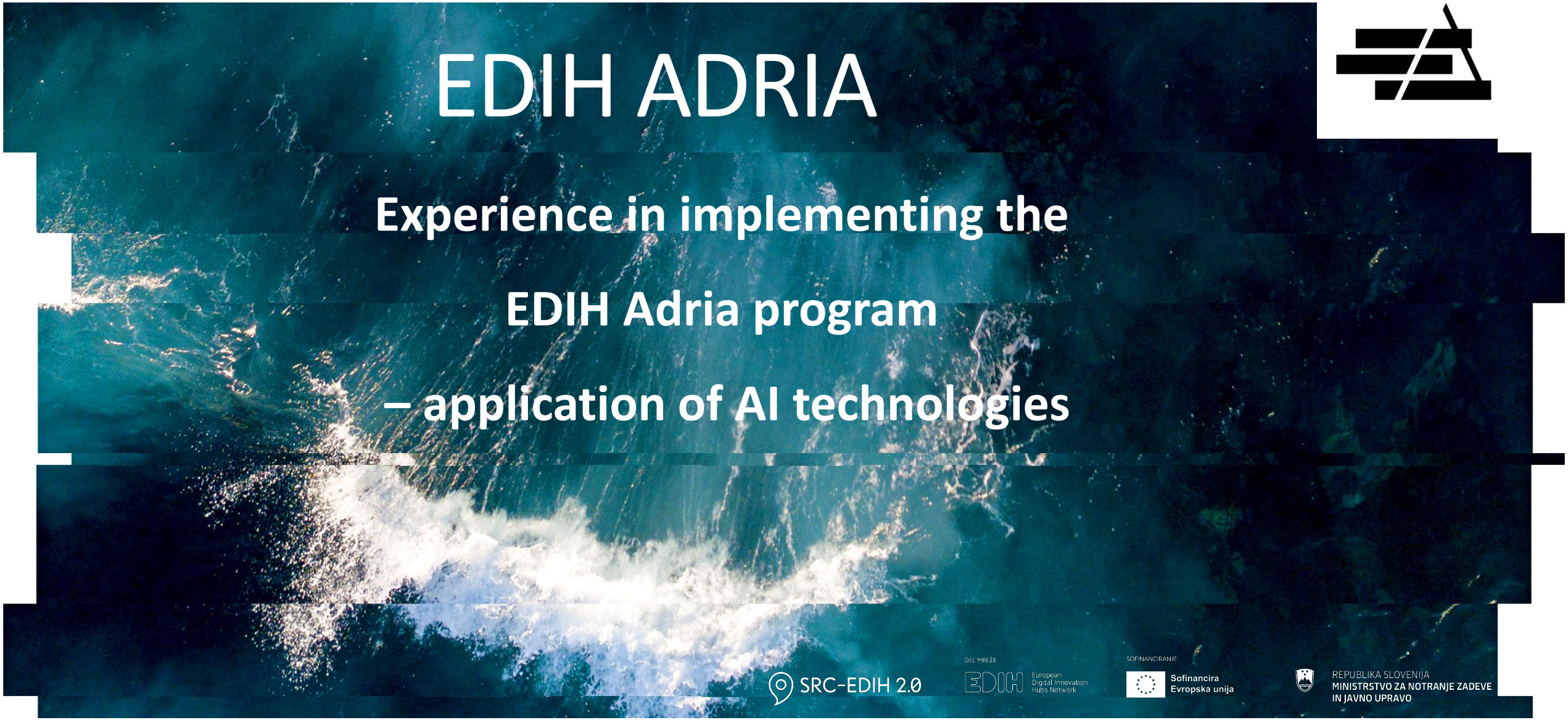
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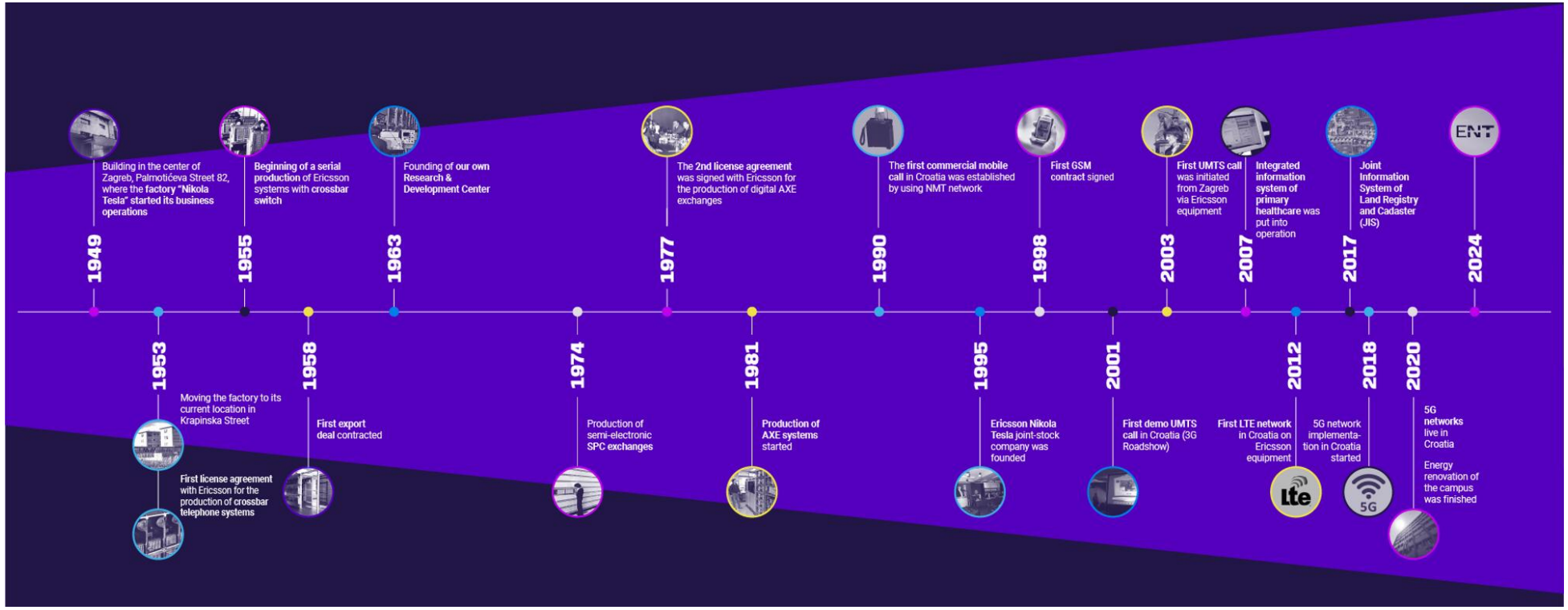
EDIH ADRIA

Experience in implementing the EDIH Adria program – application of AI technologies

PROJEKT SRC-EDIH 2.0
DEL MREŽE EDIH European Digital Innovation Hubs Network
SOFINANCIRANJE Sofinancira Evropska unija
REPUBLIKA SLOVENIJA MINISTRSTVO ZA NOTRANJE ZADEVE IN JAVNO UPRAVO

UNIRI · Universitas Studiorum Polensis Georgii Dobrila · STEPRI · Riječka razvojna agencija PORIN · infobip · ENT · Gospodarska zbornica Dolenjske in Bele krajine, Del sistema Gospodarske zbornice Slovenije

About Ericsson Nikola Tesla (ENT)



Telecom Solutions

High performing, programmable telecom networks combined with leading service delivery expertise for Communication Service Providers

Digital Society

Innovative ICT solutions, based on ENT technical expertise and domain knowledge, for selected verticals

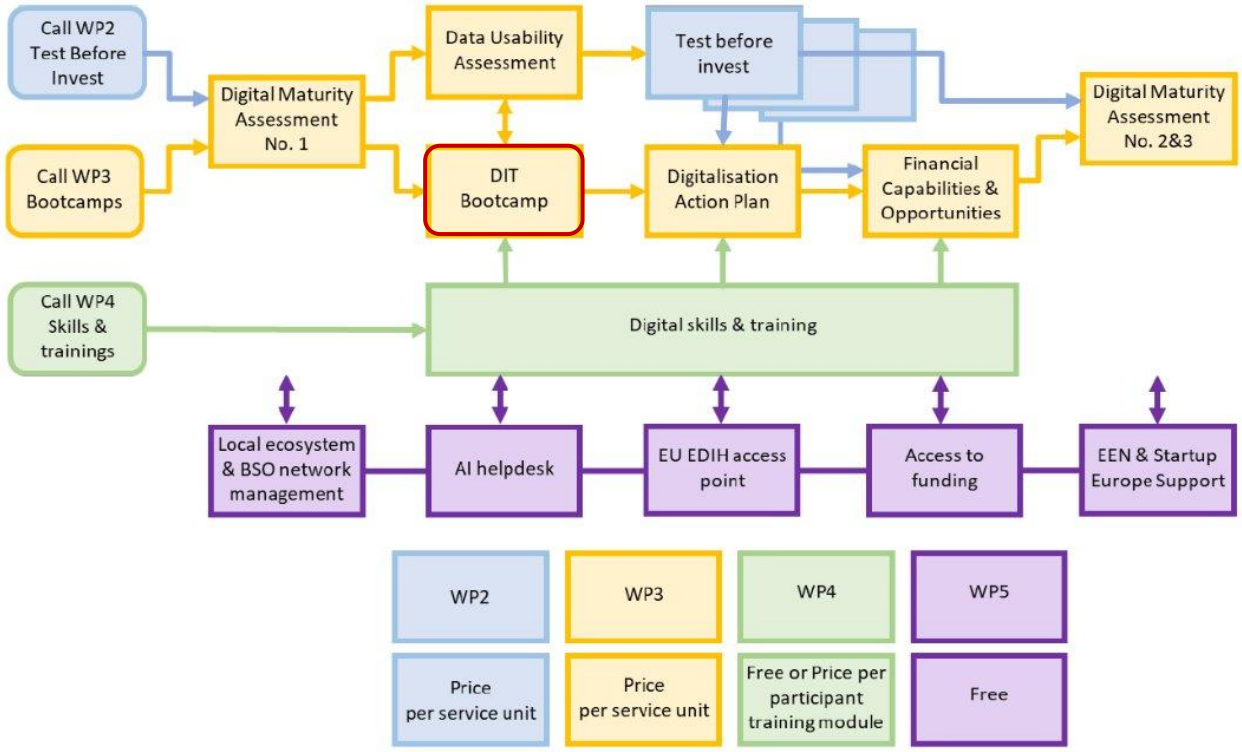
Software Engineering & Services

Technical expertise and competences securing efficient development of innovative, value-added SW products and services

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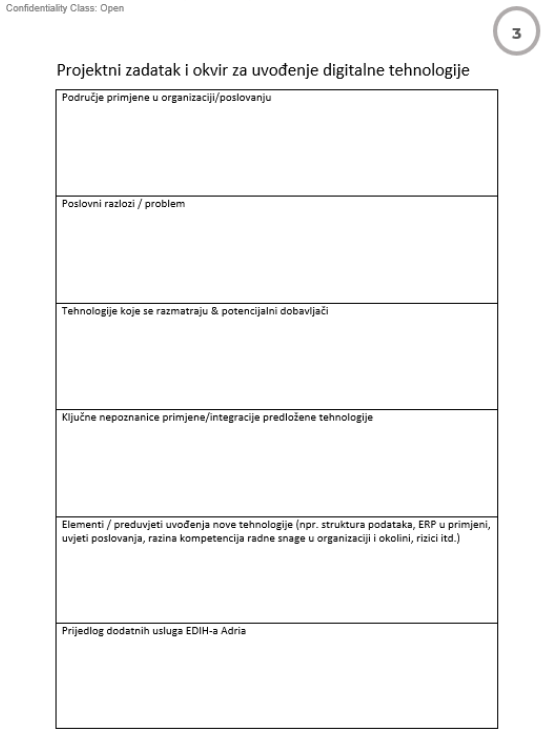
EDIH Adria client's journey starts with Bootcamps

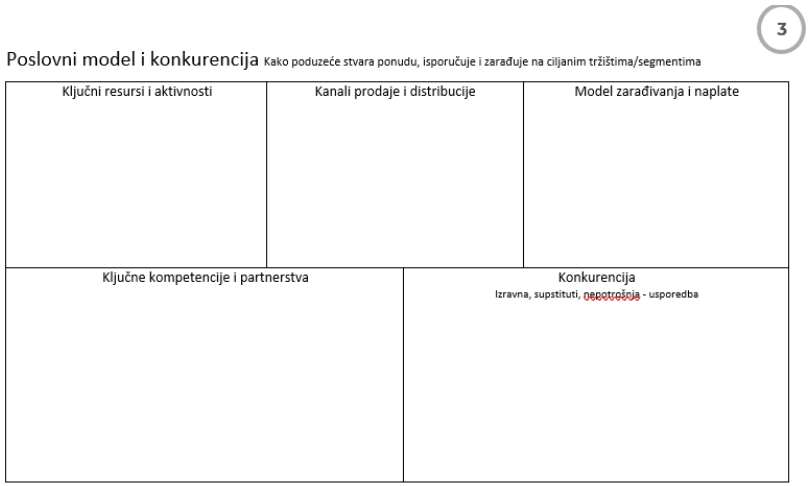
- A two-day workshop to understand EDIH client's (digitalization) needs.
- Identification of key problems through structured Bootcamp process.
- Help to identify opportunities for digitalization and/or work optimization.
- Clients define project scope, objectives, and wanted outcomes.
- With defined project scope clients apply for EDIH supporting services: primarily for Test Before Invest



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Two Bootcamp processes





Digital transformation

Intended for SME and public sector organizations for the **improvement of existing operations** through digitization.

Digital Innovation

Intended for SME on the **development of new products, services and innovative digital solutions** for the market.

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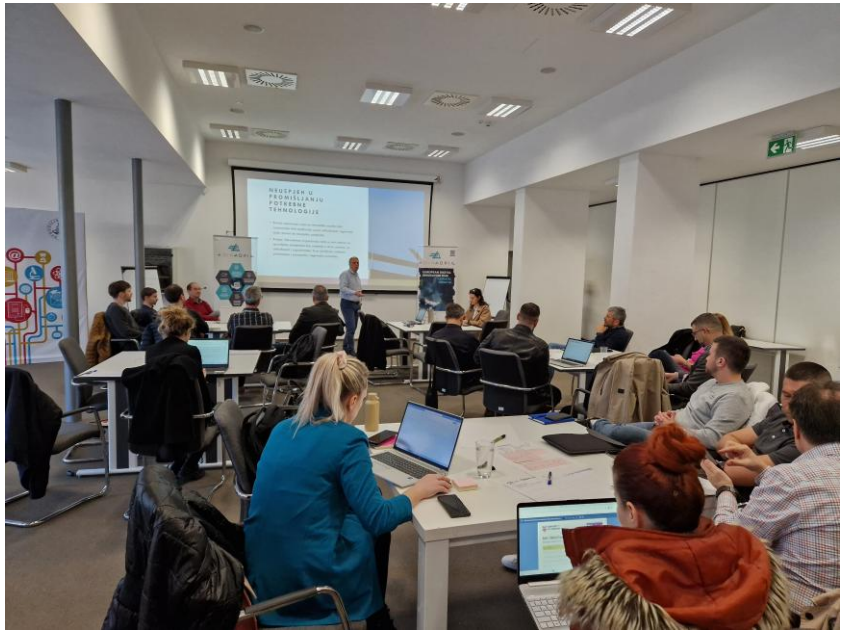
Bootcamps

Vodnjan 23-24.04.2024



Rijeka 15-16.01.2024





Rijeka 30-31.01.2025



Zagreb 19-20.11.2024



EDIH Adria's examples of AI projects

1. Automation of inspections and monitoring using computer vision and AI models for faster, more accurate, and more reliable decision-making.
2. Modernization of business systems through the migration of legacy applications to modern technologies, supported by AI tools.
3. Digitalization of service and operational processes using AI agents for diagnostics, recommendations, and customer support.
4. Data integration and intelligent analytics for more efficient management of assets.
5. Development of new digital services based on AI and automation.



EDIH ADRIA 1.0 team

Example 1: AI corrosion detection for industrial plants

- Developed and tested AI model based on YOLOv11 architecture for automatic detection, classification and assessment of corrosion severity in photos of industrial plants.
- The model enables faster and more consistent inspection and supports maintenance optimization and equipment lifetime estimation.
- The best result was achieved by the YOLOv11 Small model with mAP50 = 75.6 % and Precision = 85.7 %, which confirms the technical feasibility of the solution.
- The recommendation is to continue development, expand the data set and integrate the AI module into the existing Integrity Management Suite (IMS) system.



Display of corrosion detection with 76% confidence

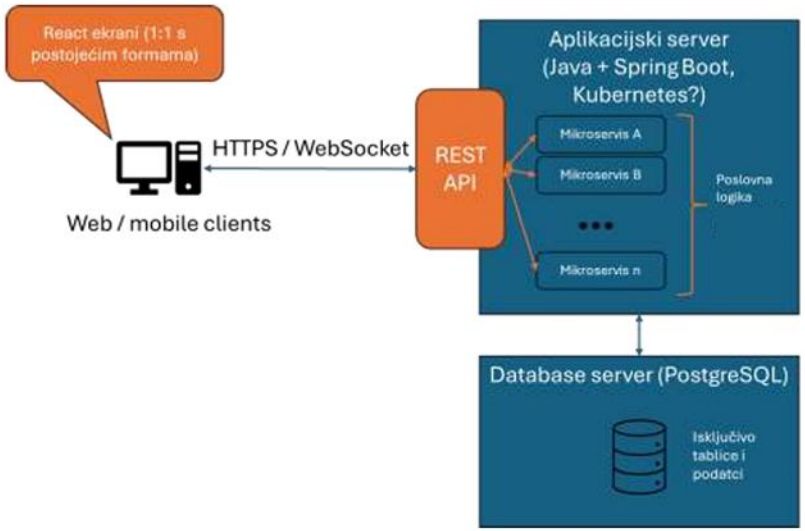


Display of multiple corrosion detections

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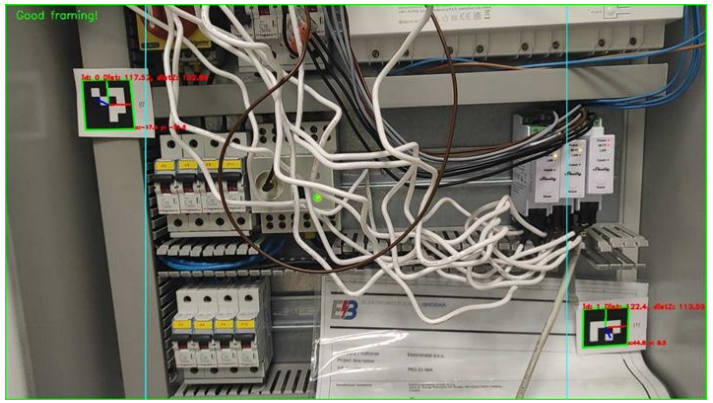
Example 2: Migration of technology stack using AI tools

- Analysis of the architecture and technologies.
- Defined target architecture.
- Elaborated phased migration strategy with parallel operation of new and existing modules.
- Researched and evaluated migration automation tools.
- Tested application of AI tools for migration of currently used technology stack to new components.
- Tested conversion of current business logic and estimated time and cost saving potential.

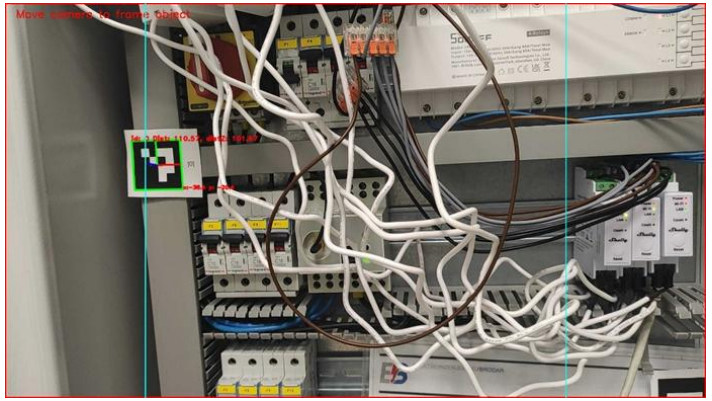


Example 3: Smart management of field devices

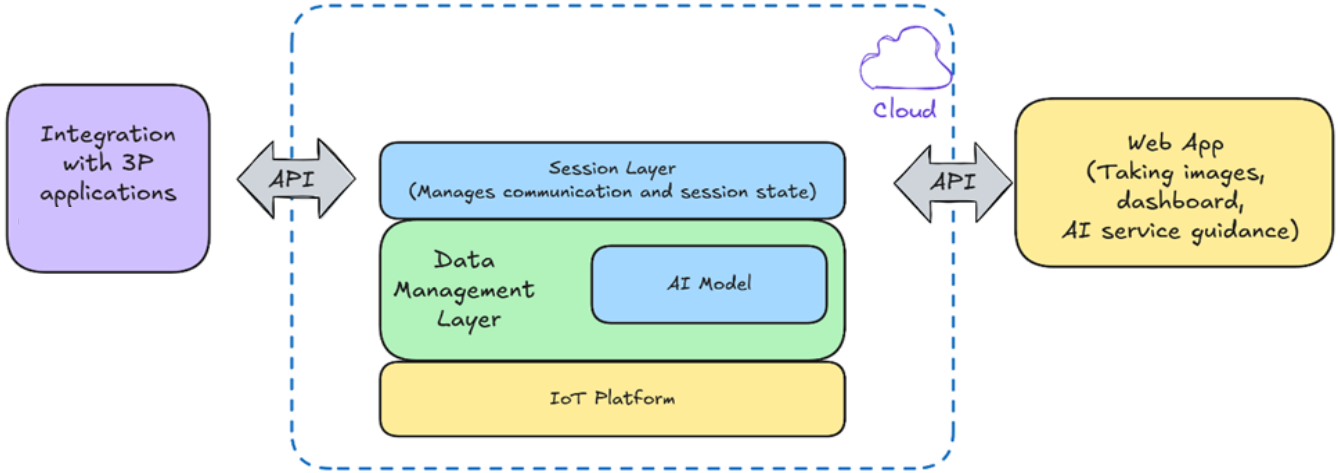
- Computer vision + AI models for visual inspection
- Service processes standardization
- AI agent for service management (diagnosis + recommendations + maintenance support)
- Platform for data collection and processing
- Introduction of the new business model on the market



The right shot



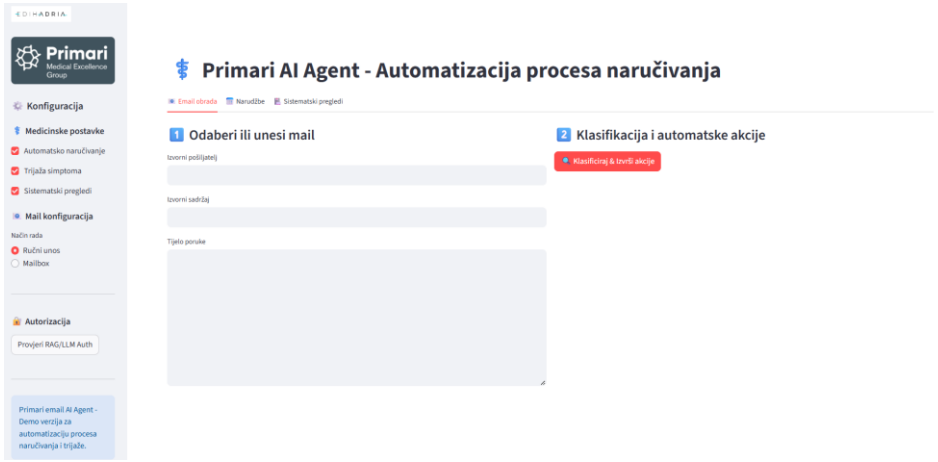
The wrong shot



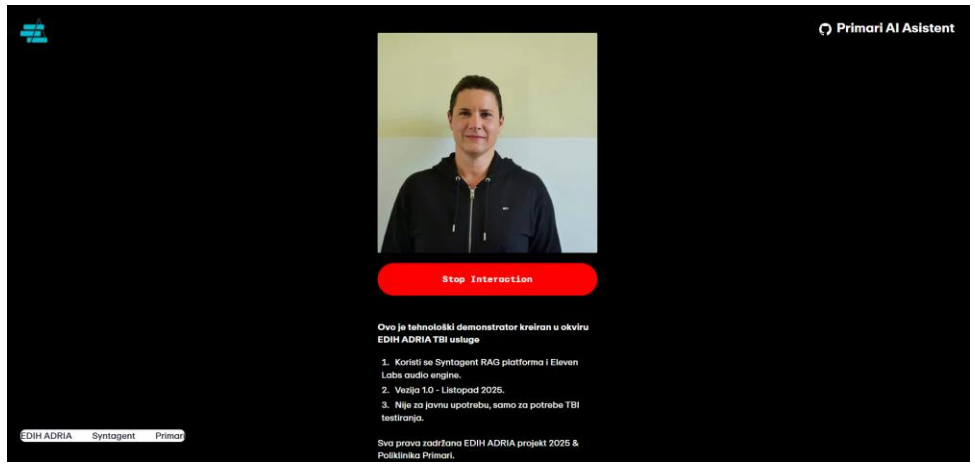
System architecture

Example 4: AI Agent for a Healthcare Clinic

- Automates patient communication and inquiry handling.
- Enables AI-powered symptom triage and appointment scheduling.
- Provides instant 24/7 responses using a knowledge-base-driven (Retrieval-Augmented Generation, RAG) system.
- Integrates with calendars for appointment booking and management.
- Reduces administrative workload and improves patient experience.



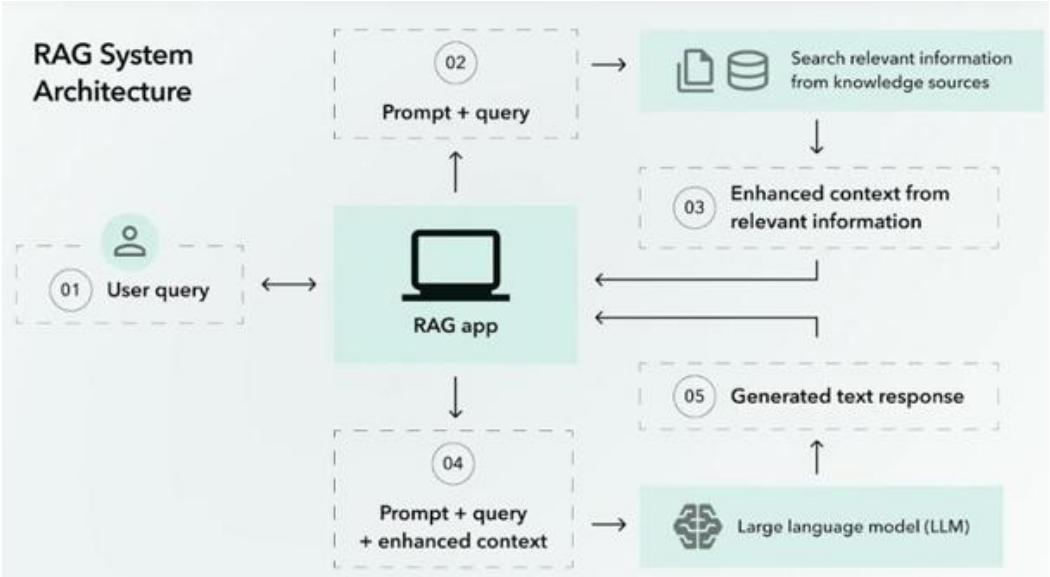
Processing and classification of incoming email



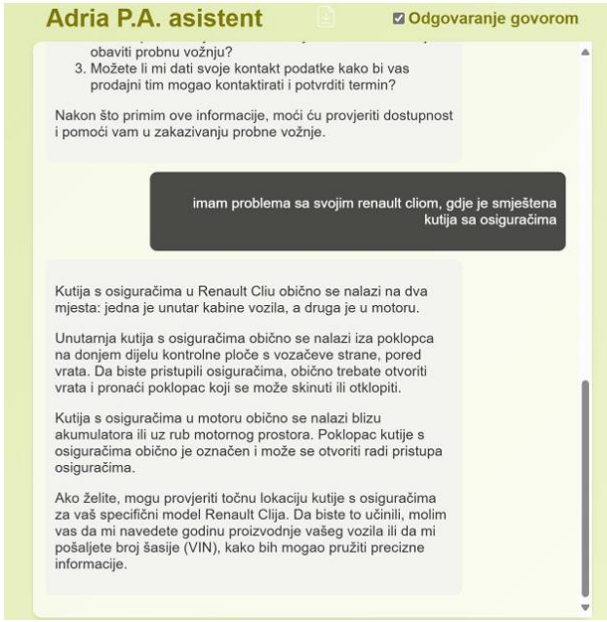
Real-time communication with an AI avatar

Example 5: AI Assistant for Vehicle Sales and Service Support

- Evaluated AI chatbot and RAG (Retrieval-Augmented Generation) technologies for vehicle sales and service support.
- Developed a prototype assistant using company documentation, price lists, and business process knowledge.
- Enables 24/7 customer support, multilingual communication, and service automation.
- Recommended implementation of a text-based AI chatbot integrated with CRM and communication channels.
- Expected benefits: faster customer support, improved operational efficiency, and reduced employee workload.



AI assistant architecture built with open source



AI Assistant Interface

Confidentiality Class: Open

AI and Data

- The success of an AI/ML model depends on the quality and quantity of the data used for training.
- **DATA QUALITY**
  - Accuracy, completeness, and reliability of the data.
  - Relevance to the problem the model is intended to solve.
  - Consistency, as well as the removal of duplicates and errors.
  - Representativeness of the data and the reduction of bias.
- **DATA QUANTITY**
  - A sufficient amount of data for effective training/usage.
  - Data diversity to improve the model's generalization capabilities.
  - More data can enhance precision, but only if that data is of high quality.
  - The amount of data required depends on the complexity of the model and the specific task.

Confidentiality Class: Open

New EDIH Adria service: Data Usability Assessment

- Data Usability Assessment (DUA) enables an assessment of how data is ready for digitization, analytics and the application of AI.
- It provides an objective assessment of data quality and usability.
- Identifies flaws that can threaten AI projects.
- It assesses the technical, legal and organizational readiness of the data.
- It reduces the risk of unsuccessful investments in digital solutions.
- **Transforms data into a strategic asset for the organization.**
- It represents the basis for Test Before Invest and Digitalization Action Plan activities within EDIH Adria 2.0.

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Challenges of the New Era of Digitalization (SLO, HR)

- Availability of IT professionals and digital skills,
- costs of implementing new technologies (short and especially long-term costs),
- cybersecurity risks,
- open-source solution maintenance (sustainability).
- implementation of advanced technologies in smaller enterprises
  - adoption of AI and cloud technologies,
  - financial resources,
  - skilled personnel.

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Opportunities and possibilities for us

- E-commerce: access to new customers and international markets
- Cloud technologies: simplified business operations and data exchange
- Automation: cost reduction and increased productivity
- Green transition: smart management of energy and resources
- Investing in employee training/knowledge
- Utilizing EU funds and grants
- Cross-border cooperation (SLO – HR)



EDIH Adria 2.0

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