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Intellias Generative AI Expertise

We breathe life into **great ideas** with the power of **digital technology**

2023 | intellias.com

Imagine if you could

ADDRESS

the following challenges:

Unlocking AI's Potential and Overcoming Competition Lag:

Embracing AI's potential is imperative to avoid competitive lag. Allocate resources for AI education, receive expert guidance, and analyze success stories to leverage AI to optimize operational efficiency, enhance user experiences, and ensure competitive prowess.

Strategic Brand Perception Analysis

Insufficient understanding of customer and public brand perceptions obstructs optimal marketing strategies, limits customer engagement, and curtails brand loyalty.

Unearthing Hidden Insights within Company Data:

Unidentified valuable insights within a company's data remain untapped, resulting in missed opportunities for innovation, cost efficiencies, and competitive edges.

Effectively summarizing substantial domain knowledge:

Despite possessing a wealth of specialized expertise, effectively conveying the essence of domain knowledge can present challenges that impede clear communication, knowledge sharing, and collaboration.

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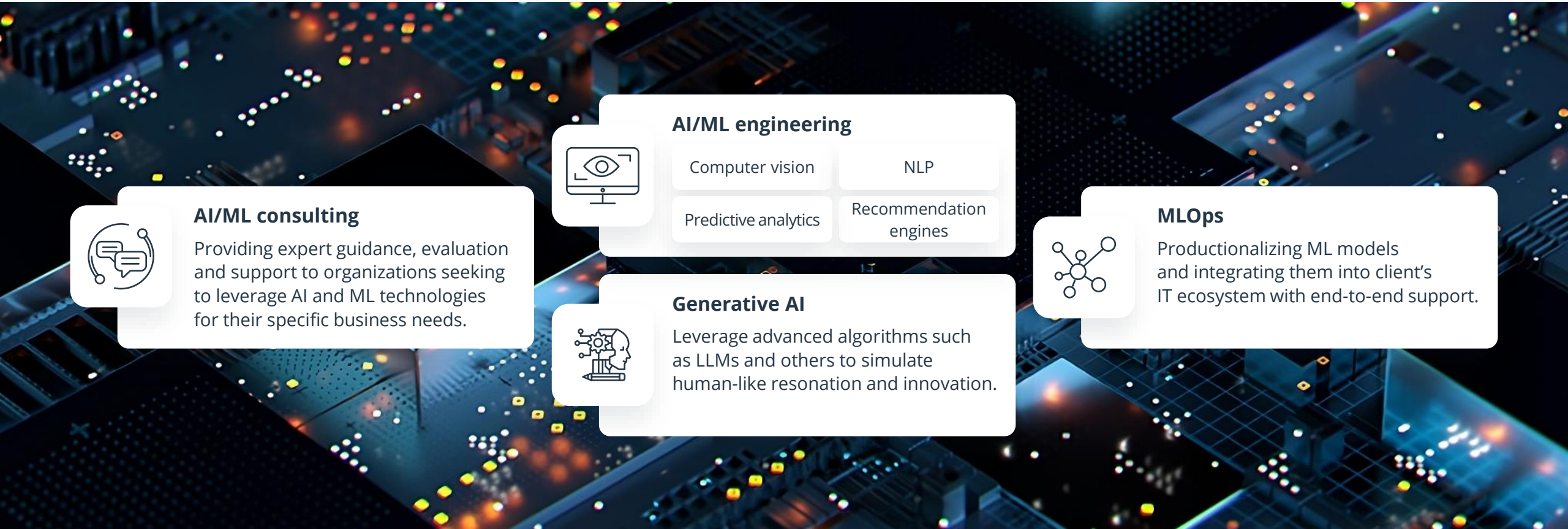
Our Expertise in AI/ML

Covering all the steps on AI journey

End to end solution starting from consulting over implementation to operalization with high emphasize on governance and security.



AI/ML consulting

Providing expert guidance, evaluation and support to organizations seeking to leverage AI and ML technologies for their specific business needs.

AI/ML engineering

- Computer vision
- NLP
- Predictive analytics
- Recommendation engines

Generative AI

Leverage advanced algorithms such as LLMs and others to simulate human-like resonation and innovation.

MLOps

Productionalizing ML models and integrating them into client's IT ecosystem with end-to-end support.

Our generative AI objectives

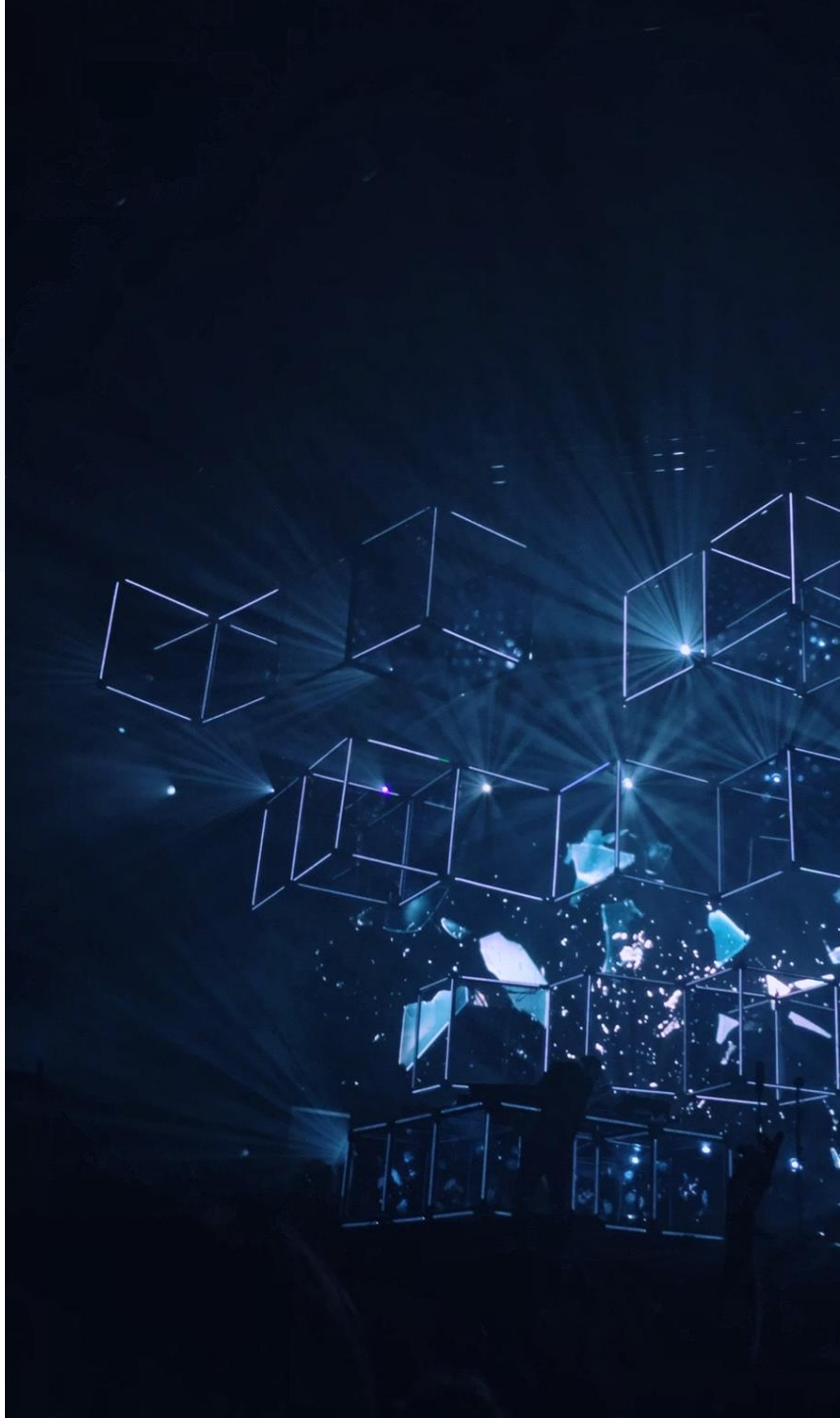
We leverage advanced algorithms and models to simulate human-like resonation and innovation, but in faster and cost-efficient way.

DELIVERABLES

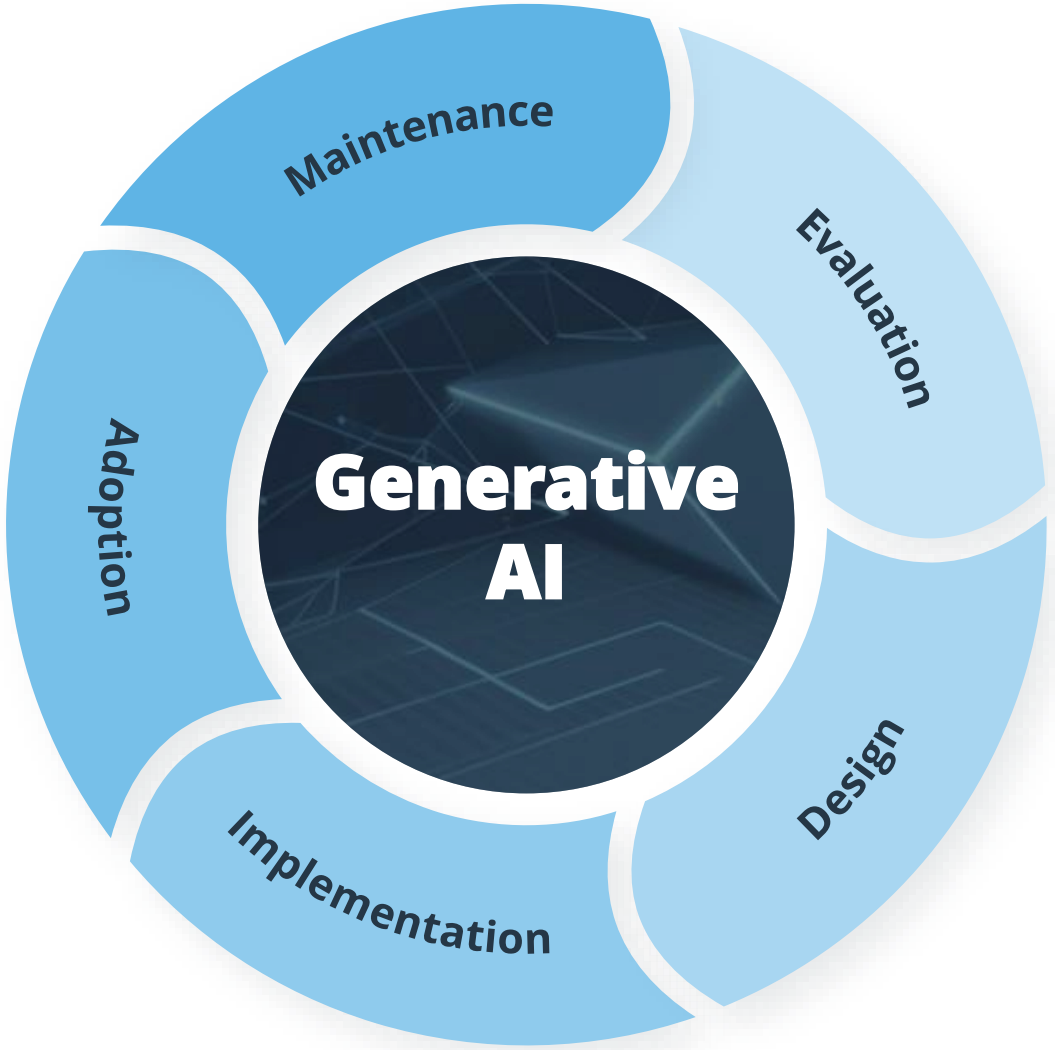
- Solution successfully integrated into the infrastructure
- Accessible source code
- Detailed technical documentation
- User-centric guide for solution usage

TYPICAL TEAM

- Data Engineers
- AI Engineers
- ML Engineer
- MLOps
- Project manager



Our approach to GenAI



By bringing together custom industry solutions, cross-technology expertise, partner ecosystem, and responsible design frameworks we provide an end-to-end approach to generative AI. It comprises the evaluation of business requirements and feasibility assessment, architectural vision and design, data engineering and model implementation, product creation with security and governance at the core, product improvement for scale.

Our approach to LLMs within Generative AI





Evaluation

- Evaluation of business needs, goals, and requirements
- Assessment of limitations, challenges, and issues
- Conduct a thorough feasibility assessment

Design

- Creation of an architectural vision, including LLM selection
- Building an implementation roadmap
- Definition of a scope of work, expected outcomes, timelines

Implementation

- Data preparation.
- Building data pipelines
- Model testing (including human feedback) and evaluation
- Prompt engineering
- Fine-tuning

Adoption

- Building a product aro und the model
- Security & governance

Maintenance

- Collection of user feedback and product improvement
- Hypercare services

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Our approach to engineering of LLM

Model selection

- Task suitability check
- Performance metrics definition
- Resource constraints (infrastructure costs, *etc.)*
- Ethical considerations (which data was used to train the model, *etc.)*
- Domain-specific orientation

Data preparation

- Vector store versioning (handling incremental vs full reload)
- Indexing strategy
- Approach to resolving contradictions in data
- LLM agents for tabular data
- Data availability, quality and relevance checks

Model tuning

- Prompt engineering
- In-context learning
  - Implementation of dynamic example loading for big amount of training data
- Fine–tuning
  - Set up framework of decision making when to start fine tuning the model

Model specialization

- Previous steps lead to model specialization

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Governance & security in Generative AI

Auditing and logging

- **Cornerstone** for both governance and security
- Providing insight into AI model usage, promoting accountability and alignment with ethical standards.
- Enabling the tracing of interactions to help identify breaches, anomalies, and potential threats

Role-based access

- Ensuring that access to AI models is tailored to individual roles and responsibilities, preventing unauthorized use and maintaining control over AI resources.
- Restricting model access to authorized users, thereby reducing the risk of misuse or data breaches.

Company-wide approach

- Establishing a company-wide approach to generative AI usage, thus managing risks and enhancing security measures
- Ensuring compliance (privacy, implementing data obfuscation and encryption, access management)

Identifying sensitive data / PII

- Client-side definition
- Implementing internal definitions that describe sensitive data
- Implementing ML-powered and other approaches to detect sensitive data inhouse
- Continuous monitoring and issues handling

Implementation and integration of Generative AI

1 User engagement and feedback loops

Up to **69%** **boost** in favorability compared to standard results by integrating human feedback.

Employ user feedback as a cornerstone for ongoing enhancements in Generative AI model performance and user satisfaction.

2 Cost optimization

50-90% **cost optimization** through precise resource allocation, on-demand scaling, and cost-efficient deployment.

3 Integration into client's system

Automated and intelligent customer interactions through integrating Generative AI into communication platforms.

Make AI a part of your website or messaging app to improve user engagement and satisfaction.

4 Model maintenance and updates

Development workflow optimization by **automated data updates and error rate reduction.**

Save the model maintenance costs by minimizing manual interventions and issue fixes

5 Monitoring and error handling

Automated performance monitoring by AWS CloudWatch or Azure Monitor with immediate degradation alerts and implementation of disaster recovery procedures

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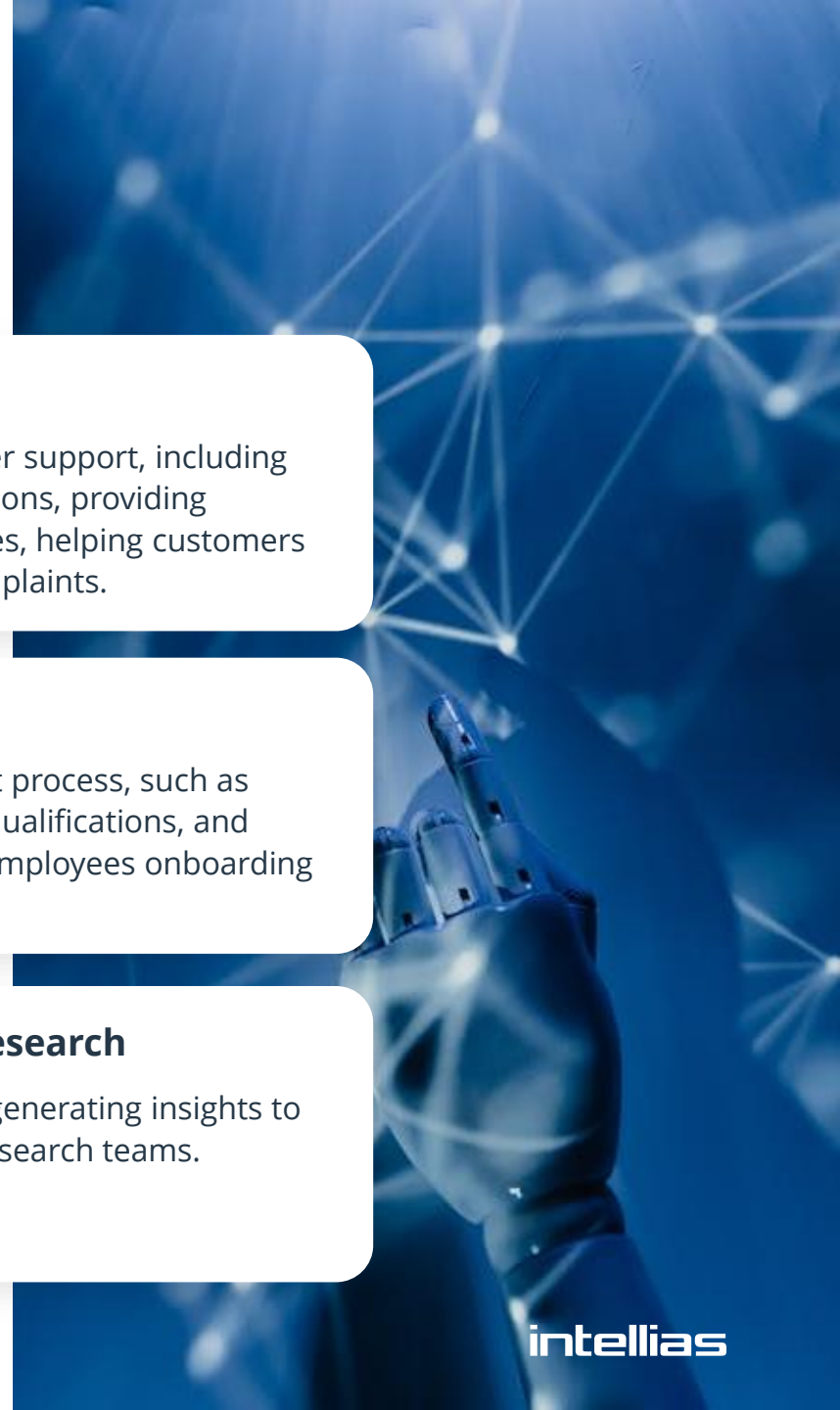
ChatGPT Use Cases We Are Focusing On



Enterprise Search

Providing user-friendly access to company knowledge, such as internal documents and procedures. Combining it with OCR could drastically reduce time and effort spent on working with paper documents.

Customer Service

Enabling cost-efficient 24/7 customer support, including answering infrequently asked questions, providing information on products and services, helping customers with transactions, and handling complaints.

Sales and Marketing

Evaluate the brand strength and share of voice, measuring effectiveness of advertising, or generating personalized product recommendations to clients.

HR and Recruiting

Automating parts of the recruitment process, such as resume screening to identify skills, qualifications, and experiences, or assisting with new employees onboarding and training.

Risk Management and Compliance

Monitoring and analyzing data to identify potential risks and ensure compliance with regulations and industry standards.

Product Development and Research

Analyzing client feedback data and generating insights to inform product development and research teams.

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Business Outcomes

Automation with gen AI optimizes business expenditures

AI-powered enriched market insights, foster competitive edges

AI moving from hype to real catalyzes innovation

Operational efficiency

AI matures to powerful economy influencer on a global scale

40% growth of business efficiency *

30% lower operational expenses*

66% boost of employee productivity**

$4.4 trillion projected in annual economic benefits*

*According to McKinsey
** According to Gartner

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Success Stories

02

ChatGPT-Enabled Platform for Individual Employee Skills Evaluation

OUR CLIENT:

A global technology company enabling change and transformation across industries, and generating long-lasting value for businesses, people, and the wider world

CHALLENGE:

- Monitoring employees' competencies for ongoing enhancement of company's technological expertise.
- Identifying internal experts in specific areas
- Establishing a centralized perspective on market trends and status assessment.

SOLUTION:

The Intellias team developed a cloud-based platform that provides a 360-degree overview of the company's technology expertise, as well as helps to identify employees' skills gaps in the context of specific categories.

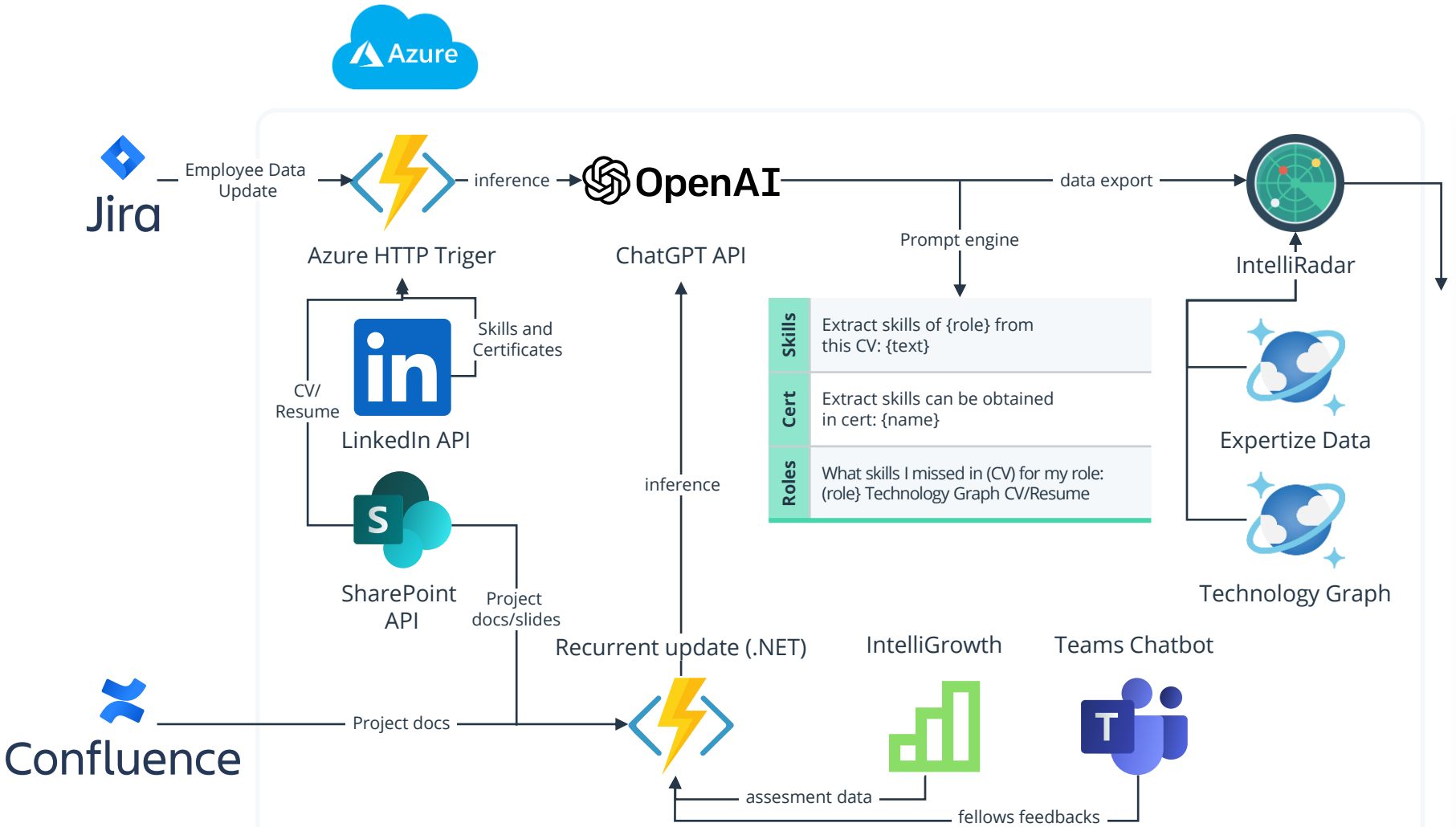
Key features:

- SharePoint and LinkedIn are used as primary data sources for accessing an employees' CVs and skills, while Jira is used for parsing additional employee information;
- OpenAI Davinci is used for extracting skills from an employee's CV (even if those are not mentioned explicitly) and categorizing them;
- User-friendly web UI enables visualization of the Intellias employees' competencies, including languages, frameworks, tools, patterns, platforms and services

EXPECTED BUSINESS OUTCOME:

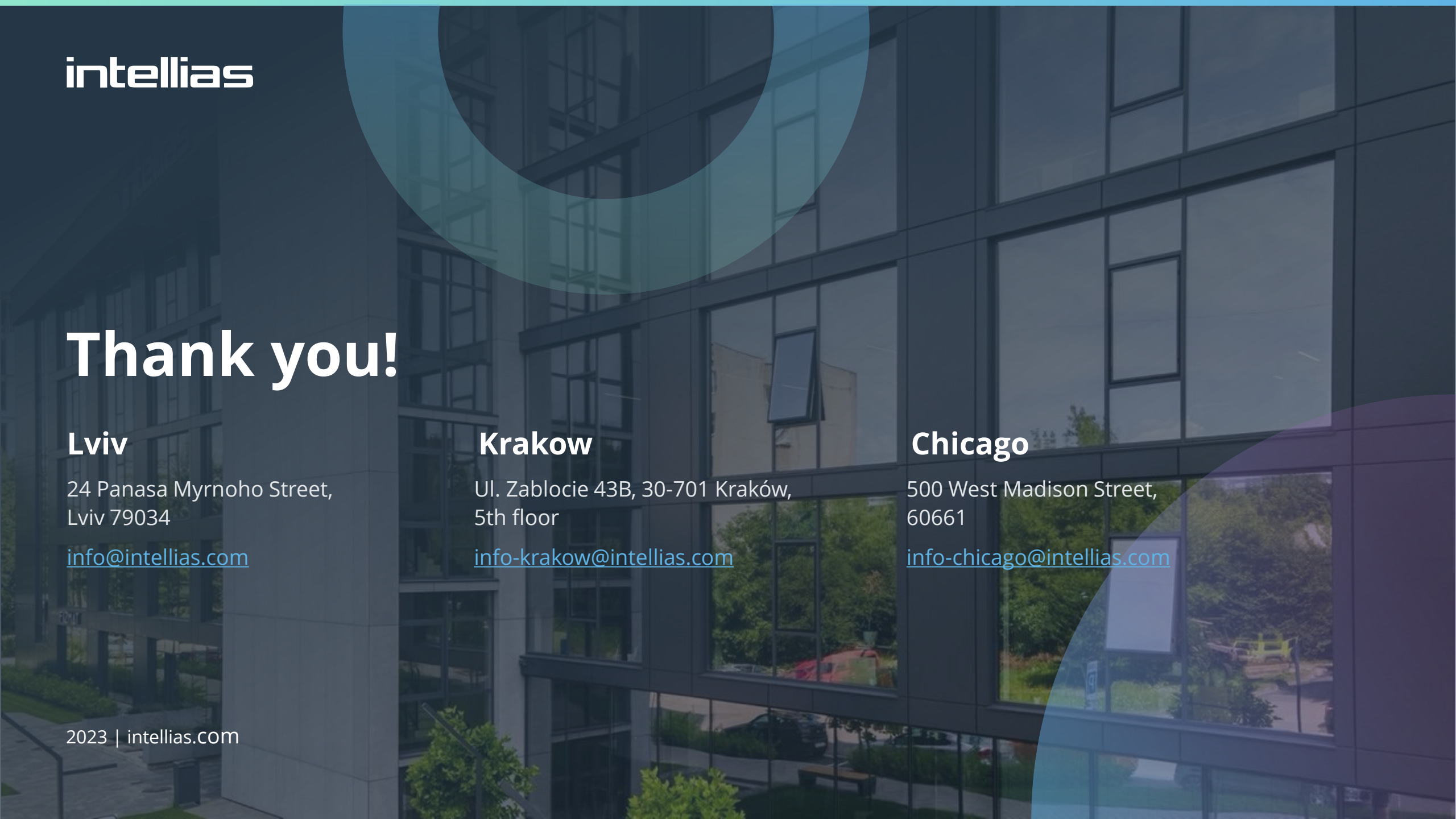
- Automated way to updating and consolidation of organization's technology skills repository.
- Faster identification of skilled employees and automatc profile updates with over 90% accuracy, enhancing competencies information

ChatGPT API in Technology Management



Questions we aim to answer:

- Where to invest?
- Which technology to scale?
- What skills are currently in demand?
- Who is an expert in X, Y or Z?
- What new capabilities do we have?
- What are our technology gaps?
- How can we boost employees' skills and competencies?



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Thank you!

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