial television and radio broadcasting, as well as wireless business telecommunication.** As one of the most successful Hungarian-owned IT companies, AH has been able to grow continuously in recent years. The company expanded its business portfolio with audio-visual technologies and outside broadcast and entered the rapidly growing **OTT (Over-the-Top) and IoT (Internet of Things)** industries by building its own network and creating new services and solutions.

www.ahrt.hu

ÉMI Nonprofit Llc.

As a successor of the Construction Quality Control Institute (Építésügyi Minőségvizsgáló Intézetet) founded in 1963, today ÉMI Non-Profit Limited Liability Company for Quality Control and Innovation in Building is **Hungary's largest complex building and construction materials industry** approval, testing, inspection, certification, professional and innovation institution. It is a significant actor in Hungarian construction and building and a professional centre. ÉMI's activities cover the entire country and relying on experience, knowledge and expertise acquired over 50 years it offers expert and consultation services both in Hungary and abroad.

www.emi.hu

e-Mobi Electromobility Nonprofit Ltd.

The e-Mobi Electromobility Nonprofit Ltd. was founded to **support the governmental tasks related to spreading electromobility in Hungary**. Its strategic aims include the establishment and operation of a unified charging infrastructure for electric vehicles across the country, the launch of an e-mobility payment platform for the integrated management of data communication and payment functionalities of the charging infrastructure, and providing electric vehicles to central government administration and budgetary units.

www.e-mobi.hu

EL-CO TECH Electro-Communication Technologies Ltd.

The Hungarian-owned company based in Gödöllő was founded in 1992. Its main activities involve the planning, construction, maintenance, operation and standardisation of **electrical grids**, installation and operation of **transformer stations**, planning and construction of **alternative energy supplies** across the country. Keeping up-to-date with technology evolution, they enlarged their portfolio with the **planning and construction of optical core** and **distribution networks, electromobility chargers, wired and wireless telecommunication networks and photovoltaic systems**.

www.elcotech.hu

Globomax Ltd.

Globamax is a continuously growing development, sales and services company. Its greatest asset is its significant – almost monopolistic – market share in the field of **voting and conference systems** for municipalities, achieved in the past 30 years. Globamax offers a **customer-centric approach, decades of experience, creativity and acknowledged expertise** in supporting decision making processes of municipalities. They develop **unique, innovative solutions**, based on which they are able to create competitive products, increase their customer base and provide high-quality services.

globomax.hu

Greennovate Ltd.

Electrical power is getting more and more important, the electrical energy consumption of households is constantly increasing. **Advanced photovoltaic systems convert light into electrical power reliably reducing or even doing away with electricity bills!**

GreenNovate Ltd. offers high quality solutions with its **solar panels, connectors and semiconducting materials**. They offer all-inclusive products and services with design, construction, authorisation and instalment.

greennovate.hu

Hello Wood Ltd.

Hello Wood specializes in design and build projects developed with people in mind, being driven by social responsibility and an unwavering passion for great design. Their functional yet artistic installations, buildings and furniture offer new ways for reinventing inside and outside spaces. Through the integration of various fields of art, design and science, they aim to encourage community building and make our public spaces and environment more liveable and loveable.

hellowood.eu

Innoradar Ltd.

Innoradar Ltd. offers a wide range of services and expertise in the fields of **energy, smart networks, transportation and innovation**. They have outstanding knowledge relating to **geothermal energy use** and **nuclear power plant systems**. They also deal with **smart tram networks** and related meters as well as **IoT applications, e-mobility, railway and local rail systems**. Their innovation management service is increasingly popular across the country.

www.innoradar.hu

Intermap Ltd.

Intermap was established to develop cutting-edge software and hardware products for **GIS and mapping industry and their users**. Their latest product, the **GeoMeter 3D** was developed to make mapping easier for highways or urban streets. Their **ForteMap** GIS tool helps the work of many municipalities in Hungary. Their customers are municipalities, infrastructure operators and planners who have to daily maintain, monitor, track, plan and manage problems with their devices based on maps, not only in 2D but 3D as well. **Their AI module can automatically recognise, classify and position the objects recorded by the GeoMeter mapping device. The 3D viewer module is for displaying, measuring and analysing data.**

www.intermap.hu

JCDecaux

JCDecaux is the world leader in **outdoor advertising** with a presence in over 80 countries, including 3700 cities with more than 10,000 inhabitants. With its advertising panels **located in busy spaces offering maximum visibility** it reaches 340 million people worldwide every day.

JCDecaux with its Hungarian subsidiary offers **top quality services in Out-of-Home advertising** and is constantly improving and diversifying its products and services to offer creative and relevant solutions to their partners' needs. JCDecaux is a pioneer in **innovative street furniture** and made sustainable development a core element of their strategy. This enables them to anticipate future changes to keep innovating.

www.jcdecaux.hu

Lechner Knowledge Centre

The Lechner Knowledge Centre is an **expert in architecture, electronic planning and building services, smart city services and spatial planning**. It is **a background institution of the Prime Minster's Office** and its professional work related to the built environment is supported by applied informatics, remote sensing and geo-informatics infrastructure and one of the country's biggest technical architecture and spatial planning documentary. The Knowledge Centre takes an active role in **spreading architecture culture**, sharing knowledge and transferring value both to professional areas and non-professional users.

lechnerkozpont.hu

Lépték-Terv Tájépítész Iroda Kft.

Our firm has been engaged in **Landscape Architecture** since 2002. Our work focuses on **people-centred renewal of urban spaces**, parks, and residential areas, as well as institutional gardens, playgrounds and the regeneration of historic gardens. From the beginning we believe that a Landscape Architect is both an engineer, an artist and a community organizer. For this reason, our work is not limited to design, but also creates value in other **social activities related to Landscape Architecture**, such as community planning, applied arts, publications and education.

leptek.hu

Millefolium Strategy Ltd.

Millefolium Strategy Ltd. is a **management consulting firm** with 20 years of professional experience. It has recognised references in **governmental areas and compiling sector strategies** (e-Government 2010, Digital Agriculture Strategy), **development programmes** (eCom, most disadvantaged districts), **process and organisation development** (National Employment Office, European Social Fund, The Hungarian Chamber of Agriculture). They have considerable experience in developing complex systems including the creation of development concept plans for **smart villages and regions**.

www.millefolium.hu

Moholy-Nagy University of Arts and Design

The Moholy-Nagy University of Arts and Design (MOME) is looking for answers to 21st century challenges through the **research of arts and design, development and innovation creating new knowledge**. They make their results accessible and usable for society and business actors thus enhancing and stimulating knowledge-based society and the creative economy.

MOME had two relevant topics for the conference: they presented the results of the last 4 years from their **Child Friendly City research and concept development project** delivered with the support of the Municipality of Budapest and provided an insight into the relevant theses of **MOME architecture graduates**.

mome.hu

National Mobile Payment Plc.

The motto of the National Mobile Payment Plc is **"Services innovatively"**. The tasks and operating conditions of the **state-owned** National Mobile Payment Plc, established on the basis of the Act CC of 2011, are governed by Government Decree No. 356/2012 (XII.13.). On 1 July 2014 the Company launched the **National Mobile Payment System** to ensure **standardised public parking** across Hungary and to provide mobile payment service for the payment of **e-Vignette** and **HU-GO TopUp use-proportional motorway tolls** (relational tickets).

In addition to its innovative and enlarging mobile payment services, the company is implementing a uniform electronic ticketing system for public transport based on statutory designation.

www.nmzrt.hu

National Research, Development and Innovation Office

Pursuant to the Act LXXVI of 2014 on **scientific research, development and innovation** (RDI Act), the National Research, Development and Innovation Office (NRDI Office) aims to **create a stable functional framework for the Government coordination and predictable funding of research, development and innovation** (RDI) in Hungary, ensuring the efficient and transparent and value-creating use of available resources.

nkfih.gov.hu

Pearl Enterprises Ltd.

The mission of Pearl Enterprises is to make transportation safer. **The SafeCross system can significantly increase the safety of pedestrians, cyclists and moped drivers** as human senses react the best to light. Using this system, road users can immediately recognise if they are to meet a pedestrian crossing or bicycle path.

solarway.hu

Innovatív Térburkolatfejlesztő Llc.

Platio is a solar pavement unit that harnesses and utilises the sun's rays through walkable solar tiles. This Hungarian product represents the new generation of solar panel solutions and the developers hope that the technology will become part of 21st century architecture. Patio pavings contain **recycled plastic**, which also contributes to creating a sustainable living environment.

www.platiosolar.com

Smart City Cluster

Sustainable job mobility, smart parking, sensor solutions, monitoring and remote management, e-sport, online streaming, e-learning, SMARTdeposit, Blockchain business solutions, smart camera systems, just to mention a few from the solutions offered by our members.

As a system integrator Smart City Cluster works as a **professional and financial adviser, marketing, communication and project manager**. It maps problems through its members, sees through whole projects and processes, provides suitable infrastructure and technical background as well as facilitating communication between partners.

www.smartcitycluster.io

SmartDashboard

SmartDashboard allows for users to view and manage data of complex IoT and SmartDevice systems in one place. Today, IoT – the Internet of Things – and Smart Devices can be found everywhere. Every electronic device is connected to a network and these networks are increasingly connected to the internet. As a result, we can reach our systems effectively from a distance and monitor and manage them.

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The product can offer a solution as an endpoint of complex, multi-component systems for users to **display disparate data sources** (sensors, measuring units) **on an integrated platform in an easy to use format** both for internal and external (marketing, PR) use.

www.smartdashboard.io

T-Systems Hungary

From Bonn to Budapest, Gijón to Dubrovnik, Bucharest to Prague, life is getting more and more comfortable for people in many European cities thanks to the Smart City initiative of **Deutsche Telekom**. Based on its expertise in **IoT and IT integration**, the Group presents **innovative smart city solutions across Europe**. Deutsche Telekom works with its partners and the municipalities to ensure that both citizens and the municipalities can benefit from the changes.

www.t-systems.hu

[UI City]

UI City is an innovative software and consulting company in the area of smart cities. Through the open, cloud-based [ui!] UrbanPulse, the **city-wide sensors are brought together in one platform**. **It consolidates and translates diverse data into actionable intelligence.**

UP2VR

UP2VR is a 3D and VR content developer company. In addition to 3D visualisations for a wide range of media from still images to videos, they create next generation **interactive and immersive solutions for computers**, web and virtual reality platforms. From real estate visualisations (where colours, materials and types of furniture can be adjusted with a few clicks) to single virtual showrooms they develop sales tools that are new, yet personal – and not least, cost-effective.

up2vr.hu

Viaplant

Viaplant started out as an art project in 2015 at the invitation of Pilsen European Capital of Culture. After lengthy experimentation and development, a thought that started out as an art project gave life to the independent product that is **Viaplant®, a patented plant-based, UV and frost proof composite material.** Viaplant is a creative material for interior and fashion design. **They create artistic details using plants by applying engineering methods and skills.** Researching this field has grown to become a passion. Their greatest inspiration is the limitless diversity of Viaplant, and the belief that the awe-inspiring beauty and atmosphere of nature can indeed be relocated into interior spaces and our everyday culture of objects.

All the natural materials of Viaplant come from Hungarian sources.

www.viaplant.com

Vibrocomp

Vibrocomp is a Hungarian-owned company established in 1992 by Hungarian professionals with 20 years national and 3 years international experience. **Their mission is to reduce the effects of noise, air and vibration on people with highly-skilled expert professionals and cutting-edge technologies.** They take part in the development of eco-friendly solutions and apply contemporary research – mainly own research – in their daily expert work in Hungary and abroad.

vibrocomp.hu

5G Coalition

After 2020 the 5G mobile broadband will offer almost unlimited bandwidth in all parts of life, creating the background infrastructure for developments that require the transmission of large volumes of data – e.g. self-driving or connected cars, remote diagnostics and remote surgery, smart city developments, etc.

The Hungarian 5G Coalition (5GC) was initiated by the Digital Success Programme with the intention to help Hungary become a major European centre of 5G development and a regional leader in the development and testing of 5G applications. The 5G Coalition was launched on 19 June 2017 with 46 members from industry, business and professional membership associations, universities and professional workshops and the government.

digitalisjoletprogram.hu/hu/tartalom/5gk-magyarorszagi-5g-koalicio

Opinions

"That was the first time that I had participated in a competition like this, so I did not know exactly what to expect. At the event ***I have gained many positive experiences about how to give a brief but comprehensive presentation*** *that I can use later in my work. Winning the competition was the cherry on the cake but what really mattered here was that we could be there and make connections.*

The same is true for our presence at the exhibition where ***we could present our main activities to a wide audience****. We are sure that* ***the professional and other relationships formed there will prove to be fruitful in the future.****"*

ALFRÉD SZŰCS
Pearl Enterprises Ltd.

"It is important for us that besides citizens ***the info communication sector can also learn about our innovative products and services*** *and the Civitas Sapiens 2019 Smart City Conference was the* ***best partner*** *in this. At the conference we had the possibility to* ***present our solutions, meet the products*** *of Hungarian innovators and participate in the "International review, exemplary urban networks" panel discussion.*

We hope to present some of our new innovative cashless solutions ***in 2020 at the Civitas Sapiens Conference*** *including the circular economy pilot."*

MIHÁLY VERES
Managing Director, National Mobile Payment Plc.

Civitas Sapiens 2020

Smart City Conference, Hungary

SAVE THE DATE:

24.09.2020.

Civitas Sapiens

Let's shape the future together

Join us if you would like to know about the most important national and regional achievements or if you are looking for new possibilities to make our towns and villages more efficient and 'smarter'.

National University of Public Service, Ludovika Campus – Education Center

/civitas.sapiens

digital success programme

www.csc-bp.hu
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Civitas Sapiens

Civitas Sapiens 2019

Smart City Conference, Hungary

19 September 2019
National University of Public Service,
Ludovika Campus – Education Center

Patron:

Prime Minister's Office

Contributing Partners:

Ministry for Innovation and Technology

Organizers:

digital success programme

National University of Public Service Ludovika

civitas sapiens

Cooperative partner in smart urban development:

Lechner Tudás Központ

3D-based Data Infrastructure Establishment Project

Széchenyi 2020

Hungarian Government

European Union
European Social Fund

INVESTING IN YOUR FUTURE