

Lyhnis – AI Agent & Workflow Execution Platform

1. BASIC PROJECT INFORMATION

Official Project Title	Lyhnis – AI Agent & Workflow Execution Platform
Acronym / Short Name	Lyhnis
Programme / Funding Source	Adopt Intelligence – internal R&D and product development (no external grant source specified)
Duration	January 2025 – ongoing
Coordinator	Adopt Intelligence, Skopje – Founder and Technical Lead: Assistant Professor Dr Miodrag Cekikj
Partner Institutions	Adopt Intelligence; the platform was developed as an integration foundation for AI agents, automated workflows and human-in-the-loop processes

2. PARTICIPATION OF UNIVERSITY SKOPJE ACADEMIC STAFF

Name and Surname: Assistant Professor Dr Miodrag Cekikj

Academic Title: Assistant Professor

Role / Function in the Project: Founder, Lead Architect and Principal Product/R&D Lead

Specific Contribution to the Project

Conceptualisation of an architecture for durable workflow execution and orchestration of AI agents, with support for visual and code-based process definition, integration with external systems and controlled human approval steps. A specific contribution is the design of a mechanism in which long-running processes can safely pause for a human decision and then continue from the same state, instead of restarting. The work also includes execution traceability, signed execution history, connecting agents with workflow tools, and a model in which agents can initiate workflows and workflows can invoke AI agents within an auditable production process.

3. CONTENT AND ACHIEVED RESULTS

Brief Project Description

Lyhnis is an execution and orchestration platform for building and operating AI agents, automated workflows and human-in-the-loop processes in a unified, verifiable environment. The platform combines visual and code-based workflow authoring, durable execution, agent orchestration, integrations and checkpoints for human approval. A key feature is the ability for a process to pause while awaiting a decision, approval or external event, and then reliably continue from the same state. This addresses one of the main challenges in production AI automation – the reliability and traceability of long-running and non-deterministic processes. Lyhnis is designed so that agents can initiate workflows and workflows can use AI agents, with complete execution history and auditability.

Key Results / Outputs

Developed architecture and platform for durable workflow execution; AI agent orchestration; visual and code-based workflow authoring; human-in-the-loop approval/pause/resume mechanisms; integration layer for external systems; execution trace and signed history; foundation for production-grade, auditable AI automation.

Publications / DOI / Other Relevant Scientific Results

Lyhnis – AI Agent & Workflow Execution Platform, software platform / R&D product.

<https://lyhnis.com/>

4. SIGNIFICANCE FOR THE FACULTY

Benefits for Students, Teaching and/or Research

Lyhnis is directly applicable to teaching and research in agentic AI, workflow systems, distributed systems, software architecture and human-in-the-loop automation. The platform enables students to study not only prompting and AI models, but also production aspects such as state management, retries, approvals, observability, auditability and integration with real business processes. The project can serve as a basis for laboratory exercises, student projects and research into reliable agentic systems, governance of autonomous processes and architectures where AI decisions are combined with deterministic workflows and human control.

5. LINKS AND MULTIMEDIA MATERIALS

Official Website / Project Link: <https://lyhnis.com/>