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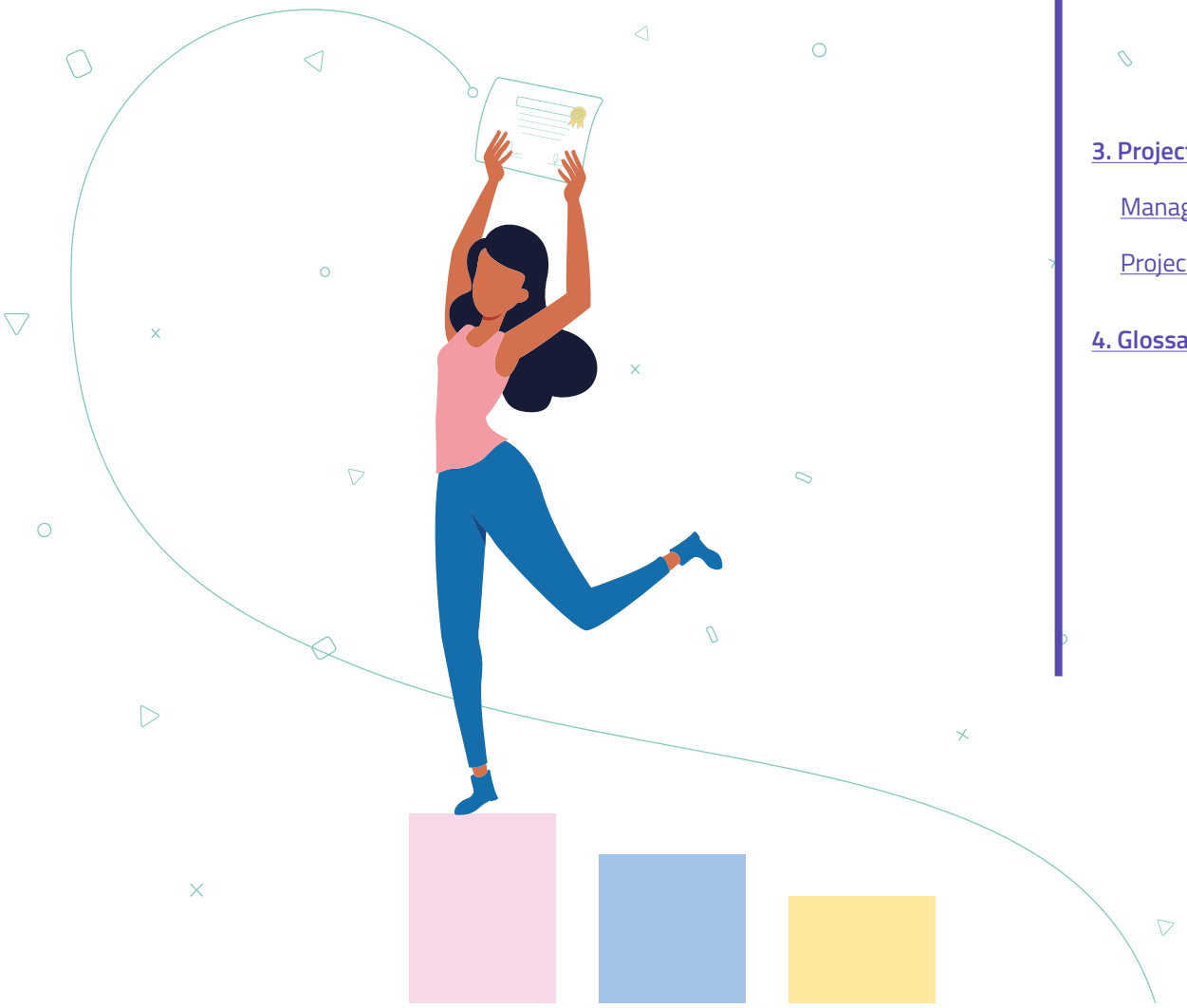

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Girls Go Circular

Teacher Guidebook Part 1:
Introduction to the Project and the Circular Learning Space

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1. What is the Girls Go Circular project?

According to the European Commission's Women in Digital Scoreboard 2019, women represent only **34%** of STEM graduates *(Science, Technology, Engineering and Mathematics)* and **18%** of ICT specialists[1] (Information and Communications Technology).

The **Girls Go Circular** project aims to equip at least **50,000** schoolgirls aged 14-18 with digital and entrepreneurial skills by 2027 through an online learning programme on the circular economy. The project supports *Action 13 – Encourage women's participation in STEM* of the European Commission's Digital Education Action Plan[2] and contributes to closing the gender gap when it comes to the number of women active in the digital and entrepreneurial sectors in Europe. Dismantling gender stereotypes and raising awareness of the opportunities that STEM disciplines offer is crucial to change the current perception of the digital industry and STEM disciplines amongst girls and young women. This endeavour will not only contribute to a more inclusive Europe but also invite innovative perspectives, leading to better opportunities for everyone.

At the core of the project is the **Circular Learning Space (CLS)**. An online learning platform including multiple modules that impart digital skills while exploring the circular economy from different angles. While the activities proposed challenge students to use digital tools to complete assignments, the focus on the circular economy provides knowledge about the big challenges of our time, empowering students to become agents of change in the socio-ecological transition.

[1] https://digital-strategy.ec.europa.eu/en/library/women-digital-scoreboard-2020
[2] https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en

- Although the project focuses on girls, boys are also invited to participate in the learning programme, especially in mixed learning environments: we all learn together to deconstruct gender stereotypes and biases, and we all need digital skills for our lives and careers. When presenting the project activities to a mixed class environment, your male students might ask you: why only girls? Is the project excluding us? This is an understandable reaction and an excellent opportunity to address the topic. While it is needed that the project targets specifically girls to shed light on the problem and deconstruct gender stereotypes, it will have a greater impact if girls and boys work together to build a fairer and more equal society.

1.1 Project's objectives and Scope

The Girls Go Circular project aims to:

- Substantially contribute to EU gender diversity policy objectives by equipping girls with digital and entrepreneurial competencies. The project aligns with the competence areas 1-3 of the EU Digital Competence Framework 2.0.[3]
- Improve students' digital skills in alignment with proficiency levels 1-5 of the EU Digital Competence for Citizens Framework 2.1.[4]
- Teach the competencies needed to tackle sustainability challenges and support girls aged 14-18 in understanding the role of STEM disciplines in fostering sustainability.
- Advance digital education in the EU by complementing school curricula and supporting teachers with tools to facilitate learning in the classroom.

We encourage teachers to discuss gender equality with the students and to help them understand the importance of supporting the essential goal of closing the gender gap.

Having mixed working groups can lead to more efficient work.
Collaboration between boys and girls can contribute to deconstructing gender stereotypes and biases in both groups.

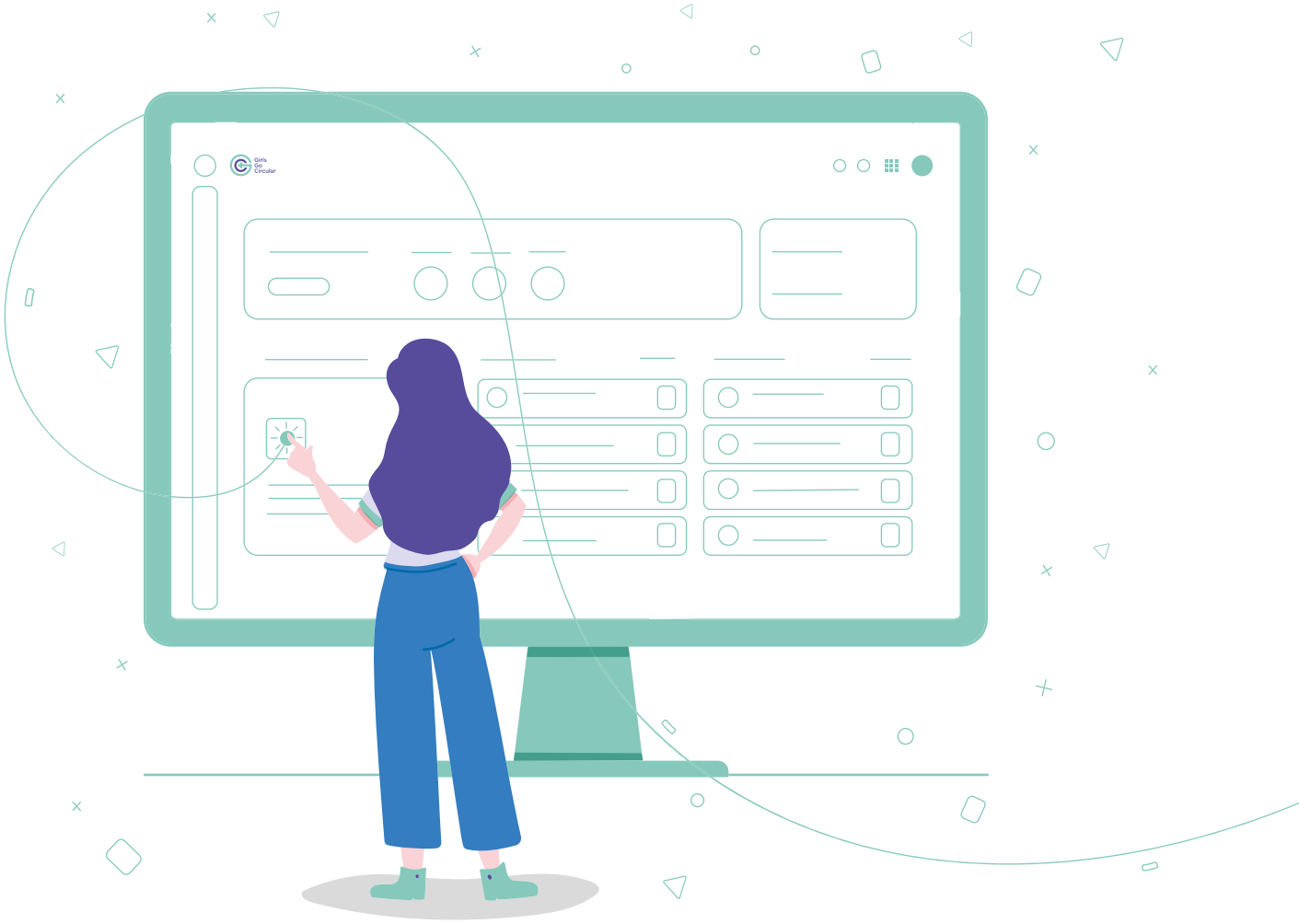
[3] https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework
[4] https://publications.jrc.ec.europa.eu/repository/handle/JRC106281

2. Introduction to the Circular Learning Space (CLS)

The Circular Learning Space is an open-source online learning management system. It offers learners the opportunity to work individually and in groups during online and in-person sessions. Furthermore, the CLS encompasses interactive learning modules on the circular economy, including entrepreneurial roleplays and challenge-based exercises to develop digital and entrepreneurial skills. To that end, the CLS offers a mix of videos, podcasts, learning materials and group challenges. In addition, the CLS supports teachers in conducting interactive and motivating classes, allowing them to easily follow students' progress on developing entrepreneurial and digital competencies.

The CLS is currently available in English, Bulgarian, Greek, Hungarian, Italian, Polish, Portuguese, Romanian and Serbian. Additional languages will be added as the project progresses.

The following paragraphs describe how to use the CLS successfully.



2.1 How to Join the Circular Learning Space?

The Circular Learning Space is an open-source tool - anyone can create an account and start learning. However, if you would like to join the CLS as a teacher and work with your students, the following steps are required:

Write an email to **girlsgocircular@eitrawmaterials.eu** requesting access to the platform, and we will generate a unique URL for your school/institution.

Then, using this special link, you can create your account and inform us about that. We will manually give you special teacher's rights on the platform. Through your teacher profile, you will be able to monitor your students' progress.

Following this, you will have to share this URL with your students and ensure that they use only this link to register for the platform. By using specifically this link, they will be automatically assigned to your school, which will give you the ability to monitor their progress.

- N.B. If your school is part of the project's outreach campaign promoted in collaboration with **Junior Achievement**, the JA staff in your country will collect your teacher data and send it to the project team on behalf of your school. You do not need to contact the Girls Go Circular team separately.

- Once you join the platform, you can explore the different learning modules. If you would like to start exploring the platform independently, you can also create a learner profile **here**.

- Some of the training activities require the use of additional apps to complete individual or group tasks. These might be, for example, a **Padlet** board to brainstorm or a **Prezi** canvas to prepare a presentation. We recommend that teachers familiarise themselves with these tools before starting the work with the students. The list of all the apps needed for each learning module can be found in the Teacher Guidebook Part 2, Chapter **1. Introduction to the Learning Modules.**

2.2 A Walk Through the Circular Learning Space

We encourage teachers to familiarise themselves with the platform in advance of the classwork. You can find a detailed description of the learning modules in the Teacher Guidebook Part 2, Chapter 1. Introduction to the learning modules. When working with students, teachers should also log in and progress through the navigation with them.

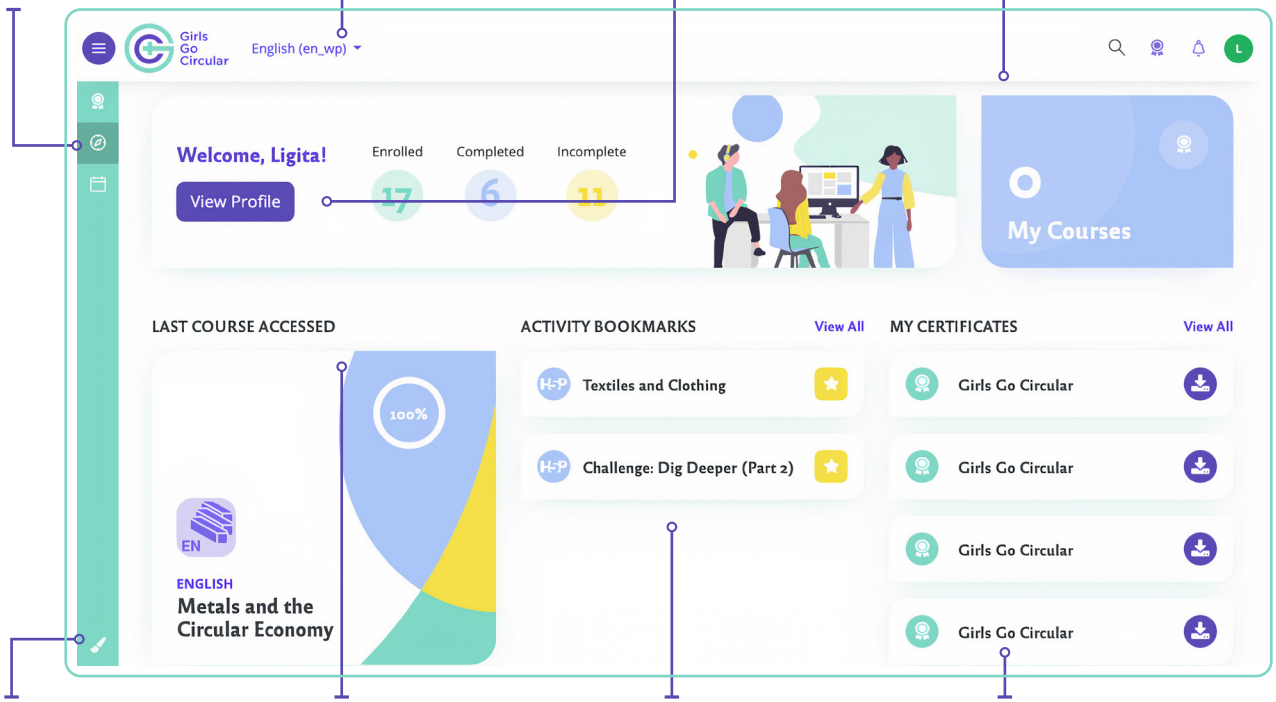
Here is an example of the dashboard view of the Circular Learning Space. This looks the same for every user.

Navigation bar
In this section you can find shortcuts to navigate the platform. This icon will always remain visible. You can come back to his page anytime by clicking on the compass icon

Language Menu
Here users must select their preferred language for the navigation

View Profile
Here users can see and edit their profile.
NOTE: users cannot interact with each other or view other people's profiles

My Courses
Here users can consult the list of learning modules



Pattern Picker
Here users can pick the preferred colour combination for the platform view

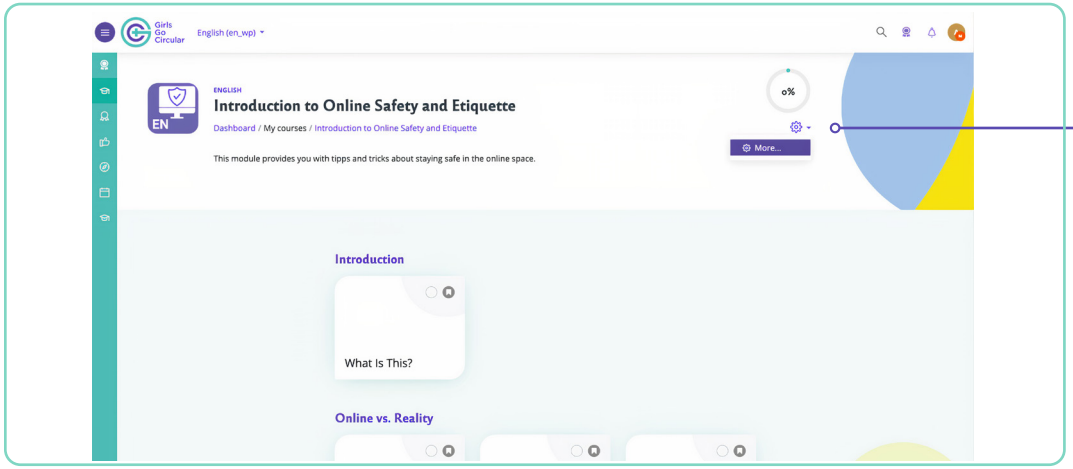
Last Course Accessed
From here users can return to the course they last accessed and continue their work

Activity Bookmark
Users can mark the tasks they would like to come back to, which will appear here

My Certificates
Once students complete a module successfully, they will obtain a certificate, which will appear here

Teachers **(if they follow the registration procedure above)** can monitor students' progress on the platform, as is shown below:

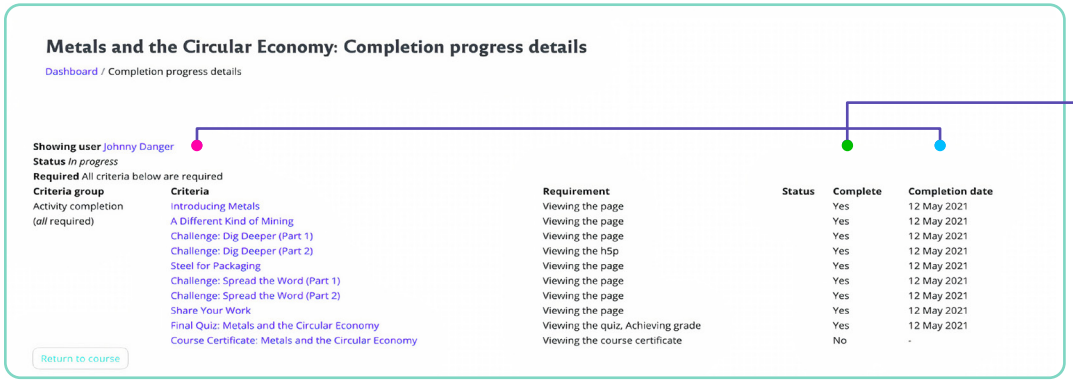
1



Enter a learning module. On the right top corner, you will find this gear icon. Click on it to open the drop-down list:

Course completion
Activity report
Course participation

2

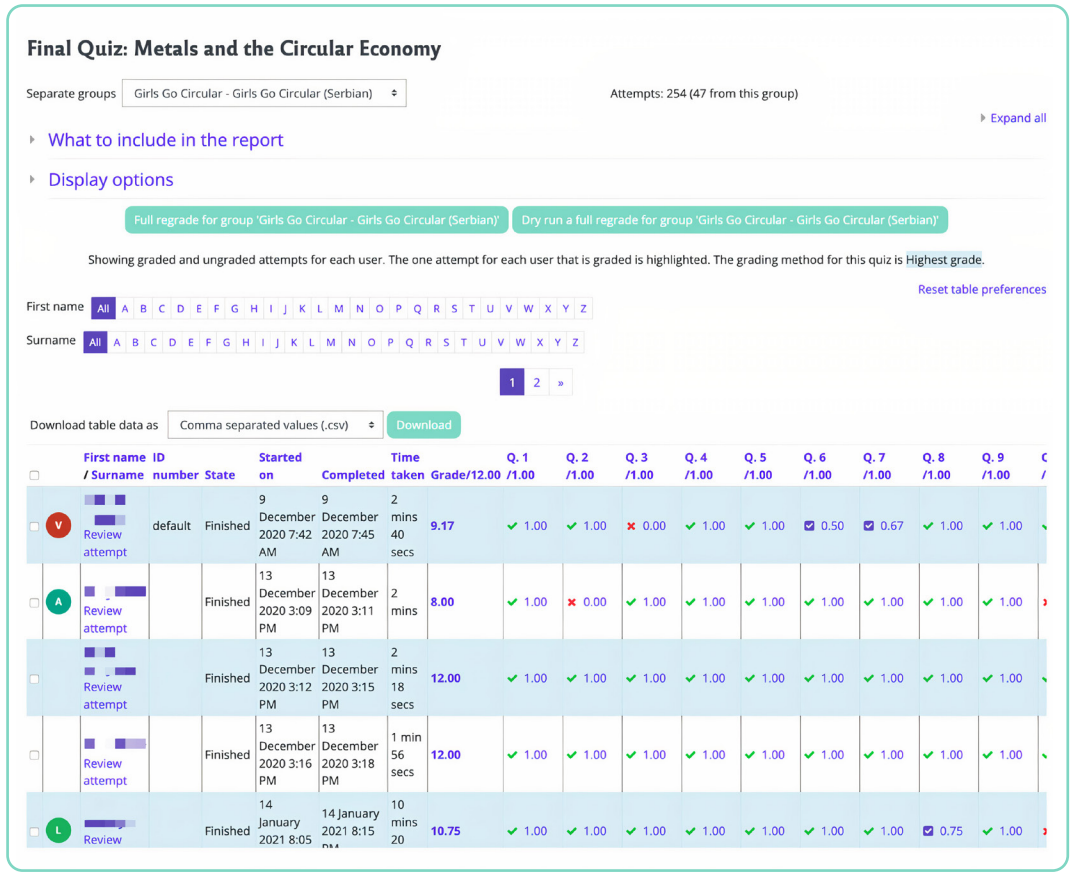


Click on Course Completion to find a list of your students, who have enrolled in the module. You can open each student's profile and check their progress.

Here you can see all the **lessons** of the module, if the students have **completed** them and what **date** they have done so.

You can review the quiz results in detail through the table below. You can monitor the performance of every student: how much time was spent on the quiz, which questions were answered correctly, etc.

3



Final Quiz: Metals and the Circular Economy

Separate groups: Girls Go Circular - Girls Go Circular (Serbian) — Attempts: 254 (47 from this group)

Expand all

What to include in the report

Display options

Full regrade for group 'Girls Go Circular - Girls Go Circular (Serbian)' | Dry run a full regrade for group 'Girls Go Circular - Girls Go Circular (Serbian)'

Showing graded and ungraded attempts for each user. The one attempt for each user that is graded is highlighted. The grading method for this quiz is Highest grade.

Reset table preferences

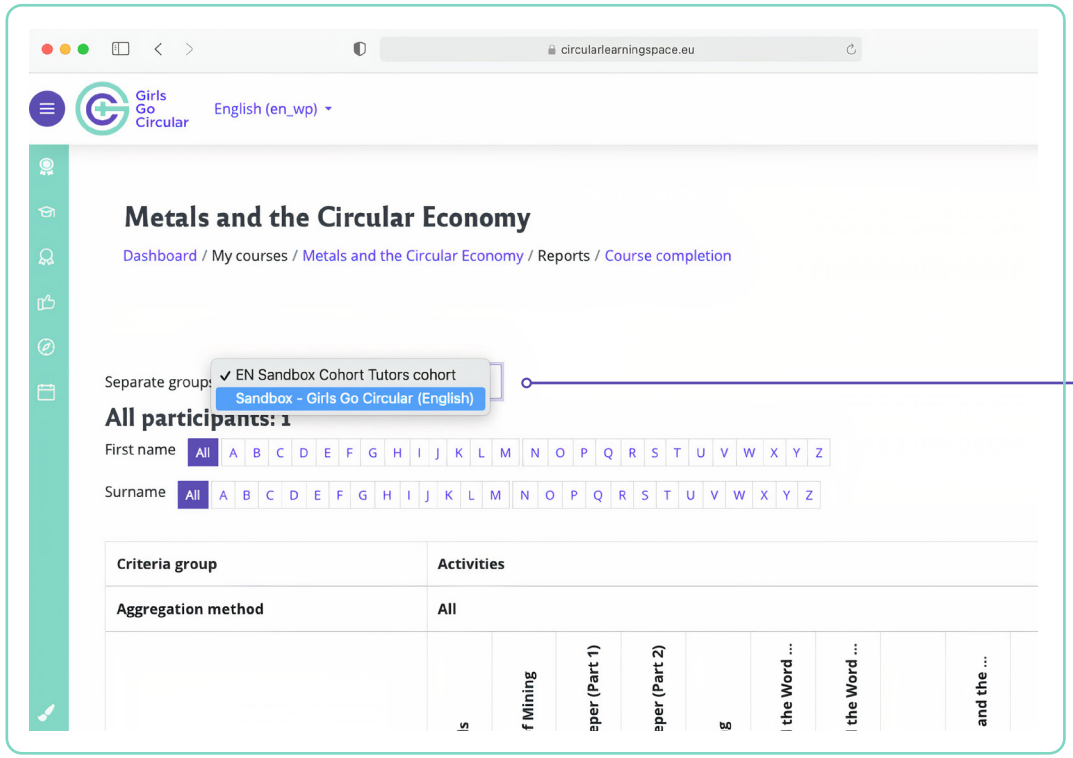
First name: All A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Surname: All A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 2 »

Download table data as: Comma separated values (.csv) Download

First name / Surname	ID number	State	Started on	Completed	Time taken	Grade/12.00	Q. 1 /1.00	Q. 2 /1.00	Q. 3 /1.00	Q. 4 /1.00	Q. 5 /1.00	Q. 6 /1.00	Q. 7 /1.00	Q. 8 /1.00	Q. 9 /1.00	C /
V [redacted] Review attempt	default	Finished	9 December 2020 7:42 AM	9 December 2020 7:45 AM	2 mins 40 secs	9.17	✓ 1.00	✓ 1.00	✗ 0.00	✓ 1.00	✓ 1.00	☑ 0.50	☑ 0.67	✓ 1.00	✓ 1.00	
A [redacted] Review attempt		Finished	13 December 2020 3:09 PM	13 December 2020 3:11 PM	2 mins	8.00	✓ 1.00	✗ 0.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	
[redacted] Review attempt		Finished	13 December 2020 3:12 PM	13 December 2020 3:15 PM	2 mins 18 secs	12.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	
[redacted] Review attempt		Finished	13 December 2020 3:16 PM	13 December 2020 3:18 PM	1 min 56 secs	12.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	
L [redacted] Review		Finished	14 January 2021 8:05	14 January 2021 8:15	10 mins 20	10.75	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	✓ 1.00	☑ 0.75	✓ 1.00	



If you cannot see the list of your students in the system, please make sure you have chosen the correct group. The correct title of the group each teacher needs to select is: **SCHOOL NAME** – Girls Go Circular **(CHOSEN LANGUAGE)**

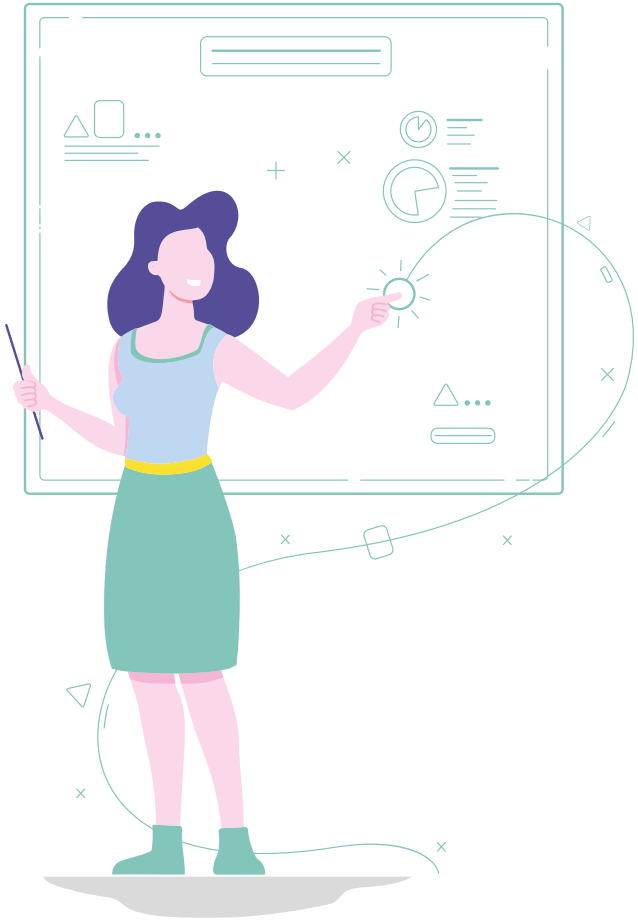
3. Facilitating the Work in the Classroom

3.1 What is the Role of Teachers?

As a teacher, you play a fundamental role in guiding students through the learning programme, supporting them in navigating the online learning platform and advancing their learning. But, more importantly, as a teacher, you will help your students take a leading role in tackling socio-economic challenges and gaining essential skills for their future.

The Circular Learning Space supports schools in Europe in the transition to digital education. The CLS will enrich the school curriculum by introducing new methodologies designed to deliver **knowledge on the circular economy, digital and entrepreneurial skills**. As an educator, you will also acquire digital competencies by mentoring your students in an online learning environment and supporting them in using digital tools.

- SELFIE (Self-reflection on Effective Learning by Fostering the use of Innovative Educational Technologies) is a free tool designed to help schools embed digital technologies into teaching, learning and assessment. SELFIE **anonymously gathers** the views of students, teachers and school leaders on how technology is used in their school. This is done using short statements and questions and a simple 1-5 answer scale. The questionnaire takes around 20 minutes to complete. The tool generates a report of a school's strengths and weaknesses in their use of technology. You can complete a self-reflection with your class (or school) to assess the strengths and weaknesses that require more attention before starting with the Girls Go Circular learning programme. The tool is available in 30 languages. For more information and to take the test, click **here**.



3.2 General Introduction to the Learning Modules

The CLS encompasses two groups of learning modules:

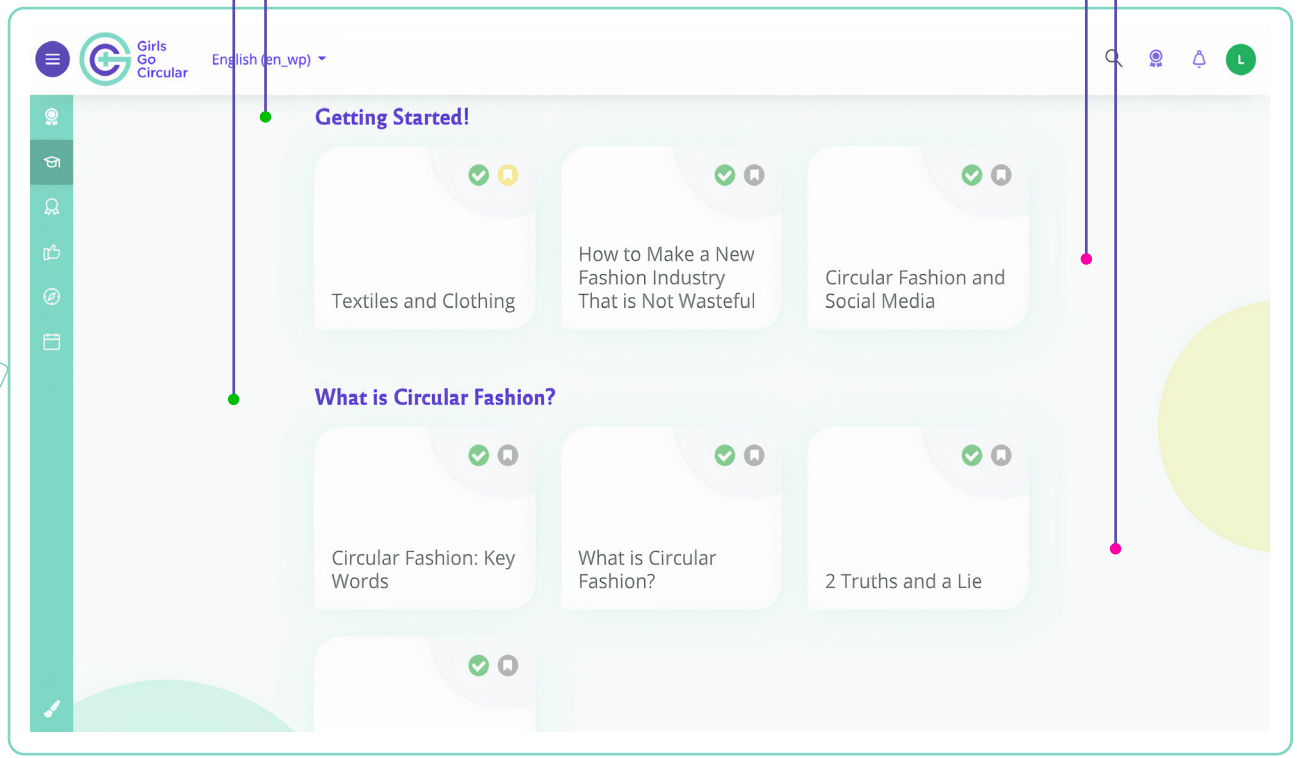
- Introductory modules give students basic information to commence their learning. We strongly recommend starting with these modules before moving on to the thematic modules:
  - Introduction to Online Safety and Etiquette
  - Introduction to the Circular Economy
- Elective modules focus on specific aspects of the circular economy and guide students through the activities and challenges to train their digital skills:
  - Metals and the Circular Economy
  - Fashion and the Circular Economy
  - Rethinking Plastics
  - A Circular Economy for Smartphones and Electronic Devices
  - Robotics and the Circular Economy
  - E-Waste and the Circular Economy
  - Circular Economy of Food in Cities
  - Tackling Climate Change Through Circular Consumption

Detailed descriptions of the learning modules and guidance on facilitating work in the classroom can be found in the second part of this guidebook - Teacher Guidebook: Introduction to the Learning Modules .

3.3 Summary of the Teaching Plan

As explained below, every module is divided into several units and lessons, guiding students through an incremental learning process.

When entering your selected module, you will see that it is divided into separate **Units**. Each Unit consists of several **Lessons**. Within each lesson, you will find the suggested time needed to complete the proposed activities.



The table below summarises the different activities needed to reach the minimum learning requirement according to the Girls Go Circular project methodology.

ELEMENT	DESCRIPTION	ROLE OF THE TEACHER/ FACILITATOR
Pre-reading (Can be done individually at home)	Introduction to Online Safety	Ask students to sign up to the platform the day before class activities and complete this module.
Introduction	Introduction to the Circular Economy, with reflections by students and a research challenge.	Guide students through the main concepts and reflect on the transition to a circular economy.
Dive into the topic	Based on the chosen module, students learn about different aspects of the circular economy. Simultaneously, they carry out engaging challenges (in a group or singularly) to acquire digital skills.	Ensure that students understand the topic and the challenges proposed.
Putting the Skills into Practice	Students use digital tools to consolidate knowledge on the selected topic. Finally, they go through a multiple-choice quiz to assess the knowledge and competencies acquired.	Support the students in using the digital tools recommended and completing the tasks successfully and within a set time frame.
Feedback	Teachers and students are invited to give feedback on the learning programme.	Ensure that students compile the feedback forms.

- The time indication is just a suggestion. Teachers can decide how to plan the learning and how much time to spend on each unit or lesson.

- In order to allow enough time to complete the learning programme, we recommend reserving at least 4-5 hours. Alternatively, teachers can also plan for implementing the programme over a longer period.

3.4 Preparations

Before starting the activities in the classroom, we recommend that teachers go through the following steps:

1. Go to **www.circularlearningspace.eu** and familiarise yourself with the platform.

2. Depending on the selected thematic module, review the Teacher Guidebook Part 2, Chapter **1. Introduction to the learning modules.**

3. Download and test the apps that students will be required to use during the learning activities.

4. Make a plan based on the tasks from the chosen module. Consider the indicative timings set for each task.

5. Ensure that students have all they need to start - access to a computer/smartphone and the necessary apps.

6. Review the online safety introduction and ask your students to read it in preparation for the workshop.

All the learning modules include short videos. Depending on your classroom setting, it is recommended to project these videos on a big screen so that students can watch them as a group. If the chosen learning module foresees activities that require working in groups, we invite you to think about the group allocation in advance.

- Please remember that the Girls Go Circular project aims to reduce the digital gender gap; therefore, if your class is mixed, you should address the importance of this issue with your students and point out the significance that boys also support this endeavour. Therefore, it is crucial to explain the necessity of the programmes deliberately addressing gender equality, ultimately leading to a better Europe for everyone.

3.5 Working in Groups

During group work, teachers should monitor and assist students. Observe the different groups and ensure that students make progress and collaborate.

In the time dedicated to reflections, encourage students to think back on what they have learned and how it impacts their lives.

Once they complete the final assignment, it is essential to acknowledge students' engagement and their achievements.

- After completing the learning programme, students should fill out the feedback form they will find on the CLS. Please make sure that they take the survey after completing the learning programme.

3.6 Certificates for Students, Teachers and Schools

The successful completion of the learning programme will grant students certificates that recognise the skills and competencies they have acquired. The CLS will automatically generate these certificates and send it to the email addresses students used to create their accounts.

Teachers that participate in the project will also be granted a certificate recognising their contribution to reaching gender equality in STEM.
Finally, schools will be given visibility on the project's website as the pioneers in Europe supporting the European Commission's Digital Education Action Plan[5].
If desired, a digital certificate can also be issued in the name of the school.

- Please keep in mind that students shall complete **both Introductory Modules and at least one Thematic Module** to receive a certificate.

- If you would like to receive support or training on the project and the learning modules, please contact **girlsgocircular@eitrawmaterials.eu**

[5] https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en

Girls Go Circular

Teacher Guidebook Part 2:
Introduction to the Learning Modules

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1. Introduction to the Learning Modules

Welcome to the Teacher Guidebook Part 2: Introduction to the Learning Modules. This is the second part of the Teacher Guidebook and gives teachers concrete tips and tricks to support their students in working with the Circular Learning Space.

The CLS is an online learning platform designed to improve secondary school students' digital skills while exploring the critical topic of the circular economy. This particular part of the Teacher Guidebook will introduce and analyse the different learning modules encompassed in the CLS.

- We advise you to read the first part of the **Teacher Guidebook Part 1: Introduction to the Project and the Circular Learning Space** before moving to this part.

The CLS encompasses two groups of learning modules:

Introductory Modules	Thematic Modules
The Introductory Modules on Online Safety and Etiquette and the Circular Economy give students basic information to begin the learning and set the tone for its progression. We suggest starting with these before accessing the elective modules. They are mandatory for the students to complete the learning programme and receive a certificate.	The CLS offers different elective Thematic Modules. They can be considered the backbone of the learning process. Each of them addresses a particular aspect related to the circular economy and encompasses activities to advance students' digital skills. The modules are designed to be carried out collaboratively in a virtual or in-person classroom environment.

It is important to remember that students must complete:

Introduction to Online Safety and Etiquette

+

Introduction to the Circular Economy

+

At least one thematic module.
Note, that the thematic module is considered completed when all the lessons are done and the final quiz score is 75% or more.

A set of these three modules is mandatory for the students to complete the learning programme and receive the certificates.

If students did not pass the quiz of the thematic module on the first try, they can repeat it as many times as they need to. Consequently, you, as a teacher, can monitor students' quiz attempts and see which questions were most tricky for your class.

- A Chapter **2.2 A Walk Through the Circular Learning Space** in the first part of the Teacher Guidebook, has an example of the teachers' view and navigation how teachers can monitor students' progress.

2. Learning Modules

2.1 Introductory Modules

The introductory modules lay the foundation of the learning programme. They give students an understanding of how to use the Internet safely and teach them basic circular economy concepts, which will be fundamental to continue working on the thematic modules.

- We strongly advise students to complete the Introductory Modules before progressing to the Thematic ones.

Introduction to Online Safety and Etiquette

Description	This module introduces students to the Internet's dangers and pitfalls and explains how to behave correctly and avoid risks. It is mainly composed of interactive readings and videos presenting how to protect personal data, creating strong passwords, and detecting fake news.
Module Duration	30 minutes
Required digital tools	-
Required preparation	Internet access and ICT device. This module can be completed at home, individually, before the classwork.

Introduction to the Circular Economy

Description	This module presents the basic concepts of the circular economy to students. It shows the main problems related to the current linear economic approach and offers ideas to transition to a circular economy.
Module Duration	45 – 60 minutes
Required digital tools	▪ Mural ▪ Dropbox or Google Drive ▪ Google Slides, Microsoft PowerPoint, Slideshare, Prezi
Required preparation	▪ Internet access and one ICT device per student. ▪ Before starting, teachers should familiarise themselves with the module and select a shared online storage space (Google Drive, Dropbox, etc.) where students can upload their presentations.

2.2 Thematic Modules

Metals and the Circular Economy

Description	A new approach is needed for the mining and metals industry. The high value of many metals and the environmental cost of their extraction makes it imperative to recycle, recover and reuse them. This module illustrates how metals can be extracted and used more sustainably.
Module Duration	3 hours
Required digital tools	▪ Mural ▪ Dropbox or Google Drive Google Slides, Microsoft PowerPoint, Slideshare, Prezi, Storyboarder Social Media platform: TikTok, Instagram, Facebook, YouTube, Twitter
Required preparation	▪ Internet access and one ICT device per student. ▪ Before starting, teachers should familiarise themselves with the module and select a shared online storage space (Google Drive, Dropbox, etc.) where students can upload their presentations.

Below you can find some valuable suggestions, divided per lesson, on preparing and facilitating the work in the classroom.

Lesson 1:

Why are Metals Important?

This introduction to metals invites students to start a discussion and think about their smartphones. Teachers can ask them to think of different ways to keep the metal components in use and prevent them from ending up in a landfill. Students can list their ideas on Mural, sticky notes or just share them orally.

Here are some ideas in case students need help:

- Pass on/sell/share the phone with others.
- Repair the phone.

- Take the old phone to a dedicated collection point so that the metals are recycled.
- Manufacturers should design phones so that they can be easily and quickly taken apart and their components replaced.
- Put incentives in place to ensure smartphones are returned to manufacturers.
- Make manufacturers responsible for any waste their products create.

Challenge: Dig Deeper (Part 1)

In this challenge, students conduct research and create a digital slideshow using one of the following tools: Google Slides, Microsoft PowerPoint, Slideshare or Prezi. Teachers can select one software for all or let students choose.

- Our advice would be to let students explore on their own and pick their favourite digital tool. They should choose one in advance to the day of the challenge, create an account or install the software if needed.

Challenge: Dig Deeper (Part 2)

Once ready, ask students to upload their presentations on the shared folder, allowing groups to view each other's work. Then, display each group's work on a central smartboard/screen for teams to present one by one.

Challenge: Spread the Word (Part 1)

Remind students that they will be creating their slideshows on a chosen software. Monitor the groups to ensure they are on track and that all the students in a group are actively involved.

Challenge: Spread the Word (Part 2)

For this challenge, students must have access to social media apps. The main aim of this activity is to stimulate their creativity in using digital tools to communicate effectively.

Teachers should keep in mind that students must:

- Select the appropriate platform for a given target audience
- Think of ways to create engaging posts (design, feel, tone, language, text-based, image-based, or video-based)
- Decide on the content (what to say and how to say it)
- Is there a call to action? (Guiding questions could be: Are you asking people to do something? Or are you just hoping to inform them?)

Set the scene for the task. To make it more interesting, organise a competition. For example, you can pretend to be the CEO of Making Metals Circular and create a roleplay in which the marketing team presents their social media pitch. You can also opt for a class vote of their favourite campaign.

Do not forget to ask students to share their social media campaign plan in the shared storage system you set up before the class.

- **IMPORTANT:** Students should create ad-hoc social media profiles where they do not share their data. They should not use their personal social media account!

Fashion and the Circular Economy

Description	Clothes and textiles should have a higher utilisation rate and re-enter the economy after use instead of ending up in a landfill. Learn about the concept of circular fashion and its impact on the economy and the environment, and create your own business model.
Module Duration	2 hours and 15 minutes
Required digital tools	▪ Mural ▪ Miro ▪ Dropbox or Google Drive ▪ Google Slides, Microsoft PowerPoint, Slideshare, Prezi, Storyboarder ▪ Social Media platform: TikTok, Instagram, Facebook, YouTube, Twitter
Required preparation	▪ Internet access and one ICT device per student. ▪ Before starting, teachers should familiarise themselves with the module and select a shared online storage space (Google Drive, Dropbox, etc.) where students can upload their presentations. ▪ This module encompasses several interview videos, which, if possible, we advise to watch together as a group on a big screen.

Lesson 3:

Circular Fashion and Social Media

This activity is excellent for group work and entrepreneurial skills training. Teachers can suggest that each student looks up a different influencer or organisation to cover plenty of ground collectively. Each group should work on **one** Mural or Miro board to create a mind map gathering all their ideas.

Lesson 5:

What is Circular Fashion?

Teachers can use this video to encourage a discussion. For example, students could be asked to debate the question: **What is one thing you will commit to doing?**

Challenge: Your Turn!

Students shall plan and create a social media profile. Then, they should launch an online campaign that informs and inspires young people about a particular topic of their choosing. Finally, the class is supposed to follow the tips and questions mentioned in the video.

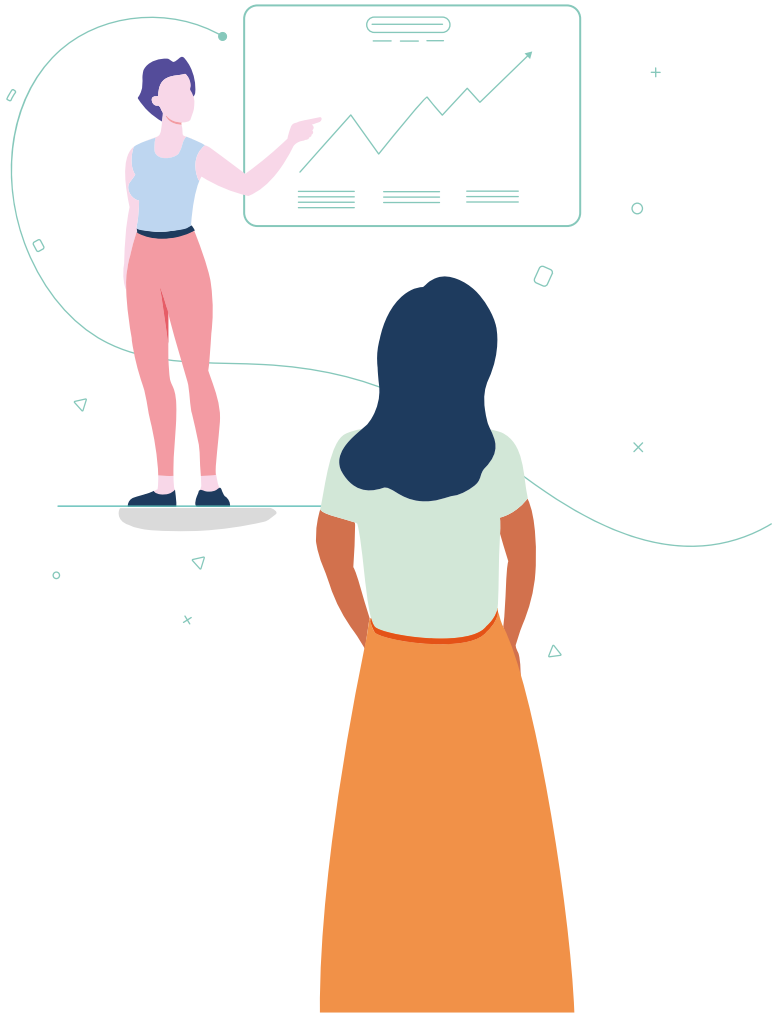
Challenge: Let's do this!

This challenge aims to develop a new business model that tackles the issue of disposable masks.

As the facilitator of the challenge, monitor the groups to keep track of time. Teachers should remember that the main aim of these activities is for students to use digital tools actively and communicate effectively.

Remind students to share their social media campaign plan in the shared storage system. Set the scene for their presentations and encourage them to impress the audience!

- **IMPORTANT:** Students should create ad-hoc social media profiles where they do not share their data. They should not use their personal social media account!



Rethinking Plastics

Description	Building a circular economy for plastics requires a complete rethinking of how **plastic items** are designed and used. Research the benefits and problems of using plastics, discover solutions to tackle the global plastic waste crisis and propose alternatives for producing goods without plastic packaging.
Module Duration	2 hours and 45 minutes
Required digital tools	▪ Mural ▪ Dropbox or Google Drive ▪ Google Slides, Microsoft PowerPoint, Slideshare, Prezi, Storyboarder ▪ Social Media platform: TikTok, Instagram, Facebook, YouTube, Twitter
Required preparation	▪ Internet access and one ICT device per student. ▪ Before starting, teachers should familiarise themselves with the module and select a shared online storage space (Google Drive, Dropbox, etc.) where students can upload their presentations.

Lesson 1:

A Closer Look at Plastics

This lesson introduces group work. Before starting this lesson, teachers could ask students to share their brief opinion about plastics – **should they be banned?** Many students may think that this is the best solution to the plastics' problem, but they will understand later that it is not that simple.

Following that, teachers should continue with the task on this first lesson and ask students to research the benefits and problems of plastics. Once the task is complete, start a broader discussion on the same reflection question: **Should we ban all plastics completely? Is this the way forward?**

Invite students to think carefully about the potential consequences and analyse how their opinions have changed.

Challenge: Researching Solutions (Part 1)

This challenge trains students' online research and presentation skills. The primary source of information for this challenge is **The Ocean Plastic Innovation Challenge.**

"The Ocean Plastic Innovation Challenge, a key component of National Geographic and Sky Ocean Ventures' partnership to reduce plastic waste, asks problem-solvers from around the globe to develop novel solutions to tackle the world's plastic waste crisis."

For the best entrepreneurship experience, students should work in groups. Also, teachers can suggest that each group member can look up different finalists to cover plenty of ground collectively.

Teachers should monitor the groups to ensure students stay on track during their research and actively contribute.

Challenge: Researching Solutions (Part 2)

Once the presentations are ready, ask students to upload them to a shared folder. Then, display each group's work on a central smartboard/screen so that everyone can see it while they present.

- Our advice would be to let the students explore on their own and pick the digital tool they would like to use. They should choose one in advance of the day of the challenge, create an account or install the app as needed.

Challenge: Chocolate Bar Redesign (Part 1)

For this challenge, students should have access to various materials such as pens, paper, cardboard, even LEGO building blocks might be helpful. As the challenge facilitator, inspire them to use digital tools and suggest using different materials to build prototypes and create scenarios. Students should use the materials available to bring their ideas to life. Encourage groups to assign roles and share workload effectively to maximise the use of the time. (The videos can be taken on phones or tablets.)

Challenge: Chocolate Bar Redesign (Part 2)

If students have already watched the video in the previous lesson, or if it is possible to dedicate more time to this module, use this opportunity to complete the bonus activity outlined in this lesson.

- "<...> use this time to identify a person or an organisation that you would ask to share your video on social media. Include your choice in your final pitch, explaining why you have chosen this person or organisation."

Lesson 8:

Share Your Work

This lesson completes the Chocolate Bar Redesign Challenge. It also includes few valuable tips on how to deliver the presentation.

Before asking students to share their presentations, teachers can use this lesson to check if they have fulfilled all the requirements.

- **SUGGESTION:** To model a dynamic working environment, teachers could initiate a brief Q&A after each presentation. Try to give everyone a chance to speak, especially those who haven't been the group spokespeople.

A Circular Economy for Smartphones and Electronic Devices

Description	Mobile phones contain a lot of precious metals and minerals. Therefore, we must keep them working as long as possible and ensure that the raw materials that constitute them are recycled, reused or disposed of properly. This module explores the impact of smartphones and other electronic devices on the environment and presents ideas to create a circular economy for ICT appliances.
Module Duration	4 hours
Required digital tools	▪ Mural or Miro ▪ Dropbox or Google Drive ▪ Google Slides, Microsoft PowerPoint, Slideshare, Prezi, Storyboarder ▪ Social Media platform: TikTok, Instagram, Facebook, YouTube, Twitter
Required preparation	▪ Internet access and one ICT device per student. ▪ Before starting, teachers should familiarise themselves with the module and select a shared online storage space (Google Drive, Dropbox, etc.) where students can upload their presentations. ▪ This module encompasses several interview videos, which, if possible, we advise you to watch as a group on a big screen.

Challenge: How Circular is your Smartphone?

Students are required to design a circular ranking system for their smartphones. They shall also create social media profiles to show and compare their rankings.

Make sure that students understood the video's key concepts. For example, NPS (Net Promoter Score) is mentioned in the video. NPS is a concept that many companies use and may be unknown to some students.

- **IMPORTANT:** Students should create ad-hoc social media profiles where they do not share their data. They should not use their personal social media account!

- Net Promoter Score is a widely used market research metric that typically takes the form of a single survey question asking respondents to rate the likelihood that they would recommend a company, product, or service to a friend or colleague.

Read more about **NPS here** (in English).

Lesson 8:

New Business Models

After watching the video, it may be helpful to invite students to share their thoughts about their business model with the entire class. Then, reinforce the learning by asking: what were the key points?

Lesson 9:

Circular Economy Approaches for Smartphones

This activity is made up of a series of videos presenting examples of companies with innovative business models in the following areas:

- Sourcing of materials and manufacturing.
- Life extension, focusing on a modular design.
- End of life management and recycling.

Depending on time availability, you can watch these videos together as a group, ask students to go through all of them individually or invite each group to focus on a specific company and later explain what that company is doing to the rest of the class. If you choose the latter, encourage students to use Mural or Miro to map their ideas.

The goal is to show students different creative, practical examples, and new business models.

- You may ask students to carry out the challenges in smaller groups by dividing the blog writing and business development elements and then bring them back together. If the activities are too challenging, you can restrict the scope, asking students to focus only on some items, or assigning specific questions to specific groups.

Challenge: A blog is worth a thousand phones

This challenge focuses on raising awareness of circular economy strategies in the smartphone industry by creating a blog post.

- Teachers should monitor the groups and make sure they stay on track during their research and teamwork.
  Remind students to upload their plan to the shared storage system. Set the scene for their presentations and encourage them to impress the audience!

Challenge: Let's make a change

This challenge focuses more on business development. Students are required to develop a business idea for reusing old, semi-obsolete phones, tablets, or any other electronic devices to create interactive murals (video walls or screen walls) in hospitals, schools, shopping centres and other public places.

The questions are inspired by Alexander Osterwalder's Business Model Canvas:

<table>
<tr><td rowspan="2">Key Partners</td><td>Key Activities</td><td rowspan="2">Value Propotition</td><td>Customer Relalationships</td><td rowspan="2">Customer Segments</td></tr>
<tr><td>Key Resources</td><td>Chanels</td></tr>
<tr><td colspan="2">Cost Structure</td><td colspan="3">Revenue Streams</td></tr>
</table>

- The main goal is that students get familiar with business plan development and train their entrepreneurial skills.

Students can recreate and fill in their business model canvas using Mural.

2.3 Advanced Learning Modules

Based on a "learning-by-doing" model, the advanced modules listed below will support the participating students in developing advanced digital skills aligned to the competence areas of the DigComp 2.1[1].

Robotics and the Circular Economy

Description	We are currently living in the new era of Manufacturing, a so-called **Industry 4.0,** in which innovative technologies such as Robotics and Artificial Intelligence play an essential part. Industry 4.0 bears enormous opportunities to enable a circular economy where end-of-life products are reused, remanufactured, and recycled. Throughout this module, students will learn and understand how these technologies change the industry to make it more sustainable..
Module Duration	3 hours (Completing one challenge) 4 hours and 30 minutes (Completing both challenges)
Required digital tools	▪ Miro ▪ Vectr ▪ BotSociety ▪ Dropbox or Google Drive
Required preparation	▪ Internet access and one ICT device per student. ▪ Before starting, teachers should familiarise themselves with the module and the challenges and select a shared online storage space (Google Drive, Dropbox, etc.) where students can upload their presentations.
Choose Your Challenge	Students can choose between two challenges. It is highly recommended that they read through both challenges since two final assessment questions are related to these challenges. It is advised to discuss both challenges in the class to understand the requirements and ideas behind them.
Challenge A: May I Help You?	In this challenge, students have to develop a Chatbot related to Manufacturing by using BotSociety. Teachers are advised to analyze the scenario of the challenge thoroughly together with the students. Invite students to put themselves in the client's shoes to create the most helpful and accurate Chatbot.
Challenge B: Design Thinking Your Robot	In this challenge, students will learn how robots support the circular economy in Manufacturing by sorting out recyclable materials. The challenge requires students to design a robot that sorts items for recycling using the Design Thinking Methodology: a thought process created to solve a specific problem by brainstorming possible products.

Lesson 1:

Robotics, Manufacturing & AI

Use this introduction to Robotics, Manufacturing and AI to discuss with students and invite them to brainstorm about the tasks robots can complete and how they can be introduced in Manufacturing. You could ask them to share their ideas orally.

Here are some examples of questions for the students:

- What is a robot?
- What kind of robots do you know?
- What kind of tasks can robots complete?
- What do you know about AI?
- What is Manufacturing?
- How can robots be incorporated into Manufacturing?

Lesson 5:

Looking for Keywords

Students should form small groups or pairs. They shall click on the image's hotspots to discover the keyword, research its meaning, and present these definitions to the class.

If they have trouble finding the meaning of the terms, here are some websites containing the definition of the field's (Robotics, Manufacturing, and AI) essential terms (content is provided in English):

- Robotics Terms
- Manufacturing Terms
- AI Terms

Lesson 9:

Inspiring Women in Robotics

- This lesson introduces three empowering women and their impact on the Robotics field. Teachers are invited to use this opportunity to start a discussion about entrepreneurship, interest in technological careers and gender stereotypes in this field.
- There are some ideas for the discussion:
- Did you know these women? What surprises you most about them?
- How do you think their work will impact the world? And the future?
- How can the role of women benefit the Robotics industry?

Information about some organizations in the field can be found at the links below.
(EU Robotics, International Federation of Robotics (IFR), OECD, Partnership on AI. DeepMind Ethics & Society, Carbon Robotics, Robotics Business Review, Forbes 30 under 30)

Choose Your Challenge

Teachers should announce that students have to choose between two challenges. They shall at least read both (even if they decide to do only one of them) because there are two questions related to both Challenges in the Final Assessment.

Challenge A: May I Help You?

This challenge invites students to develop a Chatbot related to Manufacturing by using BotSociety.

As a teacher, you should explain the context to ensure that students understand the challenge and what is required to complete it successfully. Emphasize that students should analyze the client's needs accurately in order to create the most helpful and accurate Chatbot.

They need to understand what and why is being returned, evaluate if reverse logistics can be used according to the info provided by the client (e.g., delivery date, weight, guarantee, dimensions, value) and suggests possible outcomes and actions.

- **Do not forget** to ask students to share their results in the shared storage system you set up before the class.

Challenge B: Design Thinking Your Robot

This challenge reveals how robots can help the Manufacturing field by sorting out recyclable material and improving the circular economy.

Before starting, the class could briefly discuss how students at home sort recyclable materials. If they do not do that – invite students to share their thoughts on why not.

In this challenge, students have to design a robot that does precisely that - sort items to be recycled at home. They will plan their ideas using Miro and develop the robot prototype in Vectr.

As a teacher, you should encourage students to think about the recycling dynamics - what goes into which container, how items can be sorted according to the materials or colour, etc.

Students should design the robot using the Design Thinking Methodology: a thought process created to solve a specific problem (sorting items for recycling) by brainstorming possible products (different robot designs).

Although the steps of this thought process are defined in the module, it would be beneficial if you, as a mentor, would go through it together with the students.

- **Remember, these are only general guidelines. Therefore, although it is enough to complete one challenge for the students to receive the certificate, you, as a teacher, can freely decide to add both challenges to your teaching plan.**

E-waste and the Circular Economy

Description	This module looks at the growing problem of E-waste. It explores the importance of improving the collection, sorting and recycling of E-waste as well as the role a circular economy can play in eliminating waste in the first place.
Module Duration	2 hours and 30 minutes (Completing one challenge) 4 hours (Completing both challenges)
Required digital tools	▪ Miro ▪ Wix ▪ Inkscape
Required preparation	▪ Internet access and one ICT device per student. ▪ Before starting, teachers should familiarise themselves with the module and the challenges and select a shared online storage space (Google Drive, Dropbox, etc.) where students can upload their presentations.

Challenge 1: Build Your Own E-waste Solutions Website Page	In this challenge, students should work in teams of 3-4 and build a website to inform people of the potential solutions to the growing E-waste problem.
Challenge 2 (Optional): Design Your Own Circular Product **90 mins**	In this challenge, students shall design a circular electric or electronic product. Once this is done, they will build a brand around it by creating a website homepage representing their innovative circular product.

Lesson 1:

What is E-waste?

After watching an introduction video, teachers could make the learning more accurate for the students by quickly scanning the classroom or environment they are in. How many different items can they see around them that would be considered E-waste if they were thrown away? This can include things they might have on them such as phones, tablets etc.

Lesson 3:

E-waste Problems and Solutions

Teachers shall ask students to answer the question prompt collectively on Miro. For this exercise, students can be divided into smaller groups.

Question prompt: : We can't just stop using electric and electronic equipment; they are an essential part of modern life. So what can we do?

Afterwards, teachers could use these two discussion points to encourage a dialogue among the students:

- Which of the possible solutions you have heard about so far are the most likely to succeed, in your opinion?
- Are there any other possible solutions?

Lesson 4:

Recycling E-waste

The last exercise of this lesson is an E-waste calculator. Teachers are welcome to use it as a homework activity for students.

Lesson 7:

What Have We Learned?

Either as a whole class or in groups, pick 2-3 discussion points from the list. Encourage students to capture notes of the key points raised on their Miro board. You may find that students have a strong opinion on some of these.

A homework task could be to create a 1 minute video presentation in which students express their thoughts on one of these topics.

Challenge 1: Build Your Own E-Waste Solutions

It is recommended to place students in teams of 3-4. Then ask the teams to build a website that aims to inform people of the potential solutions to the growing E-waste problem.

Things that students need to include in the website:

- A brief introduction to E-waste and the problems associated with it
- Why do we need to find solutions to the problem of E-waste?
- The range of possible solutions that exist (going beyond recycling to include other circular strategies)
- How we might design products differently so that materials stay in use and out of the landfill (i.e. design for a circular economy)

In the lesson, you will find the WIX website builder tutorial that has been created to support this challenge. Before diving into the challenge, students should watch this tutorial.

It may be that students have gained sufficient knowledge for this task from the module itself; however, you, as a teacher, should encourage further research outside of the module. **WEEE4Future** is a good resource, as is the **Global E-waste Monitor** report and **YouTube** for video content.

After the groups have built their websites, ask them to present it to the rest of the class. Encourage the other groups to provide feedback so that changes can be implemented.

Challenge 2 (Optional): Design Your Own Circular Product

This is a more advanced challenge for those with strong digital skills and who want to be more creative.

Students form groups of 3-4. Students will use a digital design/visualization tool to design a circular electric or electronic product for this challenge. Note: it is helpful for the students to sketch the designs first before making them digital.

This new product aims to ensure that its materials stay in use for as long as possible. Students have to take into consideration the points below:

- Durability
- Easy to repair
- Easy to upgrade
- Easy to take apart
- Functionality and appearance

As the facilitator of the challenge, explain to the students that once they have their newly designed circular product, now they will build a brand around it. That includes:

- Brand name
- Brand values
- Mission statement
- Logo

Moving forward, students should combine these two elements - circular product and the brand - by creating a website homepage that represents their brand while showcasing the innovative circular product.

Teachers can point students to the Inkscape and WIX tutorials before taking on this challenge.

Once they have completed the challenge, students are welcome to share their work with the rest of the class. We recommend having a Q&A session after the presentations so that the class members can give their feedback and offer advice.

Circular Economy of Food in Cities

Description	Cities – that's where 80% of food will be consumed by 2050, and most of the population will live. Today's linear cities experience an increasing demand for resources and diminishing supplies. Cities can be key drivers for circular change. By using circular economy principles, cities and the businesses and people in them have the power to transform the food system. Transitioning to a circular economy is not only about saving and reusing resources: it is about identifying and implementing innovative ways to make, share, maintain, reuse, remanufacture, and recycle products, materials, and energy.
Module Duration	2 hours and 50 minutes (Completing one challenge) 4 hours and 5 minutes (Completing both challenges)
Required digital tools	▪ Miro ▪ Dropbox or Google Drive ▪ Invision App ▪ Canva ▪ **Social media platforms: TikTok, Instagram, Facebook, YouTube, Twitter**

Required preparation	▪ Teachers and students should have internet access and their devices ready. ▪ Before starting, teachers should go through the module and familiarise themselves with it. ▪ Before starting the work with the students, teachers should choose one shared storage system (Google Drive, Dropbox, etc.) and create a folder where students can perhaps share their work.
Challenge A – Let's Design Together - Your Innovative Digital Solution to Help Your City Become More Circular	Students team up to prototype a digital product (mobile app) that improves the circularity of the food system in their city. A role-play simulates the entire production chain and guides the app's ideation and design process.
Challenge B – Social Media Campaign: Your Circular Economy of Food (Optional)	Building up on the mandatory challenge, students design a social media campaign to promote their innovative business idea and raise awareness on the circular economy of food in cities.

Lesson 3:

How Entrepreneurs are Fostering Circular Food Innovation in Cities

Students learn how circular entrepreneurs put their ideas to work in their communities around different countries and make the circular economy of food in cities a reality.

Dedicated inspirational videos and interviews are proposed related to different aspects of the circularity of food in cities. Students should take notes of what they find exciting and get ready to share their learnings.

- Please make sure that students watch the videos, as the final quiz will include questions about them.

Challenge A: Let's Design Together – Your Innovative Digital Solution to Help Your City Become More Circular

Students are asked to develop an innovative digital idea (a mobile app) related to food circularity in their city.

They may decide to help the city in:

1. Fighting food waste
2. Promoting alternatives to single-use packaging
3. Supporting correct waste segregation

They can find source inspiration from existing applications and solutions such as **Junker app, TGTG, Reloop Platform** and other case studies they have explored during the module (and the challenges and ideas that emerged from the brainstorming and reflection activities). They can find out more about possible opportunities and imagine what innovations could be helpful in their context.

Below is a suggested action plan that teachers can propose to students (perhaps some steps in class and others at home):

1. Form teams.
2. Let students choose an expert among the ones proposed.
3. Suggest students go back to the brainstorming they did earlier to understand what already exists in their city regarding food waste, single-use packaging or waste segregation. If needed, do a little more research on the topic.
4. Suggest students get inspired by the suggested case studies and search for more examples online.
5. TIP for students: choose only one topic for the challenge from the three proposed: food waste OR single-use packaging OR waste segregation.
6. Let students define the goals and objectives of the digital solution.
7. Let students define the target persona. TIP: watch the **video** to learn more!
8. Deliverable: prepare a mock-up (digital prototype) of the idea/app (through **Invision app**).
9. Final step: get ready to pitch the idea.

Teachers may suggest students continue working on the idea and develop the solution (e.g. code the app) in the following weeks as optional homework.

Tip: Students conduct research and develop their ideas based on the information they have acquired and their creativity. It is up to teachers to either pick one software for all students (the one suggested) or let them choose an alternative one.

Our advice would be to let the students explore independently and pick the digital tool they want to learn and master. It is best to do that in advance and in preparation for the classroom activities (create an account and install the software if needed).

- Once the presentations are ready, ask students to upload them on a shared folder, allowing groups to see each other's work. Display each group's work on a central smartboard/screen so that everyone can see while they present.
- Monitor the groups to ensure they keep on track during the task and that everyone in the group engages in the work.
- Set the scene for the task: to make it more interesting, organise it a competition between the groups. You could opt for a class vote on their favourite innovative idea (suggesting that they cannot vote for their presentation).

Challenge B: Social Media Campaign: Your Circular Economy of Food (Optional)

Students are asked to design a social media campaign and share a post to promote their innovative business idea, while also informing and raising awareness on the circular economy of food in cities.

Suggested action plan that teachers can propose to students:

1. Decide the focus and objective of the social media campaign.
2. Define the target audience.
3. Define the appropriate and preferred social media channel (Instagram, TikTok, YouTube, Facebook, etc.).
4. Define the expected impact and outreach (KPIs, numbers, etc.).
5. Design your first post (e.g. on Canva).
6. Upload your first post.
7. Get ready to show your work to your classmates.

Extra steps (optional):

A few weeks/months later, teachers may suggest students to go back to their post and check the impact:

1. Check feedback and impressions (numbers, etc.).
2. Reflect on the results and learnings. Can the campaign be considered successful? What could they have done better? Are they satisfied with their work? What have they learned?
3. Share the results of their work with classmates.

A few tips: Remember, the main aim of this activity is to get creative in using digital tools to communicate effectively. Try to keep their focus on that.

Remember that students must come up with the best ideas for:

- Which social media platform is most popular among the people listed as the target audience?
- How to create engaging posts (design, feel, tone, language, text-based, image-based, or video-based)?
- What is the content? What do you want to say and how do you want to say it?
- Is there a call to action? Are they asking people to do something? Or are they just hoping to inform them?

Monitor the groups to ensure they keep on track during the task and that everyone in the group engages in the work.

Set the scene for the task. To make it more interesting, organise a competition between the groups. You could opt for a class vote of their favourite campaign (suggesting that they cannot vote for their presentation).

Tackling Climate Change Through Circular Consumption

Description	This module emphasises the role of the circular economy in tackling climate change. It gives an overview of the environmental issues relating to consumer goods and indicates how adopting circular consumption practices can help us reduce humanity's climate impact.
Module Duration	2.5 h
Required digital tools	▪ Miro ▪ Canva ▪ Dropbox or Google Drive
Required preparation	▪ Teachers and students should have internet access and their devices ready. ▪ Before starting, teachers should go through the module and familiarise themselves with it. ▪ Before starting with the students, teachers should choose one shared storage system (Google Drive, Dropbox, etc.) and create a folder where students can share their work.

Challenge	The students are asked to develop a consumer product by applying the circular criteria that they have learned. The choice of the consumer product is entirely up to the students. Even though the development of a circular product is the core of the challenge, there are two requirements: ▪ The first is to validate the product's reduced climate impact. ▪ The second requirement is to show an entrepreneurial mindset and demonstrate the competitiveness of the product.

Lesson 09:

Circular Consumption Practices? You Name It!

This lesson asks students to remember all the keywords they learnt during this module. If the students struggle with concluding the important terms, you can guide them towards the following keywords:

modular design, lifetime extension, naked packaging, bio-based materials, eco-friendly packaging, product-as-a-service, consumer culture, lifestyle emissions, consumption practices,

dematerialization, performance-based economy, sharing schemes, carbon footprint, climate/environmental impact, material use.

Challenge: Create Your Own Circular Consumer Product

This challenge asks students to think about creating a consumable product (e.g., clothes, cosmetics, devices, household tools) by applying circular criteria and indicating how the circular features reduce the product's climate impact.

Students should keep in mind that the aim is not to simply add another product to the market (even if it comes with reduced environmental impact) but to really substitute already existing and harmful consumption practices. In the challenge description, students can find several tips helping them to stay focused and on track.

For this part, students can work in groups and use Canva to brainstorm ideas.

Once the idea is finalised, students are requested to create a presentation on Canva for their final pitch. It's up to the students to decide what template they would like to use and how they want their idea to be presented.

Teachers should request students to upload their pitch presentations on the shared folder, allowing groups to see each other's work. Display each group's work on a central smartboard/screen so that everyone can see while they present.

Remember that students have to demonstrate the following features:

- Enhancing a product's (or its packaging's) circularity;
- Understanding how the increased circular performance influences the product's climate impact;
- Indicating the market validity of the product

Set the scene for the task: to make it more interesting, make it a friendly competition between the groups. For example, have the class vote for their favourite innovative idea, but students cannot vote for themselves.

Don't forget to ask the students to share the developed materials in the shared storage system you set up before the class.

3. Project Consortium

The Girls Go Circular project is led by EIT RawMaterials, an Innovation Community within the **European Institute of Innovation and Technology (EIT)**, which drives innovation across Europe to find solutions to pressing global challenges.

This project is designed and implemented together with other Knowledge and Innovation Communities (KICs), namely EIT Manufacturing, EIT Food and Climate-KIC, which are part of a larger network supported by the EIT to foster innovation and entrepreneurship in Europe.

Managed by:

eit RawMaterials Connecting matters

eit Food

eit Manufacturing

eit Climate-KIC

Project Partners:

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JA Europe 100 YEARS OF ACHIEVEMENT A Member of JA Worldwide

young initiative

synergy learning

ELLEN MACARTHUR FOUNDATION

4. Glossary

Circular Economy: a closed-loop economic system aimed at eliminating waste, pollution and carbon emissions. In a circular economy, material cycles are closed following the example of an ecosystem and the residual streams are used to design new products. In addition, circular systems employ processes such as reuse, repair, refurbishment, or recycling to minimise the use of raw materials.

Gender gap: it refers to the disadvantages of women compared to men reflected in social, political, intellectual, cultural, or economic attainments and attitudes. It is measured through various indicators such as access to education, salaries, or the percentage of female leaders in different sectors.

Green Transition: substituting the linear economy with a circular model. It involves a systemic shift to pursue sustainable economic growth that presents reduced environmental damages.

Linear Economy: the traditional economic model based on a take-make-dispose approach to using resources. According to this model, raw materials are collected and transformed into products that end up in a landfill at the end of their life cycle.

Learning module: a learning unit encompassing multiple lessons on a given topic. Its content and activities are organised to create a clear learning path.

Learning platform: An online portal offering content, resources and tools that support educators in guiding students through the project's learning programme.

Moodle: a learning management system (LMS) used for both blended and e-learning in schools, universities, or companies. It allows educators to create personalised learning environments.

Mural: a digital workspace for visual collaboration. It provides virtual whiteboards where teams can visually explore complex challenges, map all kinds of content, and organise agile brainstorming processes.

Padlet: a free online notice board. Students and teachers can use Padlet to reflect and collaborate on specific topics by posting on a common page. The notes can contain links, videos, images, and document files.