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ИНСТИТУТ ПО ПУБЛИЧНА АДМИНИСТРАЦИЯ

PUBLIC ADMINISTRATION AI READINESS INDEX

BULGARIA 2025

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ПО ПУБЛИЧНА
АДМИНИСТРАЦИЯ

PUBLIC ADMINISTRATION

AI READINESS INDEX,

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Dear colleagues and partners

Public administration is on the verge of a new era, shaped by the rapid rise of artificial intelligence (AI). On a global scale, governments are already taking advantage of AI's potential for better services and governance, while embracing the principles of responsible and human-centered use of these technologies. The OECD's toolkit for trustworthy AI[1] and initiatives such as the UNESCO framework for AI competencies[2] outline a vision for skills development and policies, while the EU Act on Artificial Intelligence sets out specific requirements for safe and ethical use.

Bulgarian public administration should not lag behind. On the contrary, it has the potential to be a leader in the region in intelligent management. This report presents the first-of-its-kind AI readiness index for Bulgarian public administration. This IPA initiative is already being replicated, with Croatia and Romania conducting similar studies. As Executive Director of the Institute of Public Administration, I am proud to share the results of this study. It provides an objective picture of where we stand today, what our strengths and weaknesses are, and what we need to do to unlock the potential of AI in the service of society.

The results are both a reason for realism and optimism. We can clearly see that the foundations have already been laid—we have innovators and motivated experts in the system. At the same time, we identify areas where targeted efforts are needed: developing digital skills, modernizing infrastructure, and creating internal rules and ethical standards for AI. This index is a valuable tool with which we can measure our progress in the coming years and compare our development with the best global practices.

I call on leaders and professionals in public administration to carefully consider the findings and recommendations. The time for action is now! We must invest in training our people, experiment with new AI solutions, and build a sustainable framework for their responsible deployment. I believe that with vision, leadership, and

[1] https://oecd.ai/en/catalogue/overview
[2] https://www.ipa.government.bg/sites/default/files/ai_comp_unesco_bg.pdf

Consistency Bulgaria can quickly move from the preparatory stage to operational capacity and even strategic maturity in the field of AI.

This is not just a technological transformation, but an opportunity for more efficient, transparent, and citizen-oriented governance. Let us work together to turn the potential of artificial intelligence into real benefits for society. The Institute of Public Administration will continue to support you on this journey through knowledge, training, and sharing of good practices. I am convinced that, united by this vision, we can ensure a more innovative and responsible future for the Bulgarian administration.

Pavel Ivanov,

Executive Director of

Institute of Public Administration

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Summary

The overall artificial intelligence (AI) readiness index for public administration is 49 out of 100, which corresponds to the "building capacity" phase. On this basis, the foundations for the effective use of AI can be considered to have been laid, but further action is needed: targeted investment in training, resource support, and strategic leadership to accelerate the uptake of AI technologies in government.

There are several significant weaknesses: there is no clear vision or internal policies for AI, management commitment to the issue is weak, and the actual use of AI is low. Most staff are not familiar with the AI Act (Regulation (EU) 2024/1689) and institutions have not yet taken concrete steps to ensure compliance.

At the same time, important strengths are also evident. There is openness to innovation, with nearly half of administrations encouraging the use of new technologies, which shows a positive attitude towards innovation and the potential of AI. About one-third of employees (31%) report a positive attitude towards AI in their institution, which is a solid foundation on which to build. The proactivity of the employees themselves is also noteworthy, with many seeking information and training on AI on their own initiative. 71% of respondents say they need specialized training to develop AI skills. This high level of motivation is a valuable asset that management could support through IPA programs or other appropriate initiatives.

In the context of the Index report, we propose the following priority recommendations for 2027 to build capacity and transform the work of the administration through AI:

- **National strategy and roadmaps for AI.**

  A comprehensive national strategy for artificial intelligence needs to be developed and adopted, backed by the necessary funding. Each ministry and key agency should have a specific plan (roadmap) for AI implementation, coordinated centrally (e.g. by the Council of Ministers) to ensure consistency with government priorities and EU requirements. Municipalities should also prioritize investment in AI technologies and coordinate pilot projects among themselves to avoid duplication and share successful

A similar strategic approach has made other European countries (Estonia, Spain) leaders in the use of AI, showing that a clear vision and coordination accelerate progress. Leadership and responsibility for AI initiatives.

- **Leadership and responsibility for AI initiatives.**

  The management of institutions must be firmly committed. Each key institution must appoint or designate a person/unit responsible for AI implementation (e.g., a "Digitalization and AI" department or an innovation team). Senior management should regularly monitor the progress of AI projects and clearly communicate their importance and expected benefits to employees, demonstrating their personal support. International experience shows that clearly defined leadership roles for digital transformation (e.g., chief data/AI officers) and active change management accelerate the implementation of innovation in the public sector.

- **AI-ready infrastructure and data.**

  Investments are needed to modernize IT infrastructure: cloud services, computing resources, and cybersecurity, as well as to improve data quality, interoperability, and accessibility. It is recommended to launch a national program for open and quality data to help institutions structure and prepare their data sets for AI applications. Improving the technical basis and data will allow AI projects to develop faster and with greater success.

- **Training and skills development.**

  A comprehensive program to improve AI skills among employees is needed, combining online courses, classroom training, and practical workshops with experience sharing. The goal is that by 2027, every civil servant in priority departments will have completed at least basic AI training, and key experts will have completed specialized courses. These training courses must cover the ethical and legal framework of AI to ensure the responsible use of technology. When developing the programs, established international frameworks (e.g., those of the OECD, EU, and UNESCO for AI competencies) can be used to cover technical, ethical, and managerial aspects and ensure compliance with global best practices.

- **Pilot projects and innovation in action.**

  Consider establishing a dedicated fund or initiative (e.g., an "AI in Action" program) to finance and support AI pilot projects in different administrations. The aim should be for each ministry to have implemented at least 2-3 pilot projects demonstrating the benefits of AI (e.g., automation of routine administrative tasks, intelligent data analysis for better decisions, etc.) by 2027. Successful pilot projects should be communicated publicly and replicated in other institutions, creating a learning and scaling effect. Estonia has implemented dozens of AI solutions in the public sector within a few years through a centralized strategy and funding, demonstrating the importance of such initiatives for rapid progress.

- **Preparation of legislation, internal rules, and ethical implementation of AI.**

  By the end of 2025, every state institution must assess its readiness for the requirements of the new European AI Act and draw up a compliance plan. Bulgaria must also update its legislation to bring it into line with European legislation. Between 2025 and 2027, internal mechanisms for risk assessment when using AI systems must be introduced, in line with the risk categories defined in the regulation. In addition, each institution should develop a code of ethics and guidelines for the responsible use of AI. Active participation in European initiatives and exchange of experience with other countries is also necessary so that Bulgaria can be among the leaders in the implementation of AI rules.

- **Consideration of a national AI body – following the example of Spain**

  Spain has already established the EU's first AI Supervisory Agency, ahead of the entry into force of the Regulation, an example that highlights the need for a proactive approach to ensuring reliable and safe AI systems. Bulgaria could consider this example to comply with Regulation (EU) 2024/1689 by establishing an independent, competent, and innovative national authority responsible for the regulation, implementation, and support of AI development in the country, such as an Artificial Intelligence Activities Commission.

Expected result: With consistent implementation of the above recommendations, the public sector could move from its current stage of "building capacity" to "functioning capacity" by 2027, approaching strategic maturity. This means that the administration will not only effectively implement artificial intelligence in the service of citizens and businesses, but will also do so responsibly and ethically, in line with global best practices.

Introduction

Artificial intelligence is transforming the way we work, learn, and interact with technology. From automating routine tasks to supporting decision-making, AI has enormous potential to improve the efficiency and quality of public services. Despite the rapid adoption of these technologies in various sectors around the world, there is still no comprehensive picture of how people and organizations in Bulgaria perceive and use AI.

This report presents the results of the first national study of its kind, the Artificial Intelligence Readiness Index in public administration. For the first time, it provides a detailed look at attitudes, knowledge, and practices related to AI in Bulgarian institutions. The study fits into the context of global trends in AI development. Governments around the world are already measuring their readiness and developing strategies for AI implementation, supported by international principles and standards of the OECD, UNESCO, as well as studies by the European Commission's Joint Research Centre[3] and others. All these initiatives highlight the need for the public sector in Bulgaria to develop its capacity in line with established international frameworks for the innovative and responsible implementation of artificial intelligence.

The study covers both the organizational perspective—the extent to which administrations adopt and integrate AI technologies—and the personal attitudes and experience of employees when working with artificial intelligence tools. In this way, the index reflects the dual nature of readiness: institutional environment and individual capacity.

Research methodology

The AI Readiness Index is a composite indicator developed to assess the overall capacity of administrations to implement artificial intelligence. It combines two main aspects of readiness:

- **Organisational readiness** - reflects the existence of policies, infrastructure, practices and management attitudes towards AI at the institutional level.

[3] ABENDROTH DIAS, K., ARIAS CABARCOS, P., BACCO, F.M., BASSANI, E., BERTOLETTI, A. et al., Generative AI Outlook Report - Exploring the Intersection of Technology, Society and Policy, NAVAJAS CAWOOD, E., VESPE, M., KOTSEV, A. and VAN BAVEL, R. (editors), Publications Office of the European Union, Luxembourg, 2025, https://data.europa.eu/doi/10.2760/1109679 , JRC142598

- **Individual capacity** - reflects the level of knowledge and skills of employees in the field of AI.

The two components were measured using a questionnaire (online survey) containing groups of questions on the relevant topics. The answers to each question were converted into numerical values on a predefined scale. The results are summarized in two separate assessments - one for organizational readiness and one for individual readiness. They were combined into an overall index using a weighted average, with the organizational component accounting for 65% and the individual component for 35%. This ratio reflects the key role of the institutional framework in the introduction of AI in the public sector.

The overall index is scaled from 0 to 100 and interpreted using a four-level qualitative scale that highlights the degree of progress and encourages development:

- **0–3G: Initial stage of development** – a fundamental start and strategic planning are needed.
- **40–64: Capacity building** – foundations are being laid; further development through training and resource support is needed.
- **65–84: Functioning capacity** – the administration already uses AI and has active mechanisms for its implementation.
- **85–100: Strategic maturity** – AI is integrated into management and processes; institutions are leaders and innovators.

This scale allows institutions to assess their own level, compare themselves with other institutions, and track progress over time.

In addition to calculating the readiness index, the study also includes a module for assessing AI training needs. In this way, the study identifies both the current state and the needs for future competence development. The results of the training module are presented in Annex 1 to the report, providing summary data on:

- the most frequently identified skills and areas for development;
- the preferred forms and approaches to training that employees use, including online platforms, webinars, face-to-face courses, and self-study;
- the main barriers to participation in training, including lack of time, insufficient IT skills, or uncertainty about the practical application of knowledge;

- a qualitative analysis of open questions, summarizing participants' suggestions for additional topics and resources that would facilitate their preparation.

This analysis is the basis for planning targeted training programs and improving the environment for developing AI capacity in public administration.

Scope and sample

The survey was conducted between April 22 and May 9, 2025. A total of 6,254 respondents participated, including civil servants from various institutions and levels of administration throughout the country. It covers a variety of genders, ages, positions, and years of experience, and the distribution of respondents by key demographic characteristics shows close similarity to data from the Administrative Register and the annual Report on the State of the Administration. This testifies to the representativeness of the survey. As expected, a larger share of participants came from the Sofia-city region, which can be explained by both the size of the capital and the centralized structure of the state administration.

The collected data were analyzed quantitatively (distributions, averages, shares) and visualized through a series of graphs. The following graphs show the distribution of respondents by gender, age, position, and length of service in the administration.

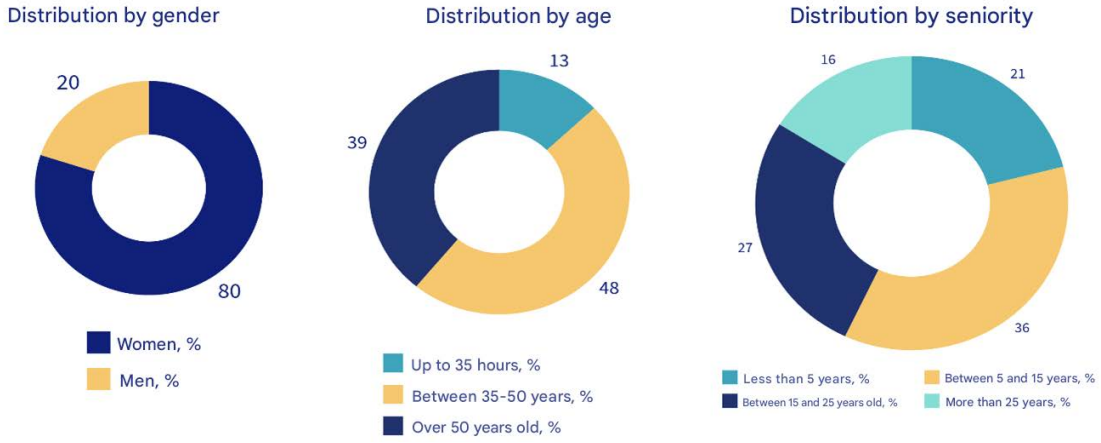


Figure 1. Distribution by demographic characteristics

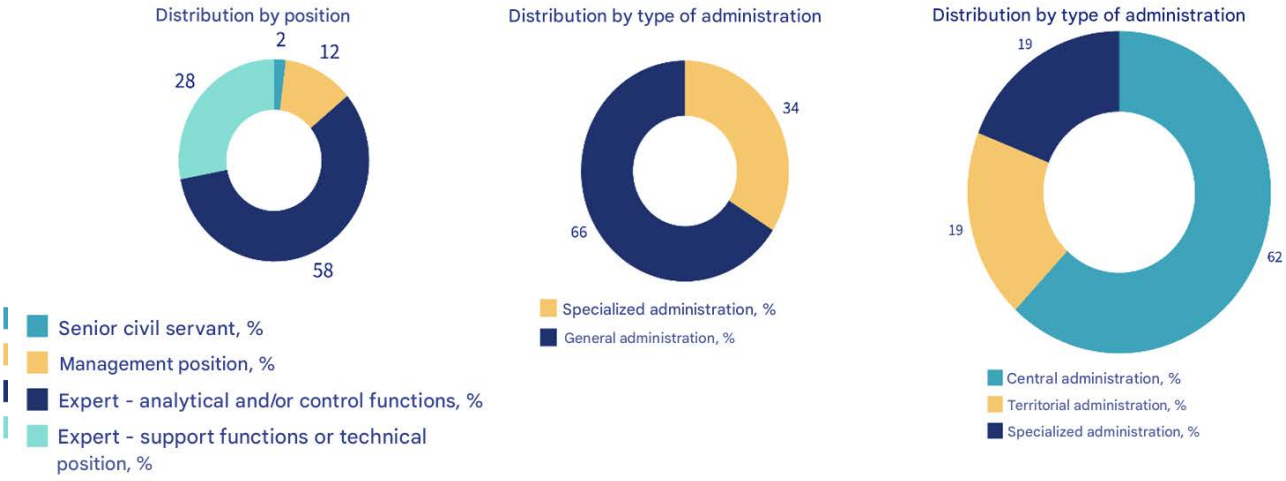


Figure 2. Distribution by organizational characteristics

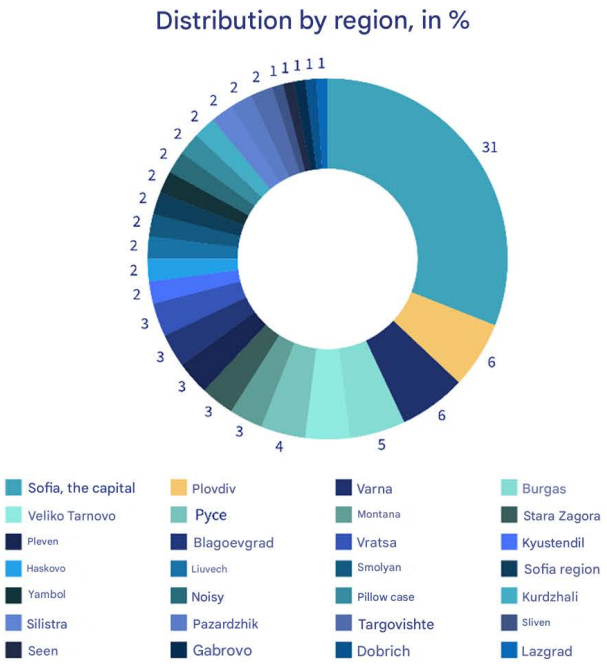


Figure 3. Distribution by region

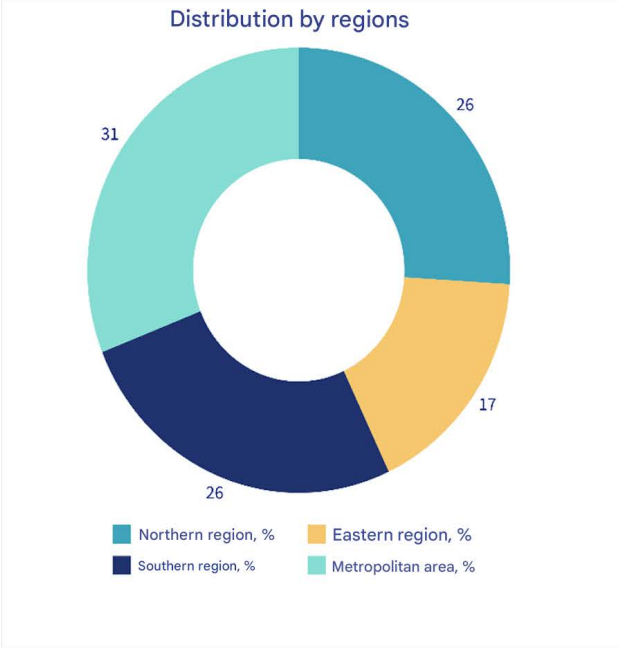


Figure 4. Distribution by regions

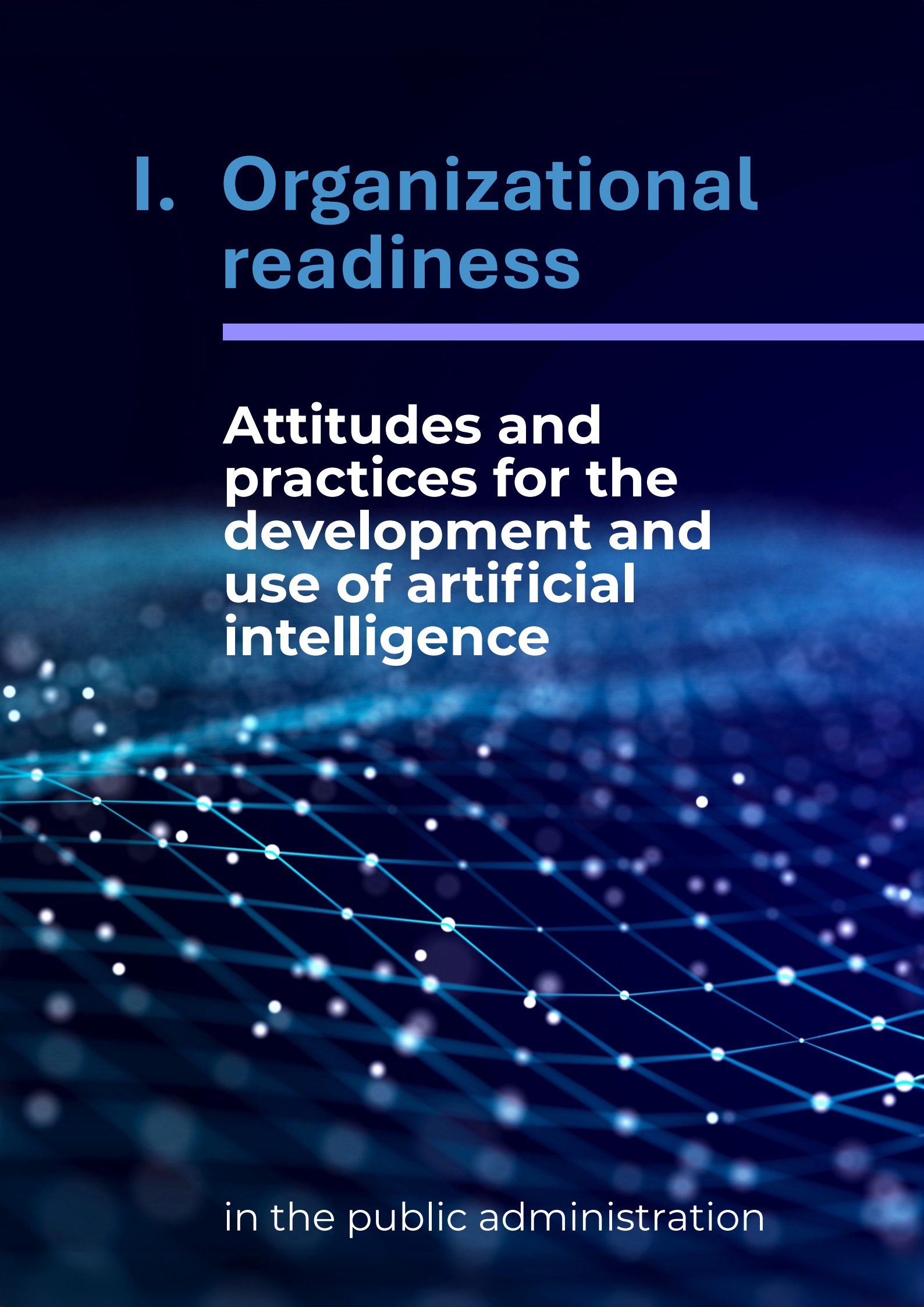
CHAPTER 1

PUBLIC ADMINISTRATION AI READINESS INDEX

Based on the summarized responses, the overall AI readiness index for the Bulgarian public administration is 49. This falls into the "building capacity" category (40–64 points). This shows that the foundations for the effective use and implementation of artificial intelligence are currently being laid in the administration. However, significant improvement is needed through training and resource support in order to fully realize the potential of AI. The detailed analysis of the indicators below confirms that the public sector is still uncertain about the application of AI and needs systematic efforts to increase readiness.

I. Organizational readiness

Attitudes and practices for the development and use of artificial intelligence



in the public administration

1.1 Internal policies on artificial intelligence

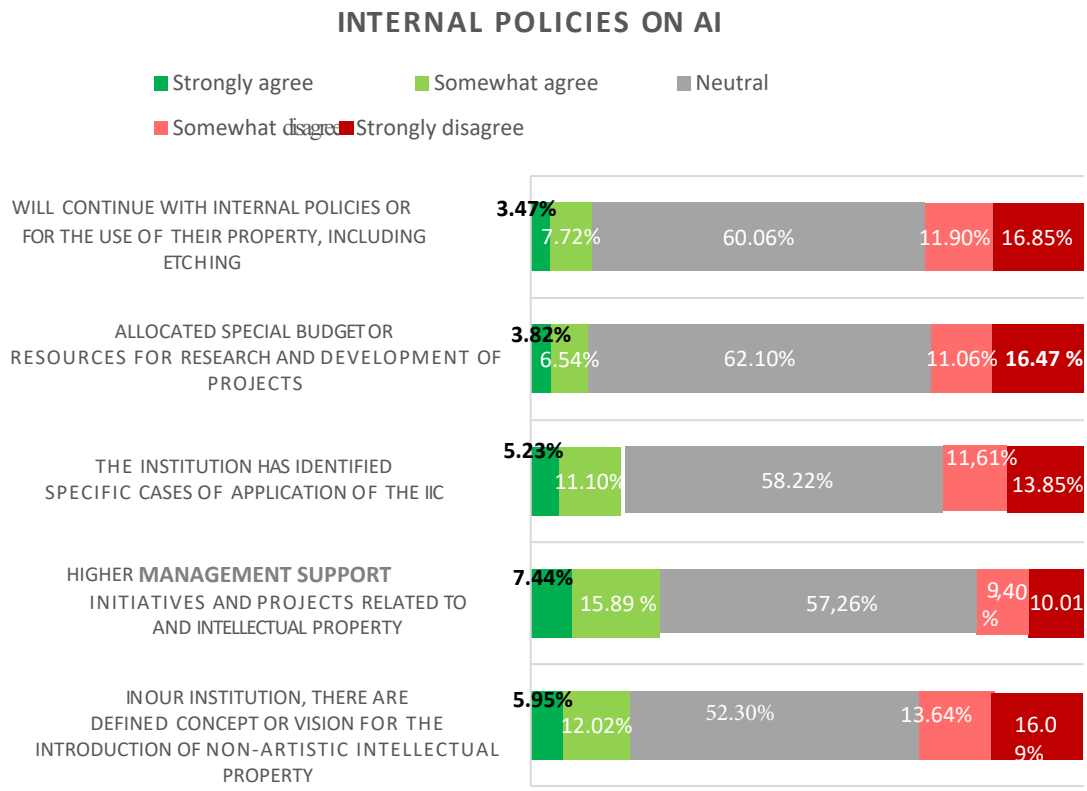


Figure 5. Internal policies for AI

The analysis shows that most administrations do not yet consider AI an institutional priority. Most organizations lack effective AI strategies or programs—there is no clearly defined vision or plan for implementing artificial intelligence. Only 18% of respondents indicate that their institution has some kind of internal policy or vision for AI implementation, and only 11% report the existence of internal guidelines or ethical rules related to AI. Around 10% of organizations have allocated a specific budget for artificial intelligence projects. These data clearly show that AI is not an institutional priority in most administrations—there are no formal policies, dedicated resources, or comprehensive strategy in this area. The predominance of "neutral" responses to these questions is also striking, which is probably due to a lack of awareness or a lack of a developed position on the subject (rather than necessarily skepticism).

Recommended action by institutions: Management should develop formal AI strategies or roadmaps, backed by the necessary budget, regulations, and internal rules. This will ensure that efforts are aligned and that there is commitment at all levels to developing AI capabilities.

1.2 Data and technological infrastructure

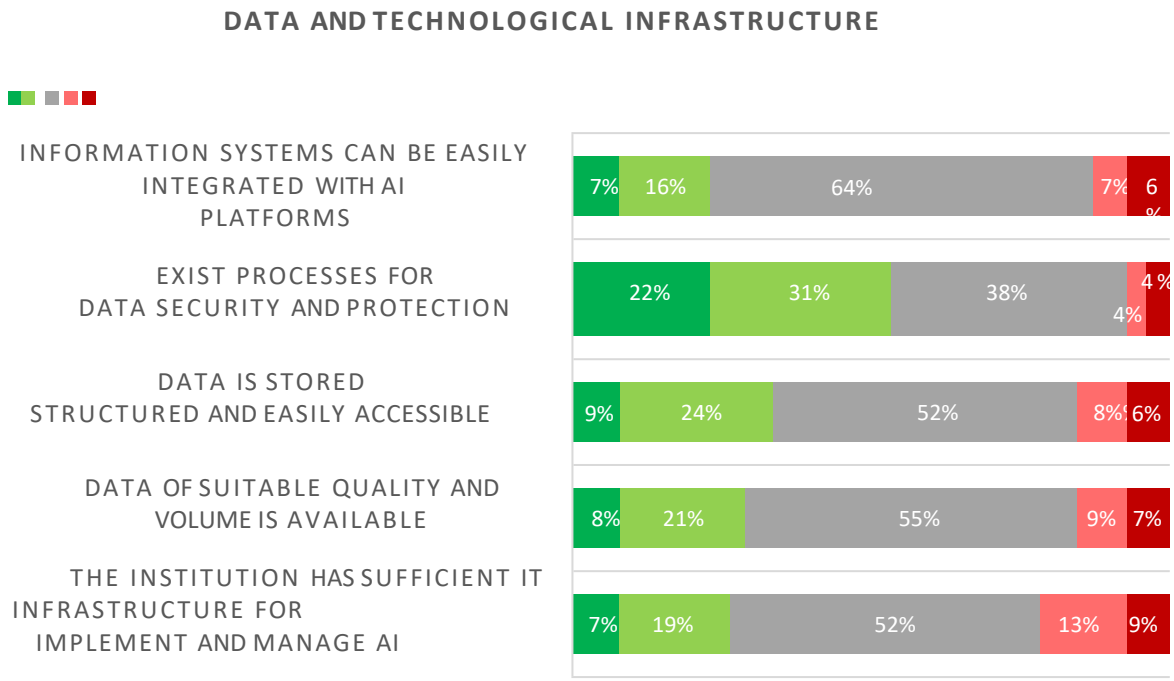


Figure C. Data and technological infrastructure

The results show that respondents gave relatively higher ratings to aspects related to data management and cybersecurity. This suggests that many organizations have already made basic investments and introduced data management policies, which are an important asset that can be built upon when developing AI systems.

However, there is insufficient technological readiness for AI. Many administrations still do not have a fully prepared IT infrastructure and data for the implementation of intelligent solutions. Only 26% of survey respondents believe that their organization has sufficient IT infrastructure for AI, and 23% believe that their existing systems can be easily integrated with artificial intelligence platforms. Around one-third (29%) rate their data as sufficiently high quality and accessible. These results highlight gaps in the technical foundation—from missing tools and platforms to fragmented or poor-quality data—which in practice make it difficult to implement AI solutions.

Recommended action: Investment is needed to modernize infrastructure and data by providing modern cloud platforms, computing resources, and data management tools. At the same time, programs should be launched to improve data quality, standardization, and accessibility. This will build a solid foundation on which AI applications can be sustainably established.

1.3 Management of projects related to the use and implementation of artificial intelligence

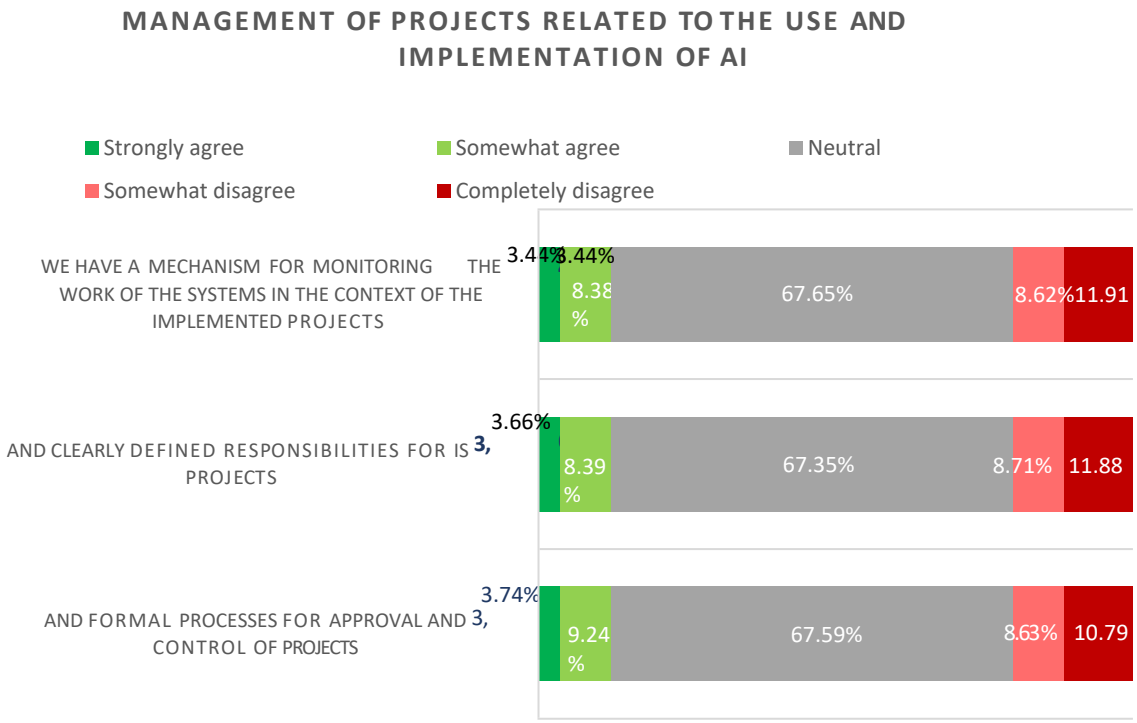


Figure 7. Management of projects related to the use and implementation of AI

Three key management aspects of working on AI projects were examined here: defining responsibilities, approval procedures, and monitoring and control mechanisms. The results show a low level of consistency across all three indicators, which is a serious challenge to the reliable and responsible implementation of artificial intelligence. There is a lack of formal processes for selecting, approving, and controlling AI projects. Only about 12-13% of respondents indicate that their institutions have clearly defined responsible persons/units, approval procedures, or mechanisms for monitoring the operation of AI systems. This suggests that AI projects are currently likely to be treated as ordinary IT projects, without sufficient specific steps to assess the additional risks, ethical implications, and regulatory requirements associated with AI.

Recommended action: Introduce a standardized process for managing AI projects, including formally designating a responsible person/team for each AI project, evaluation criteria (e.g., benefits, risks, compliance with ethical standards), and a mechanism for monitoring results. This would ensure greater accountability and control when experimenting with AI and would guarantee that innovations are implemented in a responsible manner.

1.4 Organisational culture and results

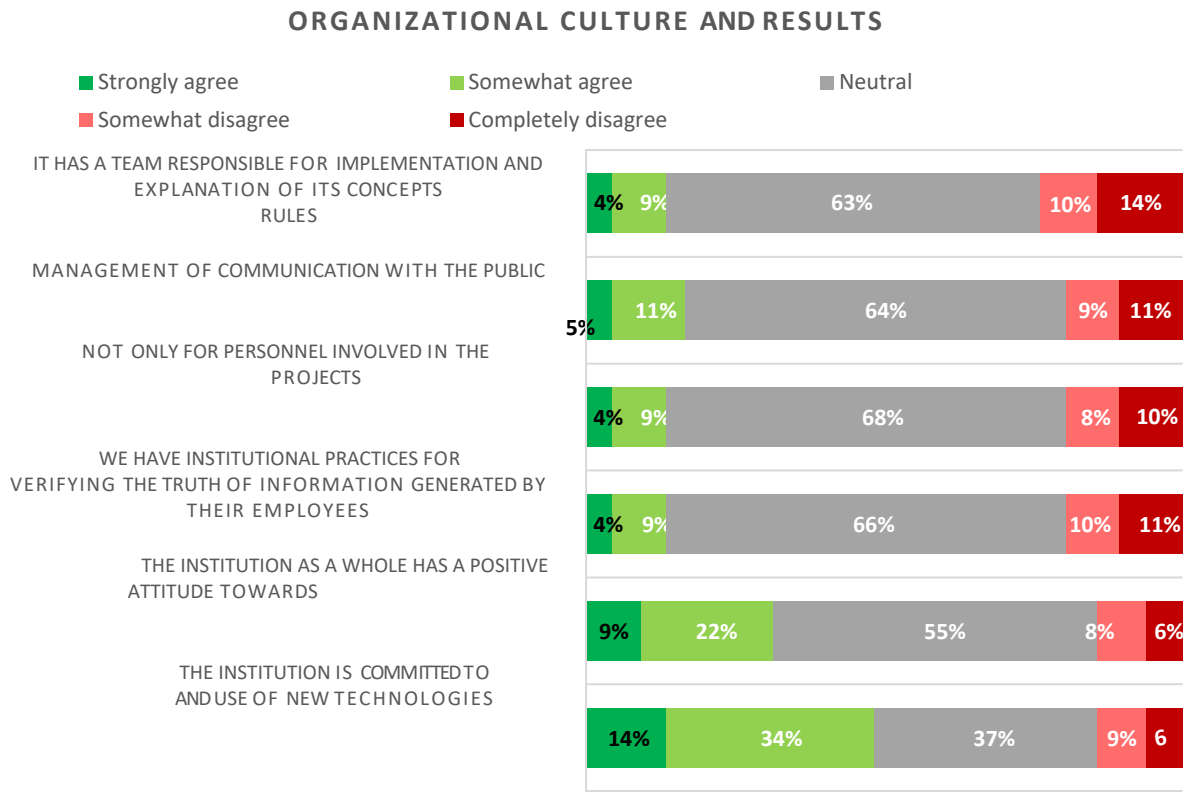


Figure 8. Organizational culture and results

This indicator covers six statements related to internal commitment and culture for innovation: leadership support, availability of AI teams/coordinators, inter-team cooperation, experience sharing, etc. The overall picture shows limited commitment on the part of management to actively introduce AI, despite some declared openness to new technologies (close to 50%). The data reveal rather passivity and uncertainty in the organizational culture regarding AI: neutral responses prevail for many of the statements (over 60% "neither agree nor disagree" on a number of indicators). This suggests uncertainty and a lack of sufficient information, as employees and managers have not yet formed an opinion or vision.

Only 16% of employees agree that management clearly communicates the importance of AI, and around 13% note that there is a dedicated team or that experts from outside the IT department are involved in AI projects. These low scores indicate a lack of leadership vision and internal cooperation, as AI initiatives often remain isolated within the IT department and are not perceived as a priority by senior management. In practice, key organizational mechanisms to support AI are almost non-existent: clearly responsible teams, coordination between different directorates, active leadership commitment.

Recommended action: Active leadership and the development of an internal "AI ecosystem" are needed. Ministers and heads of institutions should openly declare their support for AI implementation and define
"AI ambassadors" or specialized innovation teams to coordinate efforts and regularly communicate the successes and benefits of AI projects. The creation of interinstitutional AI working groups would also encourage the exchange of experience and ideas and help overcome organizational silos.

1.5 Readiness for the Artificial Intelligence Act

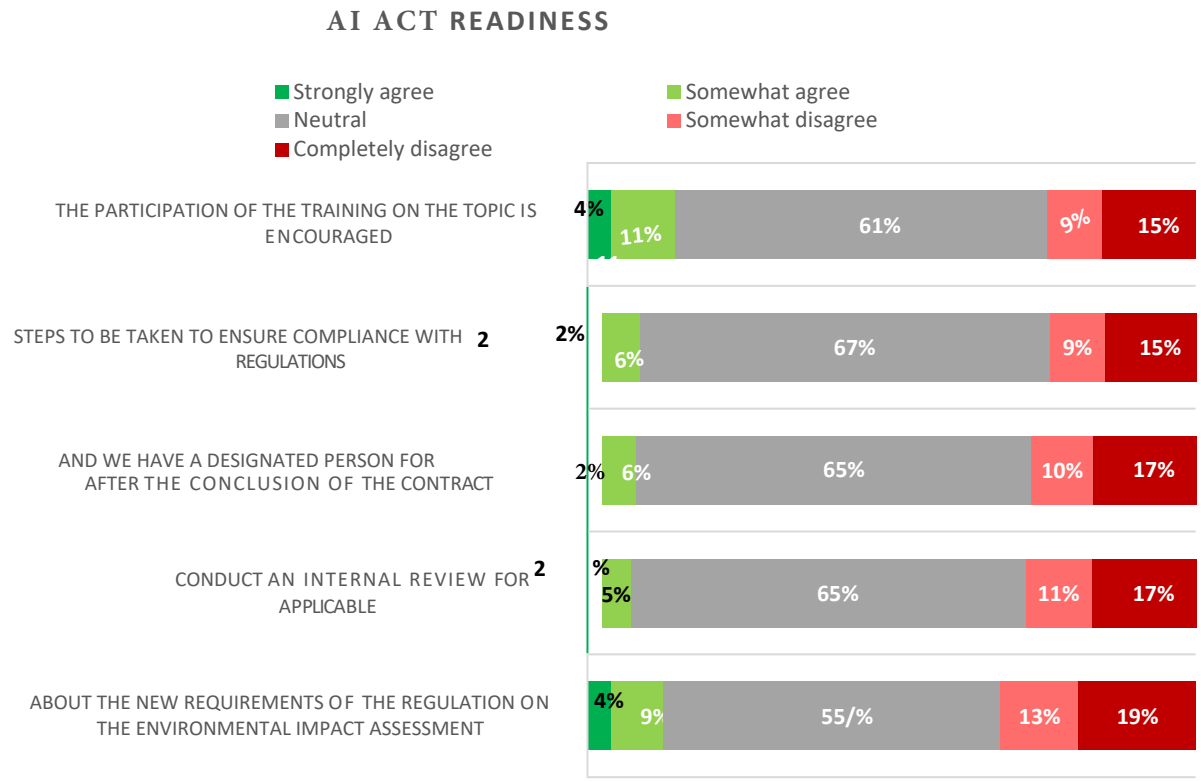


Figure S. Readiness for the IIA

The study showed that the administration has a low level of readiness to implement the requirements of the new European Regulation (EU) 2024/1689 on harmonized rules for artificial intelligence, known as the Artificial Intelligence Act. Most administrations are not familiar with the regulation and have not started preparing to implement its requirements. Only 13% of employees say they are familiar with the main requirements of the regulation, and only about 8% indicate that their institutions have designated a responsible person or have already taken steps to ensure compliance. Once again, neutral responses predominate (over 60%), indicating a low level of awareness. This picture reveals a serious gap in regulatory readiness as there is a risk

administrations may be unprepared to meet the new legal standards for AI when the regulation enters into force.

Recommended action: Rapidly build capacity to comply with the AI Act. In the short term, each institution should designate a responsible unit or person to monitor the development of AI legislation. Employees need to undergo training to familiarize themselves with the requirements of the AI Act and carry out internal assessments (audits) of readiness for compliance. In this way, the administration will minimize the risk of unpreparedness when implementing the regulation.

1.6 Current level of AI use

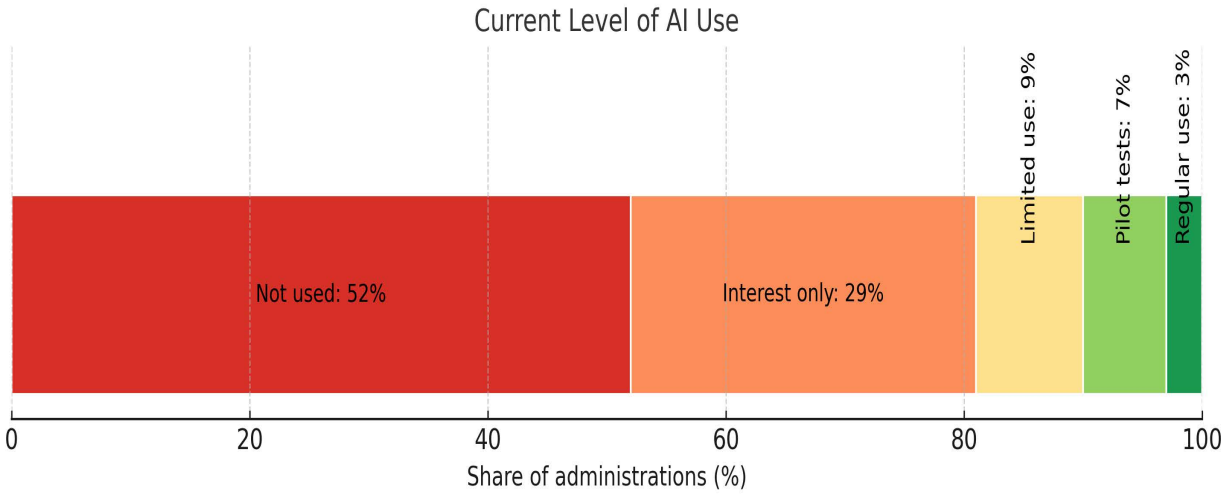


Figure 10. Current use of AI

The snapshot of the current state of AI in the public sector shows that AI is still in the early stages of adoption. The data reveals a significant gap between interest and action:

- More than half of administrations (52%) do not use AI in their work at all at present.
- Only 19% have undertaken any pilot initiatives or are using AI tools to a limited extent. Approximately 4 out of 5 administrations (≈80%) do not actually use AI, even on an experimental basis.
- There is a significant gap between stated interest and actual practice. While 29% of respondents express interest in AI, only 9% report limited use. This suggests that there are organizational and cultural barriers to moving from interest to action.
- Only about 3% of institutions declare that AI is regularly integrated into their core work processes – approximately 1 in 33.

administrations have a sustained and routine use of AI. This means that there are almost no "locomotives" or examples of pilot success from which others can learn.

This picture is telling and shows that there is a significant gap between interest and practice. Although the topic of artificial intelligence attracts attention in theory, actual implementations are few and far between. It is likely that a combination of the weaknesses mentioned above—lack of knowledge, resources, clear vision, and support—is preventing institutions from experimenting more boldly with AI.

Recommended action: Encourage pilot projects and experiments. The government can identify areas with high potential for "quick wins" in various institutions where AI would bring tangible value (e.g., automation of repetitive administrative procedures, intelligent data analysis for decision-making, etc.). These pilot projects should be provided with centralized support through funding, technical expertise, and mentoring. Positive results from such pilots will increase trust in AI and serve as examples that accelerate the mainstreaming of AI in other administrations.

1.7 Would you like to work on the practical application of artificial intelligence?

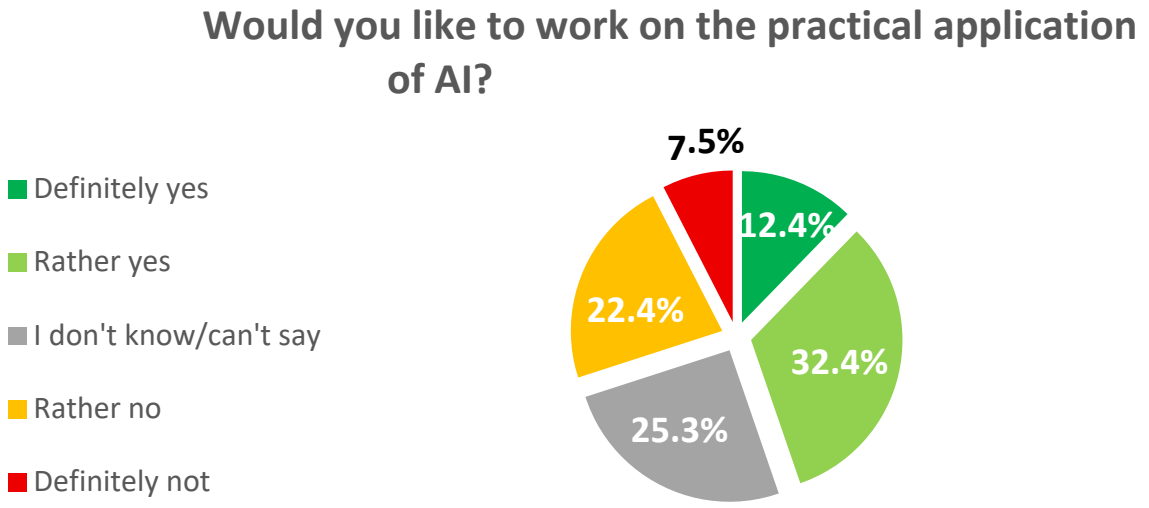


Figure 11. Work on practical application of AI

The study also examines employees' attitudes and motivation toward using AI at work. The question "Would you like to work on practical applications of artificial intelligence?" received almost equal numbers of positive, negative, and neutral responses.

This indicates insufficient readiness for change, as a significant proportion of people are still unconvinced or unsure how they would fit into AI projects. However, over 40% of employees express a clear interest in participating in AI projects. This share of interested parties is a stable foundation on which internal teams and networks of AI "innovation ambassadors" can be built within the administration. At the same time, the high percentage of hesitant employees highlights the need for better awareness and practical examples, as many people would accept AI if they understood its benefits better and were shown how they can contribute in practice.

1.8 Our organization as a whole is ready to implement AI

The statement "Our organization as a whole is ready to implement AI" received an average score of μ = 2.13 on a five-point scale (1 = "strongly disagree," 5 = "strongly agree"). This value is below the neutral middle (3), which means that in most cases, respondents do not perceive their institution as ready for AI. This is a clear signal of the need to develop and communicate a clear common vision at the management level for the development of AI in each institution, as well as to provide additional information and training to employees on the benefits, risks, and practical aspects of implementing artificial intelligence.

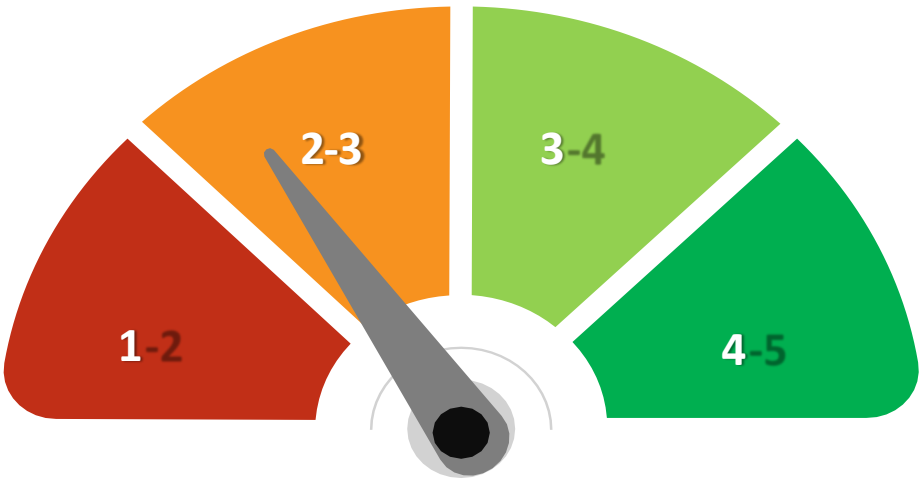


Figure 12. Readiness for AI implementation

1.G Examples of planned use of AI.

Some survey participants shared specific examples of current or planned AI applications in their work. Although these responses were diverse, a number of ideas emerged. Six thematic clusters were identified:

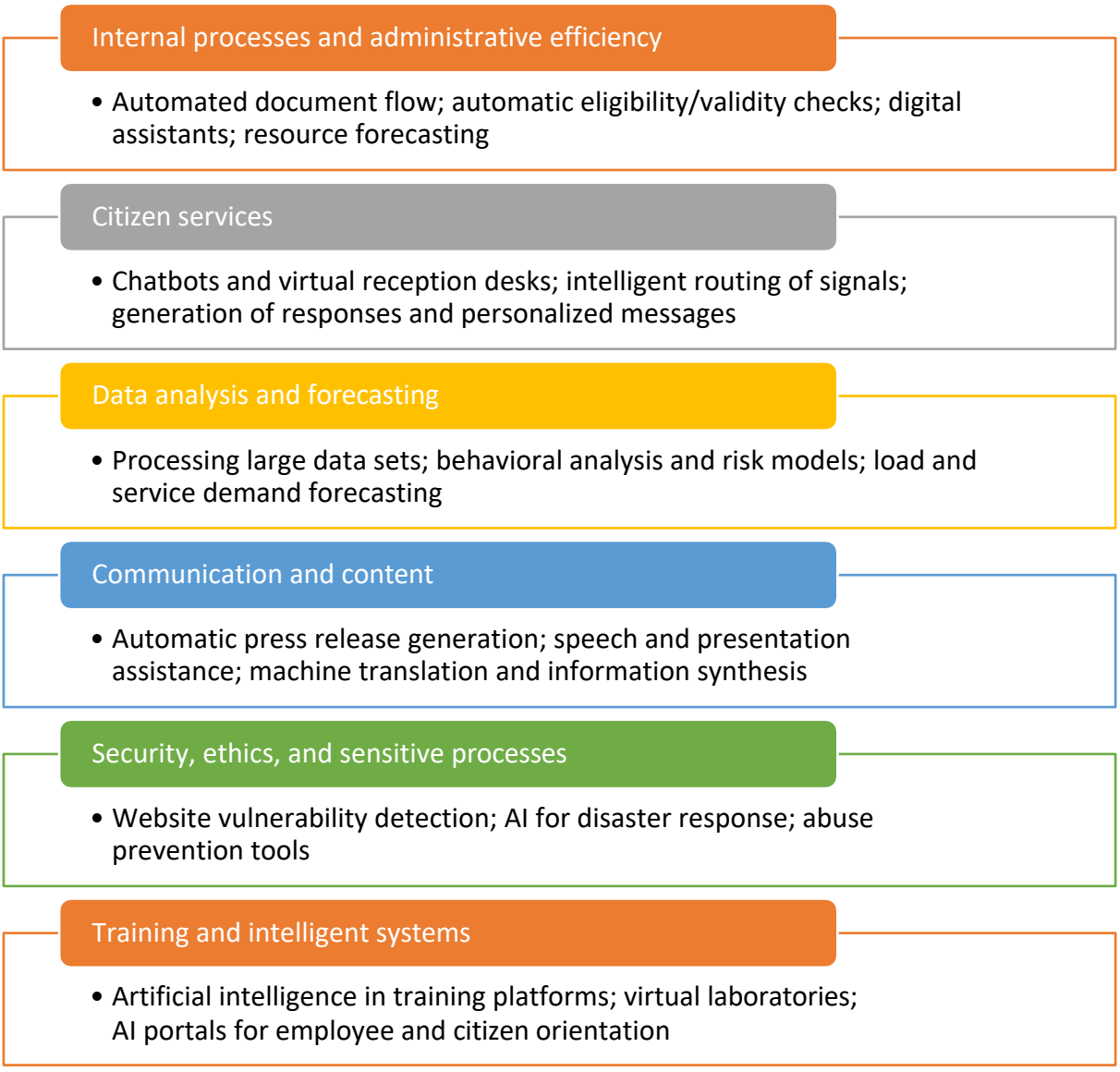
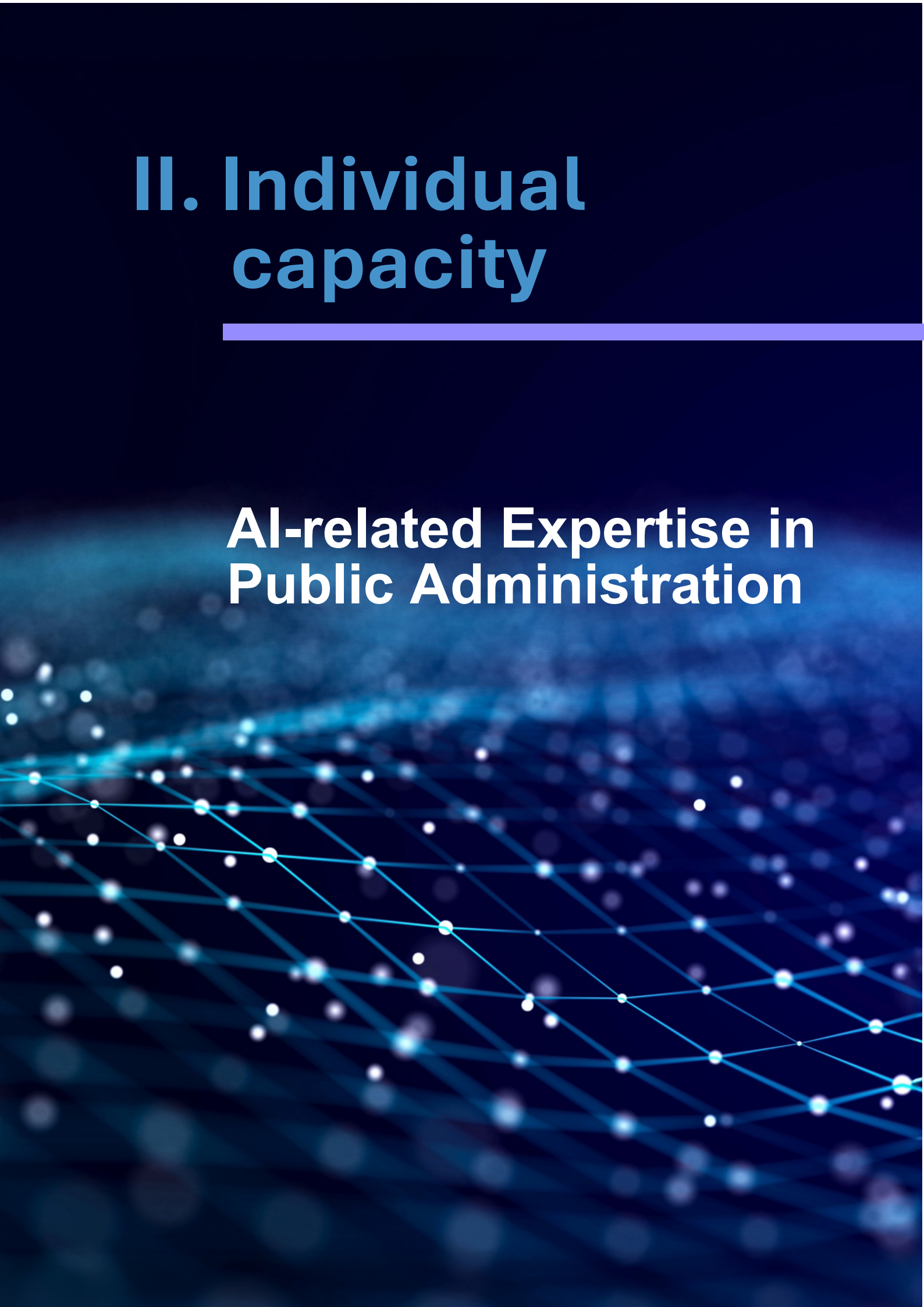


Figure 13. Examples of AI planning and use

These examples and ideas confirm the enthusiasm and vision of individual experts, which is a good basis for appropriate encouragement and resources to accelerate the practical introduction of AI in public administration. The most popular areas are internal automation and citizen services, which is in line with global practices for "quick wins." The significant number of ideas in "security and ethics" shows increased sensitivity to responsible implementation.

II. Individual capacity

AI-related Expertise in Public Administration



1. Employee'knowledge

Employees' knowledge of AI was self-assessed on a scale ranging from "no knowledge" to "basic level," "intermediate level," and "advanced level."

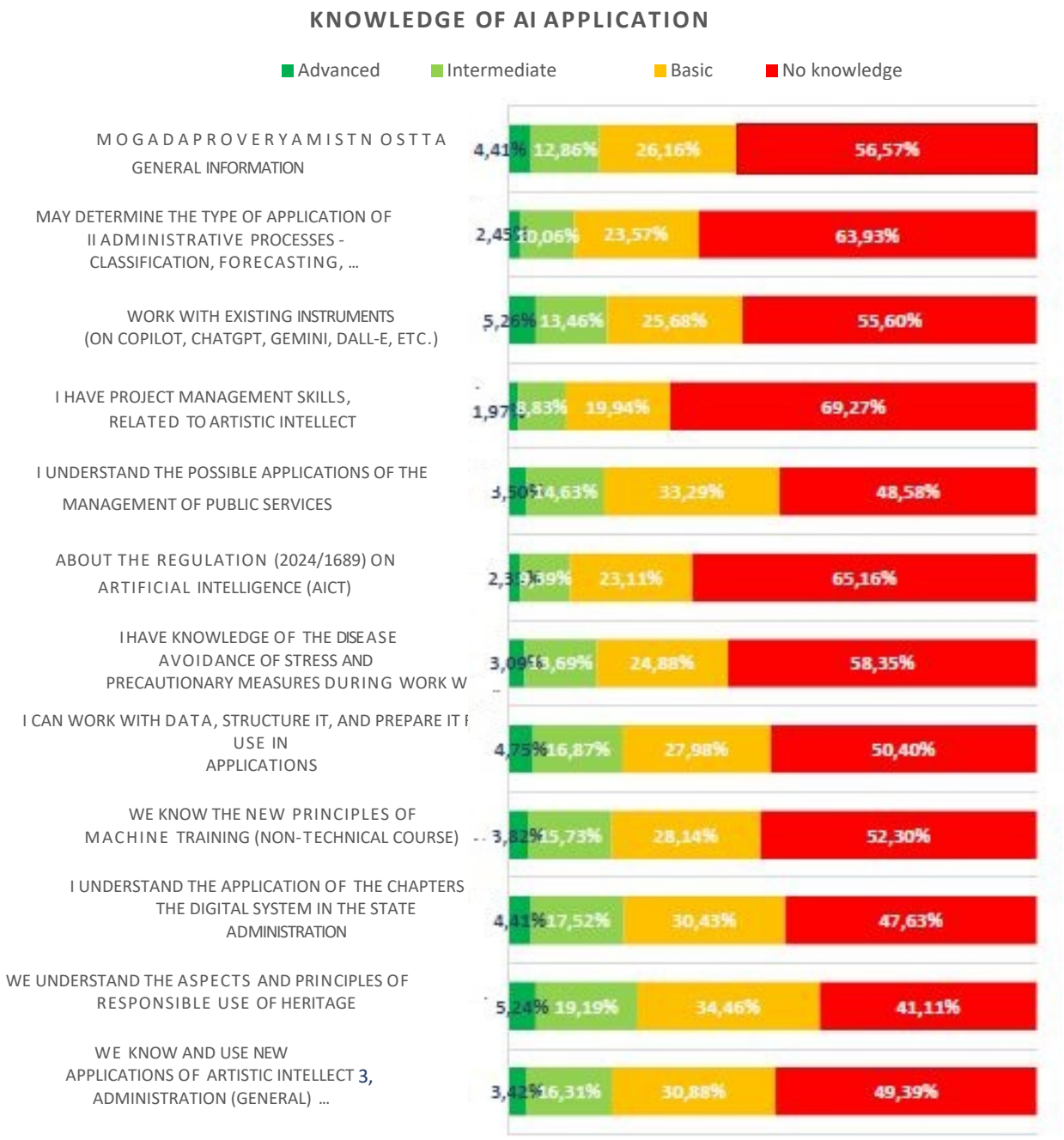


Figure 14. Knowledge of AI application

The results of the self-assessment of knowledge demonstrate significant gaps:

- For most topics, between 48% and 69% of respondents indicate that they have no knowledge.

- "Basic level" is the most common positive assessment, but its share is relatively low (around 20–34% across different topics).
- "Advanced level" is rare, with less than 6% of employees reporting advanced knowledge in any aspect of AI.

These results indicate insufficient knowledge of key technical, legal, and ethical issues related to AI. The least familiar topics are AI algorithms and principles, AI regulation, and AI implementation. More popular and practical topics, such as chatbots, ethical issues, and basic applications of AI technologies, are more recognizable to respondents. This suggests that these more accessible topics could serve as a good entry point for further training, as there is already some foundation and interest in them.

2. What do you use AI for most often?

When asked "What do you use artificial intelligence for most often?", most employees indicated that they do not use AI at all in their current work.

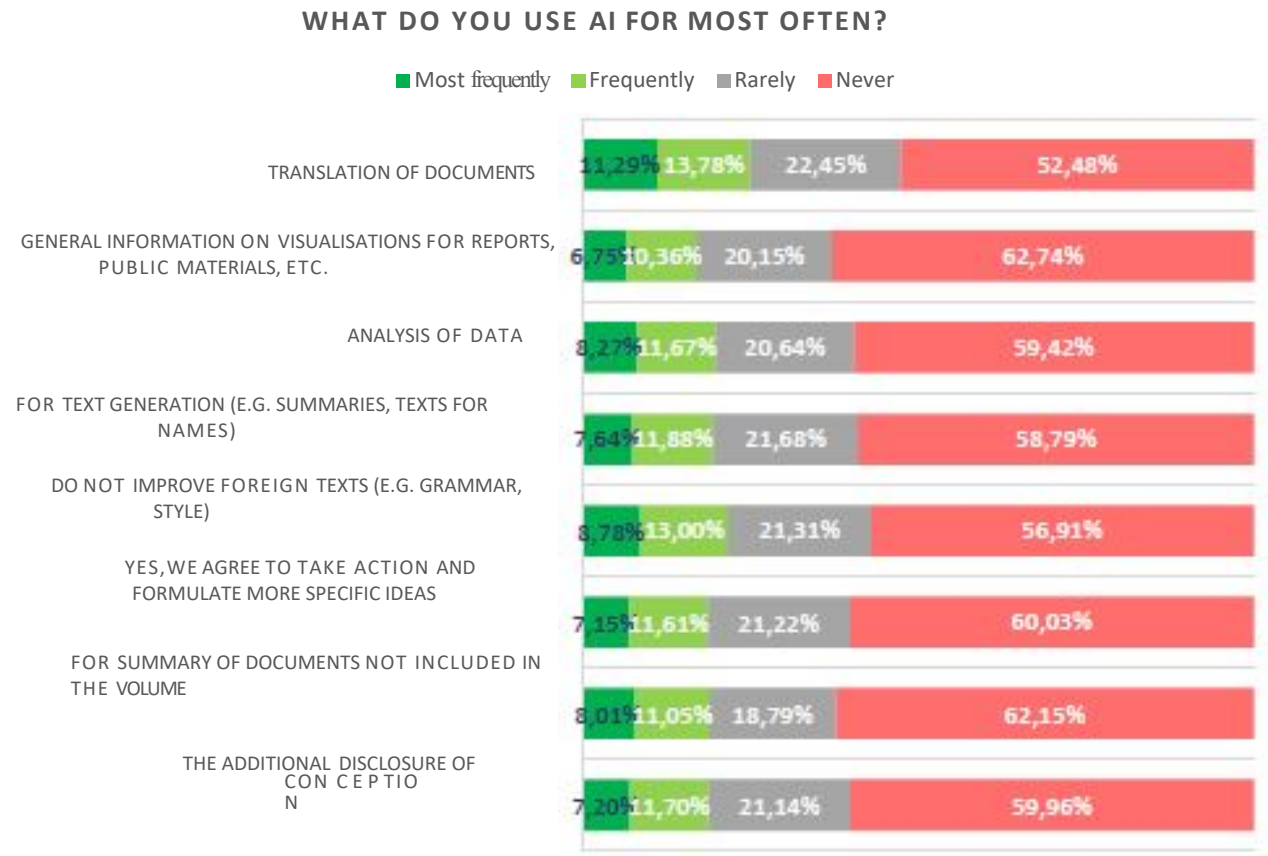


Figure 15. Areas of AI use

Among those who do use some kind of AI tool, no single area stands out as dominant – their responses are relatively evenly distributed across several areas (e.g. data processing, document automation, translation or text generation, etc.). This

suggests that there is no clear specialization, and the few employees who experiment with AI do so in different directions. Combined with the other results and the low overall index, this distribution is likely a consequence of a lack of awareness of the possibilities of AI and limited opportunities to test and work with such tools in a work environment.

3. Analysis by age

The analysis by age reveals clear differences in confidence and knowledge. In general, younger employees (up to 35 years old) feel more confident working with AI than older employees (over 35 years old).

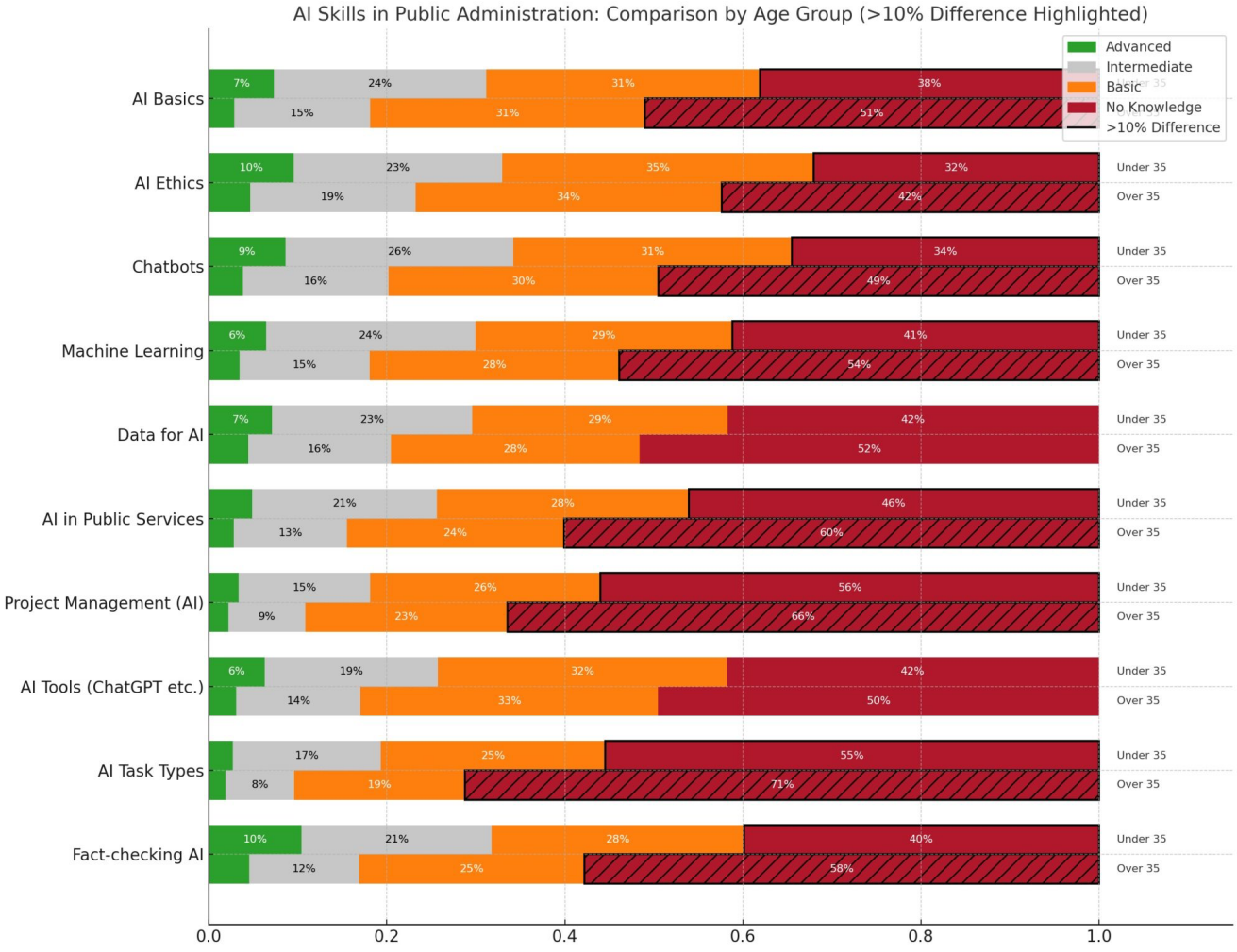
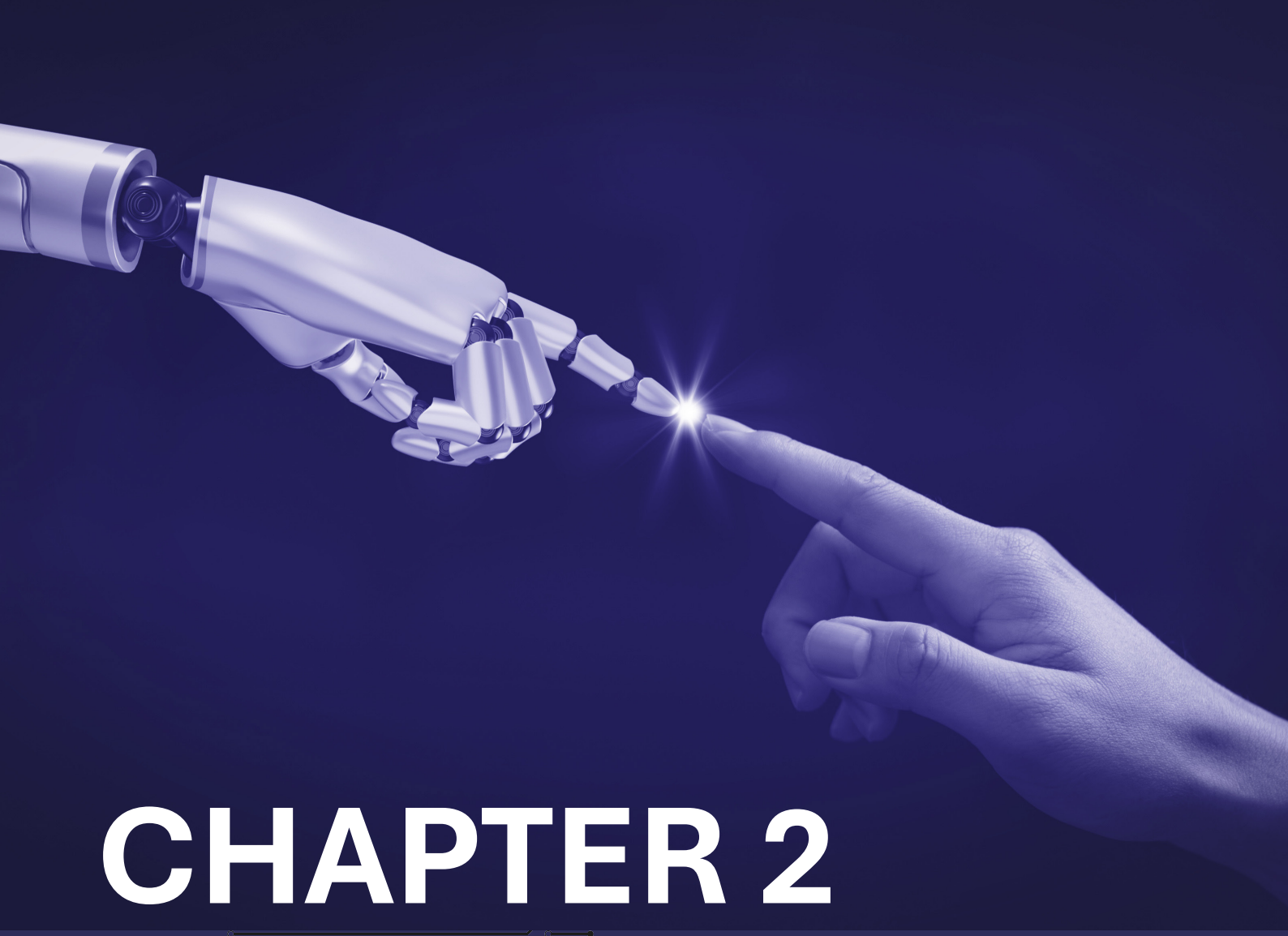


Figure 16. Distribution by age

Young people are significantly more likely to report having at least basic knowledge of topics such as working with systems such as Chat GPT and other AI tools, ethics and responsible use of AI, and preparing data for algorithms. Employees over 35 are much more likely to report "no knowledge," especially on more technical topics. These differences highlight a potential need for different approaches to training, such as more targeted support and introductory courses for more experienced employees to catch up on their knowledge of modern AI tools.



CHAPTER 2

TRAINING NEEDS ANALYSIS

in the field of artificial intelligence

1. Training needs

We asked employees if they needed training on specific aspects of AI.

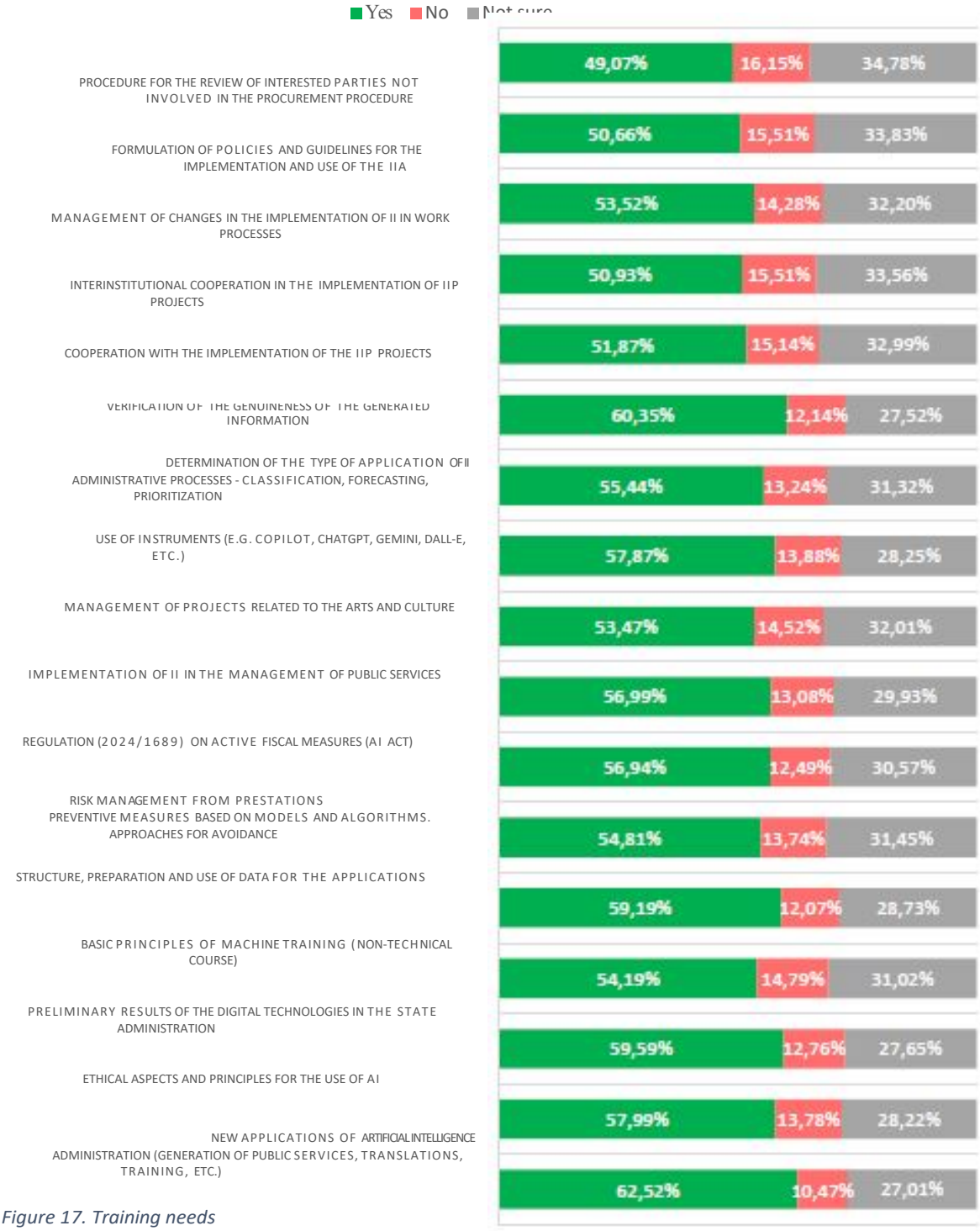


Figure 17. Training needs

The results show that the highest interest is in the application of AI in administration, data structuring, chatbots, etc. This suggests an understanding that these topics are key for employees. At the same time, the high proportion of neutral responses ("not sure") on many of the topics indicates that some of the respondents do not have enough information to assess whether they need training. This uncertainty indicates a need for general introductory training to clarify what AI technologies are and how they could be useful in the work of the administration. Before specialized training on specific topics, basic orientation modules are needed to raise awareness.

2. Current approaches to skills and knowledge development

Employees were asked how they most often develop their AI skills and knowledge to date.

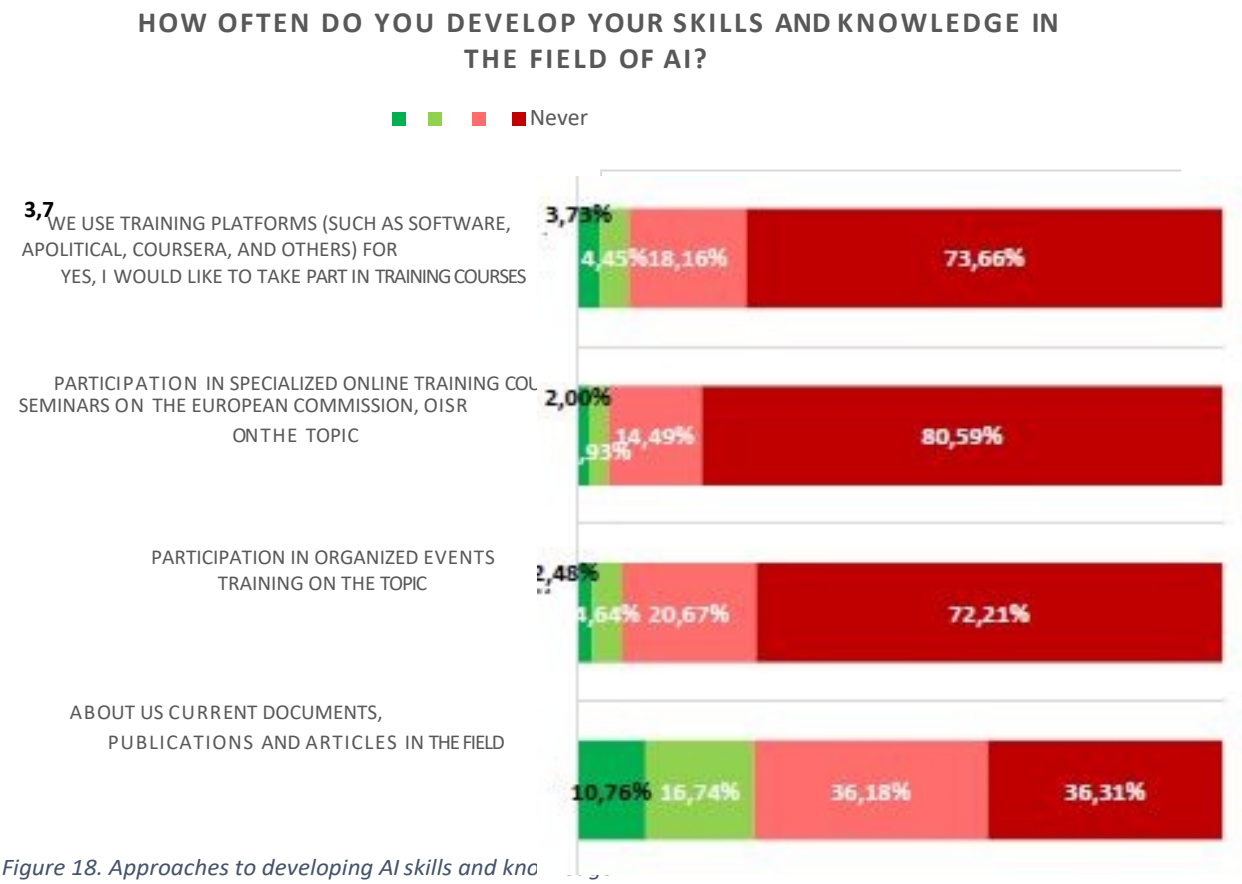


Figure 18. Approaches to developing AI skills and kno

The responses show that independent information seeking dominates over organized training formats. This may be a sign of insufficient institutional support, rather than necessarily a purely personal choice. Most respondents indicate that they improve their skills by reading relevant documents and publications on the subject, followed by

by attending face-to-face training (seminars, courses). It is striking that a significant percentage of employees have rarely or never participated in AI-related training or webinars, which indicates potential for the development of such formats. There is a need for more active promotion and dissemination of current materials in the field of AI (reports, guidelines, articles) that can serve as a starting point for self-learning and for monitoring trends in other countries. The IPA has a whole section on AI on its website, which administrations should promote.

3. What resources or support would help develop the necessary AI competencies of institutions?

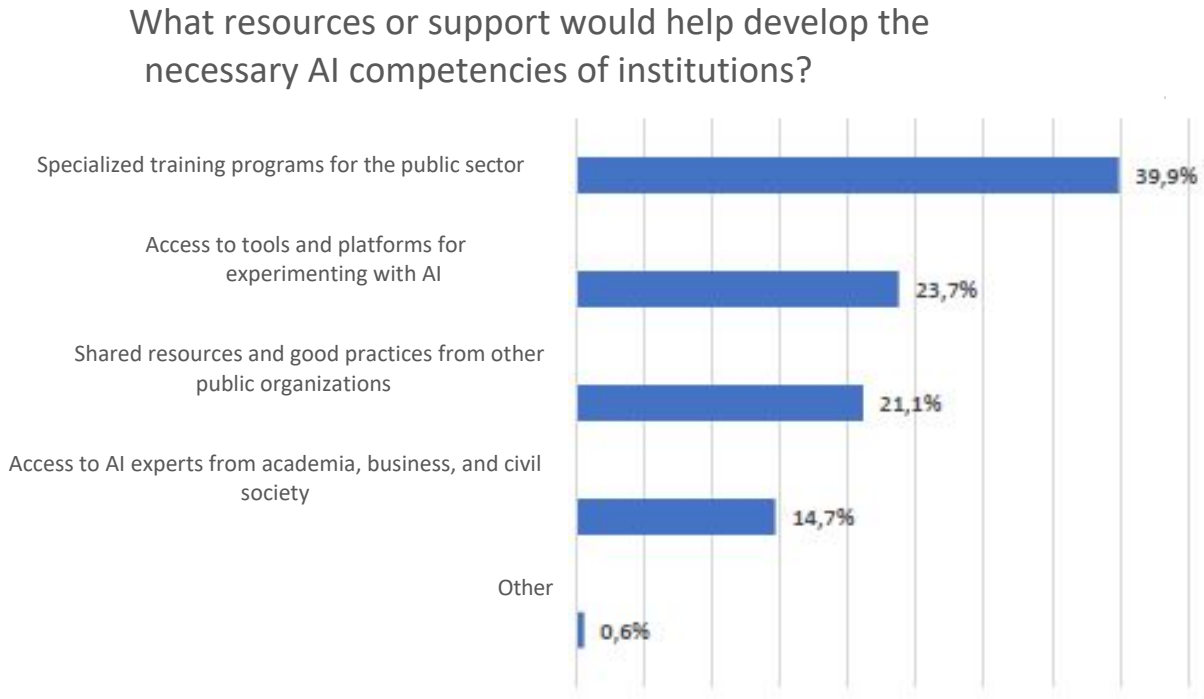


Figure 15. Resource needs or support for capacity development related to AI

With a significant 40%, the need for specialized training programs clearly dominates. This highlights the lack of systematic knowledge in the administration on the topic of artificial intelligence. Priority should be given to:

- Programs at different levels (basic, advanced, management).
- Training tailored to administrative practice.
- Certification schemes for key roles in AI processes.

There is also a clear need for application infrastructure, with almost a quarter of participants indicating the need for tools and platforms for

[4] https://www.ipa.government.bg/bg/publikacii/informacionni-resursi-za-tehnologiite-na-izkustveniya-intelekt/informacionni-resursi-za

experiments. This shows that, beyond theoretical training, the administration is looking for:

- AI sandboxes for testing algorithms.
- Access to cloud services and open models.
- A safe environment for piloting real-life cases.

There is a high need for inter-institutional cooperation, with 21% emphasizing the importance of sharing practices and resources between administrations. This is a signal that:

- There is no coordination mechanism for exchanging experience.
- The uptake of AI often remains isolated and fragmented.
- A well-structured AI network in the administration would accelerate the spread of innovation.

Only 15% indicate a need for access to experts from academia, business, and the civil sector, which may be due to a lack of awareness of existing opportunities. This may be a structural barrier or a lack of policies for interaction with external partners. It is possible that the administration underestimates external expertise as an asset.

Barriers to the development of competences

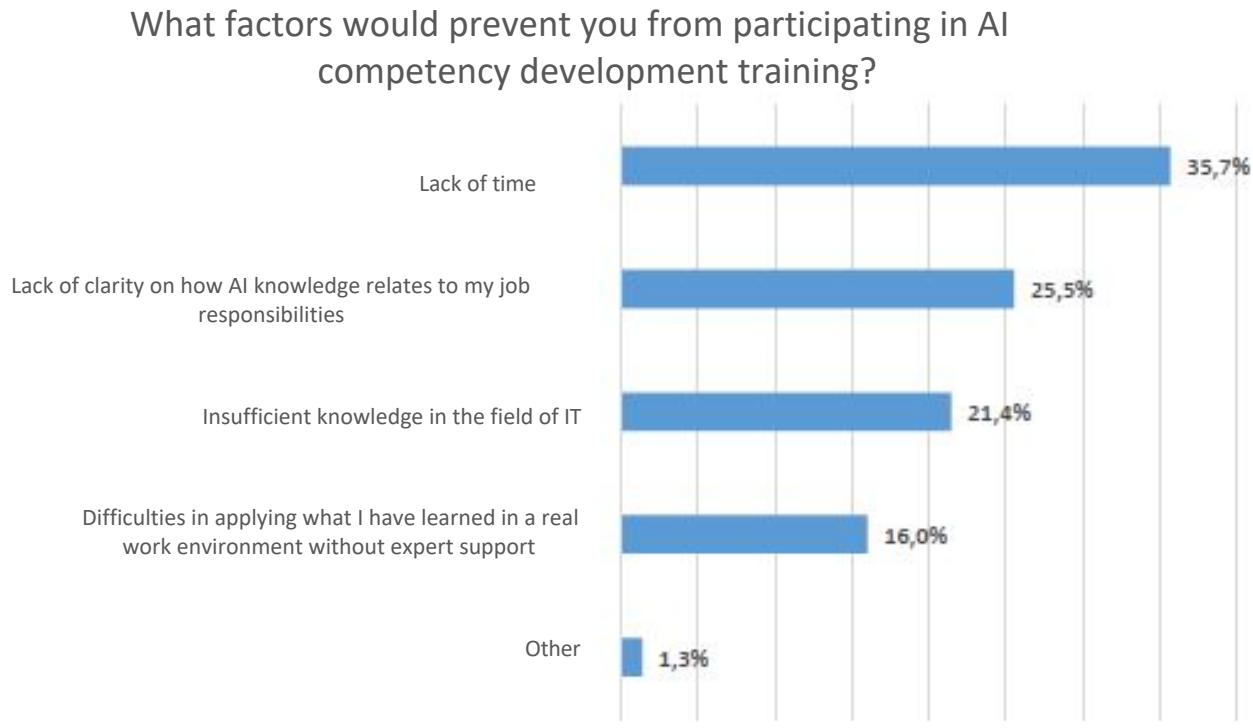


Figure 20. Barriers to the development of competencies

The survey reveals insufficient skills and confidence. A significant proportion of employees do not have the necessary training to work with AI, and there is also a lack of clarity how these new skills fit into their current roles.

The main barriers to AI training identified by respondents are lack of time (36%) and uncertainty about how AI knowledge relates to job duties (26%), followed by insufficient IT skills (21%). The need to link AI technologies to everyday tasks through real-life examples and specific applications can be met through general introductory training (e.g., introduction to AI, basics of machine learning, which the IPA already offers) as well as through other more specific AI-related training courses covering specific, common activities in the administration – data analysis and visualization, summarizing documents and reports, in-depth research of sources using AI functions, etc.

Preferred forms of training

Barriers to the development of competences

Figure 21. Preferred forms of training

The questionnaire also included a question about which forms of training employees consider most appropriate for developing and upgrading AI skills. E-learning modules received the most responses, probably because they can be completed at a convenient time without interrupting the work process. However, it is noteworthy that there is also an even distribution of preferences for blended formats: many respondents like the idea of combining online training with face-to-face training, short online courses with a live lecturer, and sessions for sharing practical experience between colleagues. This supports the conclusion that

necessary to offer a variety of practical formats in addition to traditional one- or two-day classroom training courses. Different people learn effectively in different ways, with some preferring to study independently online, while others prefer interaction with an instructor or colleagues. A combined and flexible training system would best meet these diverse needs.

6. What type of training materials and resources do you consider most useful for developing knowledge and skills for working with AI?

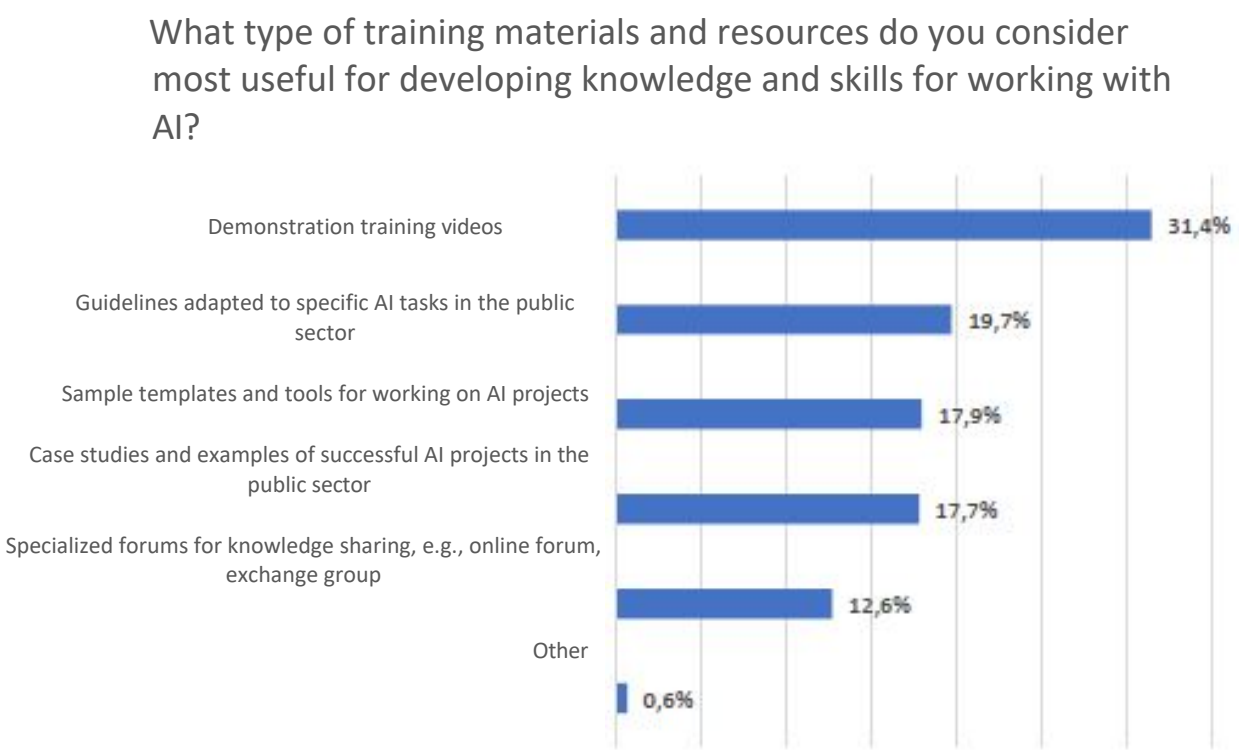


Figure 22. Usefulness of training materials

We also asked what type of training materials and resources respondents considered most useful for developing AI knowledge and skills. The highest ratings were given to demonstration training videos, i.e., short video lessons or practical demonstrations illustrating how a particular AI tool or method works. After video materials, practical guides adapted to the public sector, as well as case studies, sample templates, and tools for working on AI projects, were ranked next in terms of usefulness. The responses again highlight the interest in practical materials that employees can quickly apply in their work. In this regard, the IPA is already taking steps such as maintaining a section on its website with information resources on AI[5], where reports, manuals, and examples aimed at the administration are published. The graph of responses clearly shows that training materials should not only be theoretical, but also directly applicable, with practical examples, simulations, and interactive elements that engage learners.

[5] https://www.ipa.government.bg/bg/publikacii/informacionni-resursi-za-tehnologiite-na-izkustveniya-intelekt/informacionni-resursi-za

7. Summary of open questions related to training

7. How would you use AI in your administration and in what direction?

There are diverse answers to this question, which indicate possible areas of application, but it should be noted that the largest share is unclear/no opinion, which is a sign of a lack of knowledge or understanding of what AI is and how it can be used.

The specific responses with suggestions can be summarized in several main areas:

- internal processes and automation – the most frequently mentioned specific area of AI use is related to improving administrative activities and processes;
- external services and customer service – improving interaction with citizens, automating inquiries, personalized services;
- data analysis – processing large volumes of information, data-based decision-making;
- other/specific proposals – ethics, security, fraud prevention.

7.2. What topics would you suggest for training in the field of AI?

Here, respondents freely shared ideas for additional training topics. The suggestions can be grouped into the following areas:

- **Ethics, legal, and social issues**, such as: legal aspects of AI implementation in the public sector; impact of AI on quality of life and society; ethical issues and standards (how to ensure impartiality, data protection, etc.); practical training on the use of AI in law enforcement.
- **Technical and algorithmic aspects**, such as: types and characteristics of different language models (GPT, etc.) – their advantages and disadvantages; basic machine learning algorithms; types of AI training models and processes; introduction to decision support systems and how they work.
- **Data analysis and processing**, e.g.: use of AI for analyzing data from open sources; methods for summarizing data to the level of statistical indicators; tools for automatic updating and synchronization of regulatory acts with changes

(e.g. with Regulation (EU) 2024/1689); techniques for structuring, cleaning, and transforming data for AI purposes.

- **Practical applications and case studies**, for example: how AI can support and standardize internal audit work through specialized platforms; use of AI for automating administrative processes and monitoring sustainable development; the concept of "AI agents" in administration (autonomous assistants for various tasks); presentation of AI capabilities with practical examples from other Member States; sector-oriented practical courses (e.g., AI in justice, AI in economic policy, etc.).
- **Communication and interaction**, for example: topics related to social communication and psychological aspects of working with AI (how decisions made by machines are perceived and how to explain them to citizens); working with AI-supported translation platforms for international communication; interaction between different professional fields – what are the remaining competitive advantages of humans in the age of AI and how can technology facilitate communication and coordination between different administrations.

7.3. How else do you develop your AI skills?

Many participants describe their own ways of self-development in the field of AI. The most frequently mentioned approaches can be grouped into the following categories:

- **Self-study and online resources** through searching for information on the internet (reading articles, watching video tutorials, participating in forums). Using platforms such as YouTube, Google, Wikipedia for quick reference. Also mentioning free online courses and resources (Coursera, Udemy, free modules on the internet).
- **Informal learning and learning on the job** by exchanging experiences with colleagues who have knowledge on the subject; sharing useful resources within the team; seeking help from more advanced colleagues when solving a task with an AI element. Some also mention enrolling in courses and training independently (e.g., an online course in Python or machine learning). Following specific new AI tools or participating in webinars/seminars when available.
- **Practice and experimentation**. A highly valued method mentioned by the most motivated participants is directly testing AI tools in the context of their professional needs. For example, some have experimented with using a language model such as Chat GPT for text drafting, or with a data analysis tool in their field to see how it works. This "learning by doing" approach is considered by them to be very effective.

8. Key findings from the analysis of the level and needs for training in AI:

Finally, based on the overall analysis of the level and training needs, several key conclusions can be drawn:

- Strong interest, but also uncertainty. There is a clear interest in AI training, especially on topics related to technology and regulation. At the same time, the large proportion of uncertain responses indicates that many employees recognize the need but feel unsure about where to start. This highlights the need for introductory and orientation training modules that provide basic knowledge and context.
- Preference for independent and flexible formats. Employees demonstrate a preference for independent learning (reading documents, online e-modules), which suggests potential for the development of flexible formats, short (e.g., up to 4 training hours), practice-oriented courses that can be taken online at a convenient time. At the same time, interest in blended formats with a lecturer and practical tasks should not be overlooked. Overall, e-modules and short practical training sessions with an expert stand out as particularly desirable.
- Practical resources such as video demonstrations, practical guides, and case studies are most in demand. This shows the importance of the "learning by doing" approach and the need for training to be applicable in real situations. Employees value resources that show them directly how to do something with AI, rather than just explaining it to them in theory.
- The main barriers are time and relevance. Lack of time is cited as a major obstacle to participation in AI training, but equally important is the lack of clarity about how AI fits into current job responsibilities. This suggests that in order to motivate employees to participate in training, we need to show them the direct link between the new skills and how they will help them in their daily work. Training should use examples and cases from the administration's practice so that it is perceived as useful rather than abstract.
- Need for infrastructure for learning by doing. In order for employees to not only learn but also try out and apply new skills, an appropriate infrastructure is needed. This includes the availability of digital tools and environments (e.g., test platforms, sandboxes, access to software) where learners can safely experiment with AI. Without such opportunities, what is learned risks remaining theoretical. Therefore, training efforts

training efforts must be accompanied by the provision of an environment for practical work with AI within institutions (whether through pilot projects, testing sandboxes, or other means).

In conclusion, the training needs assessment shows high potential and motivation among employees to develop their skills in working with artificial intelligence. The challenge for institutions is to channel this interest through appropriate programs, resources, and support so that the public administration has competent staff ready to implement AI for the benefit of society.

These conclusions are also supported by the European Commission's Joint Research Center report on **"The Future of Generative Artificial Intelligence**" [6], which highlights the need to deepen and develop new skills and attitudes for effective and responsible work with AI technologies.

In this context, the IPA recommends specific steps for the development of AI skills in public administration which, in line with European initiatives, will support the transition to a more innovative, AI-ready, and sustainable public administration.

[6] ABENDROTH DIAS, K., ARIAS CABARCOS, P., BACCO, F.M., BASSANI, E., BERTOLETTI, A. et al., Generative AI Outlook Report - Exploring the Intersection of Technology, Society and Policy, NAVAJAS CAWOOD, E., VESPE, M., KOTSEV, A. and VAN BAVEL, R. (editors), Publications Office of the European Union, Luxembourg, 2025, https://data.europa.eu/doi/10.2760/1109679 , JRC142598

CHAPTER 3

RECOMMENDATIONS

2025-2027

In the context of the Index report, we propose the following priority recommendations for 2027 to build on the capacity and transform the work of the administration through AI:

- **National strategy and roadmaps for AI.**

  A comprehensive national strategy for artificial intelligence needs to be developed and adopted, backed by the necessary funding. Each ministry and key agency should have a specific plan (roadmap) for AI implementation, coordinated centrally (e.g., by the Council of Ministers) to ensure consistency with government priorities and EU requirements. Municipalities should also prioritize investment in AI technologies and coordinate pilot projects among themselves to avoid duplication and share successful practices. A similar strategic approach has made other European countries (Estonia, Spain) leaders in the use of AI, showing that a clear vision and coordination accelerate progress.

- **Leadership and responsibility for AI initiatives.**

  The management of institutions must be firmly committed. Each key institution must appoint or designate a person/unit responsible for AI implementation (e.g., a "Digitalization and AI" department or an innovation team). Senior management should regularly monitor the progress of AI projects and clearly communicate their importance and expected benefits to employees, demonstrating their personal support. International experience shows that clearly defined leadership roles for digital transformation (e.g., chief data/AI officers) and active change management accelerate the implementation of innovation in the public sector.

- **AI-ready infrastructure and data.**

  Investments are needed to modernize IT infrastructure: cloud services, computing resources, and cybersecurity, as well as to improve data quality, interoperability, and accessibility. It is recommended to launch a national program for open and quality data to help institutions structure and prepare their data sets for AI applications. Improving the technical basis and data will allow AI projects to develop faster and with greater success.

- **Training and skills development.**

A comprehensive program to improve AI skills among employees is needed, combining online courses, classroom training, and practical workshops with experience sharing. The goal is that by 2027, every civil servant in priority departments will have completed at least basic AI training, and key experts will have completed specialized courses. These training courses must cover the ethical and legal framework of AI to ensure the responsible use of technology. When developing the programs, established international frameworks (e.g., those of the OECD, EU, and UNESCO for AI competencies) can be used to cover technical, ethical, and managerial aspects and ensure compliance with global best practices.

- **Pilot projects and innovation in action.**

  Consider establishing a dedicated fund or initiative (e.g., an "AI in Action" program) to finance and support AI pilot projects in different administrations. The aim should be for each ministry to have implemented at least 2-3 pilot projects demonstrating the benefits of AI (e.g., automation of routine administrative tasks, intelligent data analysis for better decisions, etc.) by 2027. Successful pilot projects should be communicated publicly and replicated in other institutions, creating a learning and scaling effect. Estonia has implemented dozens of AI solutions in the public sector within a few years through a centralized strategy and funding, demonstrating the importance of such initiatives for rapid progress.

- **Preparation of legislation, internal rules, and ethical implementation of AI.**

  By the end of 2025, every state institution must assess its readiness for the requirements of the new European AI Act and draw up a compliance plan. Bulgaria must also update its legislation to bring it into line with European legislation. Between 2025 and 2027, internal mechanisms for risk assessment when using AI systems must be introduced, in line with the risk categories defined in the regulation. In addition, each institution should develop a code of ethics and guidelines for the responsible use of AI. Active participation in European initiatives and exchange of experience with other countries is also necessary so that Bulgaria can be among the leaders in the implementation of AI rules.

- **Consideration of a national AI body – following the example of Spain**

  Spain has already established the EU's first AI Supervisory Agency, ahead of the entry into force of the Regulation, an example that highlights the need for a proactive approach to ensuring reliable and safe AI systems. Bulgaria could consider this example to comply with Regulation (EU) 2024/1689 by establishing an independent, competent, and innovative national authority responsible for the regulation, implementation, and support of AI development in the country, such as an Artificial Intelligence Activities Commission.

Expected result: With consistent implementation of the above recommendations, the public sector could move from its current stage of "building capacity" to "functioning capacity" by 2027, approaching strategic maturity. This means that the administration will not only effectively implement artificial intelligence in the service of citizens and businesses, but will also do so responsibly and ethically, in line with global best practices.

25 ГОДИНИ

ИНСТИТУТ
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