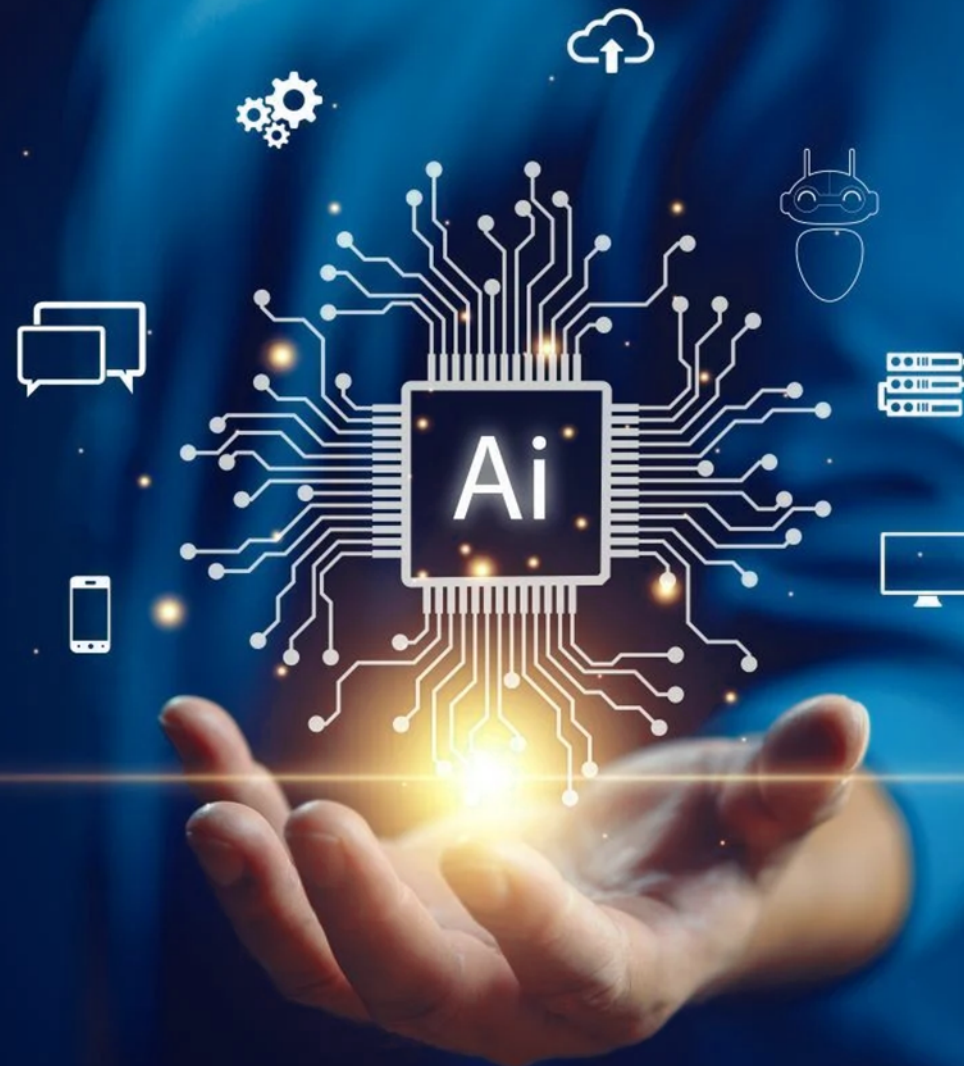
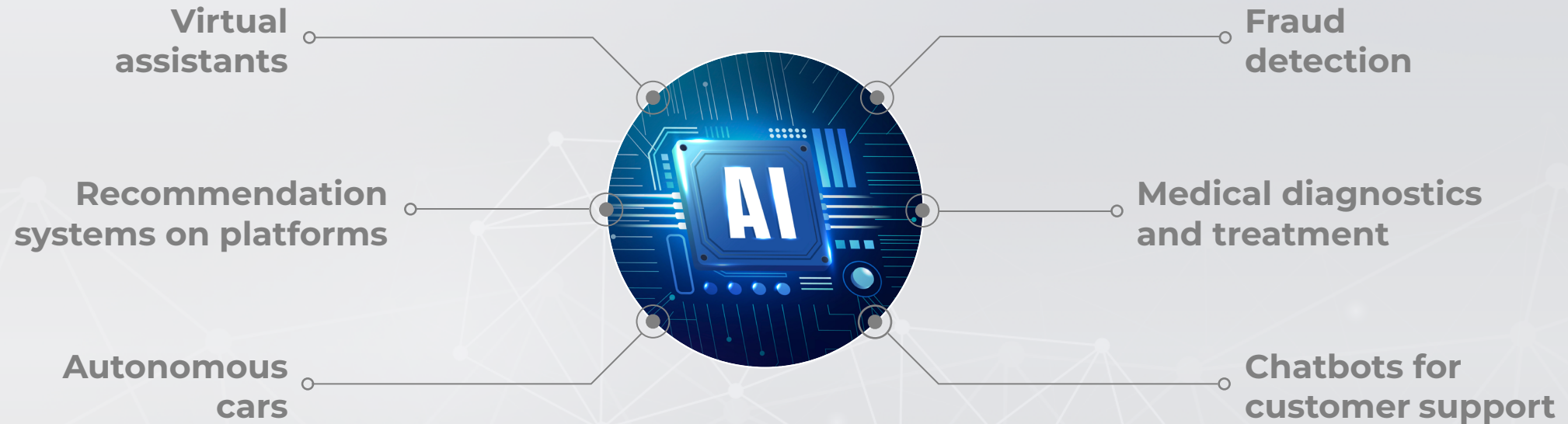


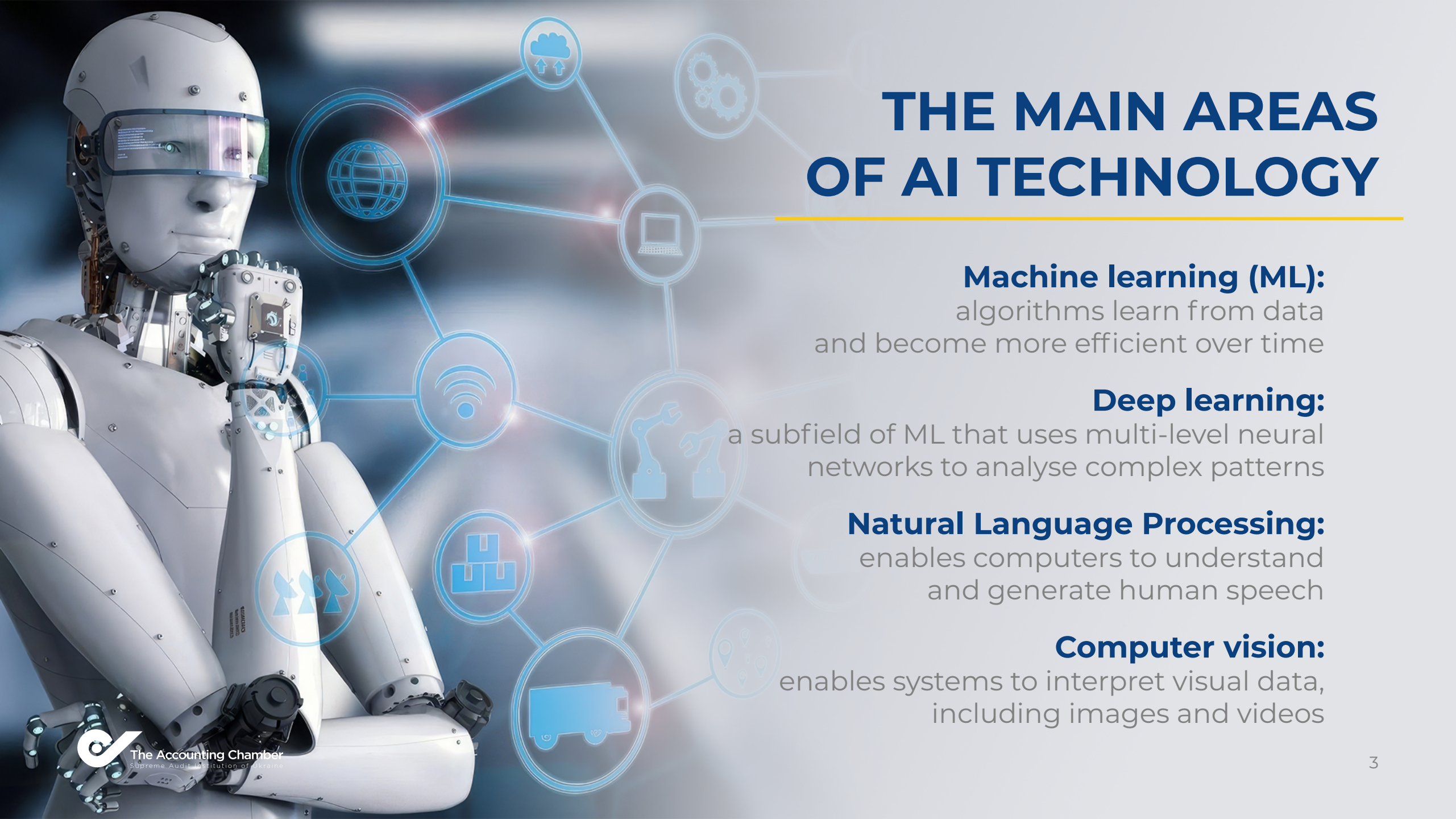
ARTIFICIAL INTELLIGENCE IN AUDITING — BETWEEN POTENTIAL AND ETHICS

Mr Dmytro Lyvkivskyi,
State Auditor,
Accounting Chamber of Ukraine



ARTIFICIAL INTELLIGENCE (AI) IS ALREADY BEING ACTIVELY USED IN MANY AREAS





THE MAIN AREAS OF AI TECHNOLOGY

Machine learning (ML):

algorithms learn from data and become more efficient over time

Deep learning:

a subfield of ML that uses multi-level neural networks to analyse complex patterns

Natural Language Processing:

enables computers to understand and generate human speech

Computer vision:

enables systems to interpret visual data, including images and videos

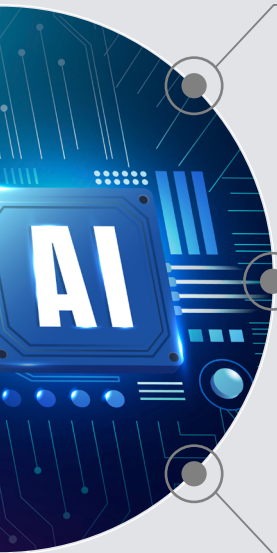
THE MAIN AREAS OF AI TECHNOLOGY

Artificial intelligence (AI) is radically changing the audit profession by increasing its efficiency, accuracy and ability to quickly analyse large amounts of data

AI tools can automate routine tasks, detect anomalies, and provide deeper insights through the use of advanced data processing techniques



AI ALLOWS US TO OPTIMISE KEY STAGES OF THE AUDIT



- **Risk assessment and planning**

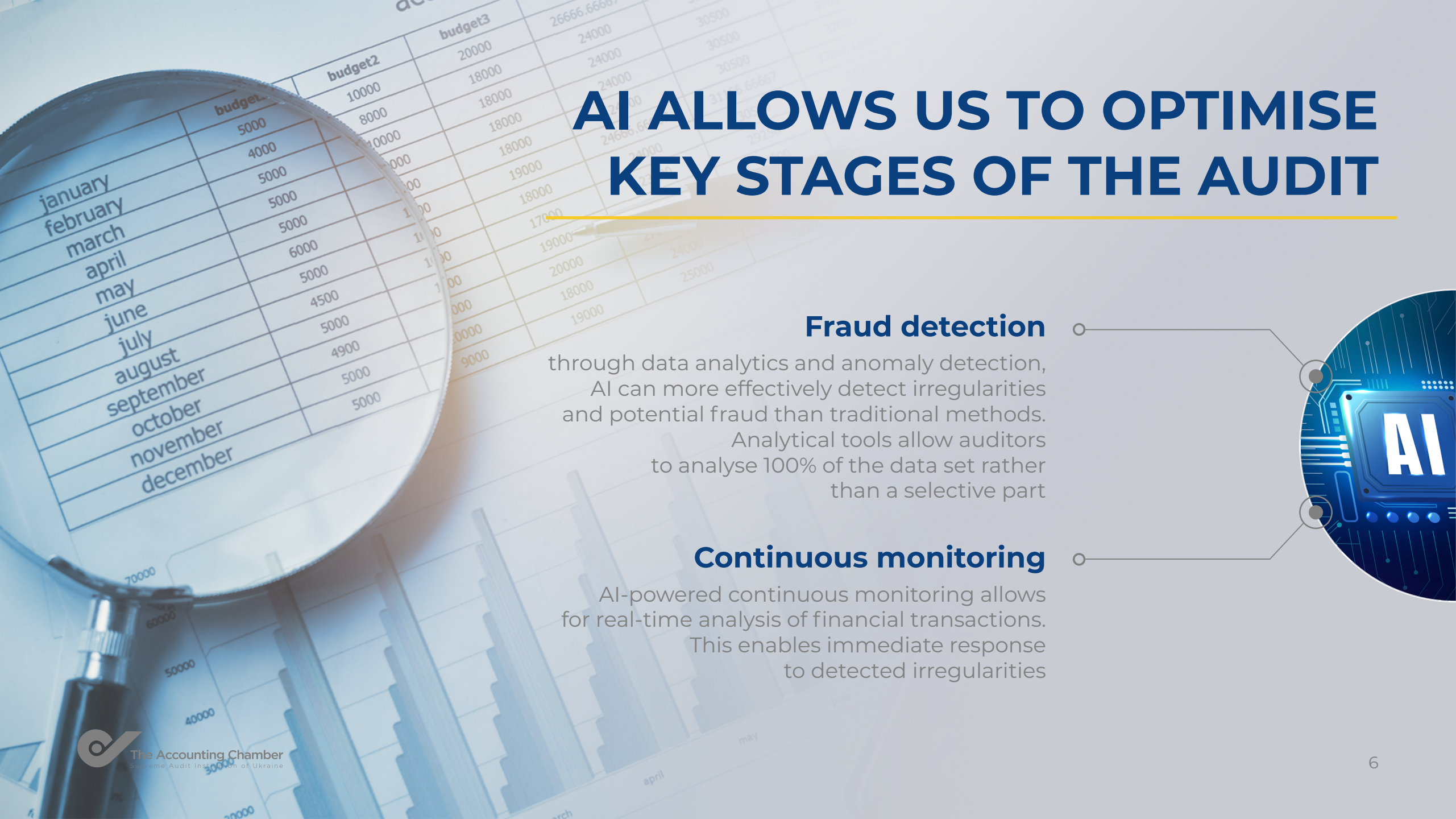
AI can support auditors in the planning phase by analysing historical data to identify high-risk areas that require special attention. Algorithms provide a deeper understanding of risks, allowing you to focus on critical aspects

- **Anomaly detection**

AI algorithms can analyse complete data sets, enabling a comprehensive review of all transactions. This approach significantly improves the ability to detect potential fraud and irregularities, providing a more accurate and complete audit

- **Automated data processing**

AI can automate the processing of financial information, such as reading and reconciling bank statements and legal contracts. This significantly reduces the time and effort required for manual data entry and reduces errors



AI ALLOWS US TO OPTIMISE KEY STAGES OF THE AUDIT

Fraud detection

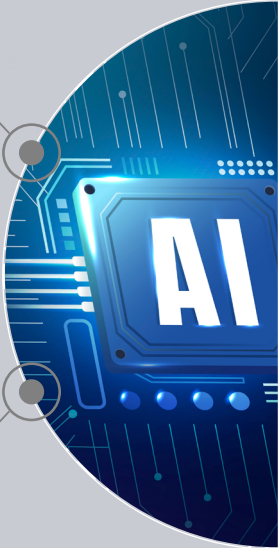
through data analytics and anomaly detection, AI can more effectively detect irregularities and potential fraud than traditional methods.

Analytical tools allow auditors to analyse 100% of the data set rather than a selective part

Continuous monitoring

AI-powered continuous monitoring allows for real-time analysis of financial transactions.

This enables immediate response to detected irregularities



BENEFITS THAT CAN BE GAINED FROM THE INTRODUCTION OF ARTIFICIAL INTELLIGENCE (AI)



improving the accuracy of audit opinions



increased accountability of organisations that generate audit reports

IMPROVING ACCURACY WITH AI

Audit findings are becoming much more accurate thanks to the introduction of AI. Research findings confirm that the use of technology facilitates the collection of information and evidence during the audit, as well as the conduct of relevant analysis



Key benefits that contribute to increased accuracy through AI include:

- data analytics and anomaly detection
- automated transaction testing
- improving data accuracy and reliability
- cost and time efficiencies

STRENGTHENING ACCOUNTABILITY WITH AI

Regular audits encourage continuous improvement of government processes and systems, leading to better public service delivery



All of these key accountability functions can be significantly enhanced by AI:

- transparency of audit processes
- real-time monitoring and reporting
- reducing human error and bias

INTERNATIONAL EXPERIENCE IN THE USE OF AI



Transport Canada has integrated AI into its audit processes to improve efficiency, particularly in risk-based air cargo inspections. For example, AI automatically marks cargoes with unusual patterns or inconsistencies — for example, cargo declared as low-risk but originating from a high-risk region. This allows auditors to prioritise such cases for further investigation, making the use of their expertise more targeted and efficient

The UK National Audit Office (NAO) uses AI to increase control over public spending by analysing large amounts of financial data more efficiently than traditional methods. AI allows to quickly detect patterns and anomalies in financial data, helping to identify inefficiencies, possible fraud, and cases of misuse of budget funds

UKRAINE'S EXPERIENCE IN THE USE OF AI

Ukraine is also actively implementing artificial intelligence in various areas. AI is being integrated not only into business but also into public services, medicine, weapons and defence, educational products, etc. In addition, the number of start-ups implementing AI solutions in the field of defence technologies has increased significantly since the start of the full-scale invasion

Technology development and innovation are supported at the state level. For example, in 2024, the Cabinet of Ministers of Ukraine approved the Strategy for Digital Development of Ukraine's Innovation Activity for the period up to 2030

SOME EXAMPLES OF AI-BASED TECHNOLOGIES IMPLEMENTATION IN UKRAINE

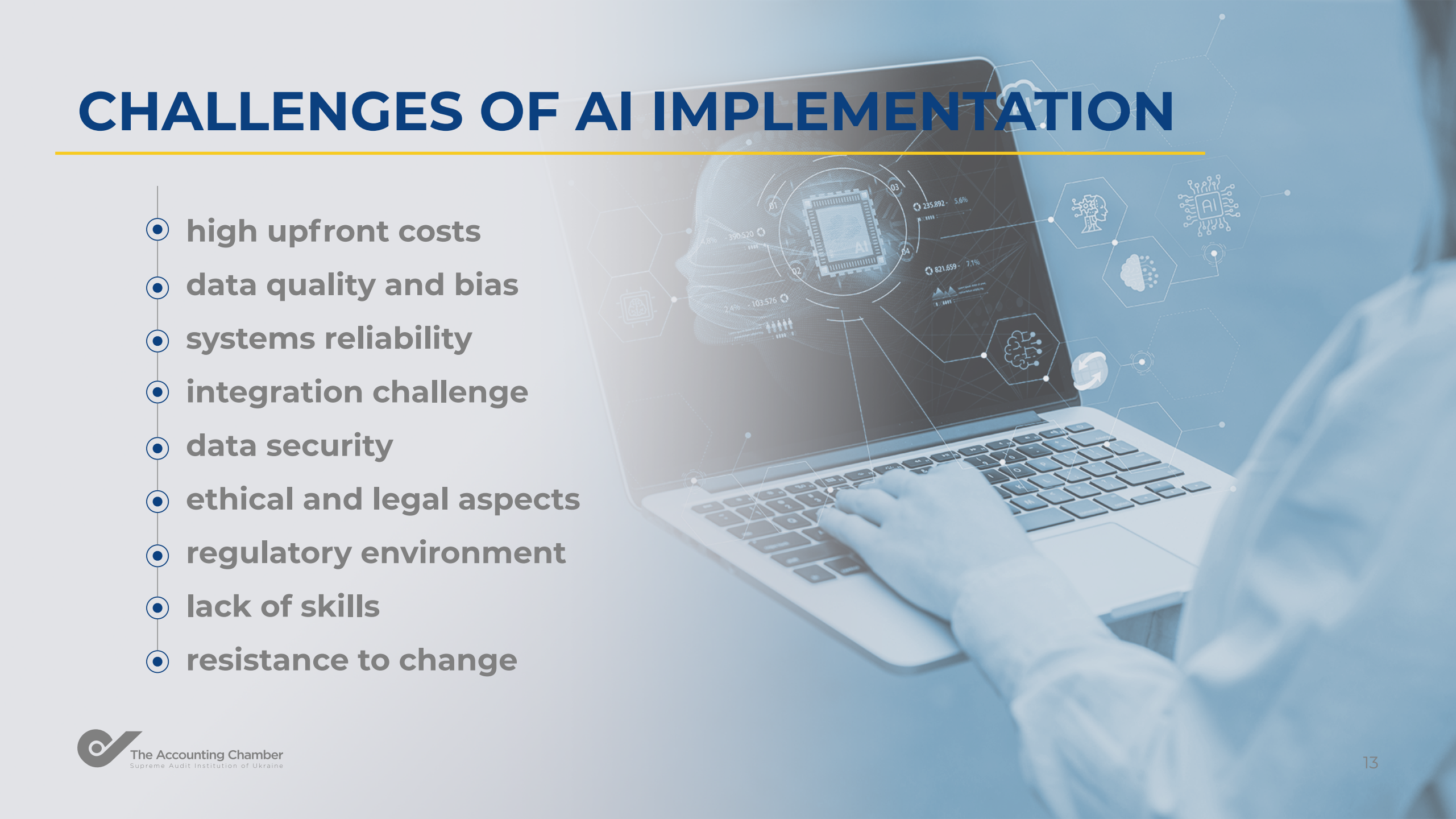
DEEPGREEN UKRAINE — a forest monitoring service that uses open satellite imagery and data from the State Forestry Agency to detect illegal logging. The AI analyses satellite images to detect a decrease in forest cover and identifies the availability of logging permits in open government databases

**Deep
Green
Ukraine**

DOZORRO — the platform is equipped with AI to detect risky public procurement in Prozorro. AI enables the Dozorro team to detect procurement irregularities much faster and to contact controllers and law enforcement agencies

DOZORRO

CHALLENGES OF AI IMPLEMENTATION



- high upfront costs
- data quality and bias
- systems reliability
- integration challenge
- data security
- ethical and legal aspects
- regulatory environment
- lack of skills
- resistance to change

INTERNATIONAL STANDARDS IN THE FIELD OF AI

**ISO/IEC 42001:2023
„Information technology —
Artificial intelligence — Management system”
was published in 2023**



It is the world's first AI management system standard, providing valuable guidance for this rapidly changing field of technology. It addresses the unique challenges AI poses, such as ethical considerations, transparency, and continuous learning

**Under publication ISO/IEC 42006
„Information technology — Artificial
intelligence — Requirements for bodies
providing audit and certification of artificial
intelligence management systems”
(ISO/IEC 42006)**



ISO/IEC 42006 ensures that the audit and certification of AI management systems is performed consistently and credibly, giving customers and stakeholders confidence that certified organisations meet the expectations set out in ISO/IEC 42001

WHAT ELSE NEEDS TO BE DONE IN THE FIELD OF AI



**Develop ethical standards
for the use of AI in the audit**



**Train auditors in digital competencies and
critical thinking about solutions offered by AI**

**Ensure openness and clarity
of algorithms**



**Develop international partnerships
to share experience and best practices**



THANK YOU FOR ATTENTION!



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