Smart City Marketplace company list

Company's Name	Company information	Product's Name	Product information	Reference
Antenna Hungária Zrt	Antenna Hungária has been a dominant player in the domestic telecommunication sector for decades. Its main fields of activity are national terrestrial television and radio broadcasting and wireless business telecommunications. As one of the most successful domestic-owned information technology companies in recent years, AH has continued to grow, expanding into the broadcasting and entertainment business and joining the explosive growth of OTT (Over-the-Top) and IoT (Internet of Things) industries, building their own networks, solutions and services.	**Elderly care system, LO-RA technology**	The point of the system is that temperature sensors are placed in the homes and they regularly transmit the temperature, humidity (and other on demand) data of the home of the caregivers through the LoRaWAN network provided by AH. The sensors are wireless in design, making installation very easy. Due to the battery design, any power failure does not affect the operation of the unit. The temperature data sent by the sensors arrives at a central server operated by the AH and is displayed on a graphical interface accessible to caregivers, where the temperature evolution of each cared home can be seen retrospectively. The system allows caregivers to see temperature changes in real time and has set upper and lower thresholds that alert caregivers that someone may need to act quickly.	https://www.ahrt.hu/
Intermap Kft	InterMap was created to develop cutting-edge software and hardware products for the geospatial and mapping industry and its users. Their latest product, GeoMeter 3D, has been developed to make mapping easier, whether it's highways or city streets. The ForteMap GIS system is currently supporting the work of many municipalities. Their clients are municipalities, infrastructure managers, and designers who need to maintain, monitor, plan, and troubleshoot their devices on a daily basis, not only in 2 but also in 3 dimensions. Their AI module can detect objects, detect faults, and position them accurately on the map with GeoMeter field recordings. The 3D module is used to display, measure and analyze 3D data created with GeoMeter.	**ForteMap**	Geospatial (GIS) server, any number of external and internal users. A client page is enough to use a browser. Land survey basic map, orthophoto, utility maps, area management, terrain, entire public area cadastre (traffic sign, wooden cadastre, street furniture, canal covers, potholes, green areas ...) Integrated display of photos on map. Export functions to other systems. An optional 3D module is available for the FORTE (R) MAP PRO server. Upload, maintain and analyze point clouds and 3D models, measure dimensions and geographic coordinates. Interactive crawl in any size point cloud, continuous playback on crawl path or test line and heading in the point cloud. Client site requires only one browser, no other locally installed software is required.	https://www.intermap.hu
		Municipal Mobile APP	The complete 3D module, optionally available for the FORTE(R)MAP PRO server. Uploading, maintenance and analysis of point clouds and 3D models, measurement of dimensions and geographic coordinates. Interactive crawl in point clouds of arbitrary size, continuous playback along the crawl path or any other path or direction within the point cloud. Only a browser is required client-side, no other software needs to be installed locally.	
		GeoMeter® Mobile Mapping System	Available as an optional add-on to the FORTE(R)MAP PRO Server or can be bundled with the FORTE®MAP Editing System. Allows the municipality to actively engage in two-way communication with residents. Important announcements can be sent as push notifications. Messages can be linked to specific geographic locations, to assist with navigation and finding the location in question. An assistance button is also available for elderly residents. By pressing it, they can send a request for assistance to their friends and relatives, which will automatically include their geographic location and navigational information.	

		FORTE®MAP AI	A mobile mapping system which, when mounted on a car, can fully map all visible structures while traversing the settlement at 30-50 km/h. The system then generates a 3D point cloud, which can be displayed with the FORTE(R)MAP 3D module but can also be extracted to other standard point cloud formats for other systems. In addition to its speed, another significant advantage is that the optional FORTE(R)MAP AI module can use artificial intelligence to processes the surveys and common objects, such as traffic signs, manhole covers and fire hydrants, automatically recognising them and placing them on the map with an appropriate location marker.	
Vibrocomp Kft	Vibrocomp Kft is a Hungarian family-owned company with 20 years Hungarian and 3 years international experience in the field of environmental protection. The key elements of their mission are the long-term reduction of noise, air and vibration pollution by using state-of-the-art technology and the best-qualified team of professionals. Active participation in the development of environmentally friendly technologies.	**Air and noise monitoring network**	Many points throughout the city have an online noise monitor system that is available online in a database – the solution synchronizes the results and predictions of the model calculations so it works like a dynamic noise map. Application example: Automated speed reduction in busy roads with high noise levels. Daily information on the current state of public health and advice to individuals online or on street displays to defend themselves.	http://vibrocomp.hu/
		SMART air and noise pollution monitoring and information system	Daily notifications on the current state of public health, as well as advice on what individuals can do to improve it: information is provided through an online interface, apps and street displays. Smog and air pollution forecasts as well as automatic identification, publication and notification of any relevant measures in effect, depending on the current smog and noise levels. Can be used to effectively reduce environmental noise and air pollution, improving the environment and reducing the number of associated health issues.	
		Air Monitoring Network	Development of a monitoring system for the primary transport and collection networks for the purpose of smart traffic management. Much like the noise monitoring system, it is able to use the existing network to a greater extent, where available, and thus provide additional information. Full-scale deployment of traffic counting loops and sound sensors along the primary transport and collection network – utilisation and integration of the resultant data in the SMART notification system. Example use case: a smart traffic management system, which is able to close down, apply additional toll charges to and/or authorise the use of certain routes, based on the latest measurements (traffic/air pollution).	
		Smog forecasting	Forecasting expected unfavourable levels of air pollution (2-3 days in advance.) Automatic compilation of measures aimed to reduce the probability of smog developing. Depending on smog levels: automatic identification and publishing of measures in effect – with the calculation based on models, using an hourly breakdown. Online public notification and preventative recommendations, demonstrating examples. Can be used to significantly reduce the number of smog-related diseases	

		"Going green" travel planner application	The application uses colour-coding to show how environmentally friendly and smart an individual's daily travel plans are. This involves the development of an online interface that is able to quantify the environmental impact (noise, dust, other pollutants, heat, etc.) of a single individual travelling between two locations within the city, or possibly between two settlements. The application would be able to distinguish between the environmental impact of travelling by car or by mass transit, while also taking into account the time required, thus demonstrating how much extra time an environmentally friendly, energy-efficient lifestyle would require. Can be used to reduce residential pollution.	
		Noise event forecasting	Forecasting the expected noise pollution of events and construction activity, providing notification of necessary and possible measures. Forecasting the expected noise pollution generated by festivals and construction projects, indicating the source, the expected duration, rating the level of noise pollution, and providing recommendations to residents for enduring the temporary increase in noise levels. The expected result of its use would be an increase in welfare indicators and public satisfaction levels, as well as a decrease in the number of complaints.	
Pearl Enterprises Kft	Pearl Enterprises Kft. has set as its primary goal the achievement of safe transport. The SafeCross system greatly enhances the protection of pedestrians, cyclists and motorcyclists, as people's senses respond best to light. By using this product, road users will immediately recognize that they are in contact with a pedestrian crossing or cycle path.	SafeCross®	LED prisms built into asphalt and begin to flash as pedestrians arrive at the zebra, alerting motorists and reducing the risk of accidents.	http://solarway.hu/
		Solar Active Prism	Special, heavy duty solar prisms built into the pavement, operating self-sufficiently and in isolation. Would mainly be installed along bicycle paths between settlements, in parks, as well as in other places as required. Mostly for use along sections of road or in locations where public lighting is non-existent or of poor quality. Improves the visibility and predictability of sections of road, making them safer for travel. As they operate using solar power, no further operational costs would be incurred after installation.	
Platio	Platio is an energy generating pavement that collects and utilizes solar energy radiated to pedestrian areas. As a Hungarian product, we represent a new generation of solar solutions and aim to make this technology part of modern architecture. The base of the product is made of recycled plastic, thus further contributing to the protection of the environment.	Platio Solar Paver	Platio Solar Paver is a solar panel. It creates a walkable pavement that generates energy for cities, buildings or electric car charging stations during the day.	http://platiosolar.com
Hellowood	Hello Wood's design and construction is driven by our people-centred approach, our commitment to social responsibility and quality design. Our creations, buildings and furnishings, with their appearance and function, make it possible to reinterpret interior and exterior spaces. We primarily make temporary works of wood and other natural materials that not only have artistic value but also convey a social message. Our priority is to build community through science and art, to make our public spaces and our environment livelier and lovable.	Wooden made installation with smart solutions	Our design-build projects are developed with people in mind. We work primarily with wood to create installations that invite participation, benefit local causes, and best serve our clients' needs.	https://hellowood.eu/studio/projects

Smart Dashboard	The Smart Dashboard is the data display and control interface for complex IoT and SmartDevice systems. The spread of IoT and SmartDevices is now undisputed. All electronic devices are now connected to a network and the connection to the Internet has begun. Thanks to this, we can effectively access, monitor and control our systems distributed and remotely.	**Smart Dashboard**	Remote monitoring of our equipment allows us to respond to changes much faster. This is not only true for optimizing our day-to-day processes, but it can also play a key role in business decision-making if we know exactly when, what and how our individual production and production tools are. These can be accessed immediately and wherever you are. The product can play an important role for our customers as an end user component of complex multi-component systems. Its task is to be able to display a wide variety of data sources (sensors, measurement units) on a single interface, in an easily transparent format for internal and external use (eg marketing, PR, mass broadcasting, etc.).	www.smartdashboard.io
GreenNovate Kft	The role of electricity is becoming increasingly important and household electricity consumption is constantly increasing. Small-scale photovoltaic power plants now represent mature technology, operate reliably, and contribute to reducing, or even eliminating, household overheads through power generation! GreenNovate Ltd. offers its customers high quality solutions with solar panels, connectors and circuit elements.	**FULLED**	An LED street lighting device that can save energy and improve the quality and reliability of street lighting. It can save energy and send malfunction information. (Both from luminaires and from the electrical network.) It can be used separately for decorative lighting and any electrical info communication device (camera, Wifi points).	http://greennovate.hu/
Aba-Szer Fémbútor Kft.		**Smart Bench and KIOSZK**	Cutting-edge Smart Bench and KIOSZK communication device, often acknowledged as the future of public spaces.	http://www.acelkft.hu/en
		Smart Bus Stop	2019 developments for the Smart Bus Stop: • Battery - solar power storage • Telemetry module - built-in control panel (for data transfer) • Two chargers - USB connectors • Inductive charger - for standard smartphones • LED lighting - dynamic, multi-coloured • OLED screen - remotely controlled • WiFi network - analytics available • Sensors - weather and smog sensor • 3+ year warranty - maintenance and inspection • Speaker - interactive • 2-year warranty - maintenance and inspection	
Globomax Zrt.		MikroVoks Minute-Taking, Vote Counting and Conference System	The purpose of the MikroVoks Minute-Taking, Vote Counting and Conference System is to take minutes and assist with well-controlled meetings. The system ensures efficient organisational work by creating audio minutes, using a secure format. The system includes the following: • Digital minute-taking, vote counting and debate moderation • Conference system, hall audio • Digital voice recording and archiving, using a secure format • Full-scale voice recording services on PC • Network-based replay of recordings • Decision and Regulation registry module • Support for internal and external electronic data services • Internet publishing options (ÖTV, EDtR)	

		MikroKam Robotic Camera Broadcast System	• Immediate live broadcast, with no preparation time • Automatic positioning, based on MirkoVoks software data • Manual control option • Automatic image cropping, subtitling, effects • SDI, HDMI and analogue output signal • Stream in H264 format	https://www.globomax.hu/

		Municipal Television Media Services	Notifying residents about ongoing events within the town or municipality, using a reliable technical background:
			• Unlimited, instant live streaming
			• 200 GB of storage space for publishing archives
			• Publishing written materials (invitations, minutes)
			• Publishing audio materials
			• Publishing video recordings (HTML5)
			  o Board of Representatives meetings (can search agenda items and representative statements)
			    o Mayor's reports and interviews
			    o Public hearings
			    o Promotional films about the town
			    o Town events
			• Categorised materials
			• Representative sub-pages
			• Insertable, scalable, fully featured video player
			• Hungarian service provider with a secure, contractual background
			• Server located in Hungary, in an identifiable location	

Whizz-Kid Kft.		**Settlement application**	A mobile application, capable of providing a variety of information to residents with smartphones. The application uses an online administration interface operated by the municipality to send out the necessary information. 1. Regular and public service messages (regional news, municipal news, pipeline breaks, gas leaks, blocked roads, etc.), 2. Events (Invitations, municipal events and other programs, holiday greetings, etc.) 3. Advertisements (Municipal, regional, local advertisements) 4. Citizen information (Requesting information from residents, pothole reports, voting, etc.) 5. Municipal card assignment. The application includes a unique widget that displays various information (normal, favourite and priority messages) in a structured fashion. This information can be sent to the appropriate locations by grouping the settlement's residents based on region, district, street or house number (e.g. if a gas leak only affects a specific street, only they will need to be notified)	http://www.whizz-kid.hu/
Ebigél Kft.		**Ebigél.hu (for public education institutions)**	Helps to identify and address the problems faced by students in public education, either individually or in cooperation with the school counselling system. What tools and methods can we use to more effectively deal with the modern problems and challenges affecting students? What channels and tools can we use to learn more about their issues – whatever they may be – and how can we help them solve these issues? Are we able to use the tools at our disposal to create a well-functioning mental health safety net for our	

			students? The vast majority of students spend many hours online. This is a fact that most parents, schools, other institutions and even society as a whole tend to passively accept, often ignoring the internet's potential for education and teaching core values. This is why we have created a mental health safety net for high schools that can be used to provide help to students anonymously, as well as to allow them to communicate about issues affecting them, or whatever else they wish. It is important that students be able to receive assistance from an expert (Ebigél) who is a part of their immediate environment: the local school counsellor or someone who works in the school, that is, someone who is familiar with local conditions, current events and the issues of the day. The core idea of the system is that the modern Abigail (a reference to a famous novel by Magda Szabó), that is, Ebigél should be a mental health professional (educator) working in the school, specialising in mental health issues, and using modern telecommunication tools to assist students with their everyday issues and problems. The expanded version of the core system has ebigel.hu not only assisting mental health professionals with their work, but gradually expanding their services to school counsellors as well. Another new element of the system focuses on involving parents (guests) and helping them deal with their own children's problems. Anonymity remains a crucial requirement in all of these cases: parents are not directly linked to their children, they are not shown each other's messages, nor are they aware of who the other is within the system.	
Nemzeti Mobilfizetési Zrt.		**Above-ground mobile parking**	A centralised service with mobile payment options, based on Act CC of 2011 on the National Mobile Payment System or on specific business arrangements, provided to municipalities and service providers operating above-ground parking facilities.	https://nmzrt.hu/
		Indoor mobile parking	A centralised service with mobile payment options, based on Act CC of 2011 on the National Mobile Payment System or on specific business arrangements, provided to municipalities and service providers operating indoor parking facilities.	
		Mobile e-vignette purchasing	A centralised service with mobile payment options, based on Act CC of 2011 on the National Mobile Payment System, for the resale of e-vignettes to NTPS Ltd.	
		Mobile ticket purchasing	A centralised service with mobile payment options, based on Act CC of 2011 on the National Mobile Payment System or on specific business arrangements, provided to service providers selling tickets (e.g. to zoos, wildlife parks, cultural institutions or beaches)	
		Mobile transport ticket purchasing (for local towns)	A centralised service with mobile payment options, based on Act CC of 2011 on the National Mobile Payment System, for transportation service providers (e.g. BKK)	

		Access control to restricted areas	A centralised service with mobile payment options, based on Act CC of 2011 on the National Mobile Payment System or on specific business arrangements, provided to municipalities (e.g. Pécs).	
EL-CO TECH Kft.		IoT-based energy monitoring with connected, direct and derived information and services	Full-scale energy management and primary data collection for the increased energy efficiency of industrial consumers, municipal institutions, and privately owned properties (for more information, see www.energomonitor.com).	http://www.elcotech.hu/
		Smart Solar Park	Complete planning, licensing, construction and commissioning of solar cell systems. Combined with an IoT-based system. Also combined with battery cells.	
Innoradar Kft.		IoT-based energy monitoring with connected, direct and derived information and services	IoT-based energy monitoring with connected, direct and derived information and services. Energy efficiency devices, Smart Home devices, educational tools, home security, public safety devices.	
		Practical and theoretical teaching tools for energy measurement and monitoring	Practical and theoretical teaching tools for energy measurement and monitoring. Can be used in an educational context to improve students' energy awareness and increase their familiarity with the concepts of energy production and usage. In addition, the device can be exported to CEE/V4 or to developing countries as a laboratory system for educational purposes. Energy monitoring with IoT-based devices (solar park power generation, bidirectional power transmission, electric car charger monitoring, education regarding gas and water consumption, temperature measurement, air quality monitoring). The development, design, manufacture and serial production of a complete training kit for use with the aforementioned tasks.	
GAIA Software Kft.		ClassPass	School groupwork support system. The primary aim of the ClassPass system is to support community-building in schools with the help of IT tools. It is an efficient system for the sharing of information within the school as whole, as well as individual classes. It's simple and intuitive evaluation functions provide simple, comprehensible feedback to students, teachers and administrators alike. It provides quick and easy access to school results and works (images or videos) for students and families, making it simple to keep up with the progress of the class. This solution supports community-building within the school, thereby assisting teachers, students and parents in their everyday work and lives.	https://www.gaiasoftware.hu/
		EUTR	The product to be developed is closely linked to a new, currently non-existent organisation unit within the city: the Energy Agency. The system would assist this organisational unit with its tasks and decision-making. The main task of the organisational unit in question would be to organise, supervise and control the efficient distribution of energy sources and energy procured and produced by the city among its consumers. This would require in-depth knowledge and ability to forecast the life and metabolism (energy production and	

			consumption) of urban producers and consumers, including system-level mapping. Based on known and forecasted data, Energy Agency employees would be able to plan for providing services to consumers. The system would continuously monitor production and consumption statuses, and – if necessary – would alert operators of any data showing a critical deviation from the plan, thus enabling them to intervene as necessary. The greatest advantages provided by the system would be the ability to design and manage schedules, the management of production, consumption and storage locations, exploiting simulation opportunities and utilising the alert functionality based on the system data.	
		e-VICA	The e-VICA system is GAIA Software Kft's own proprietary IT solution, aiming to service a number of business areas and functionalities utilising both classic card-based and next-generation transaction management. Their solution is based on a transaction management functionality designed for mobile devices, which can be used in a great variety of ways. The e-VICA system consists of several different modules. Its core element is the transaction manager, which has its own individual virtual card and MPOS application (module with POS functionality developed for mobile devices), web-based administration interfaces and back-end systems. Our modern virtual card solution provides flexible, easy-to-implement features, and is compatible with mobile devices. It is primarily a transaction management application and is thus also capable of pre-paid and discount card functions. It is easy to integrate with other systems, such as transit card solutions or the management of individual physical POS terminals. Mobile applications, e.g. City Cards are easy to install and can provide rapid, high-penetration solutions. Its functionality and appearance are both fully customisable, but do not require significant investments into infrastructure. The functional limits of the system extend well beyond pre-paid transaction management solutions. It is a highly flexible, extendable and customisable solution, and thus can easily be implemented as an access control system, a ticketing system, or a city card system. The system has already proven its performance in a deployment with one million cardholders and over 60,000 physical post terminals. The e-VICA system is available as an installed solution or as an on-demand service accessible through the cloud.	
Gallaidesign Kft.		**Kuube Nano Outdoor Solar Smart Bench**	A smart bench with USB ports and wireless chargers, capable of operating as a WiFi hotspot. It is entirely solar-powered and does not require any other external power supply, meaning that it can be freely installed in any location. In the course of its operation, it continuously monitors its environment for changes: It measures UV levels, air quality, humidity and air pressure, transmitting the measurements to the server and notifying its owner if necessary. The Kuube Outdoor Solar Smart Bench is also available in Plus size.	https://kuube.hu/en/

		Kuube Bookstation Outdoor Solar Bookshelf with LED Lighting	An outdoor bookshelf with 24/7 availability, serving as a book exchange location for passers-by. Its dimensions are 120x220x60 cm, made of sintered aluminium, with safety glass doors and solar panel cover. Its doors are closed by gas springs. Solar panels and rows of LEDs provide lighting for the cabinet, operated by low-light sensors and time switches.	
Albacomp		**Smart Pipe Break Indicator Using NB_IOT**	Early detection and damage mitigation of pipe breaks and water infiltration: the device can be installed on basement floors and will send an alert if it detects water in the area.	https://www.albacomp.hu/ea-home
		Smart LED Lighting	LED lighting is extremely efficient, and suitable for any and all lighting needs. A well-designed network can result in significant savings in comparison to traditional lighting fixtures. In addition, it can reduce light pollution, can be controlled as needed, with almost no chance of malfunction for a high-quality product, meaning that maintenance costs are negligible. The environmental footprint of a LED light is significantly lower and it also does not contain environmentally harmful gases. When using LED modules, the lighting angles are customizable to meet your precise needs, making it easy to meet standardised light level requirements. Their performance values are extremely flexible, meaning that with appropriate control they can be set to operate at optimal light/energy consumption ratios. A wide variety of control schemes can be used for such devices ranging from fully manual controls to timing-based automatic controls, but environmental light sensors or sensors detecting movement in the vicinity of the LED can also be employed. The control system also includes energy consumption metering and troubleshooting functions.	
		NB_IOT Platform	Reception, verification, hierarchical storage, and display of data from various NB-IOT sensors. One of the key tasks in IoT applications is the efficient reception and primary storage of a large volume of data (usually comprised of small individual segments.) Our solution focuses on the efficiency of data reception. To this end, it can be configured to receive a variety of data from multiple sensors or devices, to store and visualise that data in SQL databases, or to act as an intermediate interface towards other systems, creating a system that can later serve as the backend for any application or even a traditional SQL database, without any performance-related constraints. The large quantity of data received serves as a good basis for BI / data mining applications.	
		Smart Trash Bin Sensor Using NB_IOT	A sensor that can be installed in communal trash receptacles, able to provide continuous updates on the receptacle's fullness, temperature, and possibly whether it has been tipped over. The solution generates real-time data, to allow for more efficient waste transport management.	

		3-phase sensor	Monitoring the voltage parameters of the mains network, sending an alarm in case of outage. Can be used to protect vital infrastructure and ensure business continuity.	
		Solar Panel System	A system for generating solar power. Depending on the type of system used, it may be sufficient for meeting a consumer's entire electrical power requirements, or by connecting the solar power plant to the KÁT metered grid, any generated electricity may be sold to MAVIR. Ideally, the outcome of a small, household-sized power plant or other small power plant installed to service the consumer's own consumption is an "electricity bill of zero". For a solar power plant connected to the KÁT metered grid, the aim is to generate as much revenue as possible by selling the generated electric power to the grid.	
		Solar Power Plant Management	Solar power plant energy production forecasts based on weather data, meeting MAVIR scheduling obligations (including group scheduling if required), monitoring actual production and continuous operation, maximising the regulatory bonus or minimising the surcharge, calculations.	
		E-Call emergency alert and optional assistance service	As of 1 April 2018, all automobiles and vans receiving new authorisation permits must be factory-fitted with the eCall automatic emergency alert system. In the event of a major accident, the eCall system will automatically send the accident location and data to the 112 emergency response centre, and will also initiate a voice call. The purpose of the eCall emergency alert system is to reduce the number of fatal traffic accidents – it is forecasted to save the lives of nearly 2,500 people every year across Europe. The regulation only mandates the eCall system for new cars; however, most automobiles in use both in Hungary and Europe as a whole are older, with the average age of cars in Hungary being 13.9 years. Albacomp RI Rendszerintegrációs Kft. is developing an onboard eCall device and communication system that can be retrofitted into cars, allowing everyone to benefit from its assistance. Optionally, it can also be supplemented with additional assistance services (asset protection services, repair services.)	
		Smart Work Management	A Work/Workflow application allowing the tasks performed mostly by outdoor workers (e.g. street lighting inspectors, public area supervisors, etc.) to be dynamically assigned from a control centre. The workers receive their tasks through a mobile device (phone or tablet) and can then verify the completion of their tasks via data entry, photographs or even sound recordings, also through the same mobile device, with the completion of each task receiving a timestamp. This drastically reduces the time needed for documenting and processing fieldwork: the results are immediately entered into the central database. This can increase work efficiency by up to 25-35%. The worksheets, forms and templates required for work can be edited in a flexible way, using drag-and-drop.	

SmartCluster		Electric Scooters and Bicycles	Special, stabilised, 2-3 wheeled online networked dual-battery scooters AND BICYCLES – the bicycles are capable of transporting a bag as well, and can be used while sitting, which provides a much greater degree of comfort than the electric scooters, which can only be used while standing. They provide per-minute billing and are equipped with a sophisticated anti-theft security system. They allow seniors over 65+ and individuals with limited mobility to more easily travel from one point to another. They allow for a particularly drastic quality-of-life improvement in settlements (villages) with no local mass transit.	https://www.smartcitycluster.io/
		i-Zrcalo	Starting with the development and manufacture of illuminated mirrors, we moved forward to address the technical challenges of the 21st century by developing the "i-Zrcalo". Logo and brand name protection has been applied for. The "i-Zrcalo" is an innovative interior device, with integrated 21st century IT technology. It is a mirror with a large built-in Android tablet device. Our current phase of innovative development primarily focuses on the software and is targeted at 3 distinct areas, which will require comprehensive market research to accurately explore the habits and needs of our users.	
		Smart Fitness Park	A smart, electronic, self-sufficient fitness park consisting of a bicycle, a hand bike, an elliptical trainer, a treadmill and a complete set of park equipment. Users can configure the individual devices to fit the required size and resistance through an application. In other words, much like in a fitness gym, these parks will also allow everyone to customise the machines to their body and their level of fitness. Individuals from every age group will be able to find the ideal settings for their needs: they will not find the exercise either too difficult or too easy. The entire family can train together if they want to! The park users will download the application, then use it to register themselves. The cloud-based application will gather certain data about the users, such as demographical information and user habits. This system will also collect information on how the users configure and use the machines. In addition, the application will encourage and challenge the users, and will provide them with feedback about their performance. Able-bodied and disabled individuals can both make use of the system. The park is fully equipped with accessories, furniture, trash disposal area, smart lighting, as well as a number of innovative solutions and designs, all with a focus on environmentally friendly solutions. It is self-sufficient and produces electricity in excess of its needs, which it can return into the grid and/or store in batteries. It is suitable both as a location for active recreation and as a public community space. Its appearance is innovative and attractive, with an environmentally friendly design that is an appropriate fit for all environments.	

		Smart Point	A mobile home with environmentally friendly "green" solutions, perfect for use as a public community space, as well as a hub for digital education in disadvantaged areas, thanks to the internet access options it provides. The product includes a smart mobile home (smart access, opening hours, etc.) and environmentally efficient solutions (solar panels, minimal carbon footprint, etc.) and is equipped with IT devices.	
		Sparkon Smart Parking Solution	It is estimated that at any given time, one-third of the cars in a city are only moving because they have yet to find a parking space. Often, the issue is not even a lack of parking spaces, but the drivers not being aware of where they could find a place to park. While the former is beyond its capabilities, the Sparkon Smart Parking Solution is very much capable of helping with the latter, whether the parking space is located in a public (street) or private (office building, shopping centre) area. The Sparkon Smart Parking Solution provides a comprehensive solution, including all required hardware, software and operations. The parking spots have sensors affixed to the asphalt (or installed into the asphalt, if required), which use magnetic fields to sense whether the spot in question is free or occupied. The sensors use a secure LoRA Wan connection to communicated with the back-end servers. The end users (drivers) can use a mobile app or a hardware token to reserve parking spots, and to identify themselves. The true versatility of this solution is that the drivers can use the mobile app to swiftly find the open parking spot closest to their destination, then find their way there using the navigation software, and finally use the app once more to pay for parking. The parking spots have informational signs using electronic ink to signal whether a spot is open or reserved. For reserved spots, the signs will also display the license plate number, so drivers will clearly see which spot is reserved for them. Operators will be able to manage the parking spots in real time, and can request detailed usage reports, launch discount or loyalty programs, or even combine parking with other promotions. In addition, Sparkon makes it easy to check on the handicapped parking spaces and electric charging stations, or even calculate the usage-based fees for taxi stations.	
		BLOCK	BLOCK is an innovative smart bicycle docking and charging station, allowing the bicycles used in the city to be locked down at 3 points with just a single gesture. No longer will riders need to carry heavy and expensive locks for their bicycles! Why would anyone want to do so, when they could just use the smartphone that is right there in their pocket? No more dirty hands, and no more wasted time. Just a simple tap on the BLOCK app, and your beloved bicycle will be locked up safe and sound. And if it's an electric bicycle, it will even start charging! However, the BLOCK product and its associated service is about much more than ease-of-use. The application is based on an innovative geofencing/direct marketing service, which provides free bicycle storage for everyone, while also generating additional traffic and revenue for the company's clients and opens a direct information channel for municipal partners. A premium subscription	

		is also available: in exchange, we can provide advance booking, accident insurance, an ad-free experience, and special personalised discounts. And all this can be provided in accordance with the most popular Smart City framework strategies.	
		Smaragdfa®	Smaragdfa® (meaning "Emerald Tree" in Hungarian) is a smart tree indeed, as it: -Saves water -Restores the environment -Reduces erosion -Can be integrated into symbiotic crop production strategies -Is compatible with native species -Is non-invasive -Is a key player in progressive climate stabilisation (CO2) Sunwo Zrt. has developed this internationally renowned plant through scientific research, with the assistance of 8 different countries, 2 academies and 6 universities. Naturally, the plant is also perfectly adapted to the Hungarian climate. Smaragdfa® has 27 highly advantageous traits (including, for example, rapid trunk growth of up to 2 cm/day, huge edible and protein-rich leaves, a high capacity to act as a soil stabilizer and a barrier against wind), meaning that it is not just useful for industrial use, but provides a new and progressive basis for global efforts to combat climate change. It is an excellent photosynthetic plant (C4 type), capable of using carbon-dioxide to produce value, cellulose and oxygen. Its 27 highly advantageous traits meet the UN's Sustainable Development Goals (SDG17) Main advantageous traits: a) 100 tonnes / ha / year CO2 capture (among other native Hungarian plants, this value is 13.6 tonnes). b) High-quality wood material, of medium hardness (0.6-1 m3 / 8 years). c) Can be chopped down 3 times over 24-30 years. d) Its leaves have high nitrogen content, making them usable for animal feed, soil improvement or biogas production. e) Its flowers produce honey, with a vanilla scent. f) It is suitable for intermediate cultivation with vegetable plants or cereals. g) It can capture up to 30 tonnes / ha / day of dust, pollen and soot (smog). h) Its foliage can be used to generate biomass, to form pellets or to manufacture bioethanol. i) Its calorific value is comparable to that of lignite.	

		Asura Recognition Unit (ARU)	ARU is a "plug and play" application that can be connected to any IP camera to recognise and read vehicle license plates, in real-time if needed, along with the type and make of the vehicle. In addition, it is capable of detecting traffic violations and can automatically notify the operator of any such occurrences. ARU works well both with shots taken from a fixed point and with moving camera installations. ARU received an official professional acknowledgement as an excellent "smart" product using existing infrastructure at the Innovation Awards held at Intertraffic Amsterdam 2018, the most prestigious traffic technology exhibit in the world. Our other developments include the Asura MMR Vehicle Recognition System, which can identify the make, type, colour and category of the vehicle being monitored in real-time, based on a video stream. Other important parts of our product portfolio are our mobile license plate recognition system, capable of reading license plates with a camera mounted on a moving vehicle, and our ARU-related access control and digital chalking modules, which play a key role in automating parking systems.	