



artificial intelligence
coalition

AI Education

Committee on Culture and Education
Public Hearing
19. 02. 2020.
Dóra Mattyasovszky-Philipp

Background information

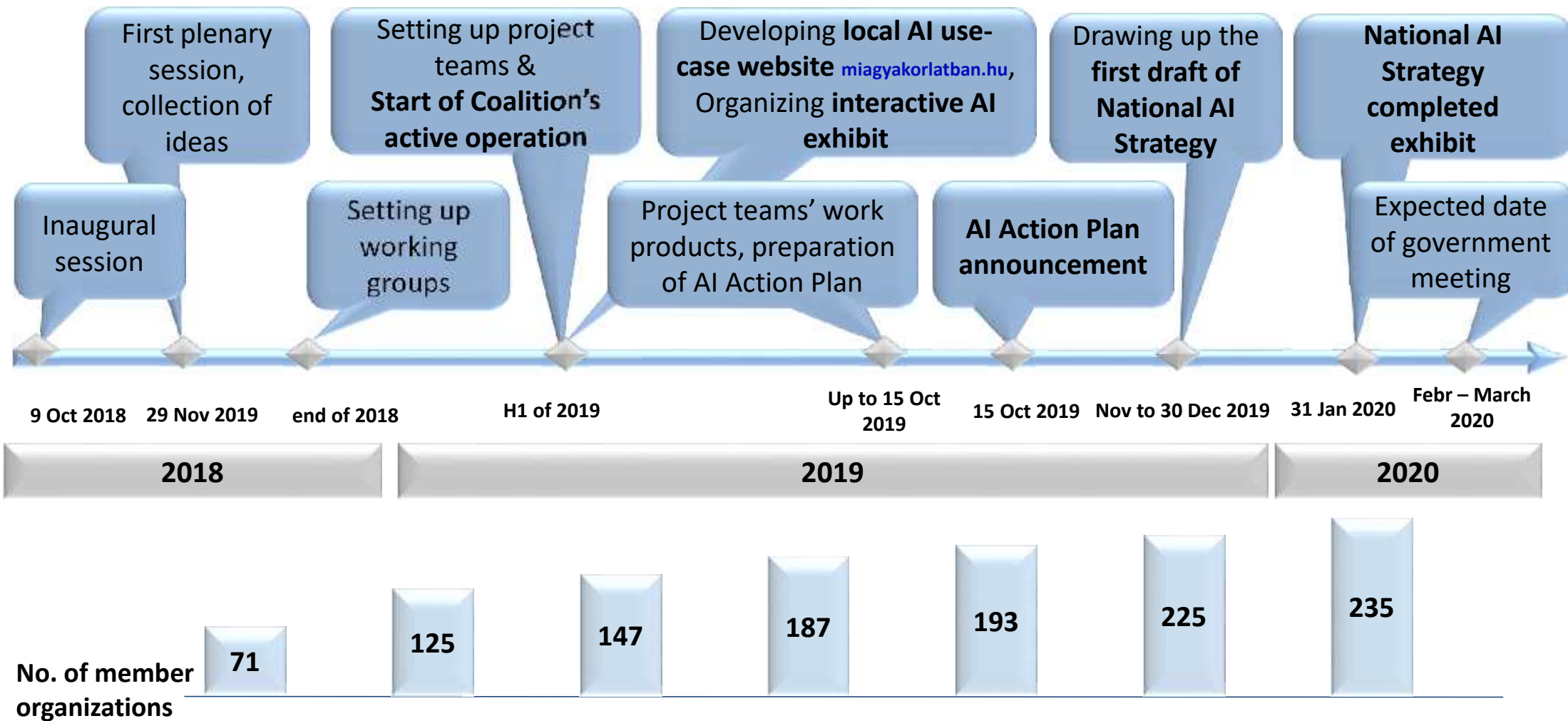
- The AI Coalition was founded in October 2018 under the Digital Success Program
- 74 founding members
- Wide range of representatives from various sectors - Academia, Public services, Professional organizations, SME sector, Medium enterprises, Startup ecosystem and multinational companies
- Permanently open to new members, the Coalition has **235 member organizations as of January 1, 2020**



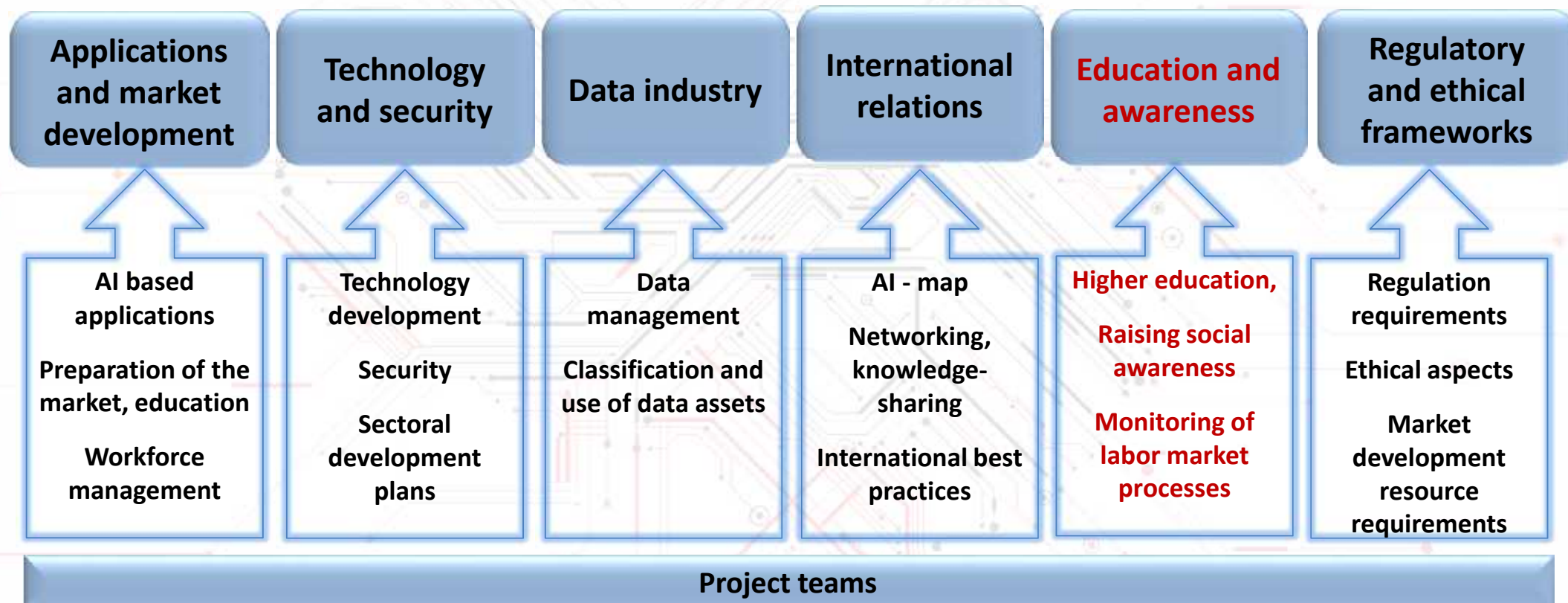
Objectives of the Coalition

- Propel **Hungary to the European forefront** in the area of AI developments as a reference point in the global AI community;
- **Strengthen the competitiveness of domestic enterprises** through extensive dissemination and utilization AI-based developments;
- Facilitate the **participation of Hungarian start-ups and SMEs in AI development activities** - building various partnerships
- **Actively engage the government in developing the local AI ecosystem** by systematically utilizing the national data asset pool and **providing** adequate, regulated and effective **access** thereto.

Key milestones of AI Coalition



Working group focus areas



AI Coalition Project Teams

I. Data industry

1. Data policy strategy for AI innovation
2. GDPR compliant data sharing
3. B2B data trade
4. Industry 4.0 data sharing
5. Health care data sharing for research purposes
6. Setting up national data asset sandbox

II. International relations

1. Hungarian AI Competence Center - joining the EU Digital Innovation Hubs network
2. AI Hungary website

III. Education and awareness

1. Set-up and operation of AI Academy
2. AI mass education with regard to labor market demand
3. Regional AI innovation hubs
4. AI-supported intelligent study environment
5. How to use Artificial Intelligence? - *Manual for elementary and secondary school pupils*

IV. Applications and market development

1. Industrial AI platforms
2. Smart health care facility
3. AI in practice (use cases and experience portal)
4. Examination of labor market transformation
5. Supporting governmental administrative services by smart assistants

V. Technology and security

1. Cloud-based AI platforms accessible from Hungary
2. AI protection with cyber tools

VI. Regulatory and ethical framework

1. Network building
2. Complex project- Examining ethical framework
3. AI Action Plan
4. Regulatory support of other Coalition Working Group projects
5. Identifying new project themes and focus areas

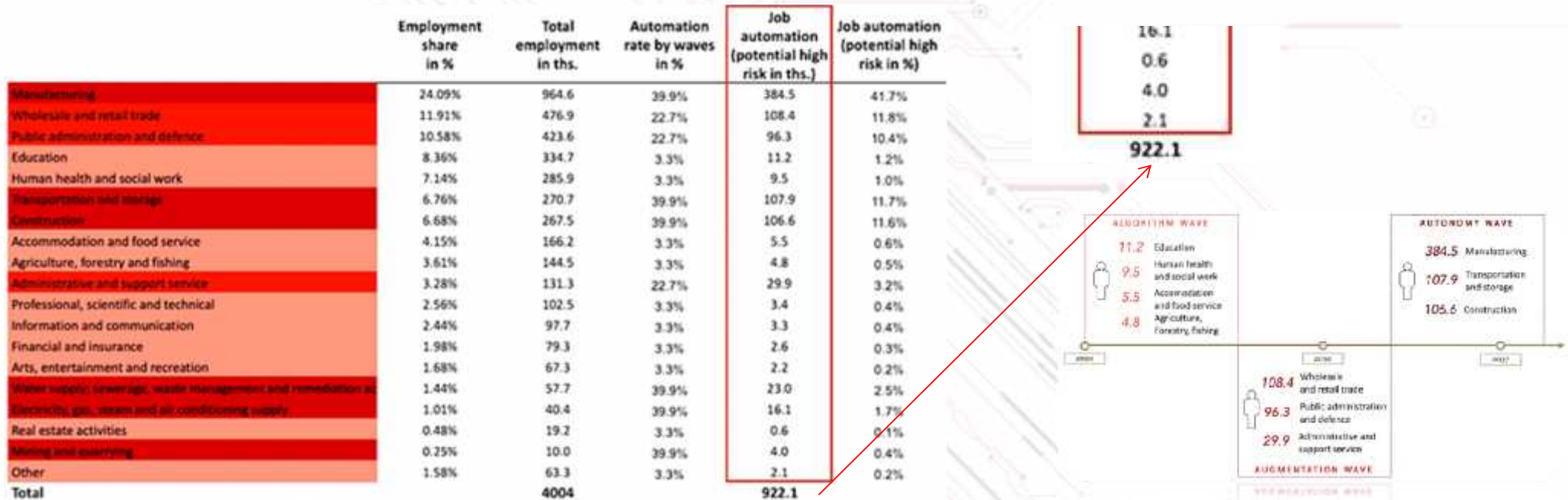
Goal of the AI mass education project

Formulation of an aligned proposal to the government and to the education & academic sector to support AI Coalitions key objectives, in relations with the government action plan and the National AI Strategy considering multiple interest and point of views.

Content of the proposal (Feasibility study)

1. Clarify and evaluate AI challenges to the labour market
2. Respond to the challenges with
 - Applicable educational plan, identify and propose clear list of competencies
 - AI in public education, vocational training system,
 - AI in higher education, adult education, specialization further education
 - Applicable education and training forms, accreditation, credit system for interoperability
 - Extend AI education extensively - Not exclusively for IT lecturers !

Labour market challenges 2019 – 2030 (thousand person)



Source: PWC - project work

- **Till end of 2030 more than 922 thousand jobs/ nr. of employees might be impacted**
- *The 3 waves of the potential automation and its impact make necessary to acquire and improve the differentiated knowledge of AI*
- ***The trend will not stop, therefore all actors and participants in the education has to be prepared***

Proposed education level

Total of retaining and vocational training, students, teachers and lecturers in public and in higher education - Proposed by different educational level (million person)				
	basic	medium	high	total
Retraining and vocational training	0.6	0.2	0.1	0.9
Public education	0.2	0.1		0.3
Higher education		0.2	0.1	0.3
<i>Total of public and higher education</i>	<i>0.2</i>	<i>0.3</i>	<i>0.1</i>	<i>0.6</i>
Grand total	0.9	0.5	0.1	1.5

Source: project work

Differentiated education of 1,5 million person approx. till end of 2030, which also includes training for trainers, teachers, and lecturers, providing the opportunity for subsequent AI education.

Project proposals

- Vocational training, retraining and its level for potentially affected employees
- Differentiated AI education for students in the current public and higher education system and for teachers and lecturers
- Proposal to **meet with the business and industrial sectors expectations**
- Proposal for **a possible reform of the vocational training system**
- Proposal for the **inclusion of Artificial Intelligence and Information Technology in higher education**, widespread extension of education
- Proposal **for increasing the number of AI and IT/AI teachers and lecturers**
- **Call for generate a collaborative and supportive environments with coordinated actions** from government and industry and education sector
 - considering the existing framework and adapting it accordingly;
 - taking into account the technological, economical, regulatory and social constraints associated with the introduction of AI including AI education

Results and impacts

- Opportunity to **create and replace qualified labor force** according to the needs of the labor market
- Provide the opportunity to **anticipate the changed labor market needs** that caused by the introduction of AI
- **Increasing employment and reducing expected unemployment**
- Expanding our AI education beyond IT education
- Opportunity to **increase industrial efficiency** in applied industries
- Additional opportunity to **increase the competitiveness of SMEs**



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Thank you for your attention!

Main pillars of national AI strategy



Data policy

- Collecting existing data
- Structural collection of new data
- Crafting data use models
- Establishing data use incentives



Education

- Training of AI professionals and researchers
- AI application education (*vocational training*)
- Social preparation
- Attracting and retaining talent
- Monitoring and handling labor market impacts



Infrastructure building

- Available computing capacity
- Available data storage capacity
- Available data traffic



Institutional background

- Drafting and implementing of AI strategy
- Setting up government institutional background
- Individual procurement channels
- Governmental data asset manager



Research innovation center

- Ground research
- Applied research
- Application developers support (*startups, growth, export*)
- Strengthening of ecosystems (*innovation transfers*)



Regulation

- Use of personal data
- Categorization, standardization
- Ethical principles of use
- Determining AI decision making responsibilities



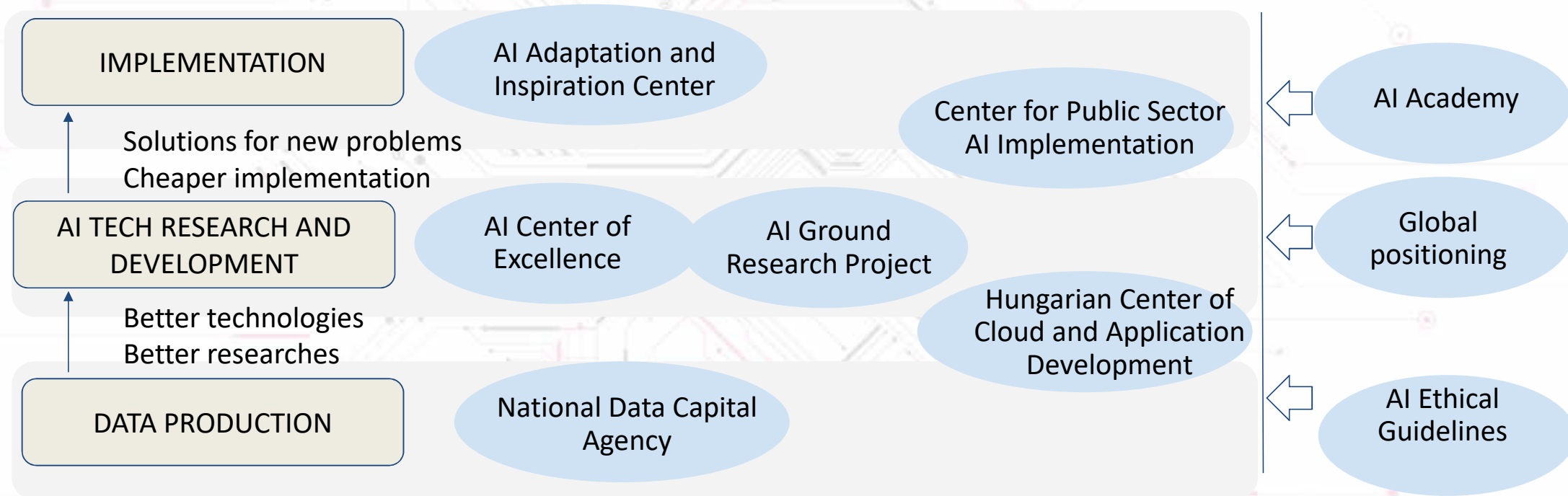
Encouraging widespread use

- Ordering government applications
- Supporting key private sector industries
- Supporting key public sector industries

National Strategy Drafting

- **Project teams** have been operating since February 2019 to cover a **wide range of focus areas** (data policy, development of governmental services, health care and education, data-driven market cooperation, labor market impact assessment, examination of European best practices etc.)
- The aim is to **translate project team results into real-world achievements** on a possibly largest scale
- **Action Plan** – a **comprehensive set of proposals** that builds on relevant project team output and can be presented to decision makers. The Action Plan serves as a **prelude to a detailed national strategy**
- **Moonshot projects and industrial focus areas** have been identified that offer the biggest potential for Hungary to excel

Short-term priority actions



AI Coalition Achievements

- AI use case collections / www.miagyakorlatban.hu
 - The very first interactive exhibition in Europe / May 9, 2019
 - The ICT Association of Hungary's Global Study on national AI strategies
 - AI podcast – MI Stúdió / AI Studio
 - AI Hungary website - in the works
 - Organization of a permanent AI exhibit – in progress
 - AI Action Plan
 - National AI Strategy – in progress
 - Video editing contest for youngsters – in progress
 - AI Challenge initiative to make 1% of the population complete a basic AI course
 - Impact assessments and studies by project teams
 - Setting up data exchange market platforms
 - AI evangelization
- 
- A white humanoid robot is shown in profile, looking towards a glowing blue network diagram. The diagram consists of various icons connected by lines, representing a complex system or network. The background is dark, and the overall scene is illuminated by the blue light of the network.



AI Use Case Collections and Exhibits

Website www.miagyakorlatban.hu has been launched **to collect success stories and fun AI tech.**

On May 9, 2019, the Budapest University of Technology and Economics hosted **an interactive AI exhibit, the very first one in Europe.** The event was followed by a press conference. **20+ exhibitors gathered, displaying over 30 AI-driven technologies** ready to be tried by visitors on site.

The exhibition material is available at www.miagyakorlatban.hu.



Building an AI Ecosystem

AI in practice - AI Use Case Collections

- 20 fun tech use-cases to try
- Nearly 50 success stories to explore
- Artificial Intelligence near you

AI Exhibition

- All-day event
- 20+ exhibitors
- 300+ visitors



The ICT Association of Hungary's Global Study

The ICT Association of Hungary (IVSZ) produced a **100 page international outlook study** that analyzed 15 countries as well as the EU's AI strategy.

The paper summarizes the **structural factors that appear in most international strategies** and might serve as a solid basis for the Hungarian AI strategy, using some of the product results of the projects.

