SIL-Student competition 2023, rules and instructions for participants

# Organizer

This competition is organized by Sähköinsinöörit-SIL ry (SIL). SIL is a non-profit-professional networking community in the electricity sector. More information can be found at <http://sil.fi>

# Enablers

The competition is supported by the following organizations:

* Electrotechnics and Energy Efficiency Promotion Center STEK ry, <https://stek.fi>
* The Electrical Contractors Association of Finland, STUL ry, [www.stul.fi](http://www.stul.fi)
* Finnish Electrotechnical Trade Association, STK, http:// <http://www.stkliitto.fi>
* SESKO ry, https://www.sesko.fi/, <https://www.sesko.fi/>
* Finnish Building Services Industries and Trade, Talteka ry, <https://www.talteka.fi>

The competition is also supported by a number of companies, whose contact details can be found on the competition website: [Opiskelijakilpailu - Sähköinsinöörit - SIL](https://www.sil.fi/opiskelijakilpailu/)

# Schedule

The competition is held throughout the academic year. Registration for the fall term must be done by September 30, 2022. If you plan to participate in the spring season, you can still register by January 24, 2023. Competition works for the autumn season must be ready by December 5, 2022 and for the spring season by April 24, 2022.

Check with the local instructor if the competition work can be included in a course related to the studies

# Rules

Participants participate in the competition as a group of 4–6 students. The leader of the group must be a student of electrical or automation technology, but students from other fields of study may also participate. When assembling the team, it should be noted that a good solution to the competition task requires extensive knowledge of building technology.

Locally, the competition is guided by a representative of the educational institution, of which there may be several in the same educational institution.

The task of the competition is related to the building's energy efficiency.

The theme is energy efficiency

The task of the competition is related to the energy efficiency of the building. The group's task is to think of a solution model to improve the building's energy efficiency and reduce CO2 emissions. Building technology and human factors must be widely taken into account in the solution.

The selected target property must be at least a 20-year-old residential or commercial building, facility, etc. When choosing the type of property, the general validity of the solution must be taken into account, i.e. how well it can be duplicated for properties of a similar type. The solution also includes a "sales pitch" in which the solution is justified to the financier of the project, i.e. the owner of the property. New and innovative perspectives are welcome in the solution, even if their theoretical justification is not without holes.

From the point of view of the generalizability of the solution, you are welcome to specify references to the electrotechnical standards used in the work, e.g. as a basis for energy community structures, energy efficiency materials (electrically heated houses and oil heated houses) and technical perspectives (e.g. SFS 6000 series, SFS 6008-1 and 6008-2, CENELEC's standardization related to home and building automation)

The presentation of the solution must include the following sections:

* Presentation of the selected object with justification, pp/pdf presentation
* Typical challenges for the selected object, pp/pdf presentation
* Proposed solutions that improve energy efficiency, pp/pdf presentation
* Presentation of the chosen solution with justification, pp/pdf presentation
* Calculations of the effects of the proposed solutions, payback period, excel table
* Assessment of the scalability of the solution, example, pp/pdf presentation
* Video presentation of the sales pitch (maximum 5 minutes)

As a hint, we’ll add a few keywords: human behavior, demand response, intelligence, gamification.

# Evaluation

When evaluating the competition works, the realism, innovation, and ease of use of the solution are taken into account. In addition to the smoothness of the presentation, it is also taken into account whether all the items listed in the assignment have been presented and whether the presentation method of the instructions has been followed

To support the task, you will receive material from the companies supporting the competition. The contact information of the companies supporting the competition and information about the available materials can be found on the competition's website: [Opiskelijakilpailu - Sähköinsinöörit - SIL](https://www.sil.fi/opiskelijakilpailu/)

# Rewarding

Works submitted according to the rules are evaluated by a jury. The total amount of the prizes is €15,000 and the jury will decide on its distribution to the three best teams.

The jury has the opportunity to award special prizes for good individual partial solutions or presentations.

The works submitted to the competition are displayed on the SIL website even after the competition.

Works submitted to the competition are presented at events organized by SIL. Organizations supporting the competition can also make use of submitted works.

The prize distribution will take place at a time to be announced later in early summer 2023 in Helsinki.

Participation to this competition requires SIL membership. Joining and the 1st year is free for students (subsequently the annual fee is €16 per student)

The contact information of the students who participated in the competition is available to those supporting the competition

for the parties' marketing purposes during the competition and 3 months after it. After this, the information must be deleted from the supporter's register, unless the person has given consent to the use of contact information for each supporter organization separately.

# Additional instructions for participants

The size of the participating group must be as instructed. The team must first decide what type of property will be examined in the assignment. It is worth considering the scalability of the final result so that the selected Property Type is general.

The different types are, for example, but the list is not binding:

* Residential buildings
* Accommodation facilities
* Nursing homes
* Assembly spaces
* Commercial buildings
* Production and storage facilities
* …

The energy intensity and prevalence of a property type have influence on the savings potential

and thus influence on the country's CO2 emissions.

More information:

Ilkka Manner, chairman. SIL-S, ilkka.manner@elisanet.fi

Marko Vuorio, Executive Director SIL, marko.vuorio@sil.fi