

ARIES4 Deliverable D4.1

CRE8[®] S4 Guidelines



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Background to CRE8®

The CRE8® process is designed to make student teams come up with the most creative solutions possible to a specific challenge, with a minimum of time used by them and the task-owner. The results given to the task-owner are, often radically, new perspectives on their future business and its opportunities and challenges.



The CRE8® method was originally developed in a Vinnova-funded project,¹ MINT, during 2015–17. Four Swedish universities participated in the MINT project.² One of the goals of MINT was to find ways that students could assist in bringing researchers' innovative ideas forward. The four universities, in parallel, tested different methods and concepts. They bench-marked and evaluated the methods and concepts together.

The CRE8® method was inspired by the TIMES competitions used by ESTIEM (The organisation of European Students of Industrial Engineering and Management). This is a Europe-wide competition in which students of Industrial Engineering and Management compete in teams to solve challenges provided by companies.

Karlstad University, in collaboration with Drivhuset Karlstad, developed the first version of CRE8®. Drivhuset is an organisation originally started by two students at Karlstad University in 1993 addressing student entrepreneurship. A unique feature of Drivhuset is that it never judges or evaluates the student's ideas. This distinguishes it from any type of incubator or accelerator in Europe (as shown in a study performed by Chalmers School of Entrepreneurship). Currently there are 15 Drivhuset branches in Sweden, Norway and Finland. More than 9,000 companies have been started through Drivhuset to date.

The demand for CRE8® from actors outside academia has been much higher than expected. CRE8® has been used with challenges from:

- Researchers' with innovative ideas
- Companies (start-ups, SMEs, large and international with up to €9 billion in revenue)
- Public actors (municipalities, regions)

Between 2018 and 2021, CRE8® was further applied and tested in the Erasmus KA2 project 'CRE8® Europe'. The project was conducted with Lucian Blaga University of Sibiu (Romania), Jaume I University (Spain), Inland University (Norway) and Karlstad University (Sweden). The model has since been used, under free licence, by other universities, including ARIES4 coordinator UPNA in a further EU-funded project.

¹ Vinnova is Sweden's Innovation Agency.

² Karlstad University, Linnaeus University, Mid-Sweden University and Örebro University.

During the ARIES4 project (2022–25), eight CRE8® workshops took place in the four partner regions (Bulgaria, Denmark, Spain and Sweden), details of which are given in the ARIES4 deliverable D4.2 *Collected Tasks and Solutions from the CRE8® S4 Regional Workshops*.

During ARIES4, the focus of the CRE8® challenges was on sustainability (broadly defined) within regional Smart Specialisation Areas. The challenges were all related to several of the Sustainability Development Goals (SDGs); especially SDGs 7 to 12, but also 4 and 5. Several of the challenges related to social, environmental, educational and economic sustainability in non-urban locations.

Development of Students’ Entrepreneurial Skills

The CRE8® model is designed to benefit all parties involved: the education providers who arrange the events, the students who participate in the teams, and the organisations which serve as task-owners. The benefits can be seen as threefold:

1. Public and private sector organisations require appropriately skilled employees to develop their activities, and the bringing together of students and organisational representatives enables a better understanding of the requirements for achieving this. The students are introduced to the operational contexts of the participating organisations and the CRE8® workshops provide an opportunity for networking between the student teams and the organisational representatives.
2. By creating a forum for concrete activities between triple helix actors, the CRE8® model strengthens the implementation of Smart Specialisation within the context of regional development and improves the quality of communication and collaboration within the helix.
3. Students need to be prepared for a range of possible careers. The CRE8® model helps education providers fulfil their responsibility to support students outside their subject-specific education, both in developing their transversal skills (including entrepreneurial competencies) and in learning how to better articulate the value of their skills and knowledge to an array of potential employers.

The importance of developing entrepreneurial skills has long been recognised at the EU level and was formalised by the European Commission in 2016 through the establishment of EntreComp – the Entrepreneurship Competence Framework – an initiative aimed at nurturing entrepreneurial abilities and mindsets in people and organisations. It describes entrepreneurship as the capacity to develop ideas that generate value for others, whether in economic, social, or cultural forms.

Perhaps the most immediate beneficiary group involved in the CRE8® process are the students themselves, through their engagement with activities which directly help them to develop an entrepreneurial mindset and which hone several skills widely valued by employers. Of the 15 EntreComp competences, the two most clearly developed under the CRE8® model are ‘creativity’ and ‘working with others’.³

Related to this, a pan-European study carried out in 2024 by the EUNICE University Alliance for Customised Education investigated the competencies prioritised by employers when recruiting

³ *EntreComp: the Entrepreneurship Competence Framework* (JRC, 2016), p. 8. Available at: <https://publications.jrc.ec.europa.eu/repository/handle/JRC101581> (accessed 13 March 2025).

graduates.⁴ This study identified eight key competencies which were commonly valued by organisations across a range of sectors, three of which (also the highest rated in the study) are directly addressed by the CRE8® model. These competencies are:

- **Problem-solving:** *the ability to identify and define problems, generate solutions, and to evaluate the options.* This competence lies at the heart of the CRE8® model, which is fundamentally challenge-based.
- **Teamworking:** *the interrelated abilities that help individuals cooperate effectively in group settings, including emotional intelligence, communication and negotiation skills.* This competence forms the context for the problem-solving in CRE8®, since the students must learn to work effectively as a team.
- **Communication:** *the ability to convey both verbal and written information clearly between individuals and groups and to adapt formats and contents to different audiences and purposes.* Not only is communication within the team developed during the event, but, having worked as a team to solve a problem, the CRE8® students then need to develop their pitch to a jury composed of members from different backgrounds (the task-owner organisation, business developers, innovation advisors, researchers and so on).

In the context of S4, while triple helix actors are keen to engage in Smart Specialisation processes, finding forums for effective cooperation and developing a broader definition of ‘sustainability’ can be problematic. While the focus is on the development of the students’ entrepreneurial skills, the CRE8® model also serves as a novel interface for familiarising a region's triple helix actors with each other and encouraging deeper future cooperation.

Elements of CRE8®

The CRE8® model has several elements or characteristics which are important in its overall effectiveness. The different parameters for these elements have been tested for optimisation (e.g. the number of teams, team working times, number of students and teams, length of pitches etc.). These CRE8® characteristics are as follows:

- A CRE8® workshop is carried out over the course of **one day** (typically 09.00 – 16.00).
- The student teams should be as **multidisciplinary** as possible.
- The students register individually and **the facilitator creates the teams**.
- The **task-owner and challenge should be unknown** by the students until presented at the workshop.
- Between **three and five student teams** (four is optimal).
- Between **three and five students per team** (four is optimal).
- A **pitch training session** (most often according to the NABC model) is held for the students towards the start of the workshop.
- **No use of internet-connected devices** by teams, in order to maximise creativity.
- The **whole team pitches** to the jury and everyone in the team should participate equally.
- **The teams work on their solutions for three hours** and each team in its own room.

⁴ ‘EUNICE Key Competencies: Customising Higher Education to Meet Society’s Needs’. Available at <https://eunice-university.eu/eunice-key-competencies-customising-higher-education-to-meet-societys-needs/> (accessed 13 March 2025).

- The **pitch is five minutes** long and the jury has an additional 10 minutes to ask questions.
- **Each team pitches alone** and the teams are not allowed to hear/see each other's pitches.
- **No IT is used during pitch:** the only presentation technology allowed is flip-charts.
- **The jury has four members**, of which one should be an experienced CRE8® juror (if possible) and at least one a representative of the task-owner organisation (essential).
- The winning team should receive an **inexpensive prize** and all students in all teams get **certificates of participation**.

Finally, the understanding of the terms 'innovation' and 'value' are essential to CRE8®. They can be understood simply as:

- **Innovation:** new ways to create value.
- **Value:** can be economic, environmental, social, human or a pure experience. Most solutions combine several of these.

Organising a CRE8® Workshop

The two main issues that require time and attention when organizing a CRE8® workshop are recruitment of the students and the formulation of the task area in collaboration with the task-owner.

Recruiting students across academic disciplines and getting them to register for the event in sufficient numbers is usually the most challenging part. Attention should be paid to possible clashes (term dates, exams) when setting the event date and also to the most appropriate advertising channels. Ideally this will begin months, rather than weeks, in advance of the event.

Formulating the question and task together with the task-owner is also an area which requires careful attention. Together, the task-owner and event organiser should develop a task which avoids narrowness or bias towards a particular element (which would reduce the creativity of the solutions) but is also not so general as to lack any hooks for the teams to address. The result of these discussions will be:

- a one-page task description according to the CRE8® template.
- a presentation that the task-owner will deliver to the students during the event.
- a printed version of the task-owner's presentation, one copy per team, that the teams can take to their rooms for reference.

Other critical issues are:

Access to premises suited for a CRE8® workshop. The premises should consist of a *large room* that can accommodate some 30 to 40 people and which can be set up appropriately for the jury to hear the pitches.

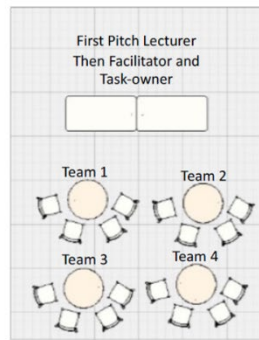
There must also be *separate rooms*, one for each team, where they can work with their solutions. These rooms should be relatively near the large room and preferably on the same floor. There should also be an area – a ‘Green Room’ – to be used by the teams when they are waiting to pitch and to go to after their pitch has been delivered.

Food (light), beverages and fruit must be available in the separate rooms for the teams during their three hours of work.

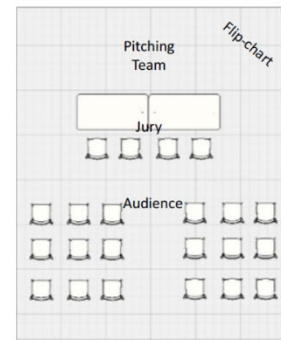
Recruiting the jurors. The jury should consist of one or two people from the task-owner. There should ideally be one juror who has previous experience with CRE8® juries. It is recommended that this person is the CRE8® facilitator who has been involved in the formulation of the question and task. The fourth juror could be a researcher in a relevant field as regards the challenge. It is important that this is a researcher who has the ability to ask questions in a proper manner to the student teams (not becoming adversarial). If the task-owner chooses only to have one juror, then the “vacant” juror could be recruited quite freely (but in dialogue with the task-owner).

Have someone that can give a c. 45-minute lecture in efficient pitching. Preferably the pitch should be based on NABC (part of SRI International's Five Disciplines of Innovation®) or similar.⁵ A challenge to the lecturer is often that the students do not know what their pitch will be about: the lecture will be held after the students have been assigned to their respective teams, but before the task-owner has presented the challenge. Thus, this lecture is part of ‘getting to know your team members’. The lecturer should also convey the four CRE8® criteria that the jury will pay most attention to:

- Presentation
- Problem analysis
- Solution
- Answering questions of the jury



Configuration for pitch lecture and when the task-owner presents the question and task



Configuration for pitches in front of jury

Figure 1: Large Room Layout for a CRE8® Workshop

⁵ Needs, Approach, Benefits & Competition (core of the discipline “Value Creation”)

Task-owner

The following are the parts of the CRE8® workshop that the task-owner is committed to do:

- Formulate the question and task guided by, and in collaboration with, the facilitator.
- Prepares a c. 10-minute slide presentation of the context of the challenge. This slide presentation must be reviewed and approved by the facilitator prior to it being finalised.
- Cover the following costs:
 - Premises costs (if needed)
 - Food, beverages, fruit etc.
 - Prize to winning team (typically worth €20/student of the team).
- Appoint one or two people to be part of the jury.
- Give the award to the winning team. Facilitator reads the motivation for the decision.

Many task-owners also give corporate give-aways, goodie bags and/or promotional items to every student participating in the CRE8®. This is not a requirement.

Adaptation to an Online Setting

The CRE8® model works best in a physical setting, but it can (and has been) run virtually, notably during the years of the Covid-19 pandemic. Many of the elements can be directly transferred to an online delivery, but the following points should be noted:

- Much depends on the chosen virtual platform working smoothly. Facilitators are advised to get technical support from their organisations to ensure that the AV equipment and platform functions (e.g. virtual break-out rooms) are set up correctly and that staff know how to use them.
- The students should be instructed in advance on good practice for virtual sessions, such as using a cabled internet connection (if available), remaining muted when not speaking, keeping their cameras on (unless there is a pressing reason not to).
- The students will have less opportunity to network informally during a virtual workshop. This should be explicitly addressed with an extended ice-breaker exercise early in the day; something which is not usually performed at an IRL CRE8® workshop. This can be any exercise which requires each student to speak.
- Many ice-breaker options are available, but it can be good to connect this with the NABC pitch training. Students can be paired in virtual breakout rooms, to interview each other for ten minutes on any given subject (perhaps what they find most interesting about their studies, why they registered for CRE8® etc.). All the students then gather in the plenary room and each pitches what they've just heard from their partner for one minute. With a typical cohort of 16 students, the whole exercise (interviewing and pitching) should take 45 minutes to an hour.

Roles During the CRE8® Day

Facilitators

The facilitators take care of all practical arrangements for the CRE8® day. There should be, at least, two facilitators during a CRE8® day. The interaction between these is of utmost importance in ensuring a high-quality experience for all participants.

Preparations

Facilitators are responsible for:

- Formulation of question and task together with the task-owner. This should be ready at least one week prior to the CRE8® workshop.
- Review, give feedback on and approve the slide presentation that the task-owner prepares. This should be ready at least one week prior to the CRE8® day.
- Write the final one-page task description (see template provided in D4.2).
- Recruit jurors and inform them when they should arrive, at latest, to the jury introduction.
- Prepare the CRE8® introduction to be given to the students.
- Provide the lecturer for the pitch training with an understanding of CRE8® but do NOT provide the lecturer with information of the task-owner or the task, in case this colours their lecture.
- Go through the pitch lecture with the lecturer (if the lecturer has not been involved in CRE8® pitch lectures before).
- Student recruitment and registration (be prepared to have late cancellation of two or three students, good to have a pool of extra students if possible).
- Ensure that the large room, the teams' workrooms and the Green Room are available and properly equipped:
 - Team workrooms: Flip-charts, flip-chart pens in various colours, whiteboard and whiteboard pens, table and chairs appropriately set up for group discussions.
 - Large Room: table(s) and chairs for the jury and chairs for the audience (if any), flip-chart stand/holder, computer projector and loudspeakers.
 - Green Room: enough space to accommodate 20 to 30 people, a table with refreshments (coffee, tea, sandwiches, fruit), easy and close access to the Large Room.
- Prepare all handouts for the student teams (one copy per team of the task description and the slide presentation of the task-owner).
- Prepare the forms used by the jurors.
- Make the division into teams (paying attention to disciplinary breadth and diversity of each team).
- Prepare the time schedule for the CRE8® workshop (all relevant persons should have a handout of the time schedule, typically the facilitators and the task-owners (see suggested time schedule in Annex 1).
- Prepare the individual diplomas to be handed out during the award ceremony.

Facilitators are responsible for:

- Introducing CRE8® to the students and setting their mood for the challenge. This includes starting with an inspirational talk and ensuring that they understand the different aspects of value (economic, environmental, social, human or a pure experience). This is done prior to the task-owners presentation.
- Jury introduction. While the students are working in groups, familiarising the jurors with the criteria, the challenge, the CRE8® model and the forms to be used by the jury. Ensuring that they know how best to question the teams and to set the final question to each team: Did you come up with anything so wild and crazy that you chose not to present it? This is where surprising creativity can be revealed.
- Facilitating the jury so that all jurors, including Facilitator, get the opportunity to ask questions and ensure that the final question is included.
- Participating and guiding the jurors during the jury deliberation. Note: the scores given are just a guideline. Since the first team(s) have a disadvantage, as the relative performance level is not known to the jury at that point, the deliberation sometimes results in a winning team which did not get the highest initial scores.
- At the end of the jury deliberation, writing down the feedback for the winning team and the feedback to the other teams. The winning team gets more extensive feedback, whereas the other teams get feedback on the things the jury particularly valued in their pitch.
- Give feedback to the teams during the award ceremony.
- Overall timekeeping and logistics of the day.
- Dividing the students into teams and to give them practical information (toilets, water, emergency exits etc.).
- Guide the teams to their respective work rooms.
- During jury introduction, get all in the jury to sign the certificates.
- Ensure that the teams have food and beverages available in their rooms.
- Inform the audience that they must not cause disturbances during the hour in which pitches are delivered (e.g. phones switched off, no conversations and no one leaves the Large Room until all pitches are ready).
- Precise timekeeping during pitches and jury questions (give a notice when one minute remains of the pitch time and likewise as regards the jury's time for questions).
- Gather the scores from the jury so that a preliminary score table is available during jury deliberation.
- Hand out the certificates during award ceremony.

Annex 1: Suggested CRE8® Workshop Time Schedule

09.00 – 09.15: Division into teams (Facilitator)

09.15 – 10.15: Pitch lecture (Appointed lecturer)

- 10.15 – 10.45: Introduction to CRE8® (Facilitator)
- Slide presentation of the task-owner (ending with the task and question) (Task-owner)
- Hand out of task description and slide presentation to the teams (Facilitator)
- Facilitators guide the teams to the workrooms

10.45 – 13.45: Student teams working with the challenge

13.00: Jurors gathered in Large Room for jury introduction (Facilitator)

13.45 –14.45: The teams pitch to jury and audience (15 minutes per team; five-minute pitch, and10 minutes for questions)

14.45 –15.15: Jury deliberation (Facilitators)

15.15 –15.45: Present winner (Task-owner) and motivation/feedback to all teams (Facilitator)

15.45 –16.30: Informal mingle (beverages and light snacks)