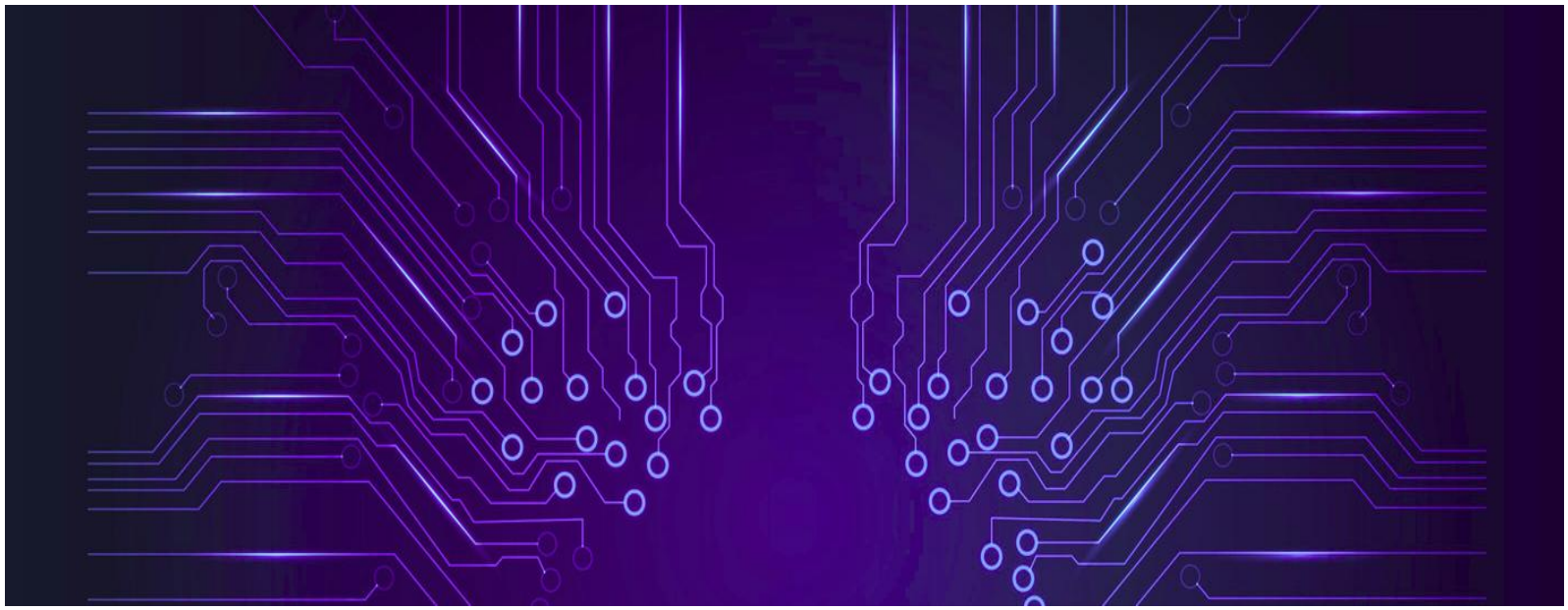
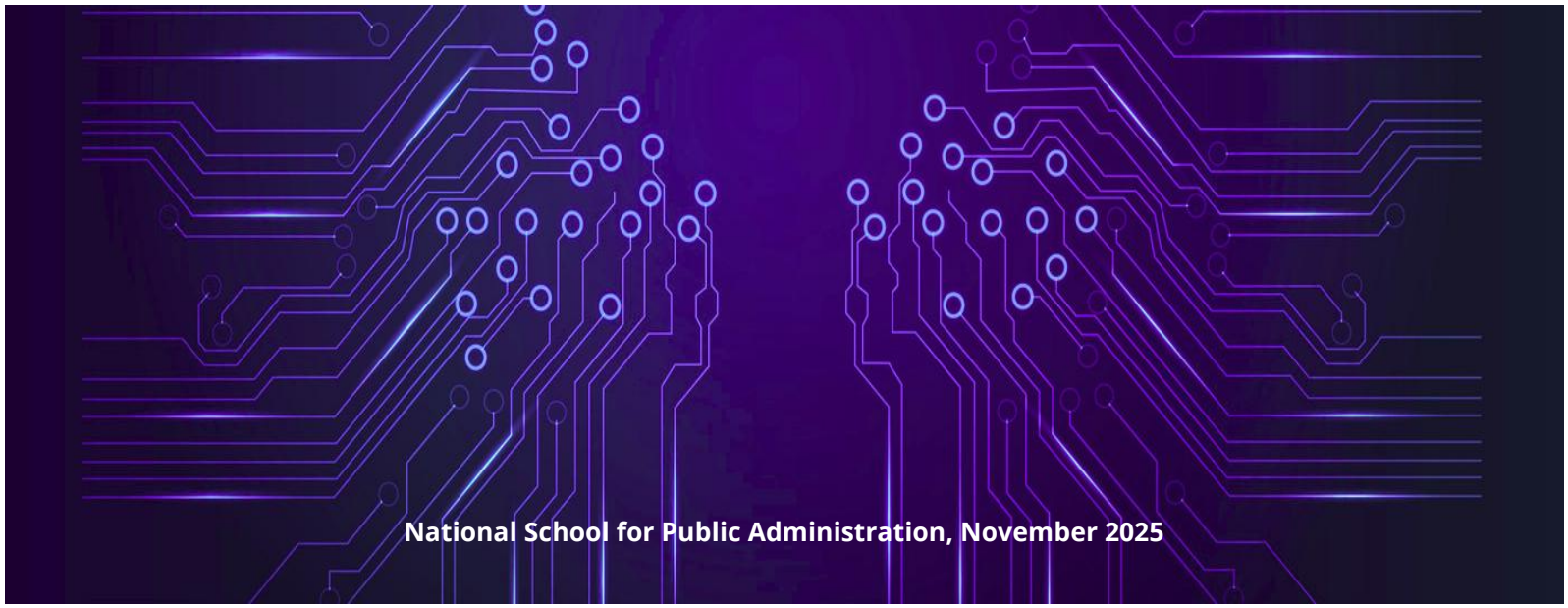
NSPA



# RESEARCH ON THE READINESS OF STATE BODIES FOR THE IMPLEMENTATION AND APPLICATION OF ARTIFICIAL INTELLIGENCE SYSTEMS (AI) AND EDUCATIONAL NEEDS IN THE AI AREA



National School for Public Administration, November 2025

# FOREWORD

Dear colleagues,

Dear associates,

Public administration is facing a new era marked by the accelerated development of artificial intelligence (AI). Governments around the world have recognized the potential offered by AI tools in improving public services and modernizing public administration, while emphasizing the need for responsible, ethical, and human-centered application of these technologies. European and international frameworks for the responsible AI implementation, the development of AI competences and general normative requirements set high expectations for the public sector, but at the same time open up great opportunities for innovation.

Croatian public administration must not lag behind in this process. On the contrary, we have the potential to become an example in the use of AI with the aim of modernizing public administration through improving business processes and, consequently, the public services we provide to the citizens of the Republic of Croatia.

For this purpose, the National School of Public Administration (NSPA) conducted research to determine the current state, challenges and opportunities that AI brings to the public administration of the Republic of Croatia. Primarily, this report, as a result of the aforementioned research, offers an objective picture of where we are, what our strengths and weaknesses are, and what we need to do to fully utilize the possibilities of new technologies for the benefit of citizens and society.

The research results indicate the need for a realistic view of the current situation but at the same time, they also provide reason for optimism. They clearly show that the basic prerequisites have been set: there are pioneers in the state administration in the application of AI tools; there is motivation of civil servants and openness to innovation, as well as strong support from managers and their awareness of the potential offered by AI tools in the context of performing tasks in the state administration. On the other hand, the research results suggest areas in which it is necessary to accelerate efforts — strengthening the digital and analytical competencies of civil servants, ensuring appropriate infrastructure, developing internal rules, procedures and ethical standards for the AI deployment, as well as stronger strategic focus at the system level.

Therefore, I hereby ask you to carefully consider these results and the recommendations arising from them, so that we jointly encourage changes that will enable us to successfully adapt public administration to this new technological age. Given the dynamics of AI development, it is necessary to act immediately, and more than ever, to invest in strengthening human resources, encourage experimentation with new solutions and provide a framework for their ethically responsible use.

This is a unique opportunity to make public administration even more efficient, transparent and focused on the needs of citizens. NSPA will provide the necessary support through targeted education, knowledge sharing and linking best practices. Our shared vision and consistency are key to building a modern and innovative public administration.

Respectfully,

**Rudolf Vujević**

Director
National School for Public Administration

# CONTENT

# INTRODUCTION

In the course of its activities which include developing and strengthening the competences of state administration officials, and bearing in mind that artificial intelligence (AI) increasingly occupies a key place in the transformation of public administration, enabling more efficient decision-making and automation of business processes that ultimately contribute to improving the quality of services provided by public administration to citizens, the National School for Public Administration (NSPA) has drawn up the questionnaires for the purpose of researching the level of readiness of state administration bodies and their officials to apply AI and, at the same time, identifying their training needs in this area.

The following report presents the research results aimed at assessing the state administration readiness to use AI. The report includes a detailed overview of attitudes and knowledge levels of the state administration employees, as well as the existing AI practices and institutional readiness to implement the AI Act. Among other things, an important part of the research refers to the calculation of an AI index, which can take a value between 0 and 100, and is interpreted as follows:

**0 - 39** ***Initial development phase:*** The institution is just starting to apply artificial intelligence - now is the ideal time to strategically plan, set priorities and acquire new knowledge.

**40 - 64** ***Capacity under construction:*** The basis, indications of readiness and positive attitudes for the use of AI have been set up. The next step is to reinforce projects and develop teams.

**65 - 84** ***Functional capacity:*** The institution has a strong application of AI in practice and has skillful staff. Strategic improvement and exchange of good practices are recommended.

**85 - 100** ***Strategic maturity:*** AI is integrated into the main processes, and the institution is ready to further expand and take a leading role in innovation. There is a strong basis for developing cooperation on projects and pilot programs.

# SUMMARY

Following global trends and initiatives by governments around the world that are measuring their readiness and developing strategies for the implementation of artificial intelligence, **the AI index for the Republic of Croatia was calculated, based on the results of this research, and it amounts to 41[1], which belongs to the capacity-building phase.**

This means that Croatia has already established the basis for the application of artificial intelligence and shows initial signs of readiness and a positive attitude towards digital innovation. There are certain capacities, but they are still in the formation phase.

# RESEARCH METHODOLOGY AND SAMPLE

The research objectives were the following:

1. To gather the views of state administration bodies on the level of institutional readiness to use AI
2. To examine the extent to which state administration employees use available AI tools in their daily work and integrate them into business processes, while also collecting data on AI training needs.

The survey consisted of two questionnaires:

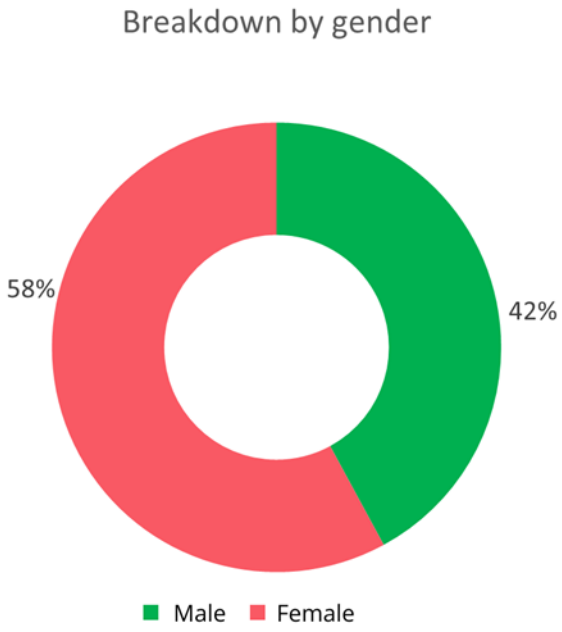
a) **Questionnaire for assessing the readiness of state administration bodies to use artificial intelligence (AI)** – for institutions (one answer for the institution)

[1] [1] Authorised officials who responded to a questionnaire on their institution's readiness to use AI were able to score a maximum of 115 points on questions relevant to the calculation of the AI index. For each respondent, the average number of points was calculated by adding the values of all their responses (on most scales of 1-5, and on some scales 0 for answer 'no' or 2 for answer 'yes') which were then divided by 115. This resulted in an average number of points for each respondent. By the same procedure, the average number for each respondent was also calculated for the questionnaire on self-assessment of respondents' qualifications, with the difference that the maximum number of points that respondents could achieve by answering questions relevant for the calculation of the AI index was 36. The group average was calculated for both groups of the respondents. The group average of authorised officials was then multiplied (weighted) by 0.65 and the group average of employees was multiplied (weighted) by 0.35. The results of both groups were then summed up and the sum was multiplied by 100, in order to create a final AI index that can take a value from 0 to 100.

b) **AI Training Needs Self-Assessment Questionnaire** – intended for all the employees in an institution

The research was conducted in the period from 13th June to 15th September 2025, using the online tool LimeSurvey. The call for participation in the survey was sent to 52 state administration bodies of the Republic of Croatia, out of which 44 (85%) responded. Out of a total of 44 621 employees, 6 518 (15%) filled in the questionnaire.

The collected data was statistically processed and quantitatively and qualitatively analyzed. The research results are presented in a series of graphics with appropriate textual clarification. The following graphs show the gender and age structure of the respondents.



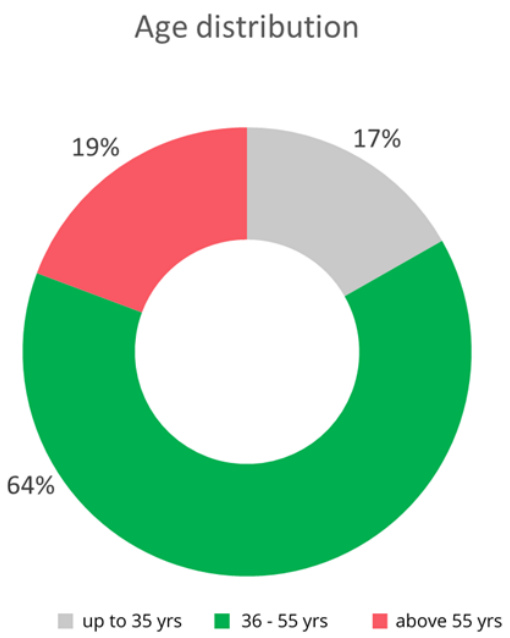



*Figure 1 Demographic characteristics of the respondents*

# I. INSTITUTIONAL READINESS FOR AI APPLICATION

## ATTITUDES AND PRACTICES IN DEVELOPMENT AND APPLICATION OF ARTIFICIAL INTELLIGENCE

## 1.1. Internal AI policy and strategy in the institution

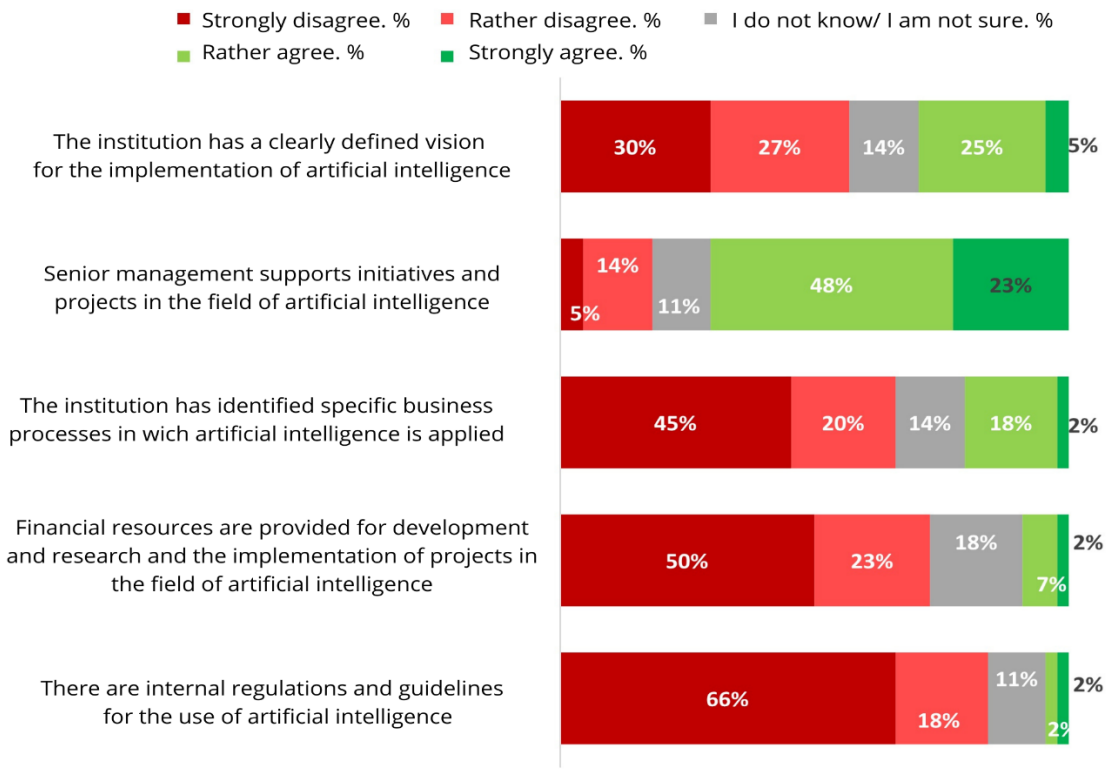



*Figure 2 Internal AI policy and strategy*

As a rule, public administration institutions do not yet have a clearly defined vision for the use of AI, as confirmed by most respondents who believe that the vision does not exist or is not sufficiently communicated (57% in total). There is a relatively high level of management support for AI initiatives; the majority of respondents agree that senior officials encourage the use of AI (around 70%). Despite this, there are still no business processes using AI (65%). In addition, the lack of financial resources is a significant obstacle as most respondents state that funds for AI projects are not provided (73%). Finally, the institutions almost completely lack internal regulations and guidelines for the use of AI. About 84% of the respondents are convinced or almost convinced that such documents do not exist in their institution.

**Recommendation:** To define the strategic direction and the basic framework of AI management and clearly communicate them to employees. It would be useful to launch several smaller pilot projects that can demonstrate the value of AI in practice and help build internal capacity. Therefore, it is necessary to gradually expand the uptake and, in particular, to ensure sustainable financing for further development.

## 1.2. Data and technology infrastructure

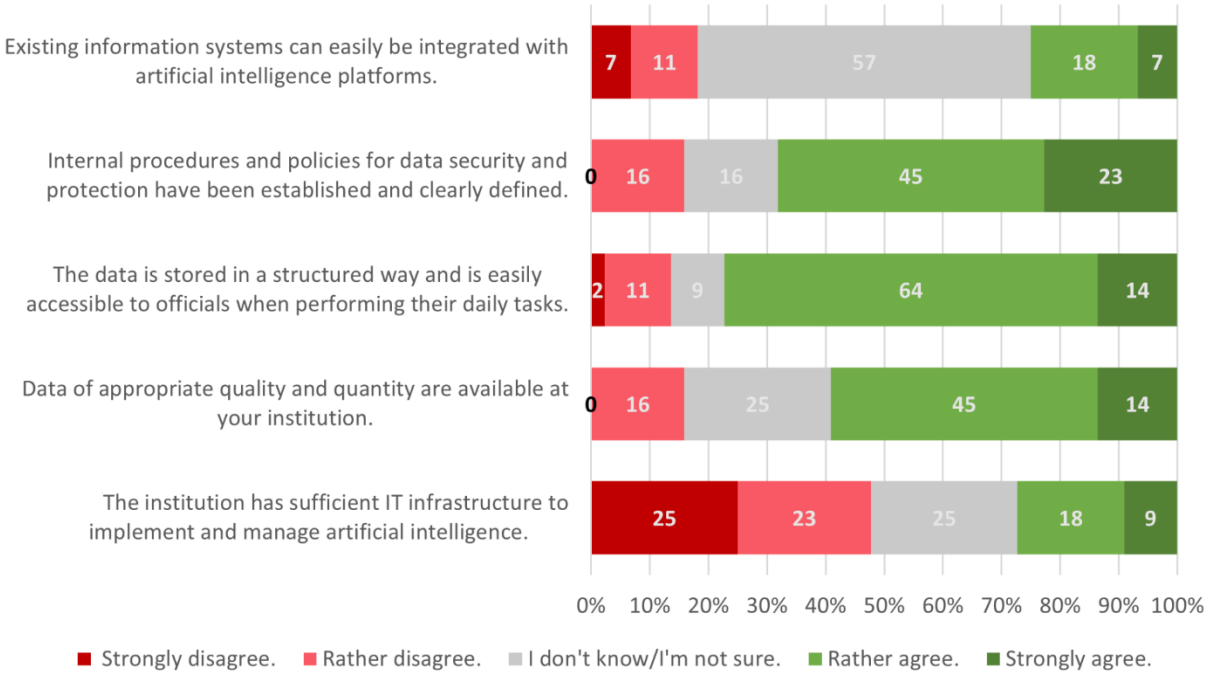



*Figure 3 Data and technology infrastructure*

A significant proportion of the respondents believe their institution does not have sufficient IT infrastructure for the AI implementation. About 48% of the respondents disagree that the IT infrastructure in their institution is sufficient for the AI application and management, and only 27% express agreement. The quality and quantity of the available data were assessed slightly more favorably, with a total of about 59% of the respondents agreeing that the data is available, although a quarter is not sure (25%). The majority (about 78%) of the respondents believe that data is well structured and available to employees when performing everyday tasks, while 13% of the respondents disagree with it. The existence of data security and protection procedures and policies was assessed moderately positively, with about 68% of the respondents agreeing that they exist, while 32% disagree or cannot assess. About a quarter of the respondents (25%) think that the existing information systems in their institutions can be easily integrated with AI platforms; 18% disagree with this, and the highest percentage are those who do not know how to answer this question (57%).

**Recommendation:** IT infrastructure needs to be strengthened and modernized to create the technical preconditions for future AI projects, as almost half of the respondents believe that the current capacities are not sufficient. Modernization of information systems is also needed to

facilitate integration with AI platforms, as most respondents perceive integrability as a key barrier to wider use of AI by the institution.

### 1.3. Management of AI projects

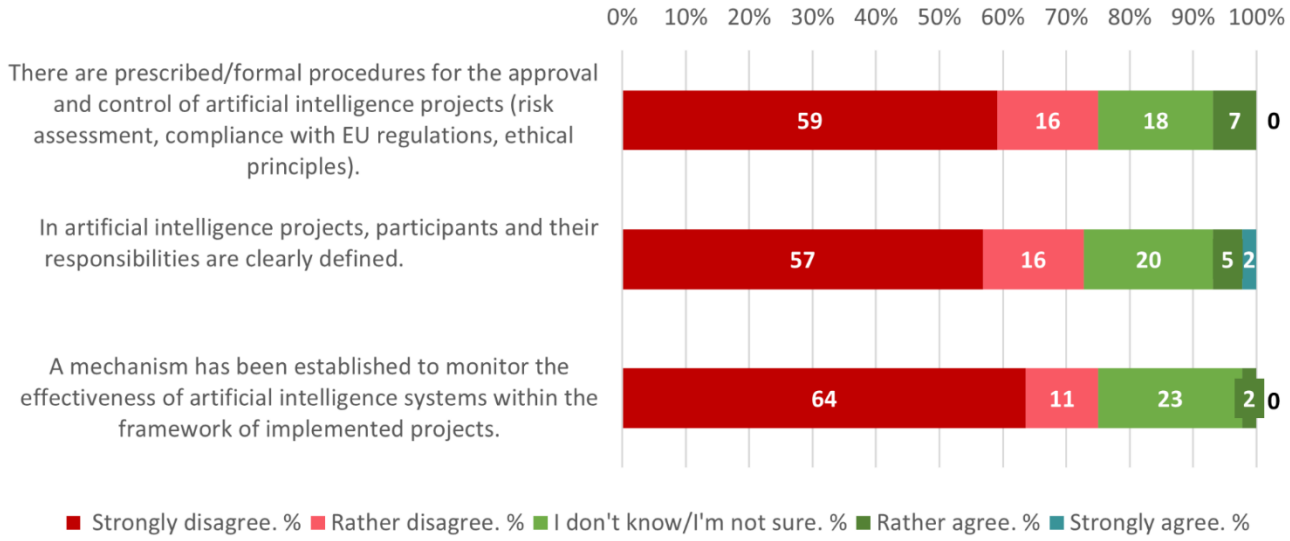



*Figure 4 AI project management*

In the field of AI project management, there is an extremely low level of development of formal procedures and mechanisms. Most respondents (about 75%) believe that there are no prescribed procedures for the approval and control of AI projects, while only about 7% of them partially agree that they exist. Approximately 73% of the respondents argue that roles and responsibilities are not clearly defined in AI projects, while only 7% agree that roles are defined. There is a specific deficiency in the area of monitoring the effectiveness of AI systems in projects, where about 75% of the respondents believe that monitoring mechanisms do not exist, and only 2% partially agree with the claim that they exist. Between 18% and 23% of the respondents do not feel confident enough to give their opinion on this topic.

**Recommendation:** It is necessary to establish a basic framework for AI project management, including formal procedures for approval, risk assessment and monitoring of compliance with regulations. The roles and responsibilities of participants in AI projects need to be defined to ensure transparency and more effective implementation. Since mechanisms for monitoring the effectiveness of AI systems are almost completely lacking, it is recommended to develop standardized metrics and an evaluation process that will enable systematic monitoring of results and better decision-making in future projects.

## 1.4. Organizational culture and attitudes

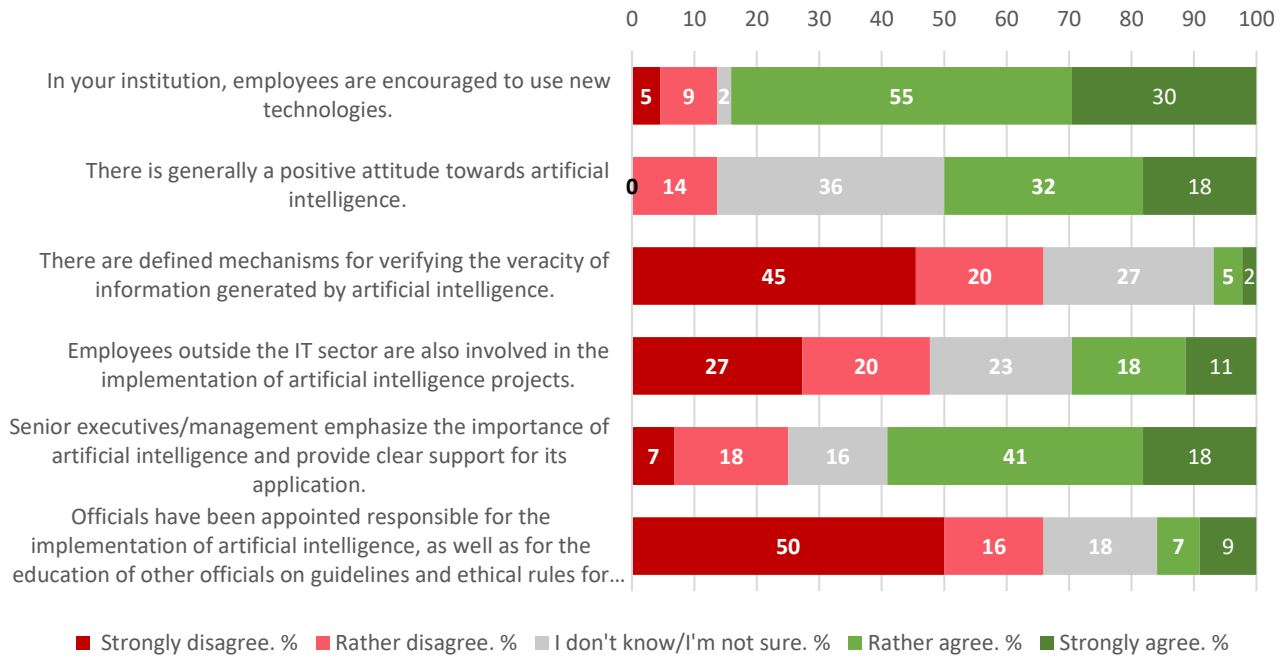



*Figure 5 Organizational culture and attitudes*

The public administration has a relatively positive organizational climate towards the use of technology and AI, but with several key structural weaknesses. A large majority of the respondents believe that public administration employees are encouraged to use new technologies (around 85%), and a positive attitude towards AI is recognized by about 50% of the respondents, with a significant proportion of those who are neutral or not sure (around 36%). However, there are generally no clear mechanisms for verifying the accuracy of information generated by AI, which is reported by around 65% of the respondents. Just under a third (29%) of them agree that public administration employees outside the IT sector/department are also involved in AI projects. The managers, according to the perception of the respondents, show a solid level of support for the AI application, which is confirmed by 59% of them. However, formal appointments of responsible persons for AI and their role in employee education have hardly been established, which is reported by about 66% of the respondents.

**Recommendation:** The results show there is a favorable organizational climate in public administration institutions, as well as the willingness of their employees to adopt new technologies, but they lack a structure that would turn this readiness into a systematic application of AI. It is recommended to establish formal responsibilities for AI, including the appointment of people in charge of coordinating, educating and monitoring ethical issues. It is

important to develop mechanisms to verify the accuracy of the information generated by AI to ensure the reliability of the system. The involvement of non-IT officials in AI projects should also be extended, with better communication and more visible support from the management to further strengthen the existing positive attitude and turn it into concrete practice.

### 1.5. Institutional readiness to apply the EU Regulation on Artificial Intelligence (AI Act)

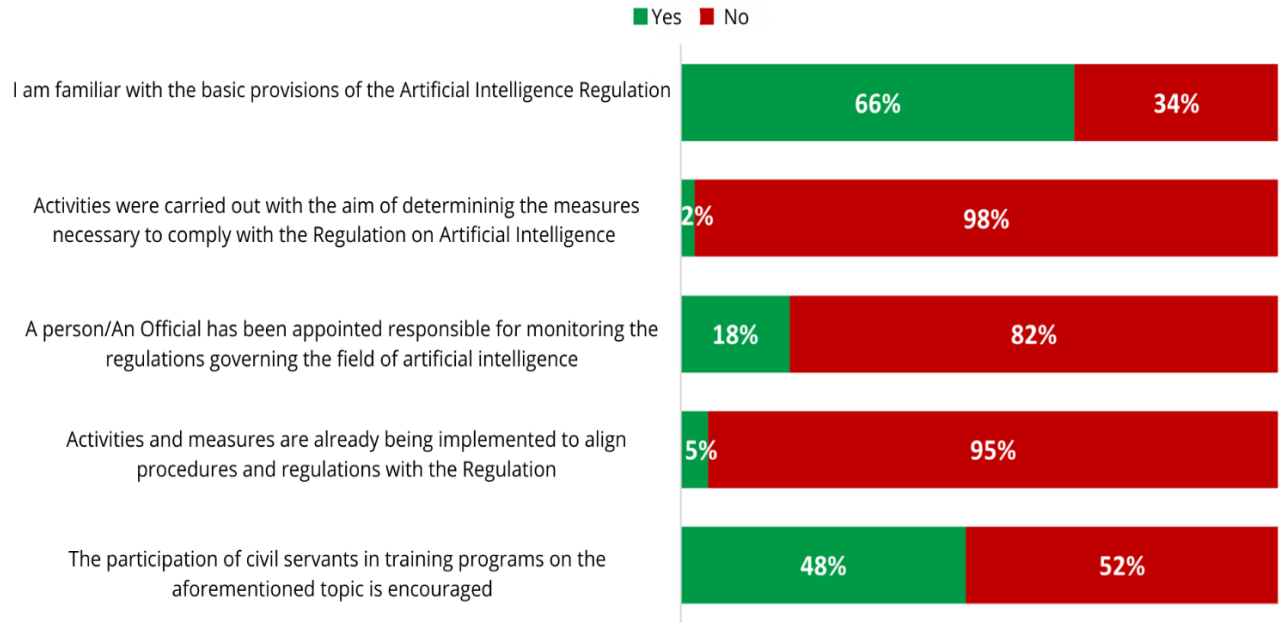



*Figure 6 Institutional readiness to apply the EU Regulation on Artificial Intelligence (AI Act)*

Most respondents are familiar with the basic provisions of the AI Regulation (around 66%), but other key elements of harmonization are almost entirely absent. The activities to determine the necessary compliance measures have not been carried out according to the statement of even 98% of the respondents. In addition, approximately 82% of them say that a person responsible for monitoring AI regulations has not been appointed. Around 95% of the respondents claim that no activities have been initiated to harmonize procedures and regulations with the Regulation. The opinion on encouraging employees to participate in education is divided: about 48% of the respondents think that employees are encouraged to attend education, while about 52% think the opposite. Such result points to a polarization of public administration institutions – a group of those in which the education of civil servants is encouraged and those in which it is not.

**Recommendation:** The results indicate that public administration institutions are only at the beginning of the process of alignment with the AI Regulation, so it is a priority to start systematic preparatory activities. The first step should be to appoint a responsible person or team to monitor regulatory requirements and coordinate the compliance process. After that, it is important to carry out an analysis of the necessary measures, including a review of the existing procedures and the identification of areas requiring adaptation. Since most employees do not yet have adequate support through education, it is recommended to establish a systematic educational program to ensure at least a basic level of understanding of the requirements of the Regulation and increase internal readiness for its application.

## 1.6. Assessment of the institutional readiness to apply the AI Regulation

The statement "Our institution is ready to apply the AI Act" received an average score of μ = 2.66 on a five-point scale (1 = "strongly disagree", 5 = "strongly agree"). This average value below 3 (i.e. neutral position) shows that in most cases the respondents do not consider their institution to be AI ready. There is a clear need to create primarily an umbrella vision on the AI development and application that will encompass all institutions, and then to educate employees on the benefits, risks and practical aspects of AI deployment, which will equip them with concrete skills for its use.

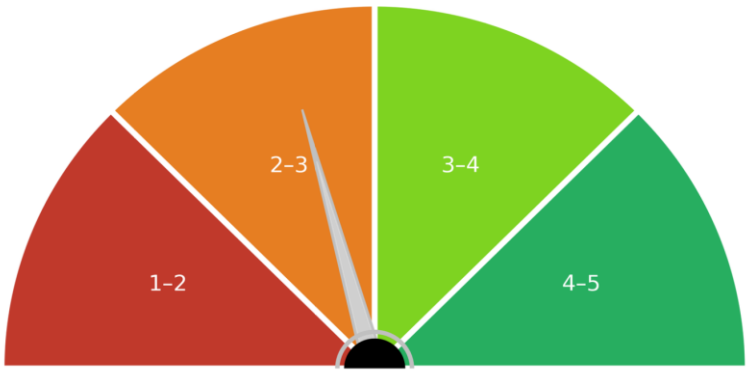



*Figure 7 Average readiness of institutions for AI application*

## 1.7. Current practice of AI use

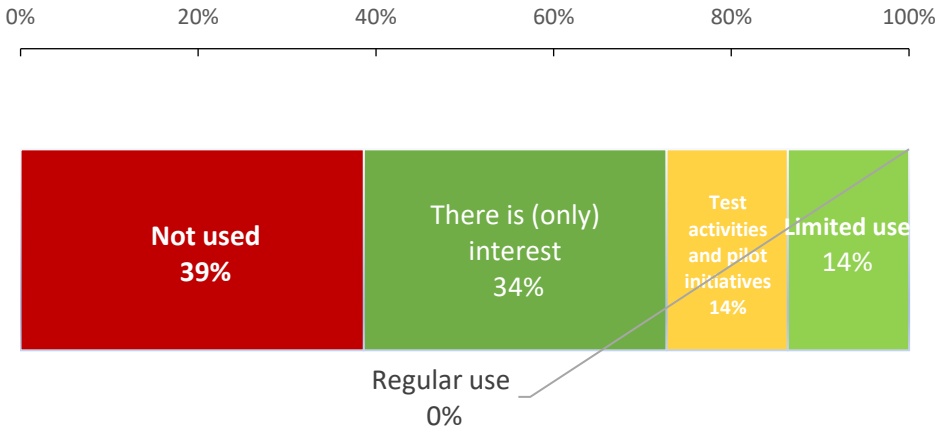



*Figure 8 Current practice of AI use*

Currently, AI in public administration institutions is hardly being used in a systematic form. The largest proportion of the respondents (around 39%) report that AI is not used at all and that there are no projects or initiatives. A significant number (approximately 34%) of the respondents recognize interest but point out that concrete actions have not been taken yet. Test activities or pilot initiatives were conducted on a limited scale, which is stated by about 14% of the respondents, and an additional 14% of the respondents confirm that AI is used only occasionally or in very specific tasks. Regularly, the daily use of AI does not exist, which is in line with the calculated AI index.

**Recommendation:** It is necessary to implement targeted low-risk pilot projects, which enable rapid learning and building (or developing) initial capacities. It is important to establish the basic organizational and technical infrastructure and provide education evenly in all institutions so that employees acquire the competence needed for wider application. The pilot phase is followed by the development of a plan for the gradual integration of successful solutions into everyday work and the setting up of clear mechanisms to monitor their effectiveness.

### 1.8. Would you like to use AI in your work?

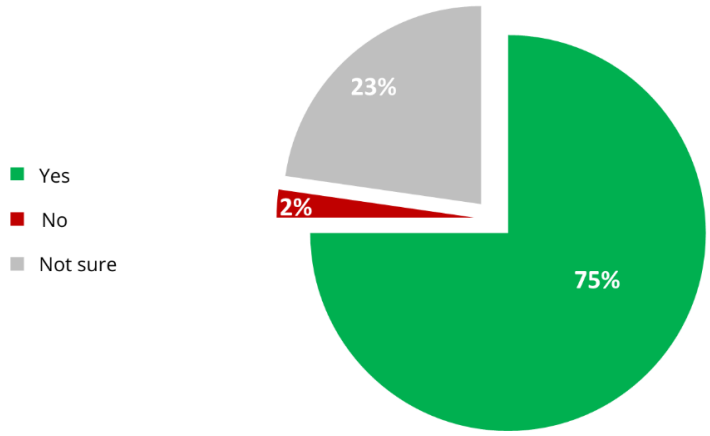



*Figure 9 Willingness for AI practical use*

The willingness of the respondents to use AI in their daily work is extremely high. Approximately 3/4 of them (75%) want to use AI practically, while the proportion of those who do not want to use it is negligible (2%). Approximately 23% of the respondents are still uncertain, suggesting that additional information, education and clear examples of its use could increase their readiness and engagement in the future.

**Recommendation:** Given that the vast majority of the respondents want to use AI in their work, the institutions should use this positive attitude as an incentive to accelerate the uptake of AI initiatives. Targeted training and practical workshops would provide employees with insight into concrete possibilities of application in their business processes. Clear communication on plans and expectations should also be ensured, and support should be given to those who are still uncertain, in order to turn motivation into a real and, more importantly, sustainable use of AI in practice.

## 1.9. Examples of the use or intended use of AI by institutions

**Automation of administrative processes**

- Writing memorandums, chatbots, Q&A systems, processing citizens' queries (24%)

**Document processing**

- Automatic reading, search, extraction of data from PDFs and scans (14%)

**Analytics and Prediction**

- Risk prediction, intervention analysis, large database processing (14%)

**Drafting and evaluation of regulations**

- Analysis of existing laws, simulation of the effects of regulations, data visualization, support for public consultations (14%)

# II. INDIVIDUAL CAPACITIES OF EMPLOYEES (SELF-ASSESSMENT)

## Knowledge of AI-related topics among state administration employees

## 1. Self-assessment of the level of AI competencies

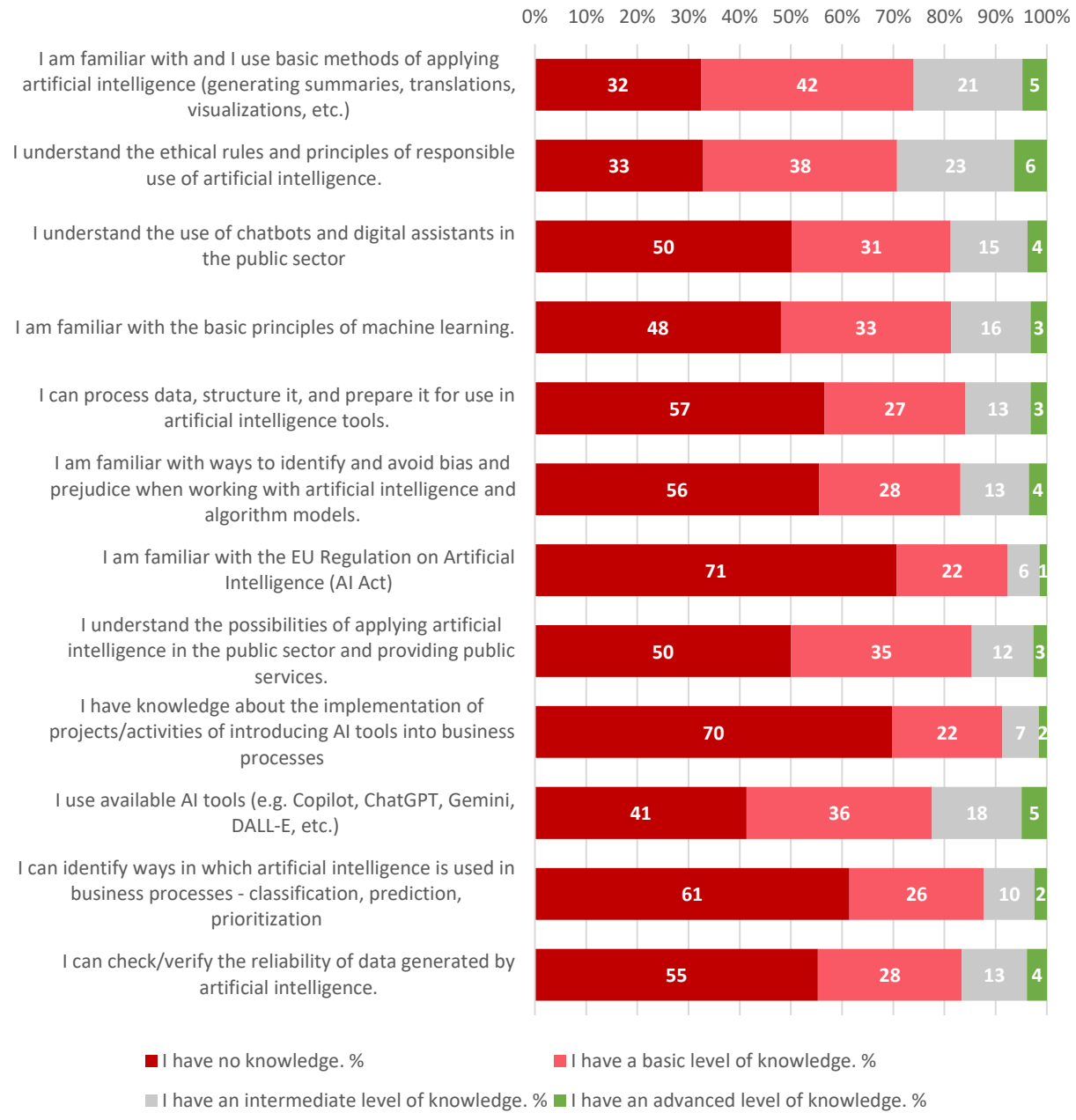



*Figure 10 Self-assessment of the employees' AI competencies*

The results of the self-assessment of the employees clearly show the difference between the areas in which the basic level of knowledge is present and those in which significant deficiencies are observed. The highest level of competence development can be seen in the practical, everyday use of AI tools: approximately 42% of the employees have a basic level of knowledge in the use of AI tools for the purpose of producing summaries, translations and visual representations. Also, the field of ethics and responsible application of AI is relatively well

developed, with 38% of the employees having a basic, and 23% a medium level of knowledge, making it one of the better developed areas.

On the other hand, the results clearly indicate lack of development of individual competencies in more complex and strategic topics. The biggest lack of competencies is related to understanding the EU Regulation on Artificial Intelligence (AI Act), where as many as 71% of the employees state that they have no knowledge. Similarly, 70% of the employees do not have knowledge about the implementation of AI solutions in business processes, and only 7% reach the medium level. In the area of recognizing the possibility of using AI in business processes, the situation is only slightly better: 61% have no knowledge, and only 10% have a medium level.

Technical areas (such as machine learning, data processing for AI tools and bias management) are also among the weaker ones. In these areas, 48 - 57% of the employees report a complete lack of knowledge, while only 3% of the respondents (employees) have an advanced level of knowledge in technical fields.

Overall, the employees show a solid level of basic digital and ethical literacy related to AI, but at the same time there is an extremely large lack of knowledge in strategic, regulatory and technical competencies. These areas are the key points that should be targeted through educational programs and development initiatives.

## 2. What do you most often use AI tools for in everyday tasks?

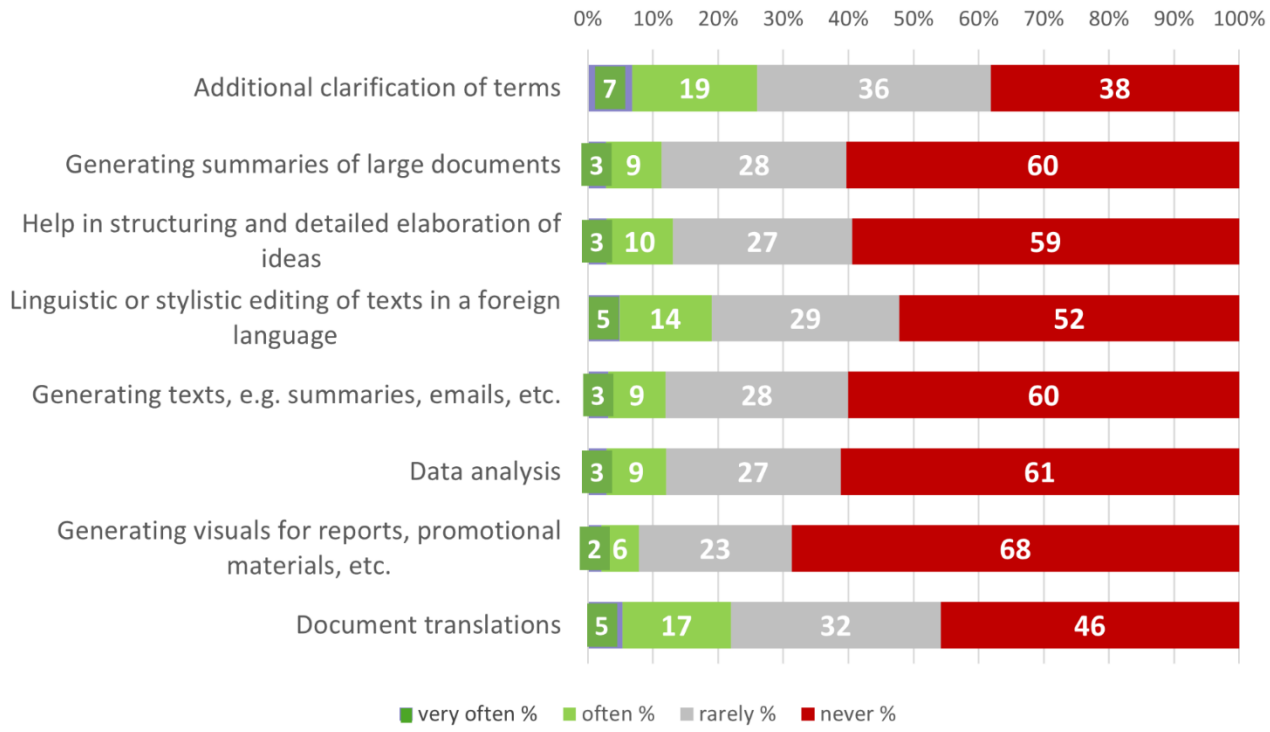



*Figure 11 Use of AI tools in everyday tasks*

The employees most often resort to AI tools in everyday tasks when they need quick explanations of terms or help with simpler language tasks, such as translation or text finishing. These activities are the most widespread and represent positive exceptions in which AI has become part of the regular work process for some employees.

However, in most other tasks – such as generating summaries of longer documents, writing emails, structuring ideas or analyzing data – AI tools are used sporadically. They are still not part of established practice, and many employees use them only occasionally or never. AI tools are rarely used to create visualizations, reports or promotional materials, which shows that the creative and visual capabilities of AI tools are not used nearly as much as there is potential for them. There is a visible pattern when AI is most used when it offers quick, clear and immediate help, while in more complex or demanding tasks its application has not yet come to life, despite the potential benefits.

## 3. Age-by-age analysis

The results of the analysis by age groups (up to 35 years and above 35 years) indicate a stable generation gap: the responses given by younger employees show more working and functional knowledge, while older employees report a much more frequent lack of knowledge needed to work with AI.

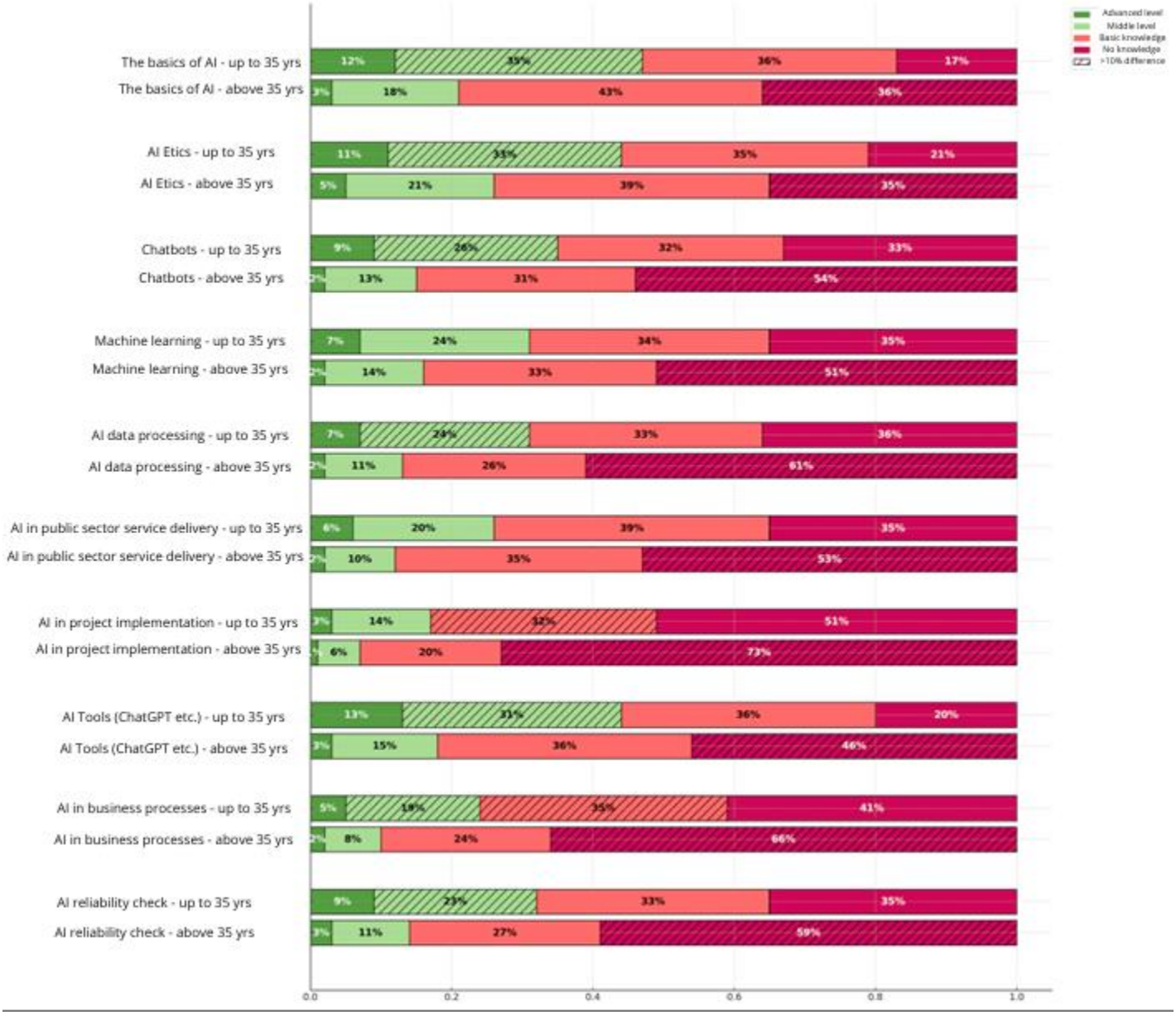



*Figure 12 Analysis of the employees' competencies by age group*

The employees under the age of 35 show a higher level of basic and intermediate knowledge in almost all topics, suggesting greater exposure and greater comfort in using AI tools and considering a broader context for their implementation. In the older group, the highest proportion of responses show they lack knowledge, especially in technical areas such as machine learning, data processing, AI tools and the implementation of AI in business processes. The differences are greatest in these areas, indicating that older employees have less practical experience with modern AI technologies and use.

Advanced knowledge is rare in both groups, suggesting that institutions lack specialized AI competencies. The differences in advanced knowledge are not high. The lack of highly developed skills is not generationally specific, but it presents a challenge for both age groups.

# III. TRAINING NEEDS ANALYSIS IN THE AREA OF AI USE

## 1. Thematic areas in line with training needs of the respondents


*Figure 13 Thematic areas in line with training needs of the respondents*

The employees mostly express the need for additional training in those areas that are most present in everyday work and where AI tools are most used in practice. The most significant need is evident in basic and operational competencies, such as the use of basic AI tools in public administration and the use of chatbots and digital assistants. There is also great interest in working with data and understanding the basic principles of machine learning, which suggests that the employees see the value of AI, but lack a practical background.

The minimum training needs are expressed in strategy-related topics, research and advanced methodologies — such as policymaking, change management or research methods related to the deployment of AI systems. This shows that the employees are currently more focused on specific tools that can help them perform their daily tasks, while strategic and more advanced applications are of secondary importance.

## 2. How often do you develop your AI skills and knowledge in the following ways:

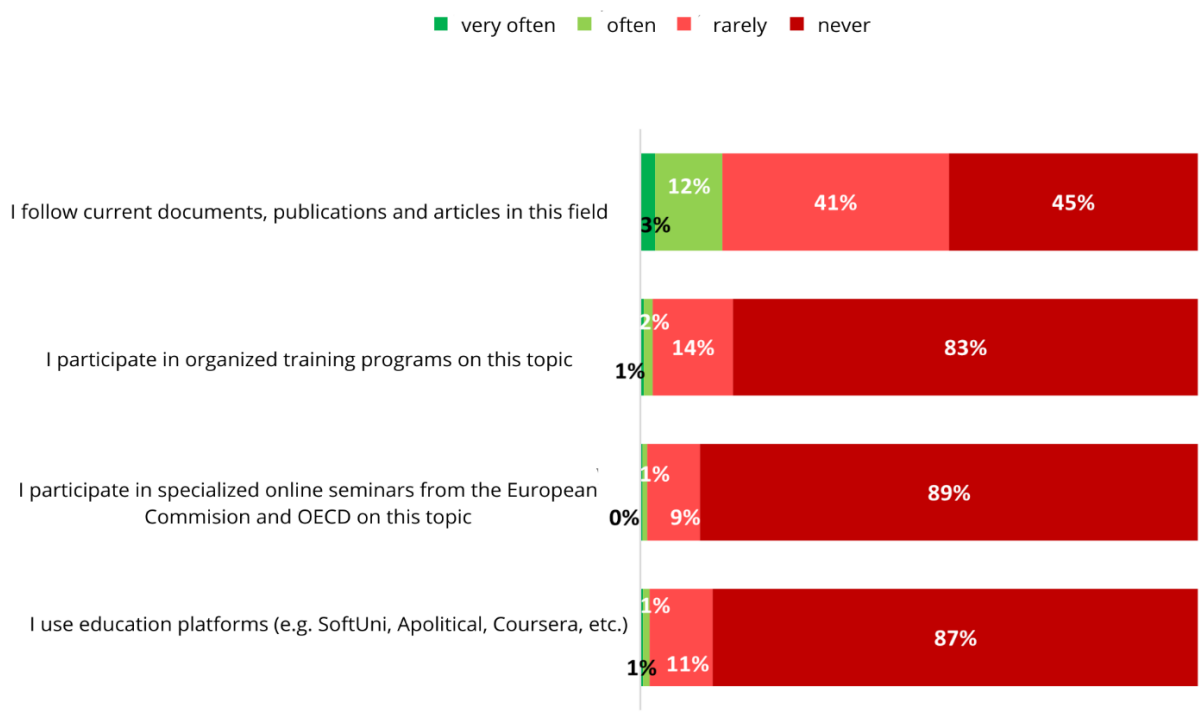



*Figure 14 How the employees develop AI-related knowledge and skills themselves*

Based on the results presented, it can be concluded that the employees show interest in knowledge development in the field of AI, but their engagement mainly takes place through informal and independently selected sources. Monitoring current publications, articles and

professional documents is the only activity that achieves a more significant level of frequency, which indicates that employees spontaneously make an effort to be informed and have a certain level of internal motivation to learn.

Participation in organized training programs, specialized online seminars or the use of educational platforms is extremely low. The data indicate that structured learning is not a common practice and that there are obstacles in accessing or organizing such activities. The low prevalence of formal forms of education does not necessarily reflect a lack of interest, but may indicate insufficient availability, work overload or a lack of clear organizational incentives.

The public administration employees do not seem to lack the core motivation for AI competence development, but their real progress requires stronger systematic guidance. The introduction of accessible, well-structured and targeted education programs could significantly increase the level of participation and enable the employees to turn existing interest into more concrete and long-term forms of learning.

### 3. Which type of educational materials and resources do you consider most useful for the development of AI knowledge and skills?

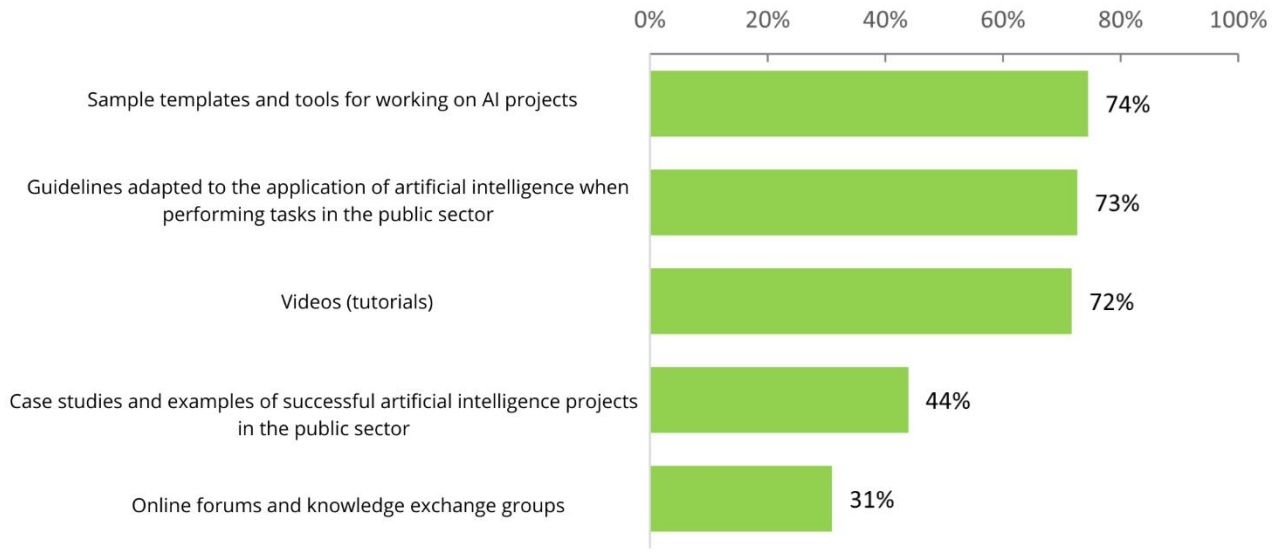



*Figure 15 The most useful materials and resources for the development of AI knowledge and skills*

The employees find educational materials that are practical, concrete and directly applicable to their daily work to be the most useful. The highest points were given to sample templates and tools for working on AI projects, as well as to guidelines adapted to the AI implementation in the public sector. Videos are also highly valued, suggesting that the employees prefer clear, structured and visually accessible forms of learning.

On the other hand, case studies have been identified as useful, but in a significantly lower proportion, which may indicate that they are perceived as less practical or less directly applicable in relation to specific tools and guidelines. Online forums and knowledge-sharing groups are the least attractive – most employees do not find them useful, which is understandable given that discussions in forums and online groups take a lot of time and learning outcomes are questionable.

### 4. Which forms of training do you consider most appropriate for developing and strengthening AI skills?

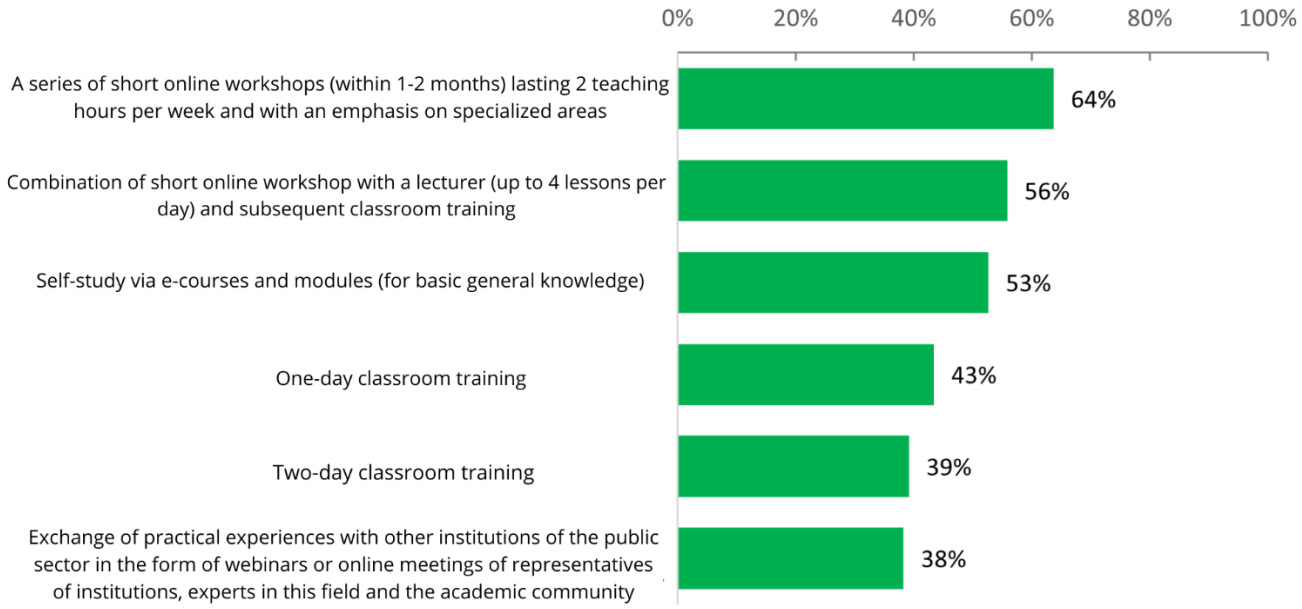



*Figure 16 The most appropriate forms of training*

The three forms of training most preferred by the employees are: short online workshops focused on specialized areas (64%), a combination of online workshops and shorter classroom education

(56%) and self-learning through e-courses and modules (53%). These results indicate a greater preference for flexible, short and focused forms of learning.

Two-day classroom education is considered undesirable by 61% of employees, most likely due to its time-consuming demands. The least desirable form of training is the exchange of practical experiences through webinars or meetings with other institutions (62% of negative responses). The results suggest that the employees prefer structured, short and clearly focused training, while formats that require longer absence from work or, in their opinion, do not offer clear, practical benefits are met with the greatest resistance.

## 5. Which factors would prevent you from participating in training programs aimed at developing AI competencies?

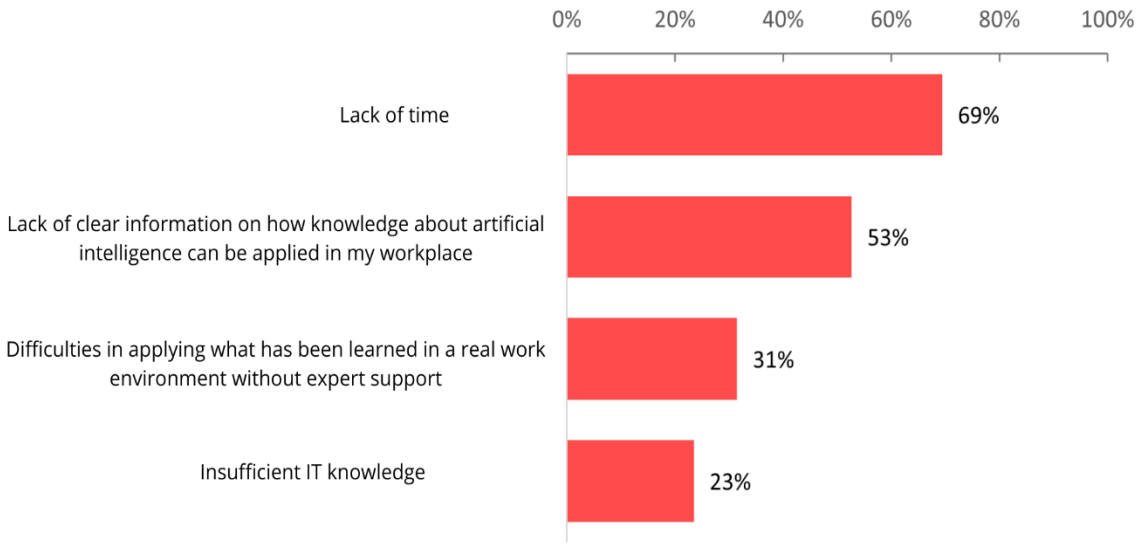



*Figure 17 Training-preventing factors*

The most common factor that would prevent the employees from participating in training programs is the lack of time, cited by as many as 69% of the respondents — by far the most prominent reason.

Next in frequency is the lack of clear information on how to apply AI knowledge in their own workplace, pointed out by 53% of the employees. This shows that many of them are not sure how they would specifically use the acquired skills in practice.

The third most common reason is the difficulty in applying what has been learned without the support of experts, stated by 31% of the respondents.

The least represented factor is insufficient IT pre-knowledge, reported by only 23% of the employees, suggesting that most employees do not see their own digital skills as an obstacle to their participation in education.

### 6. In your opinion, what resources or forms of support would be useful to develop the necessary competencies for AI implementation in state administration?

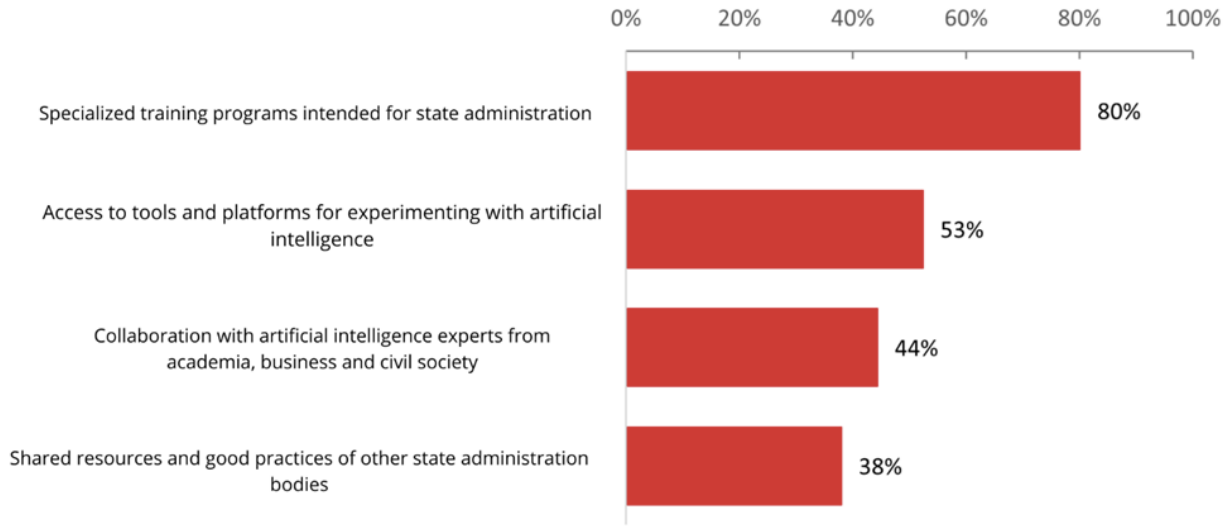



*Figure 18 The most useful forms of support and resources for the development of AI competencies*

The largest number of votes was given to specialized training programs aimed at the state administration (80%), which clearly shows that the employees mostly believe in targeted and adapted education as a way of developing the necessary competencies. It is followed by access to AI experimentation tools and platforms (53%), which is considered useful by many respondents, which points to the importance of practical work and the possibility of trying AI solutions.

Cooperation with experts from the academic, business and civil sectors (44%) also encounters some support, although to a lesser extent, suggesting that the employees recognize the value of professional leadership, but do not see it as a primary form of support. The least positive responses were given to the exchange of good practices between state administration bodies

(38%), which may indicate, among other things, the lack of experience of effective cooperation with other state administration bodies in the context of the development of personal competences.

## i. Summary of answers to open-ended questions in the educational area

The questionnaire for civil servants in the public administration also contained questions which respondents could answer in their own words. After excluding the answers "I don't know", "I can't think of anything at the moment" and similar ones which do not contain relevant information, an indicative qualitative analysis was carried out for the purpose of identifying and grouping broader topics.

### 7.1. How would you use AI in your administrative area - for internal processes, customer service or something else?

- Automation of internal processes
- Data and risk analysis
- Customer support (chatbot, e-services)
- Working with regulations and laws
- Preparation of content and documents
- Education and internal support
- Optimization of management and organization
- Specific professional applications by sectors

### 7.2. In which thematic areas do you think you need training the most?

- **AI basics and digital literacy**

- What AI is and how it works (basic terms: models, data, training)
- Difference between AI, machine learning and automation
- How to identify trusted digital sources and avoid disinformation

- **Practical use of AI tools (Office, search, writing, analysis)**

- Use AI add-ons in Word to write draft memos, summaries, and corrections
- AI Excel for table analysis, formula and graph suggestion
- AI online search assistance (“advanced search”, generation of topic overviews)
- Automated creation of PowerPoint presentations

- **AI in public administration and official processes**

- Automatic generation of simple solutions and forms with human verification
- Smart administrative assistants (e.g. faster finding of relevant articles of the law)
- AI tools for managing applications, classifying cases or prioritizing applications

- **Law, ethics, regulation and human rights**

- Introduction to the EU AI Act and what does “high-risk AI application” mean
- Personal data protection when using AI (GDPR + specific bans)
- Ethics: how to avoid discrimination, lack of transparency and model bias
- Human rights and automated decision-making

- **Cybersecurity and information security**

- Identifying phishing attacks and fake AI content (deepfakes, fake emails)
- Safe use of AI tools: what must / must not go to the prompt
- Basic principles of official data protection when using digital tools
- AI systems for detection of threats and anomalies in network traffic

- **Advanced AI technical skills (Python, models, data)**

- Basics of Python for data processing (Pandas, NumPy)
- How to train a simple machine learning model
- Work with overtrained models (e.g. text classification)
- Building simple chatbots and API integrations

- **AI specialized sectoral applications**

- AI in finance (audit, fraud detection, risk analysis)
- AI in security and police work (record analysis, image processing, forensics)
- AI in healthcare (triage, analysis of medical images)
- AI in Project Management and Public Procurement

- **Risks, restrictions and responsible use**

- Identifying situations where AI provides inaccurate, outdated or fabricated data
- Risks of over-reliance on automation
- Risk assessment prior to the introduction of AI into the official process
- Transparent tagging of AI-generated content

- **Learning support and AI assistants**

- Using AI as a personal tutor to learn new topics
- Generating examples, quizzes, summaries and instructions
- AI assistants for easier understanding of laws, regulations and professional materials
- Tailored learning plans according to knowledge and needs

## ii. Suggested topics for AI education not covered by the questionnaire

After processing and cleaning the collected data, the answers without specific proposals and those which were too specific and thematically unconnected were excluded from the analysis. In total, 197 substantively relevant responses were analyzed.

The results show that the respondents mostly express the need for education focused on the practical use of tools based on AI (19.3%) and for AI basic knowledge (18.8%). Together, these two categories account for almost 40% of all valid proposals, confirming that there is a strong need for a combination of general awareness and operational applicability of AI tools in everyday work.

The third most represented category refers to the personal data protection, cyber security and ethical aspects of the use of AI technologies (15.2%), which indicates a high level of awareness of the legal and safe use of these technologies in the state administration system.

The topics which are also most frequently mentioned belong to the area of data analysis, statistical processing and predictive models (12.7%), confirming the growing need for the development of analytical competencies.

In addition, a significant number of suggestions refer to specific sectoral implementation of AI (10.7%), including the areas of customs, tax treatment, policing, geodesy, health and other sectors.

The need for education in the field of communication and translation (9.1%) and business process automation (8.6%) was also recognized, indicating the respondents' willingness to increase efficiency and standardize administrative procedures.

Less represented but relevant suggestions relate to education on the recognition of manipulation and AI-generated content (4.1%), as well as on the social and labor effects of AI applications (1.5%).

There is a clear need for education that integrates basic knowledge and practical skills, but also for a clear regulatory and security framework for AI use. Some respondents mention additional adjustments to the specific needs of individual organizational units within the state administration system (criminalistics, fire service, etc.)

# GENERAL RECOMMENDATIONS FOR DEVELOPMENT OF AI SKILLS AND COMPETENCES AND AI APPLICATION IN STATE ADMINISTRATION BODIES

**1. Develop basic digital and AI literacy for all employees**

There is a need to understand the basic concepts of AI, the difference between AI and automation, and the reliable use of digital sources.

***Recommendation:*** Introduce a single basic AI literacy program for all state administration employees, which includes understanding of models, data, risks and limitations, as well as critical evaluation of information.

**2. Focus on practical skills of using AI tools in everyday work**

The largest number of suggestions refer to the operational use of tools, such as AI search engines, content generation.

***Recommendation:*** Develop modular workshops focused on specific work tasks — writing memorandums, analyzing tables, generating presentations, searching for regulations — with demonstrations of safe use. For example, in addition to general instructions on the use of a particular AI tool, provide examples of inputs that may (not) be entered, examples of data processing, what happens to the documents entered, where risks arise and how to avoid them.

**3. Establish specialized programs for AI implementation in administrative procedures**

There is a need for education on how AI can support administrative processes: preparation of solutions, classification of cases, legal and information support, etc.

***Recommendation:*** Develop training programs for individual segments of public administration, with an emphasis on efficiency-enhancing implementation, but with a clearly emphasized human role in decision-making.

### 4. Emphasize the legal, ethical and regulatory aspects of AI use

The third most represented category of responses points to a high awareness of the need for compliance with the GDPR, the EU Regulation on Artificial Intelligence (AI Act), ethical principles and the protection of citizens' rights.

***Recommendation:*** It is mandatory to include modules on high-risk systems, surveillance, transparency, non-discrimination and secure data handling in training programs.

### 5. Strengthen cyber and information security capacities

The respondents emphasize the importance of protection against phishing, deep-fake manipulation and safe use of AI tools.

***Recommendation:*** In each organizational unit, introduce mandatory security training courses that include threat identification, proper management of official data and the role of AI systems in risk detection.

### 6. Develop advanced technical competencies for specialized teams

Some of the respondents' suggestions (about 20%) refer to the need for additional education in the field of statistics, data analysis and model development.

***Recommendation:*** Form advanced educational programs (Python, ML models, work with overtrained models, API integrations) for specialized teams, enabling thus the development of internal competence centers.

### 7. Establish programs for sector-specific implementation

Some of the employees who participated in the survey expressed great interest in the implementation of AI in processes related to specific areas, such as finance, customs and police procedures, health, geodesy and the like. From the above it can be concluded that generic training is not sufficient for all public administration employees.

***Recommendation:*** Develop sector-targeted curricula in cooperation with departments and professional institutions, to ensure the targeted implementation of AI solutions.

### 8. Strengthen communication, translation and document management skills with AI support

A significant percentage of the respondents' suggestions refer to language processing tools and content standardization.

***Recommendation:*** Include modules for the use of AI in translation, editorial support, summaries and optimization of official communication.

### 9. Include education on risks, limitations and responsible use of AI

The respondents recognize the dangers of erroneous or fabricated data, as well as the risks of over-reliance on automation.

***Recommendation:*** Systematically educate the employees on how to identify situations where human assessment is necessary, how to validate AI results correctly, and how to mark AI-generated content.

### 10. Encourage the use of AI as a tool for learning and professional development

AI assistants are recognized as a useful tool for understanding regulations, preparing materials, creating quizzes and individualized learning programs.

***Recommendation:*** Enable and formally approve the use of AI to support professional development, including the development of personalized learning plans according to the employees' needs.

### 11. Ensure flexibility and adaptation of educational content to specific institutions

The respondents indicate the need to adapt content to specific areas (criminalistics, fire service, health...).

***Recommendation:*** Develop a modular education system that allows adaptation to a sector, level of expertise and working environment specifics.

**12. Systematically integrate education into the public administration development strategy**

There is a need for a long-term, systematically organized and coordinated approach to the development of knowledge and skills and the implementation of AI in the public administration system.

***Recommendation:*** Include the development of AI competencies in strategic documents, work plans and competency assessment systems, ensuring continuity and sustainability of development.