EU STRATEGY FOR THE DANUBE REGION
Priority Area 8 Competitiveness of Enteprises
Artificial Intelligence Working Group

SZÉCHENYI 2020

HUNGARIAN GOVERNMENT

European Union
Cohesion Fund

INVESTING IN YOUR FUTURE

Supporting the competitiveness of enterprises in the Danube Region via Artificial Intelligence

According to the definition used by the European Commission, „Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications). „ (COM(2018) 237)

Artificial Intelligence has been spreading because of three major technological achievements: 1) fast (parallel) computing technologies, 2) big data availability and 3) modern sensor technologies.

The Danube Region is a complex and heterogeneous macro-region, where countries vary according to size, population, development level and innovativeness and many other factors. Nevertheless, industry still plays a significant role in their economies. Within that, high-tech industries are on the rise and manufacturing industries have similar features and focus in many of the Danube Region countries.

The EU Strategy for the Danube Region Priority Area 8 (PA8) coordinated by Ministry for Economic Affairs, Labour and Housing Baden-Württemberg and the Ministry of Economy, Entrepreneurship and Crafts in Croatia, aims to support the competitiveness of enterprises in the Danube Region. The following main actions belong to the PA8:

- To foster cooperation and exchange of knowledge between SMEs, academia and the public sector in areas of competence in the Danube Region.
- To improve business support to strengthen the capacities of SMEs for cooperation and trade.
- To improve framework conditions for SMEs in areas where competitive infrastructure is missing

Priority Area 8 is divided into five thematic working groups (WGs) and Pannon Business Network Association from Hungary is in charge of coordinating the Artificial Intelligence WG (AI WG). Currently, 19 organisations from 9 Danube countries belong to the AI WG, and they are determined to foster the application of AI in the Danube Region in the key application areas using different kind of technologies. Our main target groups are SMEs- to enhance their AI knowledge, and support their competitiveness.

In this brochure, the members of the AI WG shall be introduced with AI focused descriptions about their organisations. The brochure also includes some Augmented Reality features, in order to better display the applications of AI.

Austria Wirtschaftsservice (aws) is Austria's national state-owned promotional bank. It's a one-stop-shop for supporting business. Aws has different funding programs and currently two of them focusing on AI: the program "Trustworthy AI" in which trustworthy, innovative projects are being funded as well as the program "Marketplace AI", the platform for AI connecting the best providers of AI with companies that want to integrate AI in their production processes.

PROFACTOR GmbH is developing AI methods for low-level data analysis such as image segmentation and classification. This is currently mainly based on convolutional neural networks to perform semantic segmentation. The second main topic is the data-driven modelling of multi-stage production processes to obtain process/product/material relationships. In this area mostly conventional models are used and the primary focus is on online training methods. They further gained expertise in Symbolic AI, utilizing knowledge databases to enable true human robot collaboration in pioneering fundamental research projects. Currently both traditional sub symbolic AI and the recent research lines are merged to enable Hybrid AI, mainly incorporating the power of Knowledge Graphs.

In the area of AI, Business Upper Austria primarily supports the exchange of experience between companies, creates corresponding awareness within the framework of events and initiates cooperative projects with the intensive participation of Upper Austrian research institutions. Under the leadership of the IT Cluster and the Mechatronics Cluster, this topic is being continuously developed as an essential component of the digital transformation.

RAPIV

RAPIV provides environment for reinforcing digitalisation of the business within the North-East Region of Bulgaria. They help companies to become more competitive with regard to their business/production processes, products/services using digital technologies. Their qualified experts deliver various innovation services, such as financing advice, training, and skills development that are needed for a successful digital transformation.

CZECHINVEST
Business and Investment Development Agency

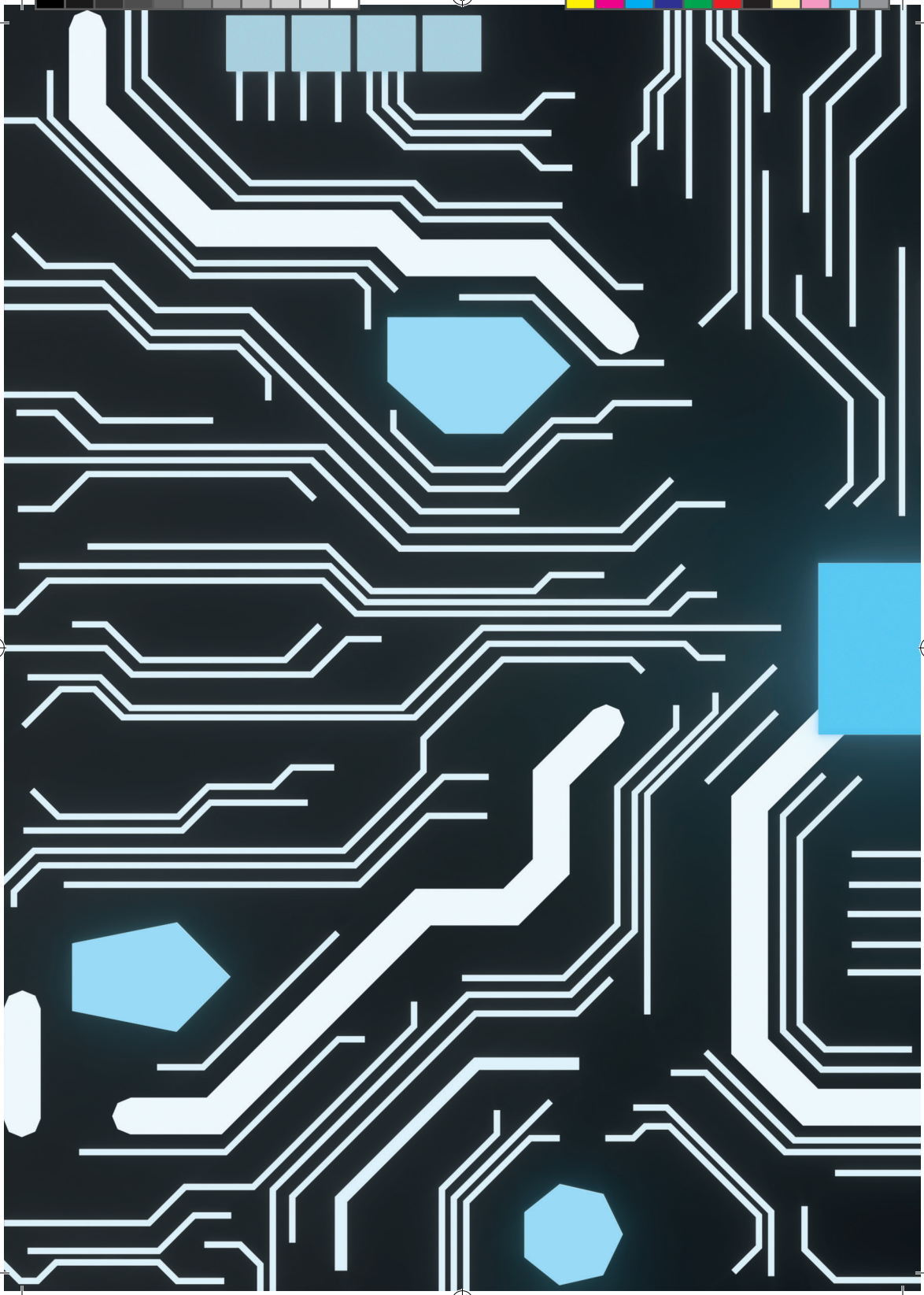
CzechInvest is a government organization subordinate to the Ministry of Industry and Trade. One of its main objectives is transformation of the Czech Republic into one of EU innovation leaders.

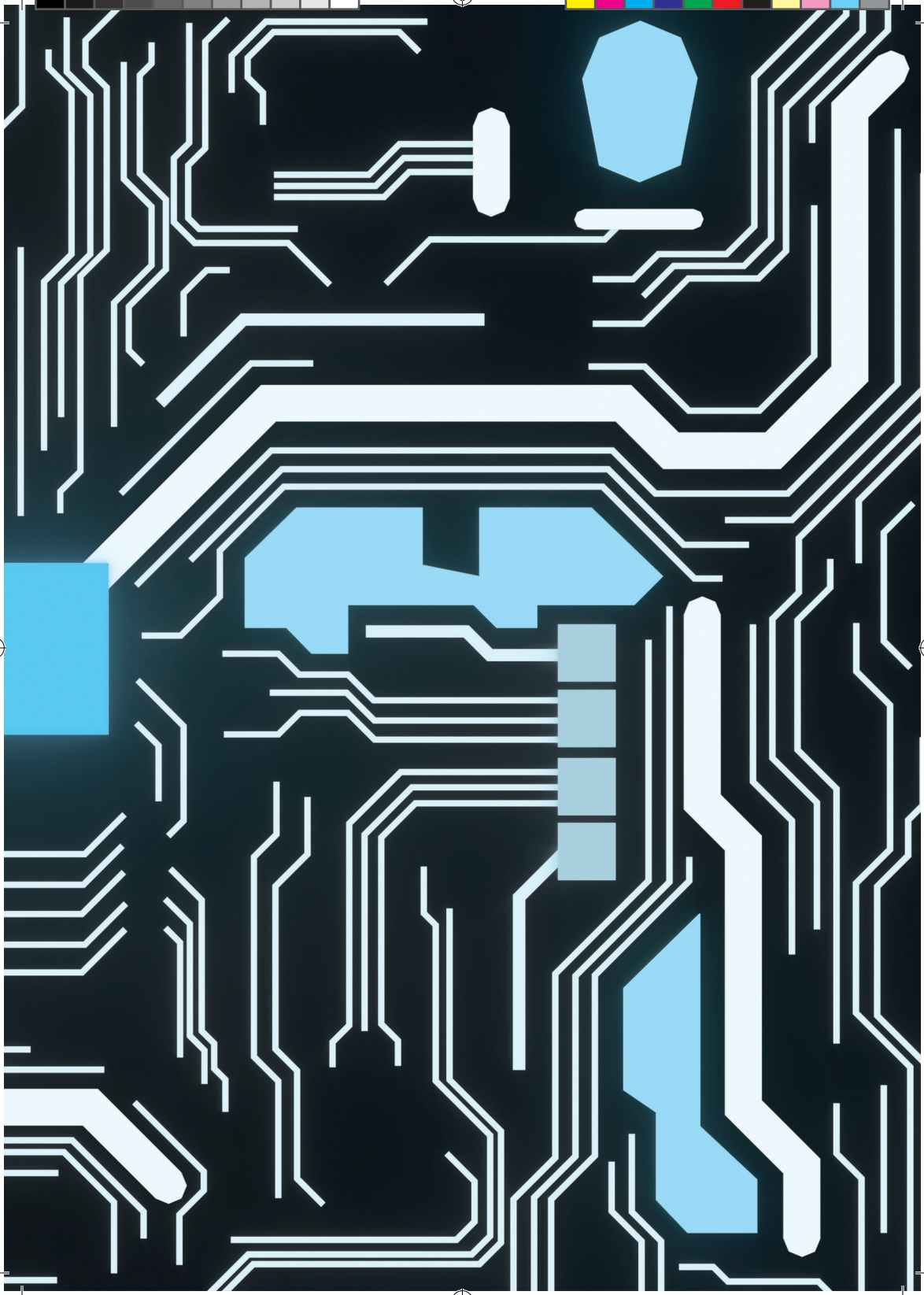
Artificial intelligence plays a key role in this process, which is why the Agency works closely with both local and international research institutions, companies, startups and other partners in selected industries, who are developing AI-driven and Industry 4.0-oriented solutions and technologies.

HAMAG BICRO

HAMAG-BICRO main objective is reflected in the strategic creation of a unique system that would provide support to entrepreneurs through all development stages of operation starting from research and development of an idea to commercialization and placement on the market. They are acting as a technical secretariat for implementation of Innovation Strategy and S3 strategy Agency actively participate in creation and implementation of all calls related to AI.

The front cover and the next pages contain AR content, please download our free application with the following QR code.





HS PF

University of Applied Sciences Pforzheim: The Institute of Smart Systems and Services at Pforzheim University addresses promising endeavours in the context of application-oriented research projects.
The main scope of the AI activities is to provide a competitive benefit within application domains. The processes of AI tend to enhance enterprise performance, raise sales, lower costs, automate customer management, save time, limit flaws and advance data collection & processing.

Digital Innovation Hub Oltenia
Craiova, Romania

The mission of Digital Innovation Hub Oltenia is to develop an innovative ecosystem for cross-sectoral collaborations, whose main objective is to increase the level of digitalization by designing, testing and applying new technological solutions in priority areas, both in the private business environment, as well as at the level of public administration.
Priorities:

- Tools, digital solutions and software for Local Administration
- Cyber-security
- Artificial Intelligence
- High Power Computing

The 67 Associate Members are selected on the basis of the Triple Helix principle.

PBN
advanced management

PBN and its digitalization division, am-LAB, have multiple layers of artificial intelligence relevance. PBN has policy involvement, being a proud leader of the Danube Regional artificial intelligence working group. The aim is to synthesize macroregional competencies and increase visibility for the topic. At am-LAB segmentation, classification and NLP are the core areas, with applications in manufacturing and business fields, with special focus on small- and medium-sized database-related algorithms.

Software Imagination & Vision (SIMAVI) is a software company from Romania that has experience in providing solutions for nation-wide projects. Innovation is the foundation of their values as a company and they are using latest ICT technologies to bring added value into all projects. The technological capabilities of their team have been proven in several projects where they have implemented AI, ML and DL algorithms for Security and Cybersecurity, Agriculture, HealthCare and R&D.

SIMAVI
Software Imagination & Vision

Faculty of Information studies in Novo mesto (FIS) is a higher education and research institution in South-East of Slovenia. It owns HPC infrastructure that is a part of the largest national one. Offering HPC services for research activities is strongly focused also on application of AI algorithms. Apart from strong HPC and AI activities, FIS is also active member of National Consortium of Technology Transfer Offices. While working with students and researchers, FIS also provides trainings for SMEs, especially from the field of HPC.

FIS
Fakulteta za informacijske študije
Faculty of information studies

The vision of Innovation Technology Cluster (ITC) is to foster cross-sectoral innovation based upon novel technologies and ICT. ITC is a founder of the DIH AGRIFOOD, whose goal is to represent a One-Stop-Shop, in order to provide safe, sustainable and quality food, while considering economic, environmental and social aspects and implications of food production and delivery. All this is supported with different projects involving AI as an important driver for the development of state-of-the-art services and products.

ITC
INOVACIJSKO TEHNOLOŠKI GROZD
INNOVATION TECHNOLOGY CLUSTER

AI is one of the four thematic priority areas of University of Maribor (UM) for the future research activities. Through its Digital innovation hub - DIH UM and with technical support of Faculty of Electrical engineering and computer science, UM is pursuing its mission to foster the competitiveness of the region. With its 17 faculties and over 100 research groups UM provides a full technology stack, equipment and competences supported by the new supercomputer infrastructure (HPC RIVR VEGA) and 30 mio € RIUM investment in the state-of the art equipment.

Pomurje Technology Park as a certified DIH (for Smart Manufacturing), and ISO 9001 certified (for industry quality processes), is a constitutive member of the Slovene Association of Technology Parks and Business incubators, start-up and scaleup partnership with German corporates and investors with own developed Pro-Net® international database of technology solution providers and labs.

PTP is implementing the scouting process of digital solutions and offer test before invest support program to industry and smart cities stakeholders.

TECOS Centre connects companies from Advanced Material Processing, Tool & Die Manufacturing, Mechanical, Electronic, AI & ICT supported products and services. Technological expertise of TECOS are the advanced simulation analyses and optimisation of technological processes with AI for various industrial sectors. They are offering integrated AI solutions in the form of turnkey projects tailored to the customer needs from design, prototyping to installation of manufacturing processes for serial manufacturing on-site.

Styrian Technology Park operates as a business support center for the development of dynamic, innovative business ideas of micro and small enterprises, with substantial input of knowledge in their products and/or services. It also acts as the regional center for technology development and DIH for Smart Solutions. It provides comprehensive support for SMEs in different stages, from setting up their business to the stages of growth, development, internationalization, restructuring activities, etc.

STYRIAN TECHNOLOGY PARK
Regional Centre for Technology Development
Business Support Centre and Incubator

Country	Partner name	Website
AT	Austria Wirtschaftsservice	www.aws.at
AT	PROFACTOR GmbH	www.profactor.at
AT	Business Upper Austria	www.biz-up.at
BG	Regional Agency for Entrepreneurship and Innovations – Varna	www.rapiv.org
BG	ICT Cluster Bulgaria	www.ictcluster.bg
CZ	CzechInvest	www.czechinvest.org
DE	University of Applied Sciences Pforzheim	www.hs-pforzheim.de
HR	HAMAG-BICRO	en.hamagbicro.hr
HU	Pannon Business Network	www.pbn.hu
MD	Comrat State University Regional Economic Development Institute	www.inno-center.md
MD	Ministry of Economy and Infrastructure Information and Communication Technologies	mei.gov.md
RO	Digital Innovation Hub Oltenia	www.dih-oltenia.eu
RO	Software Imagination & Vision	www.simavi.ro
SI	Faculty of Information studies in Novo Mesto	www.fis.unm.si
SI	Innovation Technology Cluster	itc-cluster.com
SI	University of Maribor	www.um.si
SI	Pomurje Technology Park	www.p-tech.si
SI	TECOS: Slovenian Tool and die Development Center	www.tecos.si
SI	Styrian Technology Park	www.stp.si

The preparation of this brochure was supported by the Hungarian national coordination of the EU Strategy for the Danube Region.

www.competitiveness.danube-region.eu

MINISTRY OF FOREIGN AFFAIRS AND TRADE OF HUNGARY

DANUBE REGION strategy
Prosperity through Diversity