# QUESTEOSI
WEBZINE

Partners

- EFMD, BE – coordinator
- European Network for Quality of Higher Engineering Education for Industry (ENQHEEI), BE – technical coordinator
- European Foundation for Engineering Development (EFEED), FR
- Council of European Professional and Managerial Staff (EUROCADRES), BE
- Instituto Superior Técnico (IST), PT (On behalf of Consortium Linking Universities of Science and Technology for Education and Research - CLUSTER)
- Technische Universität Wien (TUW), AT
- Politecnico di Torino (POLITO), IT
- Karlsruher Institut für Technologie (KIT), DE
- Universitat Politècnica de Catalunya (UPC), ES
- Engineering Professors' Council (EPC), UK
- Kungliga Tekniska högskolan (KTH), SE
- České vysoké učení technické v Praze (CVUT), CZ
- Université Libre de Bruxelles (ULB), BE
- Politechnika Wrocławska (WUT), PL
- Comité d'études sur les formations d'ingénieurs (CEFI), FR
- Ecole Nationale Supérieure des Mines de Paris (MINES ParisTech), FR
- Bureau permanent de liaison entre Grandes Ecoles et Technische Hohschulen (GE-TH), FR
- Internationale Personalberatung (CNL), DE
- Russian Association for Engineering Education (RAEE), RU
- European University Republic of Macedonia (EURM), MK

Quality System of Scientific & Technological Universities for Sustainable Industry

Guiding technical universities towards sustainable development and social responsibility
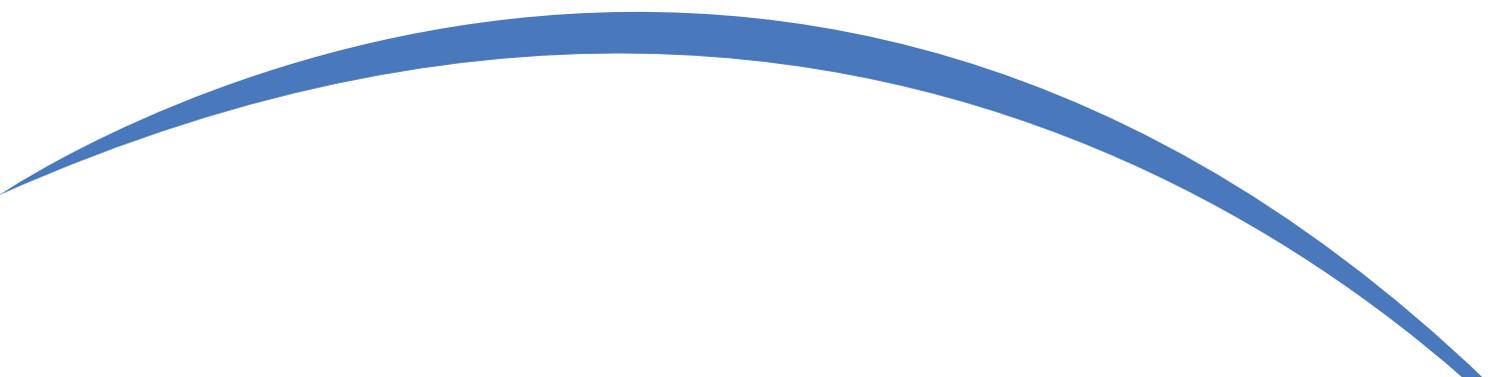
QUESTE·SI

QUESTE-SI is a quality assurance system, whose overall objective is to promote quality improvement of sustainable development education at Higher Education Engineering Institutions.

While many individual initiatives have been taken by higher education institutions all over Europe, there is a lack of generally accepted standards for **sustainable development education.** There is also a need for a quality assurance tool that provides the institutions with directions and guidance to move towards sustainable development education. These are the main needs behind the creation of the QUESTE-SI initiative.

Sustainable development education means education that integrates dimensions that are beyond purely scientific and technical aspects. These dimensions include economical, social and environmental elements.

QUESTE-SI is mainly interested in the evaluation of university-level engineering education with respect to strategy and action directed to the issue of social responsibility and sustainable development.

The **QUESTE-SI quality assurance system** consists of a set of criteria and methodological recommendations that allow the institutions to evaluate their achievements in the domain and to design and implement a progress strategy to the sustainability of their education.
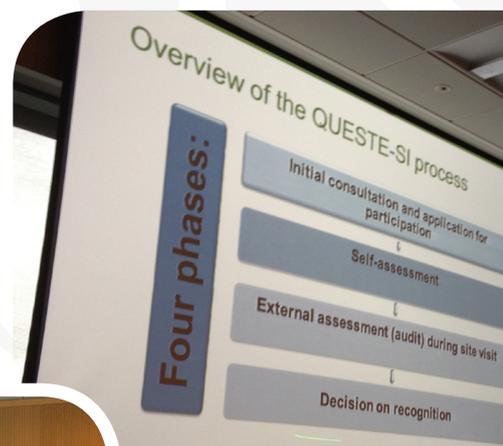
These criteria and recommendations are applied in a process consisting of self-assessment, optional phase of guided self-development and an audit visit by a team of specially trained experts.

The QUESTE-SI quality assurance system covers four dimensions:

1 STRATEGY

2 EDUCATION AND CURRICULUM

3 STUDENTS' INVOLVEMENT

4 RESEARCH AND INNOVATION

Overview of the QUESTE-SI process

Four phases:
- Initial consultation and application for participation
- Self-assessment
- External assessment (audit) during site visit
- Decision on recognition

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The final result of this process is a recognition given to the participating institutional units in the form of the QUESTE-SI Award.

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Besides the **HEIs** self, two other target groups can benefit from the project's results:
- **Students**, when they select the institution in which to pursue their studies,
- **Companies**, when they recruit or launch cooperation with higher education institutions.

The project was managed by a consortium led by EFMD and technically coordinated by ENQHEEI, two leading academic networks in the field of quality of higher education. The consortium was composed of 18 partners from all over Europe, as well as two partners from Russia and Former Yugoslav Republic of Macedonia. The size of the consortium allowed to take into account the diversity of the national and regional initiatives in the field of sustainable development education and to guarantee the neutrality of the QUESTE-SI initiative.

The professional diversity of partners also ensured that the point of view of different stakeholders was taken into account, whether HEIs, large companies and SMEs, trade unions, professional federations and associations.

All materials and methodologies were tested on a sample of eleven pilot institutions.

The QUESTE-SI project outcomes are:
- **A set of background documents,** including the analysis and comparison of international quality systems;
- **A set of reference documents,** including the description of quality criteria, a referential and guidelines for the self-assessment. These documents are complemented by an online platform.
- **An evaluation methodology,** allowing the institutions to evaluate themselves, to benchmark their achievements against similar HEIs and to put in place corrective actions, if needed.
- **A panel of auditors and field experts,** trained to evaluate the institutions and to provide them advice and guidance during the self-assessment process and guided development phase.
- **An awarding body,** composed of recognised authorities in the field, who decide to confer the QUESTE-SI award.
- **Eleven pioneer institutions** that have gone through the entire process and have been awarded the QUESTE-SI award.

All reference documents and detailed information about QUESTE-SI can be found on the http://plone.queste.eu website.

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Strategy

QUESTE-SI believes that attention should be given to the presence and realisation of strategies devoted to sustainable development at institutional and departmental level.

There should be an active view of social responsibility and sustainability at the policy-making level of educational institutions. It means that a well-defined short, middle and long-term strategy for sustainability in the institution should be present.

Last but not least, identification of new skills and occupational profiles should be translated into education, training, continuing professional education, and job requirements.

This is a collaborative task for leaders and planners at the school, department, and program level, in cooperation with employers.

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Kaunas University of Technology about QUESTE-SI

I. What are the benefits?

Our University has a new strategy and committed itself to focus and concentrate its efforts on social responsibility and sustainable development. On the basis of previous successful results and expertise, the importance to reorganise activities and strengthen cooperation with partners is recognised. Achieving harmony between economic, environmental, social and cultural objectives and values, guides the university whose activities respond to the problems of sustainable development of the city, the region and the country as well as to the quality of life. The Institute of Environmental Engineering can be identified as the most successful department in KTU addressing and dealing with sustainability issues already for a long time.

We see QUESTE-SI initiative as a possibility to validate our activities and achievements.

QUESTE-SI focused our attention on the important aspects of education, students' involvement, research and institution itself. While preparing our self-assessment report, we have made a SWOT analysis, which is a roadmap for our further steps. Participation in QUESTE-SI went along with good teamwork, the possibility to come together and analyse where we were and where we would like to be.
Thus, the main benefit is that we have managed to check where we still need improvements and what we can be proud with. Recognition of our efforts makes them more visible. Consequently, it is easier to spread social responsibility and sustainability ideas, implement them and get supported.

II. What changes has QUESTE-SI stimulated?

We are about to start teaching the study program "Environmental management and cleaner production" in English and attracting more international students.

A new M. Sc. study program "Ecological packaging: design and production" has been developed.

III. How has QUESTE-SI contributed to the sustainable development education?

One of the ways to make the questions of sustainability more salient is publicity. It is spreading ideas of sustainability among the academic world, informing the society at various levels, locally and regionally, and involving various actors, from school children and universities up to business and decision makers.

IV. Why is the QUESTE-SI award needed?

A label recognising achievements in the field of sustainability and social responsibility makes these achievements and the ideas behind them more visible. It is a way to attract people and institutions, to make sustainability and social responsibility more popular and widely implemented, thus making steps forward towards a sustainable and socially responsible society. The awarded institutions can serve as an example to other institutions.

Education & Curriculum

A strategy for social responsibility and sustainability in education should recognize the comparative impact of current pedagogy and new methodologies. It should acknowledge that the engineers of tomorrow will need new transverse skills such as crisis communication and management, policy analysis and formulation, interdisciplinary approaches to problem solving, but above all, a broader view of problems, their causes, consequences, and solutions.

Thus, a key point when defining and evaluating learning objectives is whether they include the ability to anticipate the consequences of decisions and to act appropriately (a proactive rather than reactive approach).

European University – Republic of Macedonia about QUESTE-SI

I. What are the benefits?

In the long-term it is about introducing a culture and better understanding of the importance of sustainability and social responsibility in technical education. Currently, no such culture exists both among the lecturers and the students, as these things are generally taken for granted and in completely implicit way. Making explicit reference to sustainability and social responsibility in the curricula, official declarations, research and industry projects, and in any extracurricular student activities would raise the awareness and result in enriched students' experience.

Another benefit is that our involvement in the project allowed us to meet people from different universities and industry sectors in Europe, thus exchanging experiences and cultural understanding.

II. What changes has QUESTE-SI stimulated?

After the audit visit and especially after receiving the QUESTE-SI award, the EURM management has committed to consider explicit references to and build awareness about sustainability and social responsibility in the future academic plans.
The students will be stimulated to be more involved in extracurricular activities and projects focusing on these concepts.

## III. How has QUESTE-SI contributed to the sustainable development education?

Through better understanding and dedicated commitment, the management team can advocate for better awareness of sustainability across the whole institution.
In the case of EURM, this is usually achieved through a bottom-up approach. This means that the right initiative from the right people should be articulated and demonstrated to the management in the right way. This is something that I believe I have managed to do through my involvement in this project.

IV. Why is the QUESTE-SI award needed?

It is always good for an institution to receive recognition in order to be able to attract both collaborators and prospective students. QUESTE-SI is not an exception. However, what is specific about this award is being recognised in the field of sustainability and social responsibility. This means that the institution really cares, and that should make a real difference. It is very important to be aware of and nurture these values in this evolving and ever changing world.

Students' Involvement

The point here is active students' involvement in the culture of social responsibility and sustainability. The institution and departments should encourage or support students' activities that go beyond the formal curriculum. Extracurricular activities may complement efforts to foster a broader awareness and vision of needs, problems, and the potential effect of decisions and actions. Such activities may be fulfilled in national, regional, or community agencies, NGOs, and volunteer organizations. Some activities may complement the curriculum as sources of information and experience, and may extend the use of problem-led or project-based learning techniques.
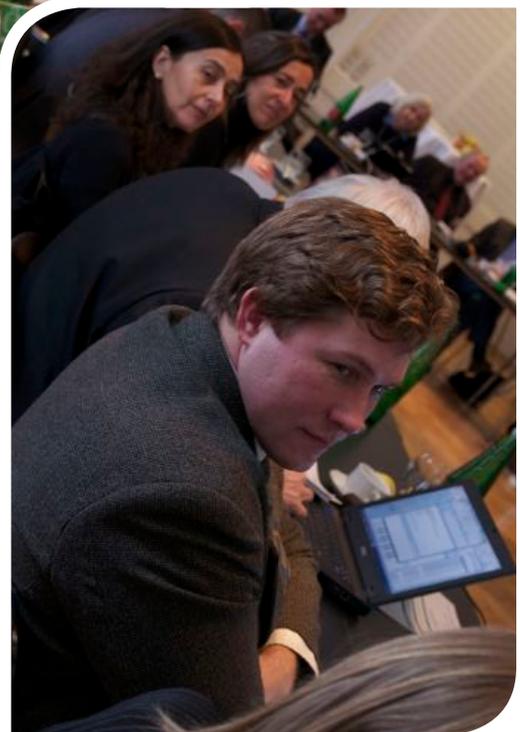
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Cyprus University of Technology about QUESTE-SI

I. What are the benefits?

We looked at our University and the Department through the eyes of a reviewer.
We verified that overall we are moving in the right direction.
Our communication channels and team spirit have been put under test and proved successful.
We have recognised our strengths in terms of sustainability and social responsibility:
- Top management commitment
- Clear strategic planning
- Common understanding of the strategy
- Positive climate
- Close relationships with external partners

We have identified areas of improvement: our website (English version), further integration of social responsibility and sustainability education in our undergraduate and postgraduate programmes, adoption of a more structured fundamental approach, etc.
We had the chance to compare ourselves with reputable universities across Europe and recognise our remarkable development in the field of sustainability and social responsibility, keeping in mind that we are a young university.
We have built new international relations.

II. What changes has QUESTE-SI stimulated?

Through highlighting our strengths and achievements on our website we have improved our international image.
We have adopted a more structured approach for collaboration with other universities.
We are looking how we can promote collaboration with the other QUESTE-SI pilot institutions.

III. How has QUESTE-SI contributed to the sustainable development education?

QUESTE-SI has established structures and standards for quality improvement. The whole process cannot be static. It must be dynamic and on-going. Best practices have also been identified.

IV. Why is the QUESTE-SI award needed?

Institutions can distinguish themselves.
Companies / governments / funding bodies can refer to it when choosing what departments to cooperate with.
Students can use it to decide where to study.
Institutions can use it when cooperating with other institutions.
However, it should be noted that evaluations, leading to an award, do not always have positive effects. It may have a negative effect if the evaluation is low and then the four points above become disadvantages.

Research & Innovation

In this dimension there should be a strategic direction for institutional and faculty choices of topics for research & development related to sustainability. This contemplates cooperation with industry, enterprises, peer institutions, and research agencies, institutions, and organizations. QUESTE-SI evaluators look for evidence that research & development activities also serve to enrich the curriculum, teaching, and learning.

Pilot institutions about QUESTE-SI

"It was a great opportunity to evaluate ourselves (what and how we do, what we can improve and what we shall keep on doing) with the help of external experts (by getting guidance / questions from the outside), and also to get an evaluation from outside."

"It was good to see what high level of commitment towards the integration of social responsibility and sustainable development in research and teaching was revealed. The project has demonstrated a high level of responsibility found in the participating institutions. All of them can be proud of the award they received."

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"We appreciate the possibility to participate in QUESTE-SI because, firstly, we met important and interesting people from other universities and the project management team and we learned to know what QUESTE-SI is. We are interested in further collaboration. Secondly, the project brought to our attention the important issue of sustainability, which we began to consider more intensively than before. We have in mind to focus on it in our teaching and research processes."

"All these projects allow us to stop and reflect on our situation and our strategies. They also allow us to make some benchmarking exercises with other HEIs and to learn from each other's best practices. This project in particular allowed us to reflect on our strategies and practices concerning social responsibility and sustainable education, reinforcing our commitment and knowing better what is our position and strategy. It allowed us also to engage and involve our governing bodies in those important issues."

"It is a precious entry into managing our continuous improvement process, and among others:
- To rank the level of maturity thanks to a referential
- To benchmark with other institutions
- To prepare our future certifications from the French CGE/CPU authorities when they become compulsory
- To communicate, internally and externally, on the process
- To provide a new input for our quality assurance efforts: thanks to the audit visit and the different presentations, we have a more precise view on our results."

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Composition of the Awarding Body ////////////////////////////////

PRESIDENT

Anders Flödstrom
Member of the EIT Executive Committee,
University Chancellor, Swedish National Agency
for Higher Education

SECRETARY

Juan J. Perez
Professor at UPC, former Vice-Rector at UPC

MEMBERS

Peter Skalicky
Deputy Chairman of the Austrian Council of Research, former Rector of TU Wien

Fiona Martland
Former Director of the Engineering Professors' Council

Eric Cornuel
Director General and CEO, EFMD

Didier Lombard
President, EFEED, former Senior Executive Vice President of Technologies,
Strategic Partnerships and New Usages of France Telecom

Carlo Parietti
President, EUROCADRES

Pedro Loutie
Professor, IST Lisbon, Former Secretary of State of Higher Education

Yuri P. Pokholkov
President of the Russian Association for Engineering Education, former Rector
of Tomsk Technical University

Muzio Gola
Vice-rector for Quality Assurance, Politecnico di Torino

OBSERVERS

André Staropoli
Former Secretary General of the Conseil National d'Evaluation, Advisory Board Senior
Representative

René-François Bernard
QUESTE-SI, Technical Coordinator

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AWARD

The QUESTE-SI award is conferred by an Awarding Body on the basis of the following documents: a self-evaluation report, prepared by the institution, and a report and recommendations, developed by an audit team after the audit visit. Each of the dimensions is given a rating. This rating goes from one to four squares and is intended to reflect the level of quality reached by the institutional unit. In exceptional cases when a dimension cannot be evaluated, no square is granted. The explanation of each of these quality levels can be found below:

FOUR SQUARES

The institutional unit demonstrates outstanding quality in this dimension and can be considered as a model of excellence.

ONE SQUARE

The institutional unit demonstrates commitment in the dimension but must increase its efforts and progress further.

THREE SQUARES

The institutional unit demonstrates a high quality level in the dimension.

TWO SQUARES

The institutional unit demonstrates reasonable achievements in the dimension.

Awarded Institutions

Alphabetic order by country

Vienna University of Technology (TU Wien) - Austria
Continuing Education Center

Cyprus University of Technology - Cyprus
Department of Civil Engineering and Geomatics

Czech Technical University in Prague (CVUT) - Czech Republic
Department of Mechanics, Biomechanics and Mechatronics

Brno University of Technology - Czech Republic

- Faculty of Architecture
- Faculty of Business and Management
- Faculty of Electrical Engineering and Communication
- Faculty of Information Technology
- Faculty of Mechanical Engineering

Télécom Bretagne - France
General Engineering Programme

Eurepean University – Republic of Macedonia (EURM) - Macedonia
Faculty of Informatics

Riga Technical University (RTU) - Latvia
Institute of Applied Computer Systems

Kaunas University of Technology (KTU) - Lithuania
Institute of Environmental Engineering

Wroclaw University of Technology (WUT) - Poland
Faculty of Computer Science and Management

Instituto Superior Técnico - Portugal
Mechanical Engineering Department

KTH Royal Institute of Technology - Sweden
Department of Industrial Ecology

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