



FORTISSIMO
PLUS

FFPLUS SUCCESS STORY: INNOVATION STUDY

ON DEVICE AI ASSISTANT: REVOLUTIONIZING REAL-TIME API INTERACTIONS

ORGANIZATIONS

ArtificaX is a Turkish AI company developing next-generation intelligent assistants able to plan, act and complete tasks autonomously. It combines research in agent behaviour with scalable engineering to build enterprise-grade automation systems. HPC supports large-scale training and synthetic data generation. **Turkcell Global Bilgi** is Türkiye's leading digital customer-experience provider, delivering contact-centre and digital-support services across telecoms, finance, retail and public sectors.



THE CHALLENGE

Large language models excel at conversation but rarely execute actions. The next stage of AI requires assistants that can safely perform real tasks such as bookings, payments and record updates. Training such systems demands vast amounts of realistic, multistep action data. As a startup, ArtificaX lacked the computing scale to generate, validate and distil these models for reliable on-device deployment.

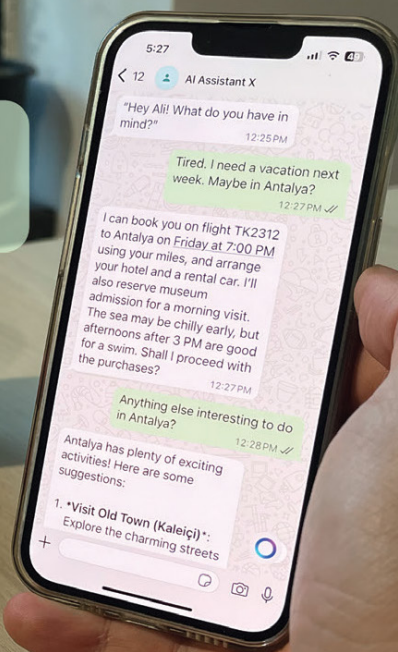


Hey Ali! What do you have in mind?

Tired. I need a vacation next week.
Maybe in Antalya?



I can book you on flight TK2312 to Antalya on Friday at 7:00 PM using your miles, and arrange your hotel and a rental car. I'll also reserve museum admission for a morning visit. The sea may be chilly early, but afternoons after 3 PM are good for a swim. Shall I proceed with the purchases?



Technology used: GenAI, AI Agents, HPC
Industry Sector: Software and Information Technology

THE SOLUTION

Using MareNostrum5 HPC system, ArtificaX generated large volumes of synthetic, action-rich dialogues to train models capable of safe use. Actions were validated in controlled environments, then distilled into efficient 8B and 4B parameter models optimised for phones, tablets and vehicles. Processing runs locally by default to protect privacy, with cloud access used only when strictly necessary. This approach ensures reliable task execution, consistent confirmations and strong data protection.

THE IMPACT

The project demonstrated that compact on-device models can reliably complete complex, multi-step tasks, providing ArtificaX with a validated foundation for commercial agentic AI solutions. This reduced technical risk, strengthened the product roadmap and accelerated time to market.

Enterprises can automate routine operations in customer support, finance, sales and operations while lowering cloud costs and simplifying regulatory compliance by keeping sensitive data on device, improving competitiveness and customer trust. For end users, everyday activities such as managing bills, appointments or purchases become faster and more secure, even in environments with limited connectivity. Local processing supports privacy by default, requires explicit consent before actions are taken and improves digital inclusion through voice-based access.

Environmentally, shifting intelligence to the edge reduces reliance on centralised data centres, lowering energy consumption and carbon emissions at scale while supporting more sustainable AI deployment.

BENEFITS

- Fast, real-time responses on leading devices
- Up to 57% reduction in task completion time
- Efficient 8B and 4B models with high task accuracy
- Validated datasets covering complex, real-world services
- Reduced cloud costs and scalable edge deployment model



EuroHPC
Joint Undertaking