# Teckno2030 Student Award: application evaluation criteria

The **Teckno2030 Student Award** recognizes the work of students involved in the development of responsible healthcare technologies. It is an initiative coordinated by ECAM and Yuza, in partnership with technology-oriented universities and higher education schools in the Wallonia-Brussels Federation, and supported by the Dr Daniël De Coninck Fund managed by the King Baudouin Foundation.

The Teckno2030 Student Award is open to Master's (1 and 2) and Bachelor's (specialization) students from French-speaking higher education institutions, and welcomes final theses, dissertations and group work (e.g. projects carried out by a team of students), all focusing on healthcare technologies and submitted during the 2023-2024 academic year.

The eight Teckno2030 guiding principles have been defined to develop responsible healthcare technologies that benefit everyone. The objectives are as follows:

- Objective 1: Promote technologies with a human dimension at the service of citizens and society ;
- Objective 2: Ensure that technologies are both reliable and inclusive ;
- Objective 3: Stimulate the participation of citizens and stakeholders in decisions concerning technologies ;
- Objective 4: Monitor the quality of technological solutions so that they always meet ethical, sustainability and healthcare guidelines.
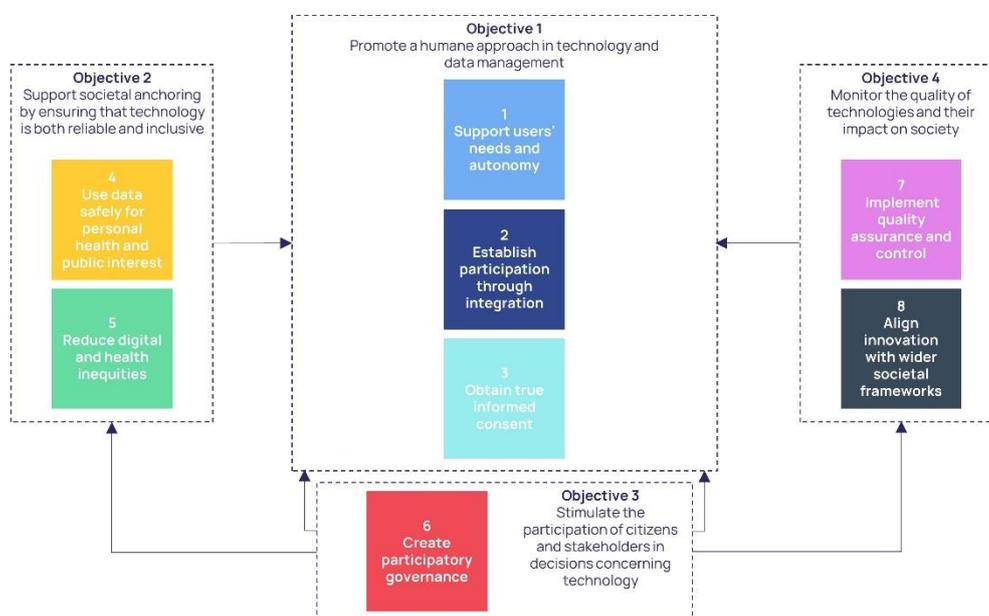
Application evaluation criteria

The jury takes six criteria into account when assessing the work: four criteria linked to the objectives of the above-mentioned guiding principles, one criterion linked to the creativity and innovation dimensions of the work, and one criterion linked to the students' personal vision of the eight guiding principles.

- Criterion 1: Promote a human approach to technology and data management
- Criterion 2: Support societal anchoring by ensuring that technology is both reliable and inclusive
- Criterion 3: Stimulate the participation of citizens and stakeholders in decisions concerning technology
- Criterion 4: Monitor the quality of technologies and their impact on society
- Criterion 5: Creativity and innovation
- Criterion 6: Personal vision of the guiding principles

You don't have to meet each of the first four criteria to have a chance of winning a Teckno2030 Student Award. However, it is necessary to meet the fifth and sixth criteria.

For each of the six criteria, we've provided a list of inspirational questions below, which you can use to see how well you meet them. You don't have to answer all the questions for each criterion, and you can of course answer other questions related to each criterion. For inspiration, you can also use the [following online checklist tool](#).

To submit your application, please send us your work and the application form that meets these criteria.

Criterion 1: Promote a human approach to technology and data management

Principle 1: Support users' needs and autonomy

- How does the technological solution contribute to improving citizens' health?
- How does this solution enhance the quality of care?
- How is the development of the solution based on an in-depth understanding of citizens' healthcare needs?
- How does the technological solution make it easier for citizens to manage their own healthcare needs on the basis of informed decisions?
- How has the technological solution been made easy to use for the patient (intuitive interfaces, quick learning curve, familiar designs), so that they can easily access the information and tools they need to manage their disease?
- How does the solution integrate with other systems or devices used by the patient, such as health monitoring devices, to provide a consistent and complete user experience?

Principle 2: Establish participation through integration

- How does the technological solution encourage the ongoing involvement of end-users and stakeholders throughout the development process?
- How has the collaboration between patients, caregivers, carers, technology developers and insurers been integrated to increase the relevance of the solution?
- How does the technological solution ensure a high level of interoperability with the existing care infrastructure, and how does it benefit from this interoperability?
- What standardized protocols and interoperability standards have been used to effectively integrate the solution into the regional, national and/or international healthcare system?
- Is the solution developed in such a way as to encourage the sharing of technical knowledge, development cooperation, software sustainability, the building of shared, resilient infrastructures, etc.?
- Is the solution published as free software or with an open source license to promote its reuse?

Principle 3: Obtain true informed consent

- How does the technological solution ensure that end users receive honest, reliable, transparent and complete information?
- What measures have been taken to ensure independent verification of the information provided on the solution?
- How is information about the technological solution presented so that it can be easily understood by end users?
- What specific strategies have been put in place to avoid the use of jargon and ensure the accessibility of information?
- How does the technological solution ensure that end users have easy access to all the information they need?
- What mechanisms are in place to make it clear to users where they can find all the relevant information about the solution?

Criteria 2. Support societal anchoring by ensuring that technology is both reliable and inclusive

Principle 4: Use data safely for personal health and the public interest

- How does the project ensure that citizens are fully informed about the ownership, access and use of their data, and that they can change their consent at any time?
- What mechanisms have been put in place to guarantee total transparency in data management and give citizens full control over their consent?
- How does the system guarantee the secure collection, storage and sharing of citizen data between end-users and stakeholders?
- How are security incidents managed, and how are end-users and stakeholders informed about them?

- How does the project encourage citizens to share their data for their personal well-being and the public interest?
- How are citizens encouraged to contribute to better research by sharing their data, and how is the confidentiality and security of shared data ensured?

Principle 5: Reduce digital and health inequalities

- How does the implementation of the technological solution aim to improve citizens' ability to make more effective use of the technological information provided to them?
- How does the solution guarantee the teaching and support needed to ensure optimum understanding of technical information?
- How does the implementation of the technological solution contribute to strengthening citizens' ability to make better use of the health information they receive?
- What strategies have been put in place to raise citizens' awareness of the determinants of health through technological solutions?
- How does the technological solution ensure that it is accessible to all citizens, especially the vulnerable and disadvantaged?
- What concrete measures are taken to ensure that the solution can be used regardless of the socio-economic, cultural, psychosocial and physical condition of the citizens?

Criterion 3: Stimulate the participation of citizens and stakeholders in decisions concerning technology

Principle 6: Create participatory governance

- How are end-users and stakeholder representatives actively involved in the governance of the ecosystem or technological solution?
- What specific mechanisms, such as a monitoring group or steering committee, have been set up to ensure their active participation?
- How is solution governance monitored and evaluated on a regular basis?
- What criteria are taken into account in the assessment, such as interaction methods, distribution of powers, respect for values, and governance composition?
- How does governance continuously adapt using an adaptive process?
- How are new data, experience, evidence and growing expertise integrated into the collective learning process to update the elements of governance and the roles of the people and organizations involved?

Criterion 4: Monitor the quality of technologies and their impact on society

Principle 7: Implement quality assurance and control

- How are the development, implementation and use of the technological solution regularly monitored and evaluated, enabling flexible adjustments where necessary?

- How is evaluation informed by lessons learned and scientific evidence, ensuring an evidence-based approach?
- What specific aspects are taken into account in monitoring, such as content, security, information transparency, traceability, efficiency, interoperability, inclusiveness, autonomy, as well as perceived and actual impact on end-users?
- How does monitoring ensure a comprehensive evaluation of the solution, taking all these aspects into account?
- How are the results of the technological solution evaluation made accessible to all stakeholders?
- Are you considering the use of a quality label or other mechanisms to ensure maximum transparency and accessibility of assessment results?

Principle 8: Align innovation with wider societal frameworks

- How does the technological solution guarantee to bring significant benefits to society while minimizing foreseeable risks and drawbacks?
- How do the actions undertaken comply with the health objectives set, including those related to health prevention?
- How does the technological solution integrate specific sustainable development objectives?
- What concrete steps are taken to minimize the ecological footprint of the solution, both during development and in use?
- How does the technological solution take into account specific ethical principles, such as explicability (the operation of the technological solution is clearly understandable and explicable to users) or justifiability (the decisions taken by the technological solution, for example by artificial intelligence, are justifiable in ethical and legal terms)?
- How does the solution avoid undermining fundamental moral or cultural values, and what measures are in place to ensure ethical integration throughout its lifecycle?

Criterion 5: Creativity and innovation (*mandatory*)

- What elements of your work are innovative? These can be concrete new products or processes, but also new ideas or concepts.
- How does your work offer a future perspective for understanding or solving the challenges of healthy and responsible healthcare technologies?
- Do you contribute to the development of new research questions likely to inspire future students or researchers to also embark on the path of responsible healthcare technologies?

C6. Personal vision of guiding principles (*mandatory*)

- How has your perception of technology evolved over the course of your work in relation to the guiding principles, and how has this influenced your approach to healthcare?

- What lessons have you learned from your work that has had an impact on your personal life, and how have you integrated these lessons into your daily choices about health and technology?
- How has your work changed your view of the responsibility associated with the use of technology in healthcare, and how is this reflected in your design and implementation choices?
- What implications does your work have for the way you see the role of individuals in managing their own health in the age of technology?
- How has your vision of society been affected by your work in healthcare technology?
- How might your experience in developing responsible healthcare technologies affect your professional commitment?