

ACTIVE8-PLANET METHODOLOGY

**A ROADMAP FOR
INTRODUCING THE
ACTIVE8-PLANET
MULTIDISCIPLINARY
TEACHING & LEARNING
APPROACH IN HIGHER
EDUCATION CURRICULA AND
STUDY COURSES.**



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1. INTRODUCTION

Are you ready to innovate and improve your teaching and learning approach based on multidisciplinary co-creation between different stakeholders, such as students, teachers, professionals, companies, and other organizations? Then you have come to the right place.

This document provides you, higher education implementers, teachers, supervisors, and management, with a step-by-step roadmap to design & implement Active8-Planet's multidisciplinary Learning Cycles into your own curriculum and study courses.

As a team, you will jointly enter an Active8-Planet Research & Development (R&D) process aimed at co-creating planet-centred, ethical, and socially-embedded innovative concepts or interventions (could be for example an action, service, product, business model) in response to a previously identified environmental, societal or business challenge.

Every Active8-Planet R&D process follows the principles of the People-Centred Development and consists of four phases in which the team will:

- 1)** Jointly explore and specify an environmental, societal, or business challenge.
- 2)** Research the meaning and discover the unmet needs of the relevant target groups and/or organizations.
- 3)** Analyse and interpret all data gathered.
- 4)** Co-create and test a concept, intervention, or prototype that fits for use by relevant stakeholders.

This roadmap is based on the ample experience we have gathered over a period of three years in which we developed, implemented, and evaluated the Active8-Planet Learning Cycles. This roadmap will take you through nine important steps and help you to:

- 0.** Reflect and decide on what it is you want to achieve in the Learning Cycle.
- 1.** Analyse all the different contexts you will be working in.
- 2.** Form a multidisciplinary team that will go through the entire Learning Cycle.
- 3.** Set up a support or guidance system to help your team to do so.
- 4.** Design the different activities that form the Learning Cycle.
- 5.** Develop the tools that will help the team tackle these different activities.
- 6.** Organize these activities within the parameters you have set in step 2.
- 7.** Communicate about the Learning Cycle to all relevant stakeholders.
- 8.** Evaluate your Learning Cycle during and after.

Hence this document focuses on HOW to introduce and work with Learning Cycles in your curriculum and study courses.

For more background information on the ‘what’ and ‘why’ of the Active8-Planet approach, please consult the following resources, available on the [Active8-Planet website](#).

Category	Active8-Planet result	Short summary	Target groups
Background Research & Needs and Requirements Analysis	Conceptual Framework	The Conceptual Framework provides a baseline state-of-the-art analysis that feeds the development of the Active8-Planet methodology and learning model. It maps the different types of planet-centred approaches and provides an overview of good implementation practices in business sector in European and international contexts.	<ul style="list-style-type: none"> – Higher education teachers – Non-academic representatives – Students
Strategies & Recommendations	Evaluation Strategy and Framework	Evaluation Strategy defines the common guidelines for the evaluation of learning cycles and includes detailed evaluation tools that evaluators may fully adopt or adapt to their local programme of work.	<ul style="list-style-type: none"> – Higher education teachers – Higher education management and administration – Non-academic representatives
	Content Sharing Strategy	Strategy for effective sharing of content, information, stories, good practices, results etc. produced in the learning cycles.	<ul style="list-style-type: none"> – Higher education teachers – Non-academic representatives – Students
	Sustainability Strategy	Sustainability strategy provides recommendations to ensure continuous availability and transferability of Active8-Planet results and to sustain the activities and partnership also beyond the project lifetime.	<ul style="list-style-type: none"> – Higher education teachers – Higher education management and administration – Non-academic representatives
	Policy Recommendations	Discussion document outlining the steps towards future planet-centred developments in research and learning.	<ul style="list-style-type: none"> – Higher education management and administration – Policy developers

Category	Active8-Planet result	Short summary	Target groups
"How to" Guidelines	Active8-Matrix	Active8-Matrix is a guiding, assessment, and monitoring tool to aid teams to continuously assess status, and to plan future effects and compliance of their research and development work in relation to the 3 core agendas, i.e., UN Sustainable Development Goals, the European Green Deal and Ethics in Research & Development.v	<ul style="list-style-type: none"> - Higher education teachers - Non-academic representatives - Students
	Methodology (the respective document)	A step-by-step roadmap to design & implement Active8-Planet's multidisciplinary Learning Cycles into curriculum and study courses.	<ul style="list-style-type: none"> - Higher education teachers - Higher education management and administration
	Activation Model	Activation model provides key instructions, recommendations, and practical guidelines on how to launch, disseminate and manage the Active8-Planet collaboration arena.	<ul style="list-style-type: none"> - Higher education teachers - Non-academic representatives - Students
	Active8-Planet Canvases	Four different canvases (Challenge, Research, Data, Concept) guiding teams to prepare for each of the four phases of the R&D process.	<ul style="list-style-type: none"> - Higher education teachers - Non-academic representatives - Students
Knowledge Resources	Resource Book	A textbook with compilation of content and learning material in planet-centred development approaches.	<ul style="list-style-type: none"> - Students

Category	Active8-Planet result	Short summary	Target groups
Reports	Learning Cycles Implementation Report	Reports describe the implementation of the 2 Active8-Planet learning cycles and 7+1 Team Projects.	<ul style="list-style-type: none"> - Higher education teachers - Higher education management and administration - Non-academic representatives
	Impact Report	The report describes and measures the general and specific Active8-Planet project impacts with quantitative and qualitative indicators of key project results and outcomes.	<ul style="list-style-type: none"> - Higher education teachers - Higher education management and administration - Non-academic representatives
	Evaluation Report	Report presents the evaluation data from the Active8-Planet 2 learning cycles with analysis, and interpretation.	<ul style="list-style-type: none"> - Higher education teachers - Higher education management and administration - Non-academic representatives

1.1. How to use this roadmap?

Introducing a new teaching and learning approach into existing or newly developed educational programs is not a simple task. Especially if it involves multidisciplinary, cross-sectoral, and intergenerational collaboration to jointly tackle the pressing challenges of our society. Below we give some suggestions on how to use this document.

Firstly, this roadmap has a **seemingly linear set up**, which may not entirely suit your needs. Therefore, we suggest going through all the steps briefly and deciding on the right order for you.

Secondly, we have included a set of repeating questions that will challenge you to answer questions such as **Why? What? When? Who** and **How?** for each subsequent step. Though this might feel repetitive at times, we have experienced the value of continuous reflection to ensure not to base any project design and implementation on implicit assumptions.

Thirdly, we are writing this for a very **specific audience**: higher education implementers, teachers, supervisors, and management. The guidelines could also be relevant in other contexts but might need some translation into those specific fields.

Fourthly, the implementation and use of the Active8-Planet methodology is an **iterative process**. Hence, the chronology of the 9 steps detailed is not set in stone. There are many different routes to take and certain steps might need to be repeated in order to secure a constant process of fine tuning and alignment.



1.2. Risks

The roadmap does not guarantee a successful outcome for every project but may definitely enhance that chance. By making potential risks explicit we increase the chance for success.

Some of the more likely risks pertain to time management within the team, motivation of students, and lack of understanding of the possibilities and added value among non-academic partners. The first of these is all about planning. The better you plan ahead for everyone, the easier it is for all participants to fit the activities into their schedule. All three risks can be mediated with proper communication and consideration for the needs of different stakeholders from the beginning. By communicating with them, co-creating the plan to make it valuable & relevant for them, and continuously assessing the expectations of all parties involved, you can tackle these most likely risks. See the table below for more detailed information on the potential risks.

Table 1: Potential risks and mitigation

Risk	Impact	Probability	Risk level (=impact * probability)	Remediation/ mitigation
Stakeholders' engagement and inputs				
- low motivation of students to participate in project activities (perceived as additional burden with no direct benefits and unclear added value)	HIGH (3)	LIKELY (2)	6	Effective communication of benefits to secure engagement (e.g. practical skills, improved career options, reference for CV etc.) + ECTS credits for course completion
- time constraints of teachers (study semesters, academic calendar), project tasks perceived as extra-work without financial incentives, reluctance to cooperate with other fields' experts	MEDIUM (2)	NOT VERY LIKELY (2)	4	Emphasize multiple benefits from project: - cooperation with industry and applicability of the results achieved, - economic and social impact of the results achieved, - qualitative evaluation of research, - Research results published in relevant scientific journals
- approaches may be perceived as too theoretical by business professionals and time consuming and results too vague, it might seem difficult to calculate added value and return on investment (ROI); time constraints (demanding company schedules etc.)	MEDIUM (2)	LIKELY (3)	6	Goal-oriented communication strategy of key benefits adapted to the requirements of the target group, i.e.: - elicitation of user requirements, - possibilities for product and service improvement with low financial investments, - source of innovation, - access student energy and faculty expertise, - become acquainted with students to identify recruiting prospects

Risk	Impact	Probability	Risk level (=impact * probability)	Remediation/ mitigation
Project Management				
- difficulties in management of complex partnerships, e.g. competing priorities, agendas and drivers	HIGH (3)	NOT VERY LIKELY (2)	6	Conflicts that cannot be resolved by consensus decision or decided by WP leader will be referred to SMC for a final decision.
- insufficient resources to fulfil project	HIGH (3)	UNLIKELY (1)	3	Partner informs PMC/ Project Manager and SMC. Any re-allocation of resources will be decided on case by case basis by SMC.
Project outputs				
- data unavailability/ commercially sensitive data	MEDIUM (2)	NOT VERY LIKELY (2)	4	Any inclusion of business-sensitive information will be discussed and prepared in the form acceptable to all partners and respective stakeholder(s).
- difficulty in assessing the outputs and measuring added value of university-business collaboration	HIGH (3)	UNLIKELY (1)	3	Success indicators are set in all areas to measure evolution of the project, incl. measurable goals and indicators for defining successful effort for each learning cycle.
- deliverables not meeting requirements on quality, comments on project reports requiring additional work	HIGH (3)	NOT VERY LIKELY (2)	6	Quality assurance processes are defined and Quality Manager is responsible for quality assurance of all deliverables. All reports transmitted to the EACEA are approved by SMC.

1.3. Timeline

Introducing the Learning Cycles requires time. The alignment with the timeline of your teaching program and students, the stakeholders involved, and co-creation processes cannot be rushed. A lot of this time is needed for processing. The larger the team, the more time is required for alignment and organizing shared meetings. During periods of “waiting”, other activities can be undertaken, and ideas processed.

Advance planning helps to stay on track and motivated. Make sure that the planning includes space for this processing. For example, the preparation phase (step 0-5) could easily take up to 6 months. The execution of one Learning Cycle will take up to 10 months (step 6 & 7). Finalizing and evaluating the project (step 8) can take up to three months. Leading to a total of 19 months, nearly 2 years from start to finish.

	Q1	Q2	Q3		Q4	Q5	Q6
PHASE	Preparation			Start School Year	Exploration	Search	Analyses & Concept
Step 0: Why?							
Step 1: Pre-project							
Step 2: Design team							
Step 3: Design Learning Guidance Plan							
Step 4: Design Learning Cycle Activities							
Step 5: Tools							
Step 6: Implementation							
Step 7: Communication							
Step 8: Evaluation							

2. ROADMAP - 9 STEPS TOWARDS THE SUCCESSFUL IMPLEMENTATION OF THE ACTIVE8-PLANET LEARNING CYCLES

Step 0: Why?

So, you intend to innovate your education by introducing multidisciplinary and cross-sectoral collaboration! Great! We all love innovation! Obviously, not for the sake of innovation, but because innovation will help us work towards our desired future. The central question is: **what do you aim to achieve?**

Many education innovators are working with problem-based learning. The benefits of this approach include steering towards a clear objective and promoting teamwork. Understandably, problem-based learning is the most well-known methodological starting point of the Learning Cycles. However, your needs and therefore your 'why' might have other origins or include other goals. Therefore, it's important to challenge yourself during this step.

Innovation is fun but also challenging sometimes. It is important to have a clear mind on what you are after. This will help you to reach your goals. It will also allow you to align your ideas and expectations with those of other stakeholders. You might see things differently, who knows. Better start checking this early on and every now and then. **What are your aims and objectives? What does success look like?**

Answering these questions will also give you clearer insights into the distinction between output and outcome. **Outputs** are the concrete results you produce (e.g., a solution tackling the stakeholder challenge); **outcomes** are the more intangible (often longer-time) effects and impacts (e.g., the learning outcomes that students have acquired). The latter are often overlooked and undervalued, though they usually relate more to the reason 'why' someone starts a project. Specifying them beforehand, and continuously assessing them during the project, will improve your feeling of success and keep you motivated.

HOW TO BLOCK: Not sure how to get started with a step? These blocks will help you along the road.

Step 0 - Why? How to

- » Meet: Gather your collaborators that you've already chosen to join you, this can be a live meeting or online.
- » Describe: Give a short description of the collaboration as you see it, have everyone pitch in to fine tune the description.
- » Ask: Explain the goal of this meeting as defining the projects 'why' by answering these two questions: **What are your aims and objectives? What does success look like?**
- » Write: Have each member write down their individual answers to the questions.
- » Co-create: Have each member share their answers and listen to each other. Gather these up to define 1 answer that envelops all of your answers. Make sure everyone present agrees with the end results.

Step 1: Scouting

Of course, you won't be working on this ambitious project on your own, but who are your teammates? Do you know who they are, do you know their wants and needs? How about the people they work with, and their needs? You now know why you want to set up these Learning Cycles, but do they? And do they know your motivations and goals? Sitting down and understanding all these needs and perspectives is a crucial next step. The decisions you make during this step, will set the stage for your collaboration. That is why, from this step onwards, we would encourage you to share this roadmap with your partners.

In this step you will scout all the different perspectives and contexts pertaining to your collaboration and partnerships. For each context and partner, you need to answer the same questions repeatedly. We have prepared a picture to help you in this process (see figure 1). Depending on your situation, the order of these encounters will differ, hence the sub steps below can be done in any order.

Step 1a: Aligning with your first partner(s)

When starting a team, each member has individual, company, and team wishes and worries. Before getting into the When and What, we recommend taking the time to really discover the Who. Try to answer these questions:

Who is this partner? Who am I? What do I hope to gain from this experience? Why are they involved?

This last question, why are they involved, is especially crucial. It is easier within a funded project, in which every partner receives his fair share of funding. It becomes more complicated when there is no funding available, and you are asking for the engagement of (always busy) organisations. Hence, it needs to be clear from the start what every stakeholder will get out of the project and how many resources (time, people) are they willing to invest. The different viewpoints on the project, process and desired outcomes are very valuable to the project but might also involve that certain expectations, for example with regards to commitment, are not shared. Being transparent and (re-) checking all assumptions is therefore crucial from the beginning of your project.

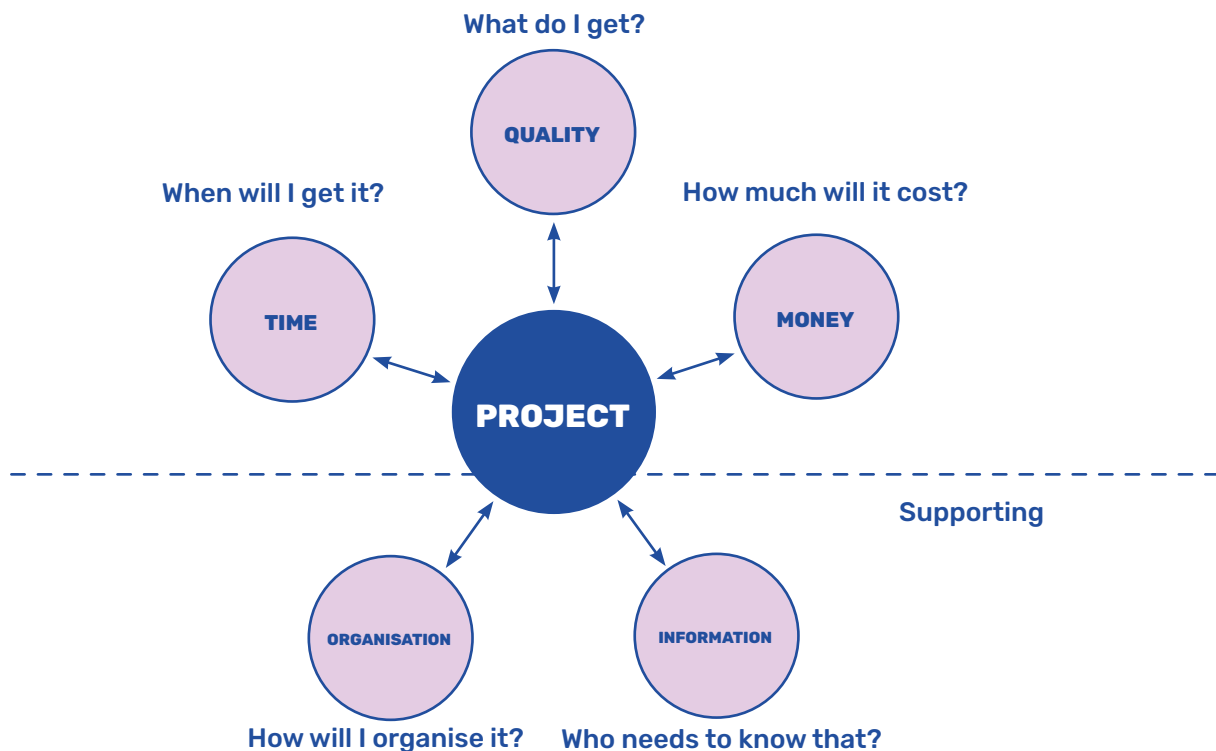


Figure 1. Project overview from different angles. Try out these questions in each context to get a clear understanding of the project.

Step 1b: Choosing a challenge

The identification of a challenge is an integral part of the experience of your students. It will define their research field and coach their research questions into alignment with the other stakeholders. You want the challenge to be valuable to all stakeholders. It needs to be a challenge that intrinsically motivates your non-academic partner, your students and society. This challenge lies at the foundation of our methodology and can only be decided on when the primary stakeholders and partners of the project are defined.

The scope can vary but should always leave room for students to formulate their own specific research question.

[HOW TO BLOCK]: Not sure how to get started with a step? These blocks will help you along the road.

Some examples of do's and don'ts when choosing a challenge:

- » Do: Environmental validation of residents of the Leidsebuurt in Haarlem, The Netherlands.
- » Don't: Do people like Tesla's?
- » Do: The importance of spatial architecture on feeling safe in the city center of Ljubljana
- » Don't: Does planting five trees on the Keizerstraat make residents feel safe?

Step 1c: Context analysis

This step focuses on pragmatics: in what environment will the learning cycle take place? What are the educational goals and end-terms you need to consider? Where will the meetings take place? Besides these pragmatic questions there are also some strategic considerations: Where is the support base for this project within the higher education institution? Who will be your ambassadors and who do you need to convince? What is the most convenient way to integrate this into the educational program?

Given that most HEI systems have notoriously rigid structures, this can be quite challenging. We have found it useful to work within existing research-oriented courses, complemented with specially designed extracurricular courses or modules, and seeking collaboration within existing interdisciplinary/cross-departmental networks. The key is to find a connection within the rigid structure you can link with, so the learning cycle will be seen as an added value, instead of a new burden.

In some cases, there can be legal, structural, or other conditions when involving external non-academic partners in the learning process. These may require a letter of intent and/or signing a memorandum of understanding, a partnership contract, or a non-disclosure agreement. Also, some partners require set conditions on communication (for example, the use of a logo). Again, these conditions can be simply met, but need to be predefined before boundaries are unexpectedly crossed. Hence, context analysis!

Step 1d: Planning

At any moment in time, you can make a plan. For you, that moment is now. Of course, not all things are certain, but try to work with what you do know.

Talk to your partner and discover their yearly rhythms. When are they busy, when are they mostly communicating, which other big projects do they have scheduled and when are those deadlines or events? Then look at your own school roster. How do the next two years look for your students? What are pivotal moments in time for them and for your higher education institution? Plot these on a timeline and start working with some goals you foresee within this project.

Don't forget to also start with making a role division. When deadlines are set, tasks will pop up and now you can see who is available when, or who should block a certain moment in their schedule. Be aware that this is an iterative process, and some timings will change during the project. However, being strict in certain structures and plans from the beginning can give you more options and capacity in the long run.

Step 2: Designing a team

At the heart of the Active8-Planet methodology lies its team. This will be the engine of your project. Forming a strong team is therefore an essential requirement for success. Luckily, we have some tools to help you along.



The link provides a canvas to help you design your team. A canvas is a visual brainstorming tool. By filling in the different fields, you will gain insight into the structure of your project. There are no set rules on how to use it and you can adjust the setup to your own specific needs. If you feel a certain question is not relevant, just skip it. Or rephrase the question to adapt it to your needs. The tool works well in a brainstorming session. You can for example upload it to a web platform (such as Miro) or print it out to facilitate co-creation. You could also use the canvas to structure your own thoughts and ideas about this specific topic.

The aim of the Team Design Canvas is to enable shared reflection and decision-making on the different roles in the team. In the Active8-Planet, we work with a 7+1 team (see figure 2). The team design usually starts after defining your challenge. This will be the launching platform to consider your needs for your team. The challenge topic will tell you what complementary knowledge, skills, and attitudes you require. You can also think about the different roles you want your future team members to fulfil. Then, think about these roles from a student and teacher perspective. And, besides specific students and teachers, are there any other professionals you want or need in your team? In each step, consider why these things matter. The filled-in canvas can be used to instruct the person(s) who will recruit the team members.

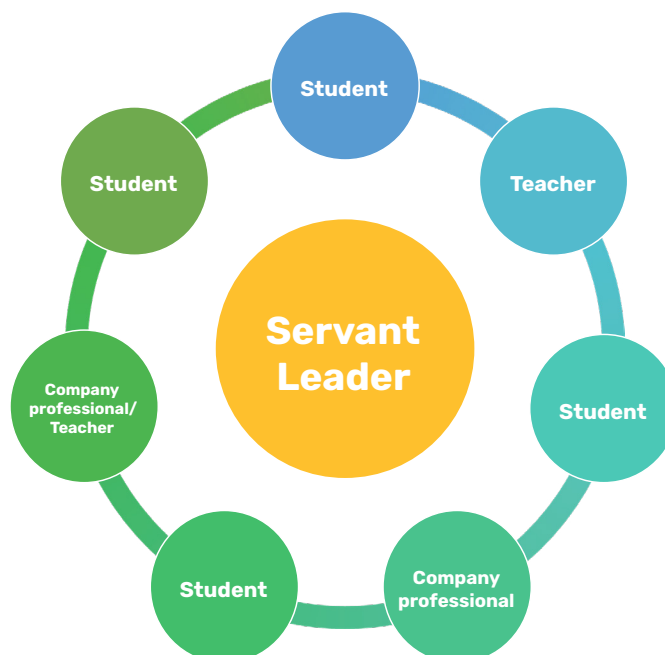


Figure 2. The setup of a 7+1 team. The diversity of different organizations, generations and disciplines allows everyone to represent their respective strengths. Facilitating these individuals to be their best selves is the servant leader's role, hence the phrase 7+1.

Servant leadership

Active8-Planet Servant Leadership is based on a new model of leadership in which the so-called leader is foremost of service to the entire team and to all individual team members.

- » A servant leader puts each individual in the team at the centre of their thinking and their actions, and allows all team members to grow as a person, become healthier, wiser, freer, more independent. Perhaps, in the long run, team members might even feel inspired to develop in such a way that they also want to become such leaders in the future (our “Planeteers”).
- » A servant leader encourages a sense of unity and of a shared responsibility and decision-making. All this within a clear set of values that are collectively gathered and supported by everyone in the team, regardless of hierarchy in terms of age, position, gender, etc.
- » A servant leader guards the collaborative process within each team and ensures that members stay focused and connected to each other and to the ultimate goal.
- » A servant leader creates space for all voices in the team, especially if these represent minority perspectives and/or are embodied by people who are not necessarily trained in voicing their perspective in an interdisciplinary team.
- » A servant leader allows room for discontent and conflict and ensures that these will be addressed through frank and open discussions, with the goal of attempting to reach a shared decision.

[HOW TO BLOCK]: Not sure how to get started with a step? These blocks will help you along the road.

Some examples of do's and don'ts in the role of servant leadership;

- » Do: Plan regular meetings with your team.
- » Don't: Ask for feedback on the process of the project during co-creation sessions.
- » Do: Set a framework for the project, what activities and meetings are expected. Especially in the beginning, when the team is not yet cohesive, they need a framework to support the process.
- » Don't: Define the framework into detail without input from the team.

Step 3: Design Learning Guidance Plan



As explained before, a canvas is a visual brainstorming tool. It may help you gain further insight into the structure of your project. You can apply it in the way you deem useful and adjust it where necessary.

The aim of the Learning guidance canvas is to enable shared reflection and decision-making on the required guidance to facilitate team learning. You will investigate the added value of the different team members. What knowledge, skills, and attitudes do they want to develop as team members? What will they need (to develop) to be able to constructively collaborate as a team? What does this require in terms of guidance for the students? What does this require in terms of team guidance? The canvas is also a valuable tool to brief the servant leader or, ideally, you co-create it with them.

Three layers

When answering these questions, you might have noticed that you're juggling different perspectives. In shaping a Learning Guidance Plan you're working on an individual, team and institutional level. This is an integral part of this project and it's important to be aware of the different layers of needs, wants, and knowledge. While filling in these canvases, but also hosting meetings and writing documents, you will help yourself by checking each layer before finishing. Such as: how will this help the individual, does this meet the needs of the higher education institution, and does this team have enough knowledge to deal with this information?

Step 4: Design Learning Cycle Activities

During the Learning Cycle, the team goes through four phases: **(1) Challenge Exploration**, **(2) Research**, **(3) Analyses** and **(4) Concept Development**. An important first step is to align these phases (approximately) with the timing within the pre-existing course(s). Try to find the lengths and transition points in the calendar for each of these four phases. Check these also with the other stakeholders in the project.

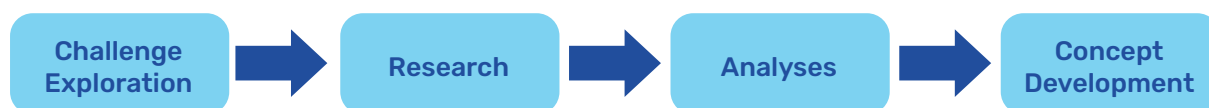


Figure 3. 4 phases of the Learning Cycle

Now you can dig more into it. Knowing when each phase will start, you need to ask; what do you want to achieve in each phase? What is the desired output and outcome? Is there any low-hanging fruit, for example combining deadlines and output of other courses with your program? Is there any low-hanging fruit with your partner(s), for example, an event with presentations, where this project can take the stage?

Next, you will fill in the gaps. Decide how often you want the team to meet, which pivotal moments are essential. And design activities to facilitate these transitions. Think of workshops, presentations, and catch-up meetings. If you want the whole team to present, especially external stakeholders, the sooner you know what you want to do and when, the more likely it is they can keep their calendar free for this.

[HOW TO BLOCK]: Not sure how to get started with this step? These blocks will help you along the road.

- » Align the four phases of the project with the calendars of the team members and courses involved.
 - Collect start and end dates of courses, including deadlines and timings of course phases (i.e., fieldwork or analysis).
 - Collect relevant holidays for partners involved.
 - Collect working days of partners involved.
 - Bundle all together in one overview to plan the meetings.
- » Assign meetings and activities to each phase. At the beginning of the project, you can keep the meeting descriptions vague. It is important early on to establish:
 - a suitable date,
 - the intention,
 - blocking the calendars,
 - potential activities:
- » **Excursion to a relevant location for your challenge.** Simply visiting one of these places with the whole team can fuel innovation and co-creation. Also, these outings can be helpful for team building. Keep in mind to make participation as easy as possible (include travel options, pay for entrance, etc.)

- » **Alignment meetings.** These are the easiest to plan and often very valuable. By keeping the agenda for this meeting open and allowing everyone present to share their updates and connect it to the team, you facilitate cohesion in the team. Something that's often missing due to the diversity of the team members.
- » **Co-creation session.** When you're working on a clear outcome, you can organize a co-creation session where you allow the team members to simultaneously work on one outcome. The more concrete this outcome is defined beforehand, the easier it will be to reach it.
- » At the minimum of two weeks before an activity, the outline needs to be clear and communicated to the participants.

Step 5: Tools

Steps 0-4 help you set up the basis for the project: a team, a plan, and the essential activities. Step 5 is to identify the tools and other necessities you may use to further ensure a smooth process. First, you need to ask yourself: What do you need to realize your current plan? But don't forget to involve your partners and colleagues to discover the tools that suit your needs.

[HOW TO BLOCK]: Not sure how to get started with a step? These blocks will help you along the road.

1) Grab a sheet of paper and for each of the points below, write down as concretely as possible **what you need to optimize your project**. If you don't know the exact tool you need, write down what the "Tool X" should do for you. Later, you can share this with others to get input and find the right tool.

- » Space
- » Timeslots
- » Materials
- » Computer programs
- » Sharing platforms
- » Partner(s)
- » Staff
- » Feedback/Evaluation (see also step 8)
- » Communication with (students, teachers, external stakeholders)

2) After writing down what you need for each of these points, make a step plan for how to get each of these tools.

3) Order all the steps chronologically. Make sure to prioritize those tools that you need early in the project. Export this plan to your calendar or another (digital) location where you will have regular reminders of when each step should be taken.

Active8 Matrix

One of the tools we have developed during Active8-Planet is the Active8 Matrix. It serves as a monitoring tool for your 7+1 Team to assess status, and to plan future effects and compliance of your research and development work in relation to your goals, formulated in Step 0. Additionally, the results from the Active8-Matrix assessment tool will indicate environmental, societal, economic, and ethical impacts of team projects supported by concrete qualitative and quantitative indicators.

Step 6: Implementation

In our roadmap this looks like a small step, but in practice the implementation of learning cycles requires most of the project time. It involves the implementation of all the activities and plans you have been preparing for in the previous steps. You'll be recruiting your team, organizing a kick-off meeting, and going through the phases and activities you designed in steps 3 & 4. All that while using and potentially developing tools from step 5.

The learning cycles take a student-centred and real challenge-based teaching and learning approach, bringing together students, university educators, non-academic representatives, and users/community members. These interdisciplinary teams work on real-life societal challenges and jointly co-create and test new or improved concepts & solutions for challenging societal issues. These solutions are tailored to the needs of people and communities and lead to innovation in the industry sector (in product, service, and/or process).

The learning cycles enable students to gain valuable practical and transversal skills that complement their theoretical education. More specifically, students adopt an applied perspective on social science theory and methods, especially by incorporating business and/or non-academic requirements in research design. Students are taught to carry out experiments by working alongside non-academic professionals, gaining qualitative insight into their daily work and organizational processes.

The learning outcomes are described below:

Teamwork: How to be an effective member of an interdisciplinary team, adding the expertise of your discipline and working on topics broader than your major.

People-centred Research & Development: How to involve people in development and co-creation processes, understanding their needs, values, requirements, practices, and behaviours.

Communication: How to effectively communicate the technical and non-technical aspects of a project to non-academic stakeholders.

Teamwork: How to be an effective member of an interdisciplinary team, adding the expertise of your discipline and working on topics broader than your major.

Project Management: Deliver a desired, planned outcome with time and resource constraints.

Ethics & Environmental Responsibility: How to act ethically & environmentally responsible when conducting research, working in teams, and creating solutions (in relation to Sustainable Development Goals).

The next sections describe the acquired subject specific knowledge, social science specific skills (especially for social science & humanities students), and transversal skills.

SUBJECT SPECIFIC KNOWLEDGE

By the end of the learning cycle, participating students should possess:

- » an advanced understanding of the practical issues and effects of industrial enterprise or other non-academic organization;
- » an advanced understanding of and capacity to deal with the ethical issues entailed in research and problem solving;
- » an understanding of how the taught elements of their degree modules are operationally applicable in real life contexts;
- » an understanding of the methodologies used to study the design, development, and delivery of products and services;
- » an understanding of the impact of selecting certain methodologies and conceptual frameworks on research outcomes.

SOCIAL SCIENCE SPECIFIC SKILLS

By the end of the learning cycle, participating students should be able:

- » to employ a range of social science perspectives to analyse practical contemporary issues of sustainability;
- » to assess ethical issues and act in accordance with professional ethical standards;
- » to illustrate social analysis of technologies with regard to specific cases;
- » to engage in socio-technical research projects;
- » to solve problems co-operatively through teamwork;
- » to identify and critically analyse social scientific evidence;
- » to communicate and work collaboratively in industrial or other non-academic environments.

TRANSVERSAL SKILLS

By the end of the learning cycle, participating students should be able:

- » to demonstrate an ability to construct argument critically for both oral and written presentation from different sources of material, including material delivered orally and in an article, report or policy document;
- » to demonstrate an independent approach to learning, critical thinking and creative problem-solving;
- » to use sophisticated techniques of information retrieval and management using an array of print and digital resources;
- » to formulate complex arguments and articulate in clear language (both English and native), within the discursive conventions and genres of academic writing and to translate them for use by a wider audience;

- » to effectively communicate complex ideas within an interdisciplinary and non-academic context;
- » to demonstrate effective time management;
- » to work in a team.

Figure 4 demonstrates the key steps of the learning cycle integrated into a typical European higher education study cycle; divided into 2 study semesters and lasting most commonly from September/October to the June/July next year. As explained in the Step 4, LC is divided into 4 steps:

- 1) **Challenge Exploration:** What challenge/problem are we trying to solve?



- 2) **Research:** What are the different possibilities and opportunities? What are our unique insights into the challenge?



- 3) **Analyses:** What do the data tell us? What are the ways we might address the challenge?



- 4) **Concept Development:** What are the (optimal) solutions to the challenge?



The implementation of learning cycles is creative, collaborative, and iterative in its nature. Team members find themselves very frequently shifting gears through the process, moving from concrete observations to highly abstract thinking, and then right back again into the nuts and bolts of the prototype. In reality, the process is shifting between RESEARCH and ANALYSIS steps which are in a constant iterative relationship. It is a continuous discussion, exchange and negotiation between “exploring choices” and “making choices”; continuous exchange between diverging and converging.

By going really big and broad during the research phase, teams co-create all kinds of possible opportunities, possibilities and solutions. However, since the goal is to achieve a broader impact in society and in the environment, teams have to further identify what, among that constellation of ideas, has the best potential in terms of feasibility, viability, desirability and, overall, long-term sustainability. Teams diverge and converge several times, and with each new iteration, they come closer and closer to a fit-for-stakeholder solution.

[HOW TO BLOCK]: Not sure how to get started with a step? These blocks will help you along the road.

Implementation is more of a process than a step and it is important to allocate sufficient time and resources. Though most of the content for this step is described in the previous steps, there are some activities we recommend organizing to facilitate this specific process of implementation.

- » Two Servant leadership sessions - the servant leader(s) get coaching from an experienced servant leader and facilitate peer to peer feedback.
- » Organizing regular team meetings (i.e. with the external stakeholders, the students, academic colleagues, etc.)
- » Open communication – sharing updates, results, issues and problems within the team.
- » Quality assurance – reflection moments on the quality of the project by sharing your experience with others will help establish quality standards.

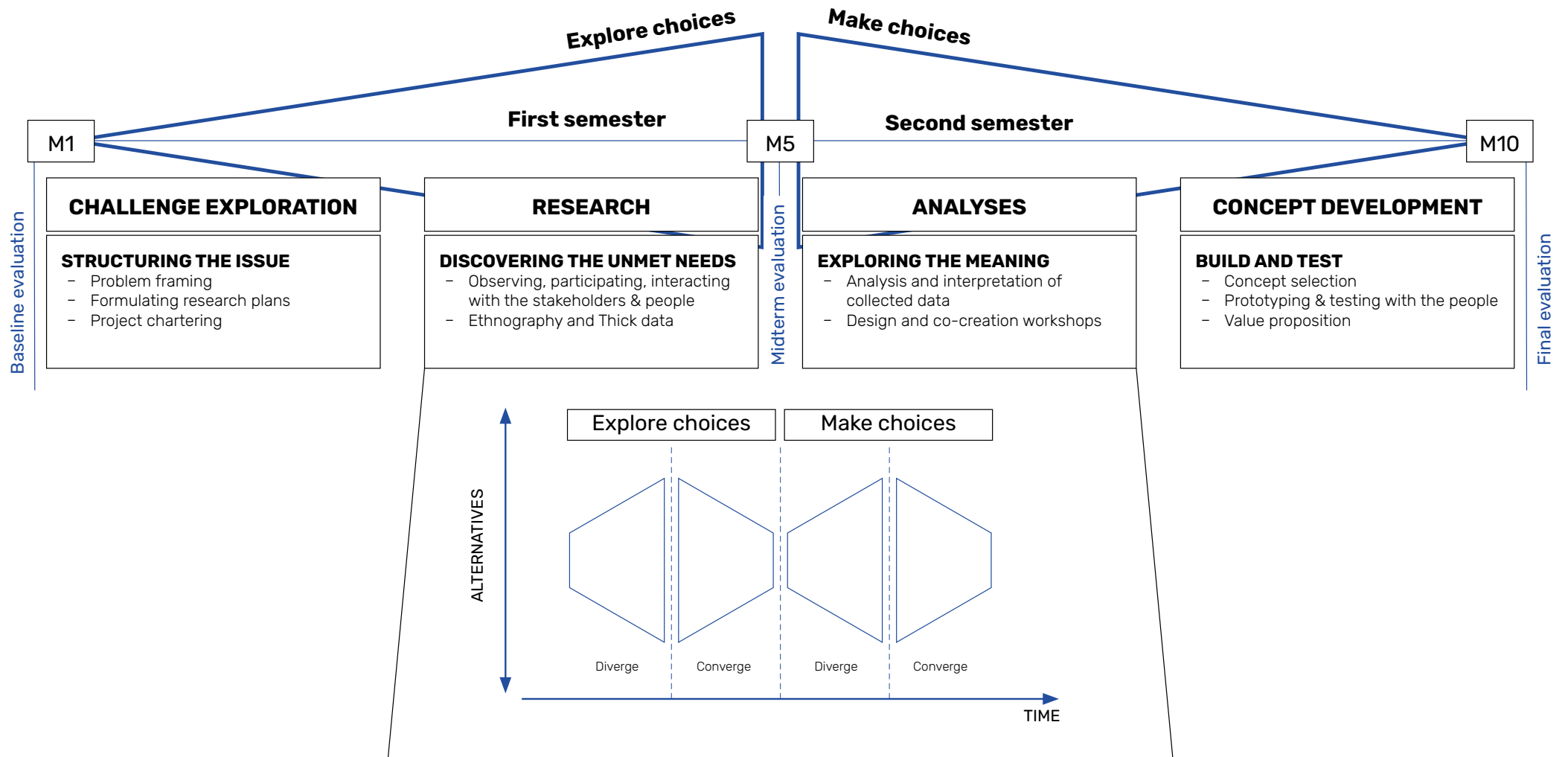


Figure 4. Learning Cycle – the Process.

Step 7: Communication

Communication requires constant attention throughout the entire project. In this step we make it a focal point. You need to take the time to communicate both internally and externally. The communication serves several goals:

- » Promotion/Marketing for stakeholders
- » Promotion/Marketing for higher education institution
- » Career opportunity for students
- » Conveying and sharing the results tackling the actual challenge
 - The different ways in which we can communicate and convey the meaning.
 - Introducing and bringing the concept into the market/society and maximizing the impact in the world.
 - The educational value for students in learning to share their results with different audiences.

[HOW TO BLOCK]: Not sure how to get started with a step? These blocks will help you along the road.

In order to serve these different goals, different content and channels should be used.

- 1) Make sure to define your specific target audience for each message.
- 2) Specify that message to their needs and your goal.
- 3) Make sure you utilize the channels that they are frequently using.
- 4) And don't forget the importance of repetition. It's better to cut one long message into many short messages and spread its publication throughout the project. That way your project becomes a staple in their feed.

Step 8: Evaluation

Implementing learnings

A core value of doing an experiment like this is learning to do better next time. One way to do this is to already plan the project with two Learning Cycles in a row. This way you can implement your learnings very soon after experiencing them and applying them in a similar situation.

Gathering data

A common error with evaluating is that it becomes an afterthought. Be sure to plan time and resources to evaluate different parts of the process that you think will be important. Also make sure all participants (be it audience, student, or stakeholder) can give feedback at any point in time. Many tools are available to facilitate this feedback. Thinking of these ahead of time, to collect the data you need for a proper evaluation is priceless. Also, be sure to motivate all participants to actively make notes of their experience of the process.

Grading students

Grading the students involved is an integral part of their learning process. One pragmatic approach to summative grading is to simply use the grading system set in place in the existing course in which your project is integrated. In addition, a set of reflexive assignments could be introduced throughout the entire project that helps students to reflect on their progress and learnings.

Analysing the process

Evaluating a project does not have to be complicated. Though we've stressed its importance in the paragraphs above, it should not become so loaded that it hinders exploration. Or becomes so grand that it becomes unmanageable. Be sure to make a considered trade-off in how much time you spend gathering data and the time needed to analyse it thoroughly.

[HOW TO BLOCK]: Not sure how to get started with a step? These blocks will help you along the road.

- 1) Make a clear role division, where every participant plays a part.
 - a. Organizing the evaluation (meeting)
 - b. Designing the questions
 - c. Handing over data
 - d. Engaging in translating their insights into concrete improvements.
- 2) Organize thematic evaluation meetings where participants join and share their experience. Make sure these meetings are planned in advance and not too long after the relevant activity for that theme has taken place.
- 3) Design concrete outputs for analysis. Decide on what you want to get out of the evaluation so that you can steer your analysis to usable outputs that you can share afterwards.

Concluding remarks: cross-sectoral collaboration

Innovating education based on multidisciplinary co-creation between different stakeholders is not quick and easy. It requires several levels of preparation, thorough progression, motivating communication, and a good dose of luck.

While problem-based learning approach can provide a valuable experience in a number of higher education teaching contexts on its own, a crucial and indispensable part of the Active8-Planet Learning Cycles is close cooperation between Higher Education and non-academic partners. Latter play an important role within the project as a whole and within the Learning Cycles as the project's key innovative contribution. In the conclusion we would like to describe how non-academic partners are engaged in the teaching and learning process focusing on their roles within the teaching and learning process.

Non-academic partner as the challenge provider

In cooperation with Higher Education partner, non-academic partners identifies the challenge and respective case study that the team(s) will be working on throughout the Learning Cycle. The case study is a challenge, a set of questions, or a product/service development problem, faced by the non-academic partner. However, it should also be relevant to the participating higher education institution, e.g., in terms of topic or domain and in terms of intended learning outcomes. In addition, Higher Education and non-academic partners need to make sure that the case study is a viable option in terms of implementation (access to relevant stakeholders, access to field, availability of sufficient data, etc.).

Non-academic partner as mentor

Non-academic partners have an important mentoring role within the learning process. Functioning as “expert” or, sometimes, “field mentors”, they take part in guiding the teams through their R&D process by participating in meetings, providing feedback to student teams' reports, and providing the students with access to in-house knowledge and information. The mentoring process is determined and agreed upon with the participating Higher Education partner in advance, setting up a clearly structured schedule of meetings and defining the inputs expected from the non-academic partner. The role of non-academic mentors can be taken by one or more representatives of the individual organisation, who also function as the liaising link between the higher education partner and the non-academic partner.

Non-academic partner as challenge/case study owner

Non-academic partner also plays the role of the challenge/case study owner. Through Learning Cycles, the students experience the process of working in a R&D team in a non-academic setting. Non-academic partners therefore function as research team's "clients". In a non-educational setting, they would be the entity commissioning the research, defining objectives, evaluating, and eventually using the research outputs. This role therefore has an important impact on the dynamic of the research and learning process: research is applied and result-oriented, student teams have to keep in mind the specific goals of their research and case study, and provide fit-for-stakeholder research analyses, recommendations and reports. This steers the teamwork and research process in directions that are often very different from traditional, academic research, especially in social sciences (individual, often solitary endeavour, long-term, open-ended etc.), supporting the acquisition of a number of transversal skills and competences, required in non-academic settings.

Non-academic partner as learners

Non-academic partners are not only the real-life experts; they are also engaged in the learning process as learners. The design of Learning Cycles delegates all three key stakeholder groups (students, academics, non-academic partners) with the role of trainees or learners, with different key intended learning outcomes for each of the groups. An acknowledgement of this role at the beginning of the partnership by all engaged parties is of crucial importance for a smoothly running Learning Cycle – this includes a recognition of the fact that students are not hired consultants and the case study outcomes will not necessarily be "close to market" solutions. In addition, one of the goals of the Learning Cycles is that the participating non-academic partner is introduced to planet- and people-centred design & development approaches, evaluates graduates as research team members, acquires an understanding of (qualitative) research methodology, and the value and relevance of research outcomes and thick data for the product/service development processes. Secondly, close cooperation between higher education and non-academic partners provides both with an insight into the differences and similarities between academic and non-academic worlds (e.g. in time management, communication styles, data handling etc.), which is a valuable learning experience for any future cooperation opportunities across professional domains.

Active8-Planet partners:



Slovenia

Institute for Innovation and
Development of University of
Ljubljana

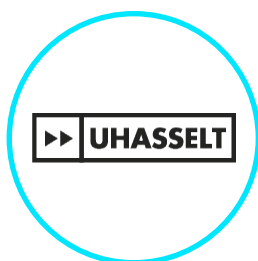
<http://iri.uni-lj.si/en/domov-2/>



The Netherlands

Vrije Universiteit Amsterdam (VU)

<https://www.vu.nl/en/>



Belgium

Hasselt University

<https://www.uhasselt.be/en>



Sweden

Halmstad University

<https://www.hh.se/english.html>



The Netherlands

Huygen Engineers & Consultants

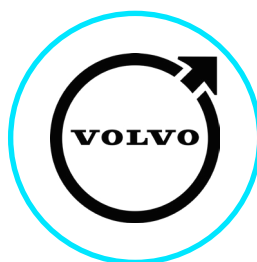
<https://www.huygen.net/>



Slovenia

Endava

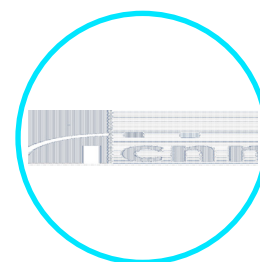
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Sweden

Volvo

<https://www.volvocars.com/intl>



Austria

ICNM

<https://icnm.net/>



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