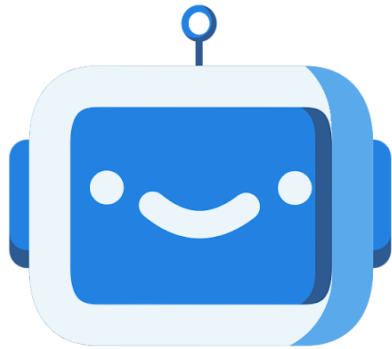
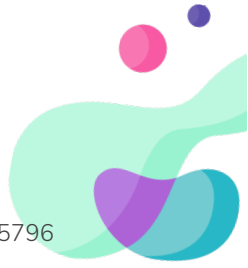
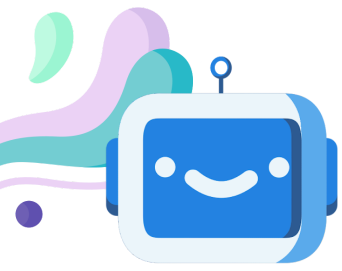




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# Bots4Business



# Work Package n°2

## Croatian Case Library

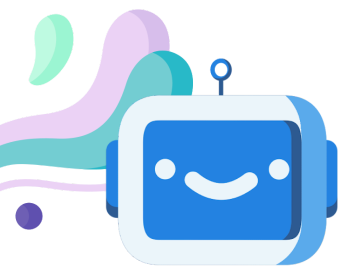
### AI Adoption in Croatian SMEs

The integration of Artificial Intelligence (AI) in Croatian small and medium-sized enterprises (SMEs) is advancing at a steady but uneven pace. Over the past five years, awareness of AI has grown significantly, driven by both global technological trends and national digitalisation efforts. Many Croatian SMEs recognise the potential of AI to transform their operations, improve competitiveness, and strengthen their position in both local and international markets. However, while interest is high, the adoption of AI is still at an early stage, and practical use cases remain concentrated in a limited number of sectors. For the majority of SMEs, AI is not yet a fully embedded element of business strategy but rather an experimental tool being tested in specific areas.

Most Croatian SMEs approach AI through indirect channels, making use of third-party platforms that integrate AI features rather than developing bespoke solutions. Popular applications include customer relationship management systems, digital marketing platforms, automated financial tools, and e-commerce solutions. This allows SMEs to benefit from AI-enhanced functions without requiring extensive technical knowledge or large-scale investments. In practice, this often translates into the use of AI-powered chatbots for customer support, predictive analytics in marketing campaigns, or automation of repetitive administrative tasks. More advanced examples include the application of AI in automotive manufacturing, fintech services, and digital education—areas where Croatian SMEs have demonstrated creativity and the ability to compete globally.

Despite this progress, SMEs face several persistent challenges when it comes to adopting AI. The most significant barriers are the high costs of implementation, the lack of in-house expertise, and limited access to skilled professionals who can adapt AI tools to the specific needs of smaller firms. In addition, cultural and organisational resistance continues to slow adoption, with employees often perceiving AI as disruptive or as a potential threat to existing roles. Concerns about data protection, regulatory compliance, and the ethical use of algorithms also contribute to a cautious approach among SMEs. These issues mirror broader European trends, but in Croatia they are particularly





pronounced due to the relatively small size of the domestic market and limited availability of venture capital for AI-driven initiatives.

To address these gaps, both national and European initiatives have been introduced. Croatia has aligned with EU strategies on digitalisation, providing SMEs with access to funding, training, and innovation networks. Programmes such as Horizon Europe and Digital Europe are available to Croatian firms, offering financial support for research and development projects. At the national level, organisations such as CroAI—the Croatian AI Association—play a key role in raising awareness, promoting AI adoption, and fostering collaboration between businesses, academia, and policymakers. Recent data from CroAI highlights the rapid growth of the ecosystem: the number of AI start-ups in Croatia nearly doubled between 2020 and 2022, reflecting both increasing demand and a supportive environment for innovation.

Looking ahead, the use of AI in Croatian SMEs is expected to expand considerably. The rising availability of user-friendly tools, combined with market pressure to innovate, is creating a more favourable environment for adoption. Younger entrepreneurs and managers, many of whom are digitally literate and open to new technologies, are likely to play a leading role in driving this transformation. However, achieving widespread and responsible AI integration will require continued investment in skills, infrastructure, and awareness-raising initiatives. Without such support, there is a risk that only a small group of innovative SMEs will fully harness the benefits of AI, while others remain hesitant and fall behind in competitiveness.

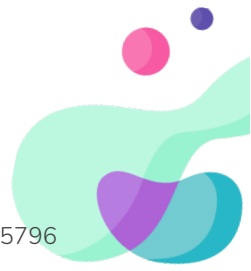
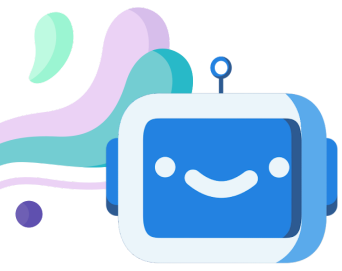
AI should therefore be viewed not as a distant or exclusive technology, but as an accessible and practical tool that can enable Croatian SMEs to increase efficiency, strengthen decision-making, and deliver more personalised and competitive services. By promoting success stories, encouraging experimentation, and supporting SMEs with clear guidance and financial incentives, Croatia can ensure that AI becomes a driver of sustainable growth and prosperity for its small business sector.

<b>SME #1</b>	CASE TITLE:	Enhancing Customer Engagement through AI-Driven Marketing		
	SME Name:	Hypefy		
	Number of employees:	15	Years in operation:	3
	Sector:	Marketing Technology		

## 1. Overview and contents

Hypefy is a Croatian marketing technology start-up that is transforming the way businesses approach influencer marketing. By embedding artificial intelligence (AI) into the process of matching brands with influencers, the company has created a platform that automates discovery, campaign management, and performance tracking. This innovation responds to a key market need: businesses





often struggle to identify the right influencers, negotiate terms, and measure campaign impact efficiently. Through its AI-powered approach, Hypefy has positioned itself as a pioneer in making influencer marketing more data-driven, scalable, and accessible for small and medium-sized enterprises (SMEs).

## 2. Background

Founded in 2022, Hypefy was established by a group of young entrepreneurs who identified inefficiencies in traditional influencer marketing practices. Prior to Hypefy, brands often relied on manual searches, personal networks, and time-consuming negotiations to establish influencer partnerships. These methods not only limited campaign reach but also created uncertainty about return on investment.

The Croatian digital economy has been expanding steadily, with businesses increasingly turning to online advertising and social media as essential tools for growth. Influencer marketing has emerged as a popular strategy, particularly among SMEs aiming to build brand visibility without relying solely on costly mainstream advertising channels. However, many of these businesses lacked the expertise and resources to navigate the influencer market effectively. This gap created an opportunity for Hypefy to design a solution that combined automation with AI-driven analytics, making influencer marketing both more efficient and measurable.

## 3. Approach and Implementation

Hypefy developed a proprietary AI platform that streamlines every stage of influencer marketing. The platform uses algorithms to:

1. **Automate Influencer Discovery** – AI analyses vast datasets across social media to identify influencers who align with a brand’s target audience, values, and campaign objectives.
2. **Campaign Management** – The system manages contracts, communication, and scheduling, significantly reducing the manual workload for marketing teams.
3. **Performance Analytics** – By tracking engagement metrics in real time, the platform provides insights into audience reach, sentiment, and conversion rates, enabling brands to evaluate impact with precision.

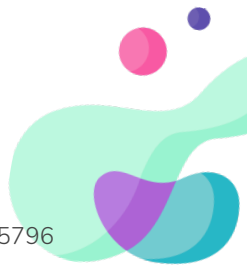
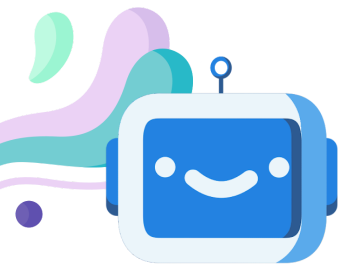
Implementation followed a phased approach. In the initial stage, the team trained AI algorithms on large datasets of social media interactions to refine matching accuracy. Early pilot projects with local SMEs helped validate the tool’s relevance and usability. Following successful trials, Hypefy expanded its client base, integrating user feedback into iterative platform improvements.

## 4. Results and Impact

The adoption of Hypefy’s AI-powered platform has delivered notable results for both the company and its clients:

- **Time Efficiency:** The process of identifying and contracting influencers, which previously took weeks, is now completed in a matter of hours.





- **Improved ROI:** Clients report higher campaign effectiveness due to better alignment between influencers and brand audiences.
- **Scalability:** The platform enables SMEs to run multiple campaigns simultaneously, a feature previously accessible only to large corporations with dedicated marketing departments.
- **Business Growth:** Hypefy's innovative approach attracted investor confidence, resulting in a successful seed funding round of \$1.75 million, which has accelerated its expansion.

## 5. Lessons Learned

Several key insights have emerged from Hypefy's journey:

- **Algorithm Training is Critical:** Ensuring relevance in influencer matches required extensive data preparation and continuous algorithm refinement.
- **Human-AI Collaboration Matters:** While AI automates much of the process, human oversight remains necessary to evaluate creative fit and ensure campaigns maintain authenticity.
- **Client Education is Essential:** Many SMEs were initially sceptical about automated influencer marketing. Demonstrating results through pilot campaigns helped overcome resistance and build trust.

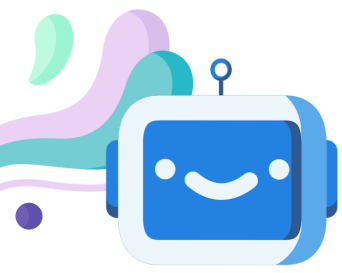
## 6. Future Directions

Looking ahead, Hypefy aims to further enhance its platform and expand into international markets. Planned developments include:

- **Advanced Personalisation:** Integrating sentiment analysis and predictive modelling to recommend not just influencers but also campaign styles most likely to succeed.
- **Market Expansion:** Entering other European markets where influencer marketing is rapidly growing, particularly in e-commerce and lifestyle sectors.
- **Broader Platform Capabilities:** Adding features such as automated contract generation, fraud detection for influencer authenticity, and AI-driven creative content suggestions.

By continuing to innovate, Hypefy aspires to establish itself as a leader in AI-driven marketing technology, supporting SMEs in creating impactful digital campaigns while reducing costs and complexity.





<b>SME #2</b>	<b>CASE TITLE:</b>	AI-Powered Predictive Maintenance in Manufacturing		
	<b>SME Name:</b>	Rimac Technology		
	<b>Number of employees:</b>	1,000+	<b>Years in operation:</b>	13
	<b>Sector:</b>	Automotive manufacturing		

## 1. Overview and contents

Rimac Technology, a globally recognised Croatian company in the field of high-performance electric vehicles, has embraced Artificial Intelligence (AI) to strengthen its manufacturing processes. By integrating predictive maintenance solutions powered by AI, the company has significantly reduced equipment downtime, streamlined production, and reinforced its reputation as a leader in advanced automotive technology. This case highlights how Rimac combined innovation, technical expertise, and AI-driven data analysis to tackle one of the industry's most pressing challenges—ensuring reliability and efficiency in complex manufacturing operations.

## 2. Background

Founded in 2009, Rimac has grown from a small start-up into a global player known for developing electric hypercars and supplying key technologies to some of the world's largest automotive brands. Its rapid expansion placed new demands on production facilities, which had to deliver precision, speed, and reliability while maintaining high standards of quality.

Manufacturing electric vehicles involves highly sophisticated machinery and intricate processes, where unexpected breakdowns can cause severe delays and cost overruns. Like many advanced manufacturers, Rimac faced the challenge of reducing unplanned downtime and controlling maintenance costs. Traditional preventive maintenance methods—based on fixed schedules rather than real-time data—were not sufficient to meet the company's need for operational efficiency.

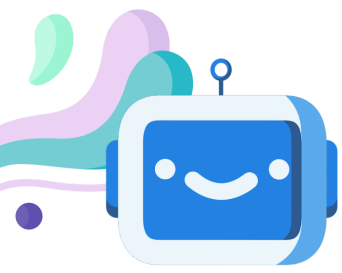
In response, Rimac turned to AI to create smarter maintenance systems capable of predicting failures before they occurred. By combining its engineering expertise with AI algorithms, Rimac sought to transform equipment management into a proactive, data-driven process.

## 3. Approach and Implementation

The company launched a comprehensive predictive maintenance project, integrating AI into its production environment. The approach included:

1. **Sensor Deployment:** Advanced sensors were installed across machinery and production lines to collect real-time data on temperature, vibration, energy consumption, and performance anomalies.





2. **Data Analysis:** AI algorithms processed vast amounts of sensor data to detect patterns and identify potential indicators of machine failure.
3. **Predictive Modelling:** Machine learning models forecasted when specific components were likely to fail, allowing maintenance teams to intervene before costly breakdowns occurred.
4. **System Integration:** The predictive maintenance system was integrated with existing manufacturing software, enabling seamless scheduling of repairs and resource allocation.

Implementation began with pilot projects in selected production units. Once initial results demonstrated reductions in unexpected failures, Rimac expanded the system across its facilities. Continuous refinement ensured the algorithms adapted to changing operational conditions, improving accuracy over time.

#### 4. Results and Impact

The integration of AI-driven predictive maintenance has had measurable effects on Rimac's operations:

- **Reduced Downtime:** Unplanned equipment failures decreased significantly, minimising production delays.
- **Cost Savings:** Maintenance budgets became more predictable, as interventions were scheduled based on need rather than rigid timeframes.
- **Increased Efficiency:** Production processes became smoother, with fewer interruptions, enhancing overall productivity.
- **Competitive Advantage:** Rimac reinforced its image as an innovator, leveraging AI not only in vehicle design but also in manufacturing practices.

The success of this initiative has contributed to Rimac's ability to meet global demand while maintaining the reliability and quality expected from a high-performance automotive brand.

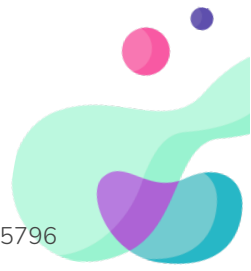
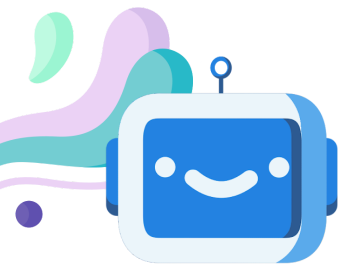
#### 5. Lessons Learned

The project provided valuable insights:

- **High Initial Investment is Necessary:** Implementing predictive maintenance required significant upfront costs in hardware, software, and expertise, but long-term returns have proven substantial.
- **Change Management is Crucial:** Production staff needed training to trust and effectively use AI-generated insights. Involving employees from the start reduced resistance and built confidence in the system.
- **Continuous Data Refinement:** Predictive accuracy depends on ongoing monitoring and recalibration of algorithms. Rimac learned that AI models improve with time and must be regularly updated with new operational data.

#### 6. Future Directions





Building on this success, Rimac plans to extend its use of AI into other aspects of manufacturing, including:

- **Quality Control:** Implementing AI-powered computer vision systems to automatically detect defects in components during assembly.
- **Supply Chain Optimisation:** Using predictive analytics to forecast demand for parts and manage supplier relationships more effectively.
- **Sustainability Initiatives:** Applying AI to monitor energy consumption and reduce the environmental impact of manufacturing processes.

Through these initiatives, Rimac aims to remain at the forefront of advanced manufacturing, demonstrating how SMEs—even in highly competitive industries—can harness AI to achieve both operational excellence and long-term sustainability.

<b>SME #3</b>	CASE TITLE:	Streaming Financial Services with AI Chatbots		
	SME Name:	Oradian		
	Number of employees:	100+	Years in operation:	10
	Sector:	Financial Technology		

## 1. Overview and contents

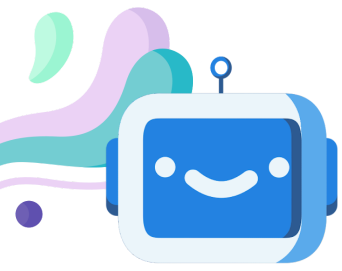
Oradian is a Croatian FinTech company specialising in cloud-based software solutions for financial institutions, particularly in emerging markets. By integrating Artificial Intelligence (AI) chatbots into its operations, the company has enhanced customer service, increased accessibility, and reduced costs for microfinance providers and their clients. This case illustrates how Oradian is using AI not only as a tool for efficiency but also as a driver of financial inclusion in regions where access to banking services has traditionally been limited.

## 2. Background

Founded in 2012, Oradian set out to address a global challenge: millions of people remain excluded from formal financial systems, particularly in developing countries across Africa and Southeast Asia. Traditional banking infrastructure is often inaccessible to low-income individuals and rural communities, limiting opportunities for savings, credit, and investment.

Oradian's mission has been to empower microfinance institutions and smaller financial providers with the technology needed to reach underserved populations. The company developed a Software-as-a-Service (SaaS) platform that allows institutions to digitise operations, manage accounts, and provide services more efficiently.





As customer numbers grew, Oradian and its partners faced a new challenge: delivering reliable and scalable customer support without proportionally increasing costs. Customer queries—ranging from balance checks to loan applications—were overwhelming traditional support teams. In response, Oradian turned to AI to automate service delivery while maintaining accessibility for clients with limited digital literacy.

### 3. Approach and Implementation

Oradian designed and deployed AI-powered chatbots tailored to the needs of microfinance institutions and their end users. The approach included:

1. **24/7 Customer Support:** Chatbots were integrated into digital platforms to handle common queries such as balance inquiries, payment schedules, and loan applications, reducing wait times for customers.
2. **Natural Language Processing (NLP):** AI was trained to understand multiple languages and dialects, ensuring usability across diverse regions.
3. **Transaction Assistance:** Chatbots facilitated simple financial transactions, enabling customers to transfer funds, pay bills, and apply for loans directly through the system.
4. **Scalable Integration:** The system was built to integrate seamlessly with Oradian's core SaaS platform, allowing microfinance institutions to adopt the chatbot with minimal technical barriers.

Implementation began with pilot projects in select markets, allowing Oradian to refine the chatbot's functionality based on user feedback. Continuous iteration ensured that the AI improved over time, becoming more responsive to customer needs and cultural contexts.

### 4. Results and Impact

The introduction of AI chatbots has delivered transformative results:

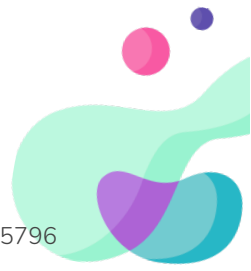
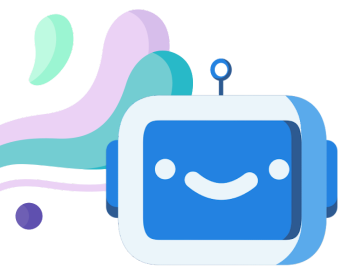
- **Enhanced Accessibility:** Customers in remote areas gained easier access to financial services without the need to travel long distances to physical branches.
- **Operational Efficiency:** Microfinance institutions reduced the workload on human support teams, enabling them to focus on more complex tasks.
- **Cost Reduction:** Automation significantly lowered customer service costs, making financial services more affordable to both institutions and end users.
- **Customer Satisfaction:** Faster responses and round-the-clock availability increased trust and satisfaction among clients, leading to higher retention rates.

Importantly, the initiative supported Oradian's broader mission of financial inclusion, enabling thousands of individuals to participate in the financial system for the first time.

### 5. Lessons Learned

Key insights from Oradian's chatbot implementation include:





- **Cultural and Linguistic Adaptation:** Success required tailoring AI tools to local languages and cultural expectations, demonstrating the importance of contextual design.
- **Human Oversight is Still Vital:** While chatbots handle routine tasks effectively, complex financial issues still require human intervention to maintain trust and compliance.
- **User Education Matters:** Many customers were initially unfamiliar with digital interfaces, so training and awareness campaigns were essential for adoption.

## 6. Future Directions

Building on its success, Oradian plans to expand its AI capabilities in several directions:

- **Personalised Financial Advice:** Integrating predictive analytics to provide tailored recommendations based on user behaviour and financial history.
- **Advanced Fraud Detection:** Using AI to identify suspicious transactions and enhance security, a critical requirement in emerging markets.
- **Deeper Market Penetration:** Expanding chatbot deployment across more microfinance institutions globally, particularly in underserved regions of Africa and Asia.

Through these initiatives, Oradian aims to strengthen its role as a global leader in FinTech for financial inclusion. By leveraging AI, the company not only improves operational efficiency but also contributes to a more equitable financial ecosystem, where access to essential services is no longer limited by geography or infrastructure.

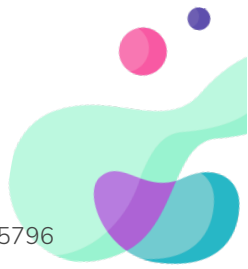
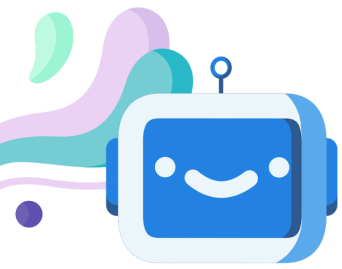
<b>SME #4</b>	CASE TITLE:	AI-Enhanced Language Learning Platforms		
	SME Name:	Lingvist (Estonia)		
	Number of employees:	50+	Years in operation:	9
	Sector:	Education Technology		

## 1. Overview and contents

Lingvist is an education technology company that uses Artificial Intelligence (AI) to deliver personalised language learning experiences. By embedding adaptive algorithms into its platform, the company has created a learning environment that adjusts content to the pace, ability, and needs of individual learners. This case demonstrates how AI can reshape education by making learning more efficient, engaging, and scalable, while highlighting the challenges of balancing innovation with continuous refinement and user trust.

## 2. Background





Founded in 2014 in Estonia, Lingvist entered the market at a time when language learning was dominated by traditional classroom instruction and rigid digital courses. While online platforms existed, most offered one-size-fits-all content that did not adapt to the learner's specific strengths or weaknesses.

Recognising this limitation, Lingvist's founders sought to revolutionise the process by applying AI to accelerate vocabulary acquisition and improve retention rates. The goal was to create a dynamic system capable of continuously evaluating a learner's progress and automatically adjusting the material to optimise efficiency. This vision aligned with broader trends in the digital education sector, where demand for flexible, self-paced, and personalised solutions has been steadily growing. Lingvist quickly gained attention as an innovator, securing investment and expanding its user base internationally. The challenge, however, lay in translating cutting-edge AI technology into a practical, user-friendly product that could appeal to a global audience with diverse learning needs.

### 3. Approach and Implementation

Lingvist's approach was grounded in adaptive learning models powered by AI and data analytics. The implementation process included:

1. **Performance Assessment:** The platform tracks how learners interact with exercises, analysing speed, accuracy, and repetition patterns to build individual learning profiles.
2. **Adaptive Content Delivery:** Based on these profiles, AI algorithms select vocabulary and grammar exercises tailored to each learner's progress and areas for improvement.
3. **Real-Time Feedback:** Learners receive immediate corrections and recommendations, helping them adjust strategies on the spot.
4. **Continuous Optimisation:** Data from millions of learning sessions is used to refine algorithms, ensuring the system becomes more accurate and effective over time.

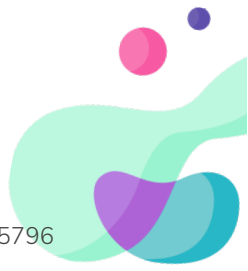
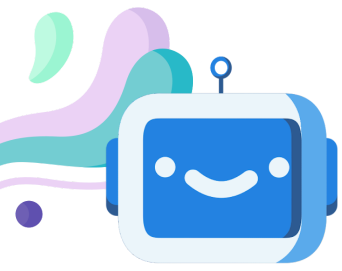
In addition to text-based exercises, Lingvist has begun integrating speech recognition technology to address pronunciation and fluency. This broadens the platform's appeal, catering to learners seeking practical communication skills as well as vocabulary expansion.

### 4. Results and Impact

Lingvist's AI-enhanced platform has had a measurable impact on learners and the education sector:

- **Accelerated Learning:** Users report faster vocabulary acquisition compared to traditional methods, with many learning thousands of words in a matter of months.
- **Global Reach:** The platform has expanded to serve users worldwide, becoming a recognised player in the competitive digital language learning market.
- **User Engagement:** Adaptive personalisation has led to higher retention rates, as learners feel more motivated when content reflects their specific needs.
- **Market Recognition:** Lingvist has positioned itself as a pioneer in AI-driven education, receiving attention from both investors and educators.





## 5. Lessons Learned

Several important insights have shaped Lingvist's journey:

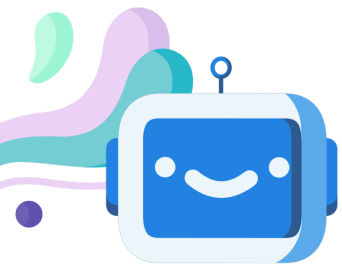
- **Personalisation Drives Motivation:** Tailoring content to individual learners creates a sense of progress and achievement, increasing engagement.
- **Continuous Refinement is Essential:** AI models require constant updates and testing to maintain accuracy and relevance, especially as user numbers scale.
- **Balancing Automation with Human Input:** While automation accelerates learning, incorporating teacher or expert oversight in certain contexts ensures content remains pedagogically sound.

## 6. Future Directions

Lingvist plans to expand its platform in several key areas:

- **Broader Language Coverage:** Adding more languages to meet demand from diverse global markets.
- **Enhanced Speech Recognition:** Improving pronunciation training through advanced AI models capable of real-time correction and nuanced feedback.
- **Integration into Formal Education:** Partnering with schools and universities to complement traditional instruction with adaptive learning technology.
- **AI-Powered Customisation:** Using predictive analytics to design fully personalised learning pathways, not just for vocabulary but also for grammar, cultural context, and conversational practice.

Through these developments, Lingvist aims to establish itself as a global leader in digital education. By combining AI innovation with user-focused design, the company demonstrates how SMEs in the education sector can harness technology to transform learning outcomes and scale impact across borders.



## Conclusion

The analysis of AI adoption among Croatian SMEs reveals a landscape of growing opportunity tempered by significant challenges. Interest in Artificial Intelligence has risen rapidly, spurred by global digitalisation trends and national innovation initiatives. However, adoption remains uneven across sectors, with advanced applications concentrated in industries such as automotive manufacturing, financial services, marketing technology, and education. Many SMEs still approach AI cautiously, experimenting with individual tools rather than embedding AI as a central pillar of their business strategies.

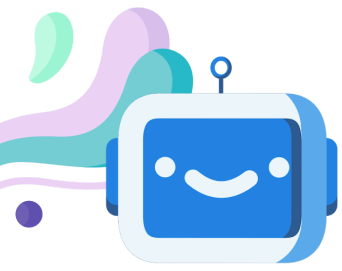
The four case studies examined illustrate different pathways to AI integration:

- **Hypefy** demonstrates how AI can optimise marketing processes by automating influencer discovery and campaign management, offering SMEs a scalable solution to compete in digital advertising.
- **Rimac Technology** shows that predictive maintenance powered by AI can deliver measurable efficiency gains in advanced manufacturing, reducing downtime and reinforcing global competitiveness.
- **Oradian** highlights the transformative role of AI in enabling financial inclusion, where chatbots provide affordable, scalable, and accessible services for underserved communities.
- **Lingvist** illustrates how AI can reshape education through personalisation, accelerating learning outcomes and engaging global audiences.

Together, these examples confirm that AI is not restricted to one type of business model or industry. Instead, it is a versatile enabler that, when tailored to specific contexts, can generate measurable improvements in efficiency, customer engagement, and overall competitiveness.

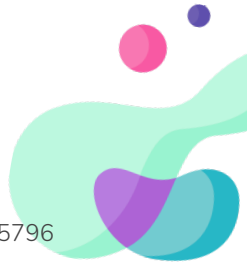
Several transferable lessons emerge from the Croatian experience:

- **Clarity of Purpose is Critical:** SMEs that adopt AI with well-defined objectives—whether reducing downtime, expanding customer reach, or personalising services—are more likely to achieve tangible results.
- **Skills and Culture Matter:** Adoption is not only about technology but also about people. Training, communication, and gradual implementation help overcome cultural resistance and build trust in AI tools.
- **Customization Unlocks Value:** Off-the-shelf tools provide initial benefits, but long-term impact often depends on tailoring AI solutions to specific organisational needs.
- **Strategic Partnerships Accelerate Progress:** Collaboration with technology providers, investors, and public institutions supports SMEs in overcoming technical and financial barriers.
- **Sustainability and Scalability Should Be Planned from the Start:** Modular, adaptable AI systems provide SMEs with the flexibility to grow while keeping costs under control.



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At the same time, persistent barriers remain. High implementation costs, limited technical expertise, and regulatory uncertainties continue to slow adoption. For Croatia's SME sector to fully benefit from AI, it will be necessary to expand access to training, strengthen innovation networks, and ensure that supportive public policies remain in place. Programmes such as Horizon Europe, Digital Europe, and national initiatives led by CroAI represent important steps, but further efforts are needed to ensure that adoption does not remain limited to a small group of innovators.

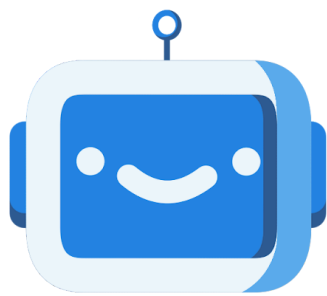
Looking forward, AI adoption in Croatian SMEs is likely to accelerate as digital-native entrepreneurs enter the market and user-friendly AI tools become increasingly available. If supported by strong ecosystems of skills, finance, and infrastructure, Croatian SMEs have the potential not only to enhance their own competitiveness but also to contribute to broader European leadership in AI innovation.

Ultimately, the Croatian experience shows that successful AI adoption does not depend solely on scale but on purpose, adaptability, and commitment to learning. By drawing on the lessons of early adopters like Hypefy, Rimac Technology, Oradian, and Lingvist, other SMEs can chart their own pathways toward innovation, efficiency, and long-term growth.



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