

Innovation Competition
for EdTech Companies

Helsinki

Ethical AI in Learning



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Innovation competition: Ethical AI in learning

The City of Helsinki invites companies to develop ethical artificial intelligence (AI) solutions to support personalised learning processes and individualised learning materials. Helsinki is in the global forefront of developing innovations for the education sector. In 2016, Helsinki was the first capital in the world to create a digitalisation strategy for learning, and the city is also a global pioneer in innovations and equality related to learning.

In relation to these themes, the City of Helsinki's aim in this innovation competition is to co-develop AI-based Learning Analytics (LA) with a strong emphasis on ethical approaches to learning and children. The aim of the trial is to develop an AI-based Learning Analytics solution, which is built considering the perspectives of diverse learners and equal opportunities for learning. The company involved will have a unique opportunity to accumulate competence and capabilities related to ethical AI and Learning Analytics together with the top experts of the City of Helsinki.

The company (or companies) will also be coached with regard to modern pedagogy and ethical thinking. The pedagogical approaches in the City of Helsinki are collaborative learning and the development of the social-emotional skills, among other aspects. The City of Helsinki Education Division's framework for ethical AI solutions can be used in the development of ethical AI applications. In addition to this, cloud architectural support will be offered for utilising Azure cloud platform, as necessary.

The innovation competition is closely connected to the *AI and Learning Analytics in Education programme* at the Education Division. More on the development of Learning Analytics in Helsinki: [Ethical AI and Learning Analytics Build-up of the School of the Future.](#)

What will be procured?

The City of Helsinki is specifically procuring an early trial. After the co-development process, the solution should be in proof-of-concept phase (POC).

City of Helsinki, Education Division has defined seven use cases for utilising AI in learning and teaching. So far, the efforts to develop use cases have focused particularly on supporting pedagogic leadership with dashboards, identifying students' need for support, monitoring progress of studies and reducing drop-out risk. The use cases have been used to define a technological architecture for the AI-HUB –data and AI platform (~data lake) to serve as a platform for the implementations. Microsoft is a development partner for the City of Helsinki, and Microsoft Azure is used as the cloud-based platform solution.

The solution to be developed needs to work on Azure cloud technology to enable the further use of the solution after the trial. The language of the project and documentation must be English. The AI algorithms used must be transparent to users, which means that the algorithms must be published and explained. An ethical assessment will be conducted on the AI solution, before it can be deployed for the purposes of the trial.

Ethics as a starting point

The goal of all learners meeting their full potential has been established as the ethical starting point of the AI development. In terms of ethics in the context of the AI and its use, the primary focus must be on ensuring that the AI is fair, trustworthy and equitable. AI cannot be used to classify or profile learners, sensor content or to narrow learning possibilities in terms of methods or content. The utilisation of AI should not lead to mechanistic exercises (e.g., multiple choice tasks, gaps/closes of drilling games). Instead, it should serve the pedagogical approaches and learning conceptions of the Finnish Core Curricula.

The solution must be a generic technological solution/application that can be used for learning and teaching in the context of a variety of subjects. For example, the solution can utilise AI to personalise a learner's learning process, adapt the learning materials to the learner's needs or produce information related to competence development and the personalisation of the learning process. The desire is for the solution/application to consider a learner-oriented approach to learning, each learner's learning process and collaborative learning as starting points. The solution/application should not be based on mechanistic learning concepts, such as gaps, closes or multiple-choice tasks.

Requirements for the trial

The City of Helsinki can initiate the trial with one or more companies, and joint bids are permitted. The City of Helsinki may also decide not to start the trial and co-creation period with any company. After the completion of the development efforts and trial, the solution must be in a proof of concept phase (POC). The trial does not entail the company collecting or processing of personal data.

The total price of the development and trial period may not exceed €59,000 (+VAT 24%). The initial 20% of the total sum will be paid immediately after signing the agreement. The solution will be evaluated in the middle of the co-creation period, after which an agreement will be made on the completion of the solution. The mid-term evaluation will be carried out by comparing the implementation with the implementation plan presented in the agreement and the tender. The City of Helsinki may stop the trial at the mid-term evaluation if the plan has not been implemented or its completion seems unrealistic. If the mid-term evaluation is approved and the trial is completed, the second 30% instalment of the trial price will be paid to the company. The final 50% will be paid once the City of Helsinki has approved the supplier's final report at the end of the trial.

Co-development

The solution will be developed on the [Helsinki EdTech Testbed platform](#). The chosen solution will be developed together with the experts of the City of Helsinki Education Division and the City Executive Office's Economic Development Division and Strategy Department. If necessary, primary and secondary school learners and teachers will take part in the co-development process (the number and age groups will be specified according to the chosen application). In addition to this, workshops related to the preparation and finalisation will be attended by experts from the City of Helsinki, who will support the development of the solution. External experts in the field may also be invited to the workshops.

During the co-development, the company will have the opportunity to develop the solution with actual users and utilise the data generated by the pilot users for developing the solution. The data produced by users will be in Finnish.

Opportunity for research

In research and innovation activities, Helsinki is engaged in active cooperation with institutes of higher education and companies, and it utilises the best independent research expertise in reforming its operations. In the context of updating services or operating methods, the aim is to establish a genuine research setting to ensure reliable data on the efficacy of the measures. Researchers are invited to participate in the City's key reformation projects.

A university or other institute of higher education may also gather research data on the trial. The specifics of this will be agreed upon separately. The possible research must be conducted in a way that does not comprise the company's commercial secrets.

Schedule

The co-development phase will last about 12 months (incl. summer holiday months). The process schedule is detailed below. The schedule of the co-development period can be further modified based on the needs of the parties and any observations. An agreement on the trial will be made between the company and the Helsinki City Executive Office's Economic Development division.

Schedule 2022–2023

March

- The competitive bidding will begin on 16 March 2022.
- Questions can be sent until 4 pm on 30 March 2022 (UTC +3) to the address [anna.rantapero-laine\(a\)hel.fi](mailto:anna.rantapero-laine(a)hel.fi). The answers are published by 6 April 2022 on the Testbed Helsinki website: <https://testbed.helsinki/en/edtech/innovation-competition-ethical-ai-in-learning/>

April

- The competitive bidding will end at 4 pm on 13 April 2022 (UTC +3).
- Evaluation of the tenders
- Between five and seven of the best solutions will be invited for pitching on 27 April 2022.

May

- The pitching event will take place on 3 May 2022 between 3-6pm
- Decisions on the selections will be made around 23 May 2022.
- Agreement details and signatures

June

- Kick-off meeting and co-development workshops as a basis for the development
- Development and planning of the company's solution

July

- Development and planning of the company's solution

August-September

- Co-development with experts
- The company's own content development

October–November

- Mid-term evaluation of the product and start of further development
- Initiating user testing with groups of pupils
- The company's own content development

December –March

- The company's own content development
- User testing

April–May

- Finalisation and approval of the solution/application
- Final meeting with the team and end of the co-development period
- Compilation of follow-up ideas and observations

June

- Event for presenting the solution/application, and communications

How do I sign up?

Companies can register for the competitive bidding by **submitting a tender via the designated electronic form: <https://response.questback.com/helsinginkaupunki/vmhlntguo> by 4 pm on 13 April 2022 (UTC +3)**. Late submissions will not be considered. The tender will be considered late if it has not been received electronically at the above address by the deadline.

The solution does not need to be complete in the application phase. Instead, it will be developed together during the trial. However, describe which parts of the product will be developed during the co-development phase and which parts will utilise existing solutions.

Selection criteria

Stage 1: Tender scoring

All tenders submitted by the deadline will be evaluated based on the following criteria:

1. *Suitability of the AI solution/application for the use of the Helsinki City's schools and for the learning conceptions used, 25 points*
2. *Innovativeness of the trial, 20 points*
3. *Scalability and availability of the service, 10 points*
4. *Pricing, 10 points*
5. *References and suitability of the implementer, 10 points*
6. *Preliminary assessment of the ethical approaches of the AI solution, 25 points*

Stage 2: Pitch scoring

Between five and seven solutions with the highest tender scores will be invited to a pitching event, where the companies can present their co-development ideas in more detail. The companies that are not invited to the pitching event will be excluded from further consideration.

The pitches will be evaluated based on the following criteria:

Pedagogy and impacts on learning and education, 25 points

Previous scores will no longer be considered, and the decision will be based on the pitch.

Appendixes

- Appendix 1: Information about the Finnish education system and national core curriculum
- Appendix 2: Agreement template