

Introduction to the 'LISA' project (GN5-1 GÉANT Project Incubator)

Secure AI services for Austrian academic institutions

Poznań, 11 December 2024

LISA

Institutions

23 Austrian Universities



Our development partners



LISA

Motivation

How LISA came about

- ★ Since 2023, the **individual use of AI tools** by both university students and staff has been increasing as never before.
- ★ The need of universities to **use AI technology in a secure and data protection compliant way** has become obvious.
- ★ In particular, their wish to explore state of the art AI technology in a **safe 'playground'** that has been jointly specified by universities, is controlled by universities and offers the **possibility of sharing** AI models, knowledge bases and their results such as specially developed chatbots.
- ★ LISA stands for the endeavour to master these requirements, which we consider to be critical to the success of academic institutions in the future.

LISA

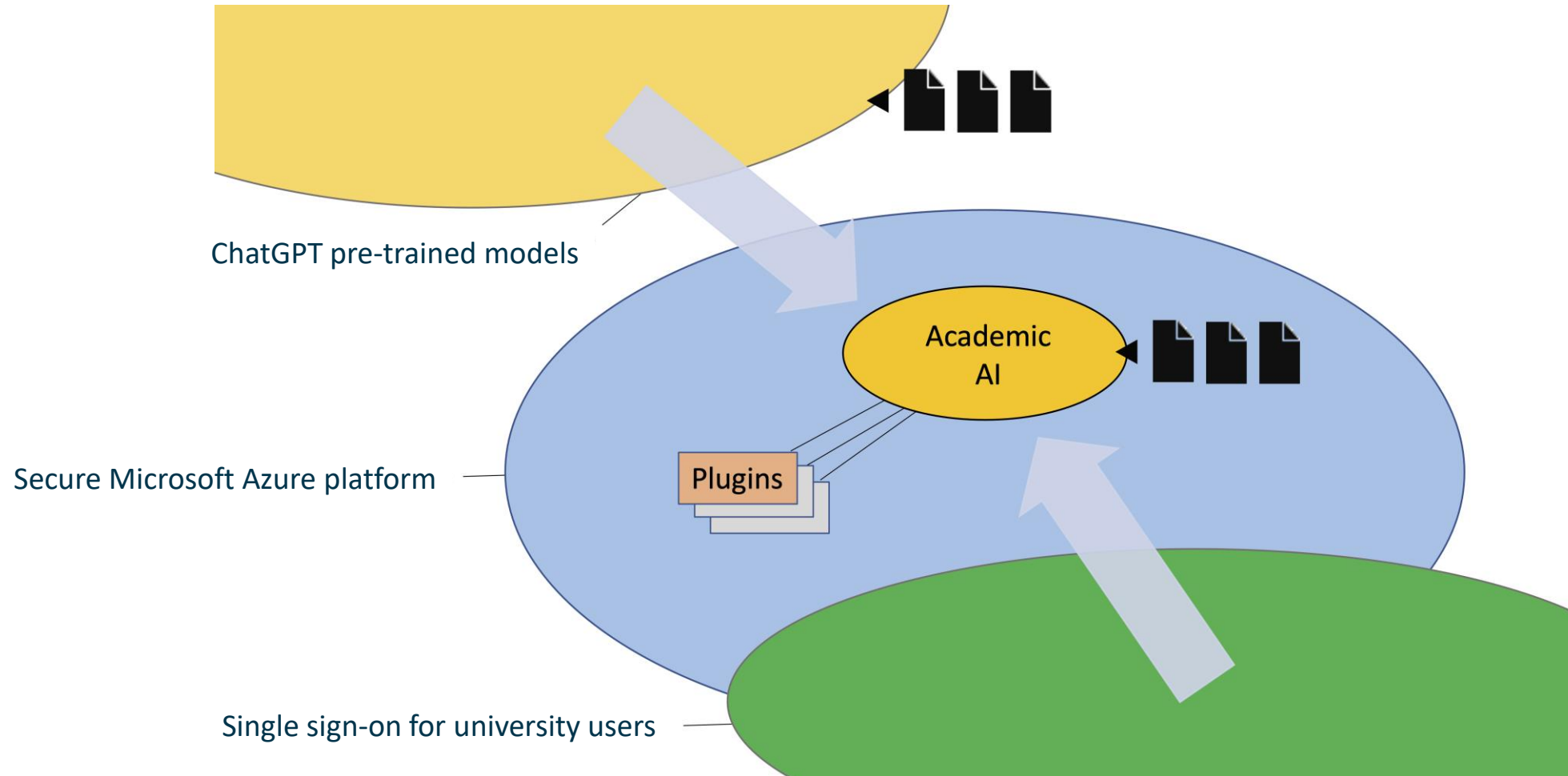
Problem statement

The challenge our project addresses

- ★ Access to **state-of-the-art AI** while ensuring data security and **data protection** at the highest level (including data separation between universities for confidential research data)
- ★ Easy access to the platform for students and university staff via **single sign-on**
- ★ **Scalability** for a constantly growing number of institutions and users, for high levels of usage, e.g. in university projects, and for new features to keep pace with the rapid development of AI
- ★ **Affordability and calculability** for both large universities with high user numbers and small academic institutions
- ★ **Organisation of cooperation** between universities with different focuses and requirements to explore the dynamically changing field of AI, NREN-based and under their joint governance

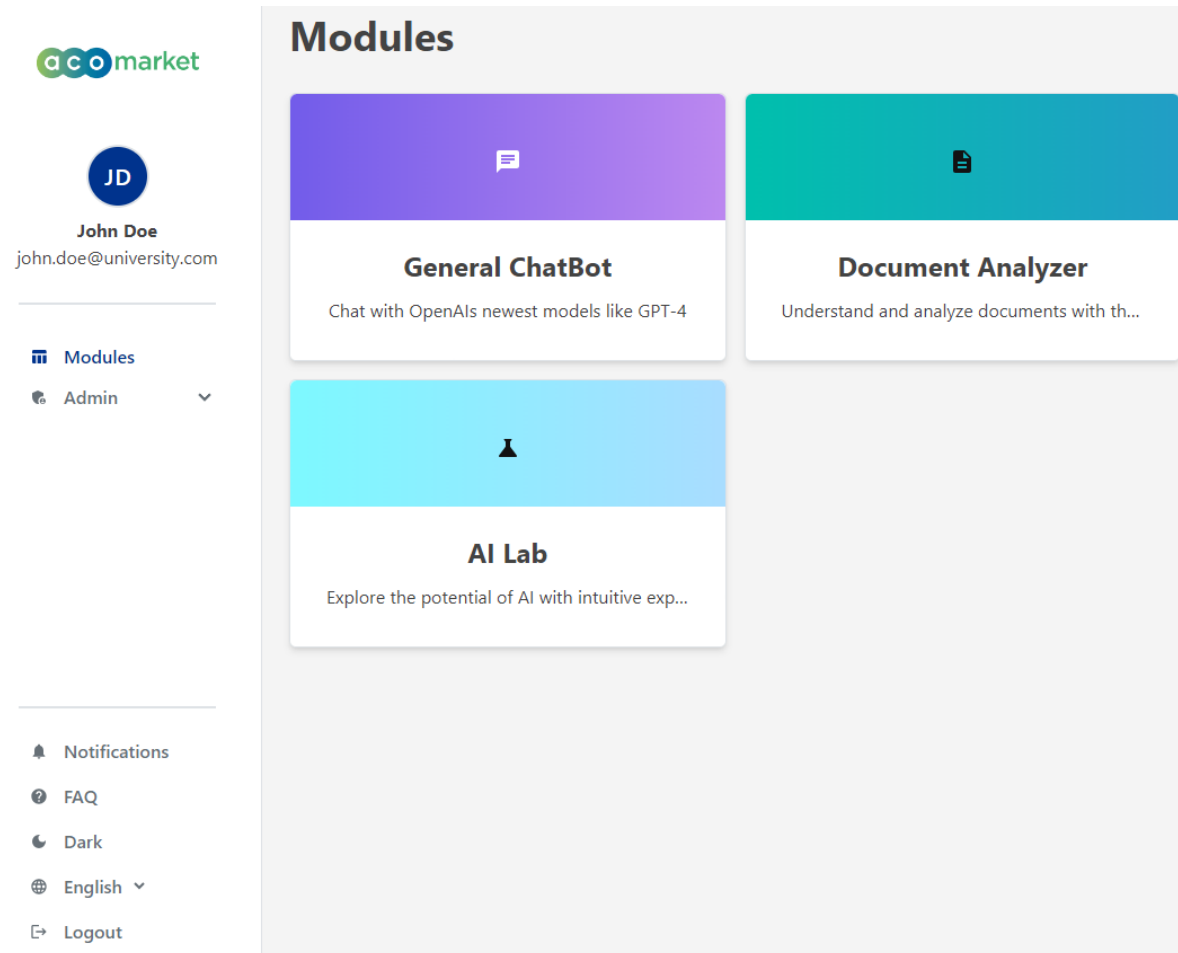
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Architecture (as realised in version 1.0 launched June 2024)



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The users' view Modular user interface (version 1.0)



The screenshot displays a modular user interface for 'aco market'. On the left is a sidebar containing the user's profile (John Doe, john.doe@university.com) and navigation options: Modules, Admin, Notifications, FAQ, Dark, English, and Logout. The main content area, titled 'Modules', features three interactive cards: 'General ChatBot' (purple header), 'Document Analyzer' (teal header), and 'AI Lab' (light blue header). Each card includes an icon and a brief description of its functionality.

aco market

John Doe
john.doe@university.com

- Modules
- Admin

Notifications
FAQ
Dark
English
Logout

Modules

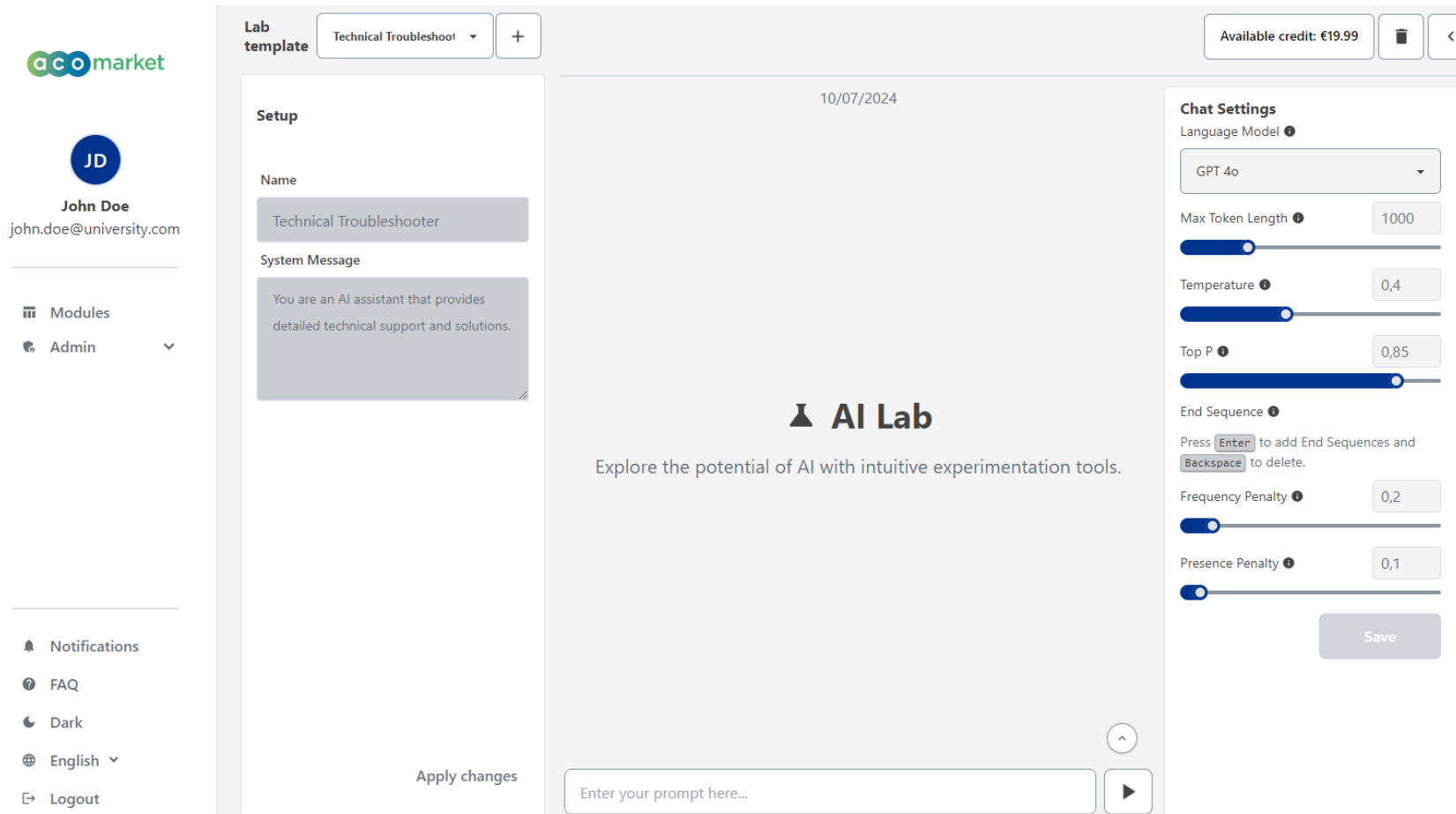
General ChatBot
Chat with OpenAIs newest models like GPT-4

Document Analyzer
Understand and analyze documents with th...

AI Lab
Explore the potential of AI with intuitive exp...

LISA

The users' view Modular user interface (version 1.0)





The screenshot displays the LISA user interface, which is a modular user interface for an AI assistant. The interface is divided into several sections:

- Header:** Includes the 'aco market' logo, a 'Lab template' dropdown menu set to 'Technical Troubleshoot', and an 'Available credit: €19.99' indicator.
- User Profile:** Shows the user's name 'John Doe', email 'john.doe@university.com', and a profile picture with the initials 'JD'.
- Navigation:** A sidebar menu with options for 'Modules', 'Admin', 'Notifications', 'FAQ', 'Dark', 'English', and 'Logout'.
- Setup Panel:** A 'Setup' section on the left with fields for 'Name' (Technical Troubleshooter) and 'System Message' (You are an AI assistant that provides detailed technical support and solutions.). An 'Apply changes' button is at the bottom.
- Main Content Area:** Displays the date '10/07/2024', the title 'AI Lab', and the subtitle 'Explore the potential of AI with intuitive experimentation tools.' Below this is a text input field with the placeholder 'Enter your prompt here...' and a play button.
- Chat Settings Panel:** A 'Chat Settings' panel on the right with various adjustable parameters:
 - Language Model: GPT 4o
 - Max Token Length: 1000
 - Temperature: 0,4
 - Top P: 0,85
 - End Sequence: (Instructions: Press Enter to add End Sequences and Backspace to delete.)
 - Frequency Penalty: 0,2
 - Presence Penalty: 0,1
 A 'Save' button is located at the bottom of the settings panel.



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The users' view Modular user interface (version 1.0)





John Doe
john.doe@university.com

-  Modules
-  Admin ^
- Costs

-  Notifications
-  FAQ
-  Dark
-  English v
-  Logout

Admin Dashboard <

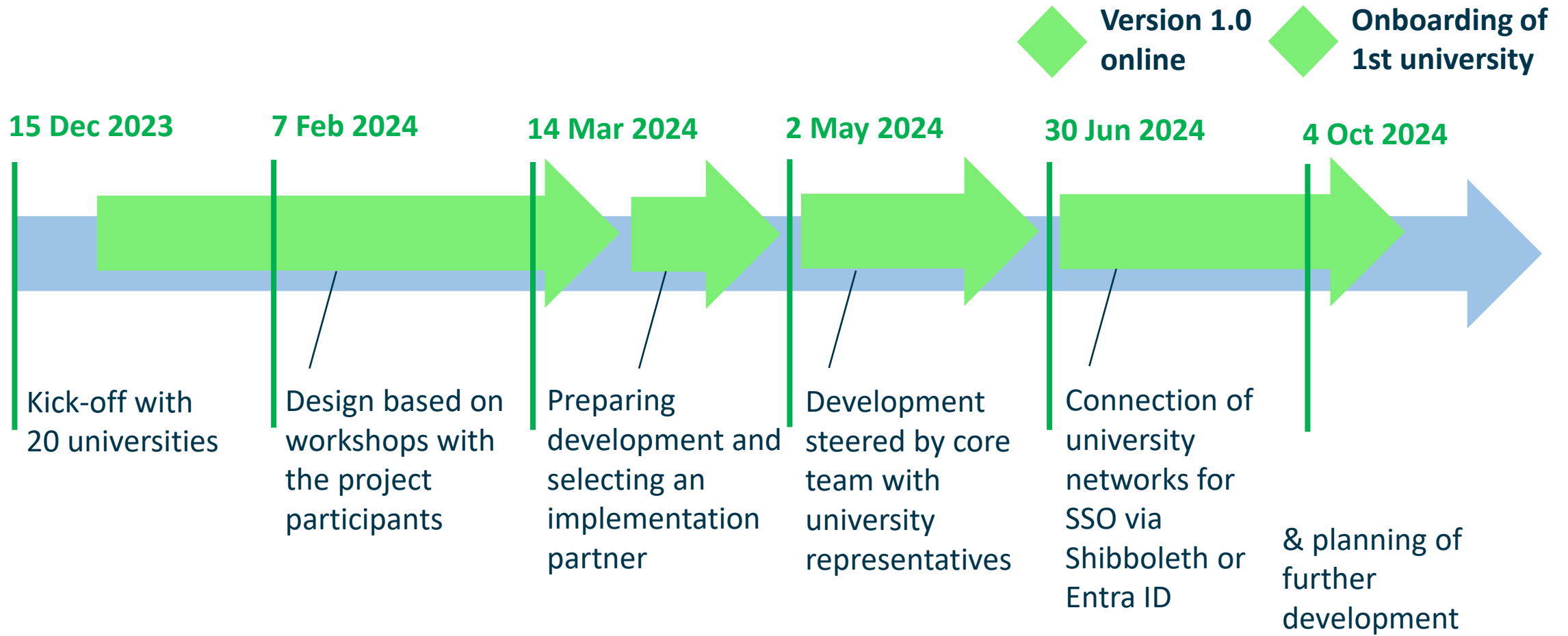
Global Cost Limit for Tokens Default Cost Limit for Tokens

October 2024 Total cost: €6.19

Name ↑↓	Email ↑↓	Total Costs ↑↓	Free Credit ↑↓	
admin@university.com	admin@university.com	€0.00		<input type="text" value="edit"/> <input type="text" value="refresh"/>
Alexander Small (Admin)	alexander.small@university.com	€0.00		<input type="text" value="edit"/> <input type="text" value="refresh"/>
Alexander Small	alexander.small@university.com	€0.00		<input type="text" value="edit"/> <input type="text" value="refresh"/>
Alex Small	alex.small@university.com	€0.00	€20.00	<input type="text" value="edit"/> <input type="text" value="refresh"/>
Alex Small	alexander@university.com	€0.00		<input type="text" value="edit"/> <input type="text" value="refresh"/>

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Project goals



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Advantages e.g. over OpenAI's online services



Data protection

Secure online platform operated by ACOmarket, the data entered/uploaded do not leave the platform



Payment per use

instead of licences per user account



Design based on the universities' requirements

instead of features specified by the provider



No data are sent to OpenAI's servers, while Microsoft agreed to **disable content filtering and abuse monitoring.**

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Current progress

Milestones achieved/ahead



12 and 30 June 2024 ... **Provision of a test system and Launch of version 1.0**



14 November 2024 ... **Connection to 7 university networks with 34,000 users of the service**



1 February 2025 ... **Connection to 24 university networks with 83,000 users of the service**

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Challenges

Issues/obstacles encountered so far

- ★ With some universities using Azure 'Entra ID' while other universities use 'Shibboleth', **single sign-on login had to be made possible via two different IAMs**. After several weeks of research and experimentation, ACOnet was able to solve this technological challenge by professionally configuring a 'SATOSA' proxy, while complex adjustments were made to the application.
- ★ The current contractual situation does not allow **e-books and other electronic media held by university libraries** to be integrated. The process of consultation and conceptualisation on this topic will be resumed shortly.

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Further development (current state of planning with the universities)

2025

2026

2027

Quickly implementable features

- ★ Upload of additional file formats
- ★ Connection of additional AI models
- ★ RAG module 'Tailored AI'
- ★ Language coach & translator
- ★ AI image processing
- ★ Image generation
- ★ Summary bot
- ★ Chat history
- ★ Prompt enhancer
- ★ Cost tracking per API

More sophisticated extensions

- ★ AI internet search
- ★ Coding bot
- ★ AI exchange
- ★ Slide deck generator
- ★ AI librarian
- ★ User groups +
- ★ Token limit pool
- ★ Usage reporting
- ★ Integration into existing systems

Larger ambitious projects

- ★ Playground +
- ★ Perfect text
- ★ Settings system
- ★ Inter-university data room

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Benefits outside of Austria

The value our project might bring to other NRENs



A **reliable, secure AI platform**, tailor-made for universities from its first drafts on, our platform has already been established as an NREN-based service and will be greatly extended in upcoming years.

Obviously, the usefulness of our platform is not limited by national borders. We shall be glad to participate in international cooperation to **address similar needs of other European universities**.



With its version 1.0 already launched and used by a large number of students and university staff, LISA can serve as a **proof of concept** and inspiration for similar projects.

More information on LISA

Any questions?



Should you have any questions, please do not hesitate to contact me at any time:

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