



**FOReSiGHT**

**FORESIGHT  
MICROKIT FOR  
TEACHERS,  
STUDENTS AND  
ENTREPRENEURS**

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**010**

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# ABOUT THIS DOCUMENT



This document is created under Project FOReSiGHT, by the project team.

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Versions in German, Italian, Croatian and Romanian may be found on the BLOCKS Platform.

<https://platform.blocks.ase.ro/>

## The Project

Project FOReSiGHT - Flexibility and Resilience in Digital Transformation and Intelligent Automation – Advanced Skills and Tools for Academia and Entrepreneurs.

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## Disclaimer

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FORESIGHT for  
entrepreneurial minds

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# 1. Foresight for entrepreneurial ideation

This generation of students needs to embrace the idea of the future with a sense of activism and design. We encourage them to regard the future as a malleable and constructible set of possibilities. This attitude is in stark contrast with people - the youth included - feeling they are witnesses to the future unfolding, or merely in the position to adapt to change as it occurs. Future minded students are the ones exploring, imagining and deliberating potential futures. Students with entrepreneurial ambitions are invited to use the tools in this kit to go even further than imagining and debating the future; they are invited to co-create futures that are desirable for the ecosystems/communities/ clients they aim to serve.

We trust this foresight kit for entrepreneurial minds will provide useful guidance for young people interested in shaping the future. While this is an intellectual journey aimed at university students, the kit is meant to support facilitators in organizing and running a foresight experience, as described in the next section.

## 2. How to use this foresight kit

This foresight kit is addressed to teaching staff in universities and educators in the broader sense, meaning anyone willing to familiarize themselves with basic foresight methodologies and then perform the role of the main facilitator in a foresight exercise for students. The kit describes the procedural steps for organizing a foresight process for students interested in generating entrepreneurial ideas that may address the challenges and opportunities of the future, as opposed to merely speculating the opportunities of the present.

The design of this kit has been piloted during several events hosted by the Erasmus+ project ForeSight, taking place in Rome (2021), in Berlin (2022) and in Zagreb (2023), engaging students from Romania, Croatia, Germany and Italy. Based on this experience, the current kit proposes a step-by-step foresight journey that can be

organized as a full day workshop (or, if preferable for the facilitators, a two-day workshop).

An indicative setting for organizing such workshops involves:

- A group of 20-30 students
- A workshop moderator (and, if possible, a facilitator per student group)
- A large room, with tables and chairs that can be rearranged into 'islands'
- One flipchart/whiteboard per group

We advise facilitators to:

- Read the entire kit first from start to end, familiarize themselves with the content
- Plan the duration of the workshop in accordance with the number of students (i.e. the number of groups of 5-6 students that can be created) and the opportunity to conduct all phases in one day or in a succession of days

The table below suggests a possible time allocation for each phase, which can be adapted by the facilitator to fit their and the students' time resources.

The entrepreneurial mindset	10' Moderator's presentation 10' Plenary discussion
The power of system thinking	20' Moderator's presentation and Brainstorming 10' Selecting the systems 10' Groups creation
Understand the system	10' Moderator's presentation <i>Group work:</i> 30' Drawing the system 30' Presentations
Drivers of change	15' Moderator's presentation 10' A look into the past <i>Group work:</i> 30' Table of drivers 15' Evaluation of drivers

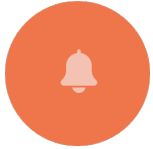
Future/Impact scenarios	15' Moderator's presentation <i>Group work:</i> 30' Scenario building
Being an anticipator - entrepreneurship fit for the future system	5' Moderator's instructions <i>Group work:</i> 20' Exploration 30' Idea description 30' Presentations
Visioning a radically transformed system	10' Moderator's instructions <i>Group work:</i> 30' Exploration 30' Presentations

**Note:** A webinar mirroring the contents of this kit is available [here](#), and can be visited by facilitators who want to explore this foresight journey as we present it.

The rest of this kit is showcasing, step by step, the script that helps the main facilitator and the group facilitators run the foresight journey. Each step has a suggested time allocation (that can be adapted by the facilitator as they see fit) and it consists of the following content types, color coded and flagged by different icons:



**Prompts for facilitators** - they compose the storyline of the main facilitator; working as **guiding notes** that help present foresight concepts and provide insights (in the same way a moderator would have notes visible just for themselves in powerpoint). These notes are **followed by a slide or more** that offer visual support, they may constitute building blocks in the main facilitator's presentation;



**Activities to engage students** - these are **instructions** that the main facilitator gives to students to guide them in their group activity; the instructions are also useful for the group facilitators who are working closely with the students in each group.



**Resources and/or tips** - Where needed, **additional tips** for facilitators or for the students engaging in group work are shared. Moreover, **useful resources** are occasionally provided that may help students in their research work.



## 3. The entrepreneurial mindset

### Prompts for facilitators

- What is an entrepreneur, including a social entrepreneur or an intrapreneur?

Entrepreneurs are characterized by their ability to identify and capitalize on **opportunities**, their willingness to take risks and innovate, and their drive to succeed in their endeavors.

Entrepreneurs **seek to build the future** by leading an enterprise to commercial success in useful new products and services. Thus, this role is particularly important to building both economic wealth and the social options that emerge from that wealth, and includes many nonprofit leaders or social entrepreneurs. It also includes intrapreneurs, people doing their entrepreneurship within existing organizations.

## Suggested slide



**What is an entrepreneur?**

Entrepreneur is someone who starts their own business, especially when this involves seeing a new **opportunity**.

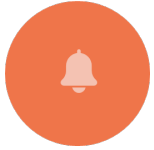
Cambridge dictionary

A social entrepreneur is a person who explores business **opportunities** that have a positive impact on their community, in society or the world.

U.S. Chamber of Commerce

- Understand future exploration as a key source of ideas

Futures thinking is a source of entrepreneurial ideas because it requires individuals to anticipate future needs and opportunities that may have not yet emerged in the market. Entrepreneurs who engage in futures thinking are able to position their businesses ahead of the curve, creating a competitive advantage and driving growth. By anticipating and responding to future trends, entrepreneurs can also mitigate risks and make strategic decisions that can help their businesses thrive in the long term.



## Activity to engage students

Identify inspiring persons with an entrepreneurial mindset. It's fine to mention the usual suspects (Elon Musk, Mark Zuckerberg and the likes) but try to brainstorm other profiles as well, from various domains, geographies (there are brilliant entrepreneurs beyond Silicon Valley), types of entrepreneurship (e.g. there is a great deal of entrepreneurs doing wonderful work in social innovation).

*What intuition did they have about the future that proved correct, which allowed them to build a successful business?*

Write one name on a post-it; if you want to suggest more profiles use multiple post-its. Stick them on a flipchart and then discuss in plenary their intuitions about that future that allowed them to build inspiring start-ups/initiatives.



## 4. The power of system thinking



### Prompts for facilitators

- **What is a system**

Any entrepreneurial idea finds its fertile ground in a certain world or universe or, in more prosaic terms, in a certain system. There are different types of systems, including natural systems, social systems, and technical systems. Entire sectors are themselves systems, such as the agrifood system, the health system, the education system. Industries also qualify as systems, such as the gaming industry, the streaming industry, the tourism industry. Any system has boundaries, components, and relationships, and defining them is crucial in creating a shared understanding.

- **System boundaries**

As mentioned above, entire sectors and industries may be considered systems. However, one may choose to focus their attention on a certain niche, namely a certain sub-sector or area of an industry. Moreover, some systems are global (e.g. movie streaming, e-gaming), others are national (health systems, transport systems), or even regional/local (e.g. local food systems). This shows the importance of delineating system boundaries, which define some “reasonable” limits of a system and the relevant actors co-evolving within that system. Once the system’s boundaries have been defined, participants engaged in the foresight exercise can determine the locus/loci of the current challenges and opportunities.

- **System complexity and level of regulation**

Systems vary in their complexity, meaning how large and dense are the networks of nested relationships between elements; whether they are actors in the system, neighboring systems, external phenomena impacting the system. Complexity can be translated into key features of the system, such as interdependence of agents in the

system, level-multiplicity (layers of organization), dynamism (change and evolution over time), non-linearity (changes in one area of the system impacting other areas), path dependency (past decisions and actions constraining future trajectories) etc. To give an example of a highly complex system, the agri-food sector in any country is driven and impacted by numerous other systems and external factors, including, but not limited to, energy, climate change, international conflict, social justice and economic policy, government regulation. The level of regulation, is in itself a factor worth of special attention, as highly regulated sectors (think health, or banking) might pose more challenges for entrepreneurs

- **System thinking meets futures thinking**

### **Different entrepreneurial positionings: optimizer, early adopter, anticipator, leader**

Understanding the 'anatomy' of a system and identifying gaps within it may provide indication of where entrepreneurial ideas are needed. These gaps may refer to the unsatisfied needs and interests of a certain actor in the system, or might solve a tension between different actors. In this case, an entrepreneur would act as an **optimizer** of the system, someone who is well equipped to improve or amend the system in a way that would bring value. Think of the type of entrepreneur that notices that a certain process can be digitalized in order to save beneficiaries' time and energy. While their initiative won't really transform the system, it will provide a targeted improvement that will be appreciated

It's worth noting that all systems are in flux, constantly evolving and shifting, under the influence of a myriad factors of change, be them political, or economic, or technological factors of change. We will discuss the types of drivers of change in more detail soon, but for now it suffices to say that the 'wind' of change is always blowing. A vigilant entrepreneur constantly observes these factors, from an early stage, when the change is still in its infancy. In this context, an entrepreneur would act as an **early adopter**, someone who is noticing the emerging paths as they develop and finds opportunities that 'make sense' in the changing landscape. Think of an entrepreneur that is well aware of a particular emerging trend - let's say the tendency of people to order food online - and decides to create another food ordering app; such

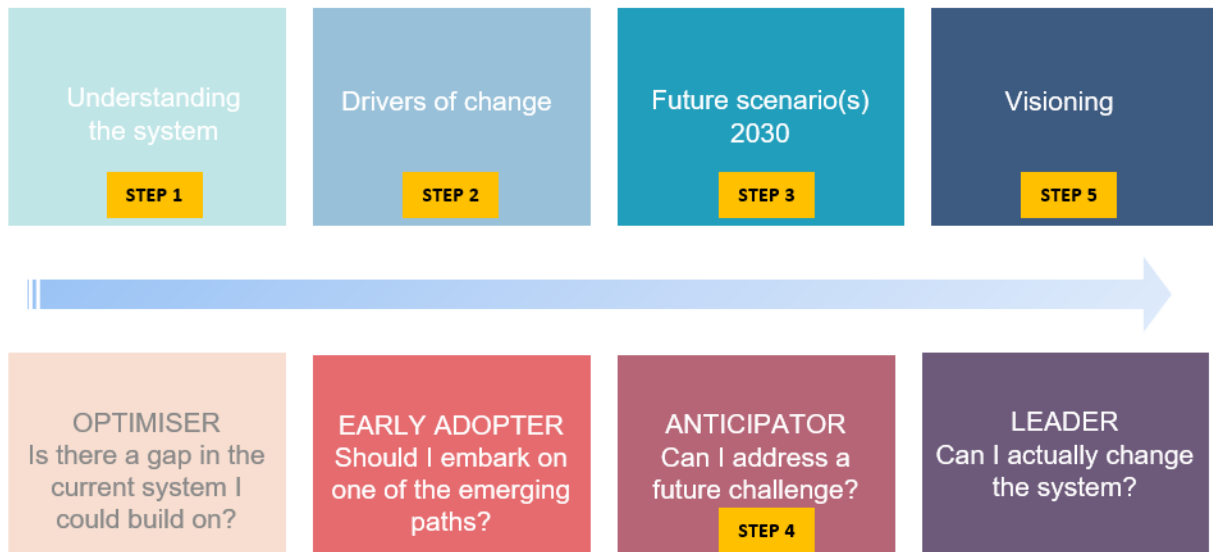
entrepreneur would definitely benefit from the experience of others already working in that field and might propose something similar or slightly improved.

While change is constant, some drivers of change mature into powerful trends that reshape a certain sector or industry - the system of choice. The boundaries of the system change, becoming perhaps larger to include more services; new actors may appear to solve new needs, new tensions may appear between old and new actors (think how the streaming services changed the movie/cinema industry). An entrepreneur who is an **anticipator** thinks ahead and has a strong intuition on how the future system will look like, which allows them to build a business that is well adapted to the system - as it will be in the future.

Finally, a visionary entrepreneur might go even further in engaging with the future system. Such an entrepreneur does more than masterfully ride the trends or adapt to them. They are able to foresee in which way the trends will have reshaped the system, and imagine a desirable future system in the even further long term. Such an entrepreneur is a **leader** who embarks on a difficult but rewarding mission - to change/challenge the future system and gear it towards their preferred vision. Crucially, their work goes beyond the goals of their own organization/company; it relies on mobilizing other actors to join forces into making that vision become reality.

The following sections of this foresight kit are inspired by the paths mapped in the image below. However, because the aim of this kit is to encourage students to generate entrepreneurial ideas infused by futures thinking, we will not address the path of the *Optimiser* and the *Early adopter*, which are rather rooted in the present. The paths/steps we will embark on are depicted below.

*Suggested slide: Future oriented paths towards entrepreneurship*



For each step, we will suggest prompts for facilitators, activities to engage the students, and provide additional resources and/or tips.

To showcase the concepts and activities proposed in this kit, we illustrate each of the steps from 1 to 5 with an example that emerged from the workshops carried out in this project, where the explored system was Tertiary Education.

## Step 1.1. Choosing the system(s)



### Prompts for facilitators

- The goal is to have students identify a system they are interested in - a system they know well enough that they are able to explore in a meaningful way. Collect their proposals on a flipchart. You may also suggest to them this list of sectors, which we have used in prior workshops with students and proved fertile ground for entrepreneurial idea generation:
  - ❖ food
  - ❖ retail/shopping
  - ❖ urban mobility
  - ❖ dating
  - ❖ tourism
  - ❖ fashion industry
- Selection of the system - have all students vote on their preferred system, based on their existing knowledge about it, their interest to research and learn more about it, their excitement about the changes that might reshape that system.
- Create the working groups - after all students voted, select the top 4-6 systems (equal to the number of groups you are about to form) - as much as possible allows students to join their top choice, or second top choice, while making sure that groups are numerically balanced.



### Activity to engage students

Brainstorm the systems you would like to explore, be them sectors or industries or niches that you think are ripe with opportunities. Starter examples: retail (everyone loves shopping!), dating (we are all in the pursuit of love!), fashion (in all honesty, everyone wants to look amazing)...go on, suggest other systems. Make sure you

propose sectors/industries that you relatively understand and you are eager to learn more about.



### Tip for students

❖ The more specific you are, the better: for example, health, as a sector, is very complex. Just as an example: If you are interested in mental health, then that is already considerably narrower. Or it could be reproductive health, or the 'softer' area of 'wellbeing'.

## Step 1.2. Understanding the system(s)



### Prompts for facilitators

- **A shared understanding of the system**

A system is a "world" populated by various actors/stakeholders that perform different roles and engage in multiple relations with other actors. All stakeholders have different interests and needs. These actors are connected to each other, through different types of relationships - one actor may have great influence over the other, or the influence may be reciprocal. In our exercise, we will draw the actors as nodes, and their connections as arrows. It's important that each student group builds a common understanding of who the key actors are in the system, and reflect on their relations, so they all have the same landscape in mind for the rest of the exercise.

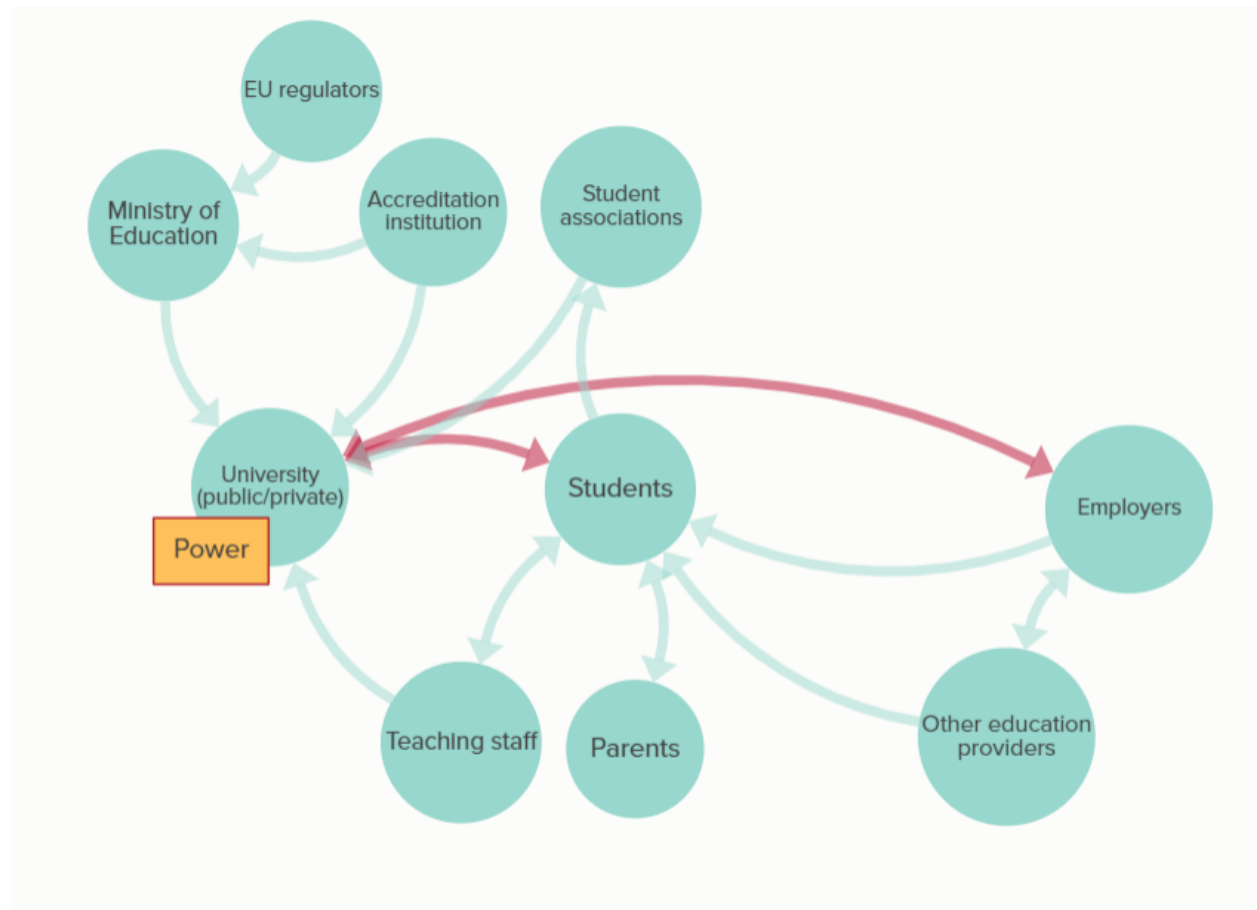
- **Power concentrations and tensions**

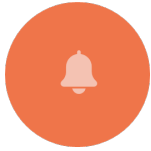
It's worth noting that some actors hold more power than others (power they've been invested with, or have gained over time), so those actors will be marked with a P (=power). Moreover, it's helpful to bear in mind that not all actors co-exist in perfect harmony; in any system there are tensions between actors (usually because they have competing needs or interests); participants will mark those tense relationships with a T (=tension). The way the power concentrations and tensions may change under the influence of drivers of change is in fact a resource for identifying opportunities for innovation. For example, a new powerful actor might totally change the game in an industry. Or, a previously tensioned relationship between two actors shifting to a relation of cooperation and mutual support might create excellent opportunities for growth for both of them.

The drawing will look similar to the one below, but of course instead of actors in tertiary education students will write down the name of the actors (institutions, companies, stakeholder groups etc) in their system of choice.



Suggested slide: Example - System mapping for Tertiary Education





## Activity to engage students

- Drawing the system

Each student group is invited to draw the system of their choice on the flipchart/whiteboard, in line with the instructions above - nodes as actors, lines/arrows as relations, marking with "P" the actors that have considerable power and with "T" the relations where there is tension between actors.

- Presentation by each group

Each group presents their representation of the system. The other groups may ask questions or even suggest enrichment of their system mapping.



## Tips for students

- ❖ Place the beneficiaries in the center of the drawing, as they will also be at the core of your future entrepreneurial ideas. Whether they are customers, patients, users, make them your focus and draw the other actors around them.
- ❖ Make sure the nodes are actors/entities, not principles or values (e.g. "University" is an actor, "education" is not)
- ❖ Do not copy systems views (which you may quickly copy paste from the internet); instead, create your own shared understanding
- ❖ Improve this drawing iteratively - if the drawing gets too messy, use a second flipchart to redraw the system

## Step 2. Drivers of change



### Prompts for facilitators

- **Why focus on change?**

Drivers of change influence elements on the system map. As they impact one or more elements of the system, they may bring significant, disruptive change, causing elements of the system to transform radically and/or to behave in a new and/or unexpected way. This interaction is one of the sources of surprise and insight in a foresight exercise, and at the same time a fertile ground for entrepreneurial ideas that aim to be relevant in a future world, as opposed to merely speculating present opportunities.

- **What is the adequate time horizon to explore drivers of change?**

When exploring drivers of change, one may have different time horizons in mind - from the near future (3-5 years), to the mid term (5-7 years), to longer-term (10 years), and sometimes even the very long term (20, 30, 50 years). In the context of generating entrepreneurial ideas, it is important to balance two ambitions - on one hand, the leap into the future needs to be big enough to allow imagining some significant transformations of the current system; on the other hand, it needs to allow for coherent and feasible action points in the present.

In this context, we recommend focusing on a time horizon of around 10 years, which allows exploring interesting and impactful shifts in the system, and at the same time allows taking concrete actions in the present that will have palpable, desired outcomes in this timeframe.

- **Where does change stem from?**

Horizon scanning is a systematic research process aimed at identifying disruptive developments and emerging trends.

The most usual approach in horizon scanning is STEEPV, which refers to Social, Technological, Economic, Ecological/Environmental, Political domains and Values. When information is collected, it is organized into those categories and analysed. The question guiding the work is: what changes in each of these areas have the potential to reshape the system of interest?

- **In which form comes change?**

In foresight, factors of change are usually categorized under the following labels:

**Weak signals** are emerging phenomena in the form of data points that indicate that significant change is underway. These can be changes generated in any of the STEEPV areas mentioned above, so they may come from society, as well as technology, from shifts in human behaviour, attitudes and values and so on. Weak signals have not become trends yet, but could become an emerging pattern or a major driver. Weak signals are not obvious to the naked eye but have the potential to create significant changes both directly and indirectly in the environment. In other words they are those instances of change, not obvious, but still palpable, that are perceived when looking beyond our immediate context.

An **emerging issue/trend** is the result of an organic grouping or clustering of weak signals that together are gaining strength. Emerging issues can easily become mainstream, but can also fade away and die off.

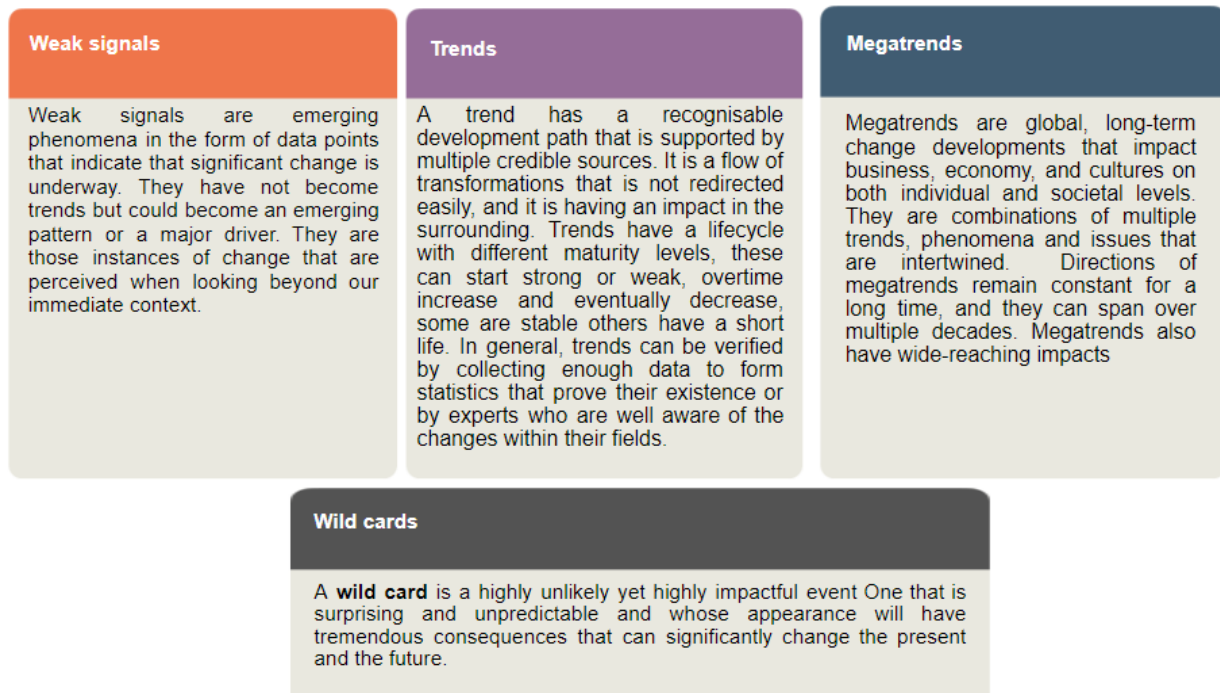
A **trend** has a recognisable development path that is supported by multiple credible sources. It is a flow of transformations that is not redirected easily, and it is having an impact in the surrounding. Trends have a lifecycle with different maturity levels, these can start strong or weak, overtime increase and eventually decrease, some are stable others have a short life. Trends are these events that are already occurring or have faded away, therefore are either in the present and some even in the past. In general, trends can be verified by collecting enough data to form statistics that prove their existence or by experts who are well aware of the latest changes within their fields.

A **wild card** is a highly unlikely yet highly impactful event One that is surprising and unpredictable and whose appearance will have tremendous consequences that can significantly change the present and the future.

**Megatrends** are global, long-term change developments that impact business, economy, and cultures on both individual and societal levels. They are combinations of multiple trends, phenomena and issues that are intertwined with each other. Directions of megatrends remain constant for a long time, and they can span over multiple decades. Megatrends also have wide-reaching impacts that can be felt even on a continental level. However, how the megatrend's effects manifest in particular geographical areas or industries may vary. Some of the megatrends include urbanisation, climate change and the ageing of the population.

Bundling **weak signals** into a pattern leads to an **emerging issue**. A set of emerging issues can be clustered into a **trend**, and finally a group of trends are converging either into a **megatrend or trend cluster**.

### *Suggested slide: Types of drivers of change*



- **How to assess drivers of change?**

The drivers of change have different degrees of likelihood, and can exert different levels of impact on the system of choice. That is why they are usually assessed in terms of:

- Probability - what is the groups' perceived likelihood that this driver of change will come to realization? If the driver is a mega trend or a mature trend, then it is already a certainty. But with weak signals and emerging trends, the likelihood is always debatable. We use a scale from 1 (very unlikely) to 5 (highly likely) to assess each of these drivers.
- Impact - what is the group's perceived importance of this driver of change, in terms of how much impact it can exert on the system of choice? Some drivers can introduce slight modifications in the system, whereas others can massively change the game in that respective system. We use the scale from 1 (very low impact) to 5 (very high impact) to assess each driver of change.

The result of this stocktaking of drivers of change is the identification of the top 3-5 most impactful drivers that may bring notable transformations to the system of choice.

*Suggested slide - Example of drivers of change for the Tertiary Education System*

<b>Factors of change</b>	<b>Type</b>	<b>Impact type</b>	<b>Impact (1-5)</b>	<b>Probability (1-5)</b>
Social				
<ul style="list-style-type: none"> <li>● Ageing population</li> </ul>	M	- Less students, some older students	3	4
<ul style="list-style-type: none"> <li>● Foreign students from younger societies</li> </ul>	T	- Cultural diversity	3	4
<ul style="list-style-type: none"> <li>● Increasing social inequality</li> </ul>	M	- Access to education	2	3

		challenges; new scholarships		
Technological				
<ul style="list-style-type: none"> <li>• <b>Learning platform providers</b> (=vast bodies of knowledge available)</li> </ul>	E	- <u>Life Long Learning</u> ; <u>Focus on skills</u> ; <u>Professor as facilitator</u>	5	5
<ul style="list-style-type: none"> <li>• Increased importance of social media</li> </ul>	T	- Importance of group behavior, democratization of edu., expression of opinion	5	4
<ul style="list-style-type: none"> <li>• <b>Generative AI (e.g. Chat GPT)</b></li> </ul>	E	- Challenge in evaluation - Quest driven learning	4	4
Economic				
<ul style="list-style-type: none"> <li>• Decreased student employability</li> </ul>	T	- Alternatives to higher education	5	4
<ul style="list-style-type: none"> <li>• <b>Need for up/re-skilling</b></li> </ul>	T	- More <u>Life Long Learning</u>	5	5
<ul style="list-style-type: none"> <li>• Companies providing certification</li> </ul>	E	- Skipping university	4	4
Environment				
<ul style="list-style-type: none"> <li>• Climate change</li> </ul>	M	- Reduced mobility	4	5
<ul style="list-style-type: none"> <li>• <b>Circular economy</b></li> </ul>	T	- <u>Resource frugality</u>	5	4
Politics & Governance				
<ul style="list-style-type: none"> <li>• More integrated European Higher Education Area</li> </ul>	T	- Common standards	3	4
Values & Behavioral changes				
<ul style="list-style-type: none"> <li>• Work/Education - life balance</li> </ul>	T	- Expectation to work	4	4



<ul style="list-style-type: none"> <li>• Individuality</li> </ul>	T	less - Expectation for customized education	4	4
<ul style="list-style-type: none"> <li>• <b><u>Shorter attention span &amp; affinity for form</u></b></li> </ul>	E	- 'Frugal' education, <u>visual content</u>	5	5
<ul style="list-style-type: none"> <li>• Self education</li> </ul>	E	- No certificate	4	4

Legend:

**Type:** WS - weak signal; E - emerging trend; T - trend; WC - wild card; M - mega trend

- **Do drivers of change interact?**

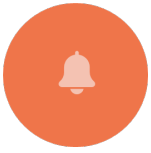
The drivers of change exert an influence of their own on the chosen system. But just as well, two factors taken together might amplify each others' effect or, or on the contrary, might dilute/reduce each others' effect. For the purpose of this exercise, it is important to identify the cross-amplification potential of the drivers of change.

Thus, assuming drivers of change do come to realization (so their probability, as explained in the section above, has become certainty), a cross-amplification matrix can be used to evaluate how pairs of drivers of change influence each other. The following scale is to be used:

- 2 - high amplification between the respective two drivers
- 1 - small amplification between the respective two drivers
- 0 - no amplification between the respective two drivers

*Suggested slide: Example of cross-amplification matrix for top drivers of change affecting the Tertiary Education system*

	Need for up-skilling	Learning platform providers	Shorter attention span & affinity for form	Circular economy	Generative AI
Need for up-skilling					
Learning platform providers	<b>2</b>				
Shorter attention span & affinity for form	<b>0</b>	<b>2</b>			
Circular economy	<b>0</b>	<b>1</b>	<b>0</b>		
Generative AI	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	



## Activity to engage students

- **Reflect on changes that have taken place in the last 10 years**

To warm up, invite students to think of considerable change that has taken up in the last decade, from any area of life. This may involve the system they have chosen to explore, but they should not be bound to it. How have things changed in the way we learn, shop, travel, eat, learn, love? Many of these changes have been brought forth by technological innovation, but there are plenty of changes in people's values, their dreams and fears and rituals, but also changes stemming from regulation, politics or geopolitics. Enjoy going down the memory lane!

Students don't need to work in groups for this exercise, a simple show of hands is enough, while the moderator collects ideas on the whiteboard. Take a few minutes at the end to reflect on the power of these changes in our lives.

- **Identify relevant drivers of change for the system of choice**

For this exercise, students will be working in their groups, identifying factors of change across the STEEPV dimensions and across multiple levels of change (from weak signals to megatrends). This is a brainstorming session, so there is no need to edit and curate thoughts too much; instead allow ideas to flow and have a person in the group jot them down on the flip chart/whiteboard. The group facilitator assists the group - not feeding them ideas, but making sure, if needed, the group is considering various areas of change (not only focusing on technological change, for example). For structure, students are invited to use a table as the one below:

Factors of change	Type	Impact type	Impact score (1-5)	Probability score (1-5)
Social				
Technological				
Economic				
Environment				
Politics & Governance				
Values & Behavioral changes				



## Tips for student group work

- ❖ Students should use various sources (see suggested resources on page 23) for identifying trends, go as broad and as deep as the preparation time allows them. Encourage students to form a habit in browsing such sources periodically, not just during this particular foresight exercise.
- ❖ There is no need for quantitative estimations - the horizon scanning does not seek to make accurate predictions, but to identify and explore patterns of change (some more mature, some emerging).

- **Evaluate drivers of change in terms of likelihood and impact**

Now that you have the table full of interesting factors of change, it is time to look at them with a critical eye and evaluate, as a group, each of them on the basis of two criteria:

- the degree of impact or 'importance' (assuming it takes place) and
- the 'probability of that driver of change to happen' (in other words the degree of 'uncertainty' surrounding it).

Make these assessments using a scale from 1 to 5, where 1 means very low impact / very low probability and 5 means very high impact / very high probability. Make these evaluations in the same table (see above the template with the example on the education system).

The aim is to identify the **3-5 factors or trends that are the most important** and the most certain. They will help you flash out the impact scenario - the world as it will be in the future, under the influence of those drivers of change.



## Tip for student group work

❖ Don't feel intimidated, this is not supposed to be a precise, expert-based evaluation. For some factors you will be more confident in evaluating their impact and probability, for others less so; sometimes judging on the comparative is helpful (if we assessed factor A this way, how is it compared to factor B?).

- **Identify cross- amplification effects of top 3-5 selected drivers**

In the table below fill in the top 3-5 drivers of change, both on the first column and first row, respectively (just in the example provided above for the Higher Education).

In the white cells where one factor intersects another, give a score that suggests whether there is an cross-amplification effect, as follows:

- 2 - high amplification between the respective two drivers
- 1 - small amplification between the respective two drivers
- 0 - no amplification between the respective two drivers

	Driver 1	Driver 2	Driver 3	Driver 4	Driver 5
Driver 1					
Driver 2	<b>Score</b>				
Driver 3	<b>Score</b>	<b>Score</b>			
Driver 4	<b>Score</b>	<b>Score</b>	<b>Score</b>		
Driver 5	<b>Score</b>	<b>Score</b>	<b>Score</b>	<b>Score</b>	



## Recommended resources for horizon scanning

Depending on how much time is allocated for the workshop and, particularly, for the step regarding the identification of drivers of change, students might complement their brainstorming session with a research session, visiting relevant sources. Below we recommend both generic sources that usually publish future oriented content, but also some thematic sources that deal with the sectors/industries/systems that might be interesting for students to explore in the workshop.

### General sources

International and national bodies - trends, reports and analyses	<ul style="list-style-type: none"><li>○ <a href="#">World Economic Forum Strategic Intelligence</a></li><li>○ <a href="#">World Economic Forum Global Risks report</a></li><li>○ <a href="#">US National Intelligence Council</a></li><li>○ <a href="#">SITRA - Finland's Innovation Fund</a></li><li>○ <a href="#">Dubai Future Foundation</a></li></ul>
Publications and their Social media accounts - some are specialized (e.g. technological or scientific factors of change), some aggregate information from multiple sources	technologyreview.com, futurism.com, futurity.org, techcrunch.com, wired.com, mashable.com and many others
Innovation & Foresight organizations providing periodic compendiums of trends on various issues:	e.g. <a href="#">Future Today Institute</a> ; <a href="#">Shaping Tomorrow</a> ; <a href="#">Nesta</a>
Commercial organizations/ consultancy organizations that have futures units that regularly publish their work or organizations that conduct proprietary work for clients but will often publish more general findings	e.g. <a href="#">Deloitte</a> ; <a href="#">Arup</a> , Ford, Shell



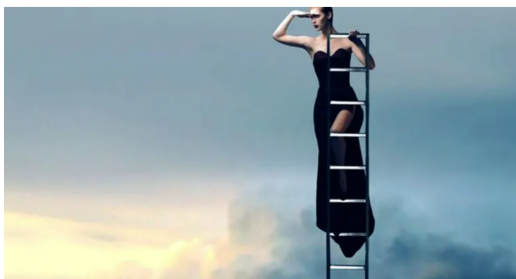
## Sources regarding several sectors/industries



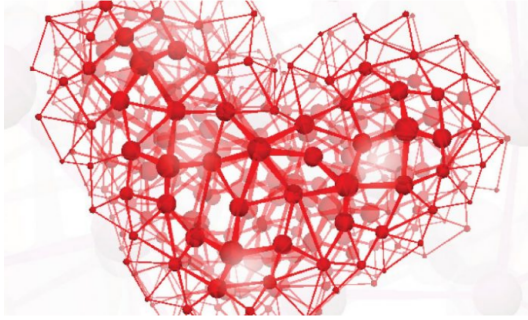
- [The Future of Food and Agriculture - Drivers and triggers for transformation](#) (publ. 2022) | FAO
- [Reimagining the Food System: scanning the horizon for emerging social innovations](#) (publ. 2021) | Institutul de Prospectiva



- [40 Future Retail Trends to 2030](#) | RetailEconomics
- [Future of Retail 2030 - Trends, drivers & enablers](#) | FUTURICE
- [Retail 2040](#) (publ. 2022) | Institutul de Prospectiva



- [The State of Fashion 2023](#) | McKinsey
- [Front row: Seeing the fashions of the future. Fashion 2030 study](#) | KPMG



- [TINDER'S YEAR IN SWIPE™ 2022](#)
- [Trends set to enhance online dating](#) | *Entrepreneur*



- [Megatrends shaping the future of tourism](#) (publ 2018) | *OECD*
- [Trends and Signals of the Future of International Travel in Finland](#) | Visit Finland
- [What are the travel trends up to 2030?](#) | hotspot.earth



- Driving forces and key technological innovations: [The future of sustainable urban mobility - how will we move in 2035?](#) | *Politecnico di Milano*
- [The future\(s\) of mobility: How cities can benefit](#) | *McKinsey*

## Step 3. Future/Impact scenarios



### Prompts for facilitators

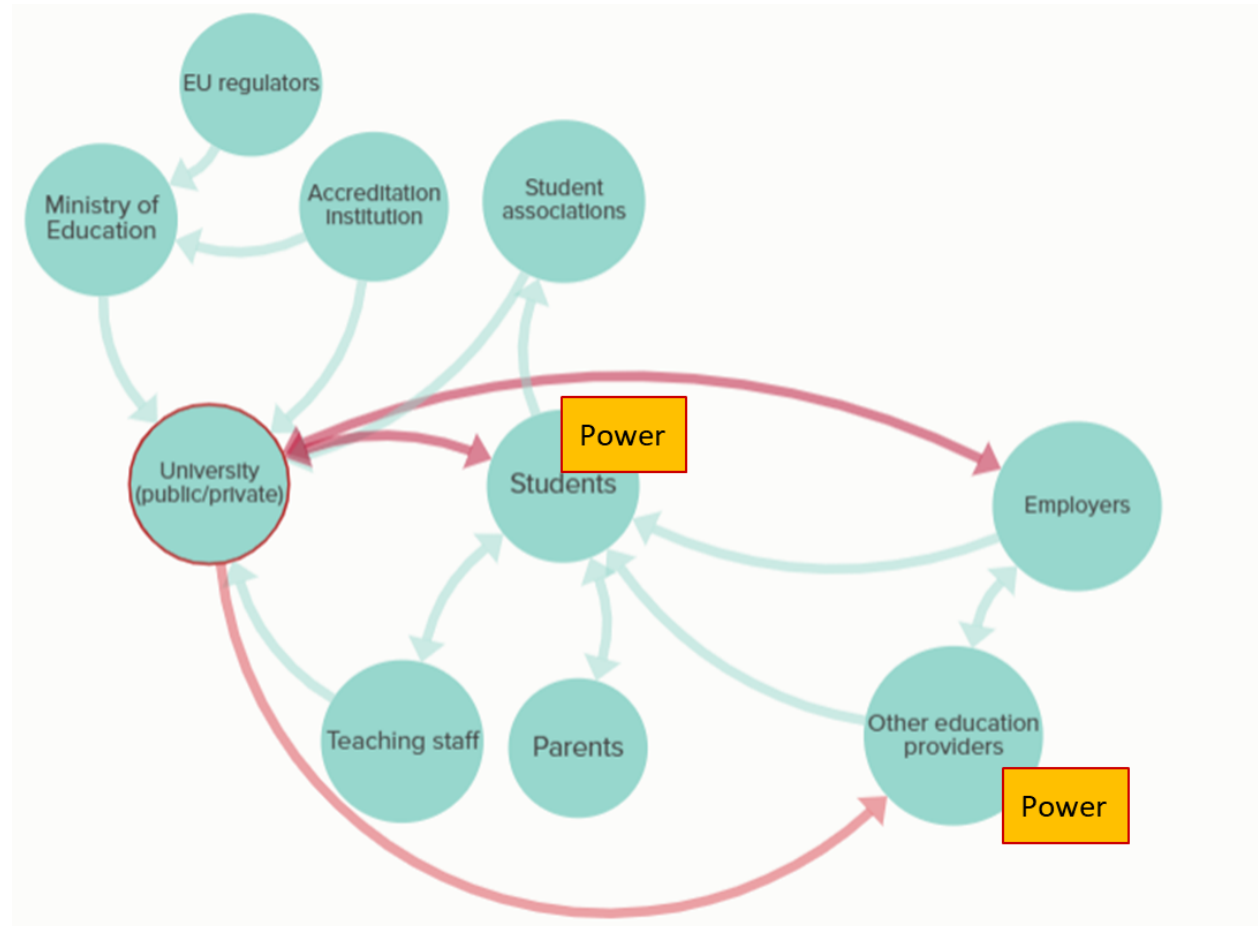
- **What is a future scenario?**

A future scenario, also called an impact scenario is a 'story' illustrating visions of possible futures or aspects of possible futures, highlighting the discontinuities from the present and revealing the choices available and their potential consequences. Scenarios explore how the world would change if certain trends/drivers of change were to strengthen or diminish, or various events were to occur.

Whichever system students choose to explore, it is a certainty these systems will also change, with new actors emerging, others fading or changing profile - in this context, the concentration of power might shift from some actor(s) to other(s). Also, new relationships will be formed among the old and new actors, and certainly some of them will be tense (there is no utopic world where everyone is perfectly happy, in the new arrangement there will be new tensions stemming from the redistribution of power).

Normally a set of scenarios are developed (between 3-5) representing different possible futures. These scenarios are then used to review or test a range of strategies or plans: the conclusion generally being that different plans are likely to work better in different scenarios. Alternatively, scenarios can be used to stimulate the development of new strategies or plans (in your case, business / start-up plans). For pragmatic reasons, in our work **we will focus on fleshing out only one scenario, based on the top drivers of change selected in the previous step.**

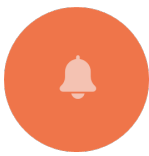
*Suggested slide: Example of Updated System Mapping for Tertiary Education*



As the previous step - identification of most important drivers of change for Tertiary Education - revealed, the system will be impacted in a number of ways:

- New learning platform providers will cater to the increased need for re-skilling and up-skilling, allowing learners of various ages to sharpen or acquire new competences, reshaping, as a consequence, the role of professors.
- The higher sensitivity to resource scarcity will push all systems to redesign towards resource frugality, which in the case of tertiary education might mean reducing transportation and housing, and other costs associated with faculty and campus activities.

- Learners will be less and less inclined to engage with long and tedious learning programs and large volumes of educational materials, preferring instead to invest their attention on smaller 'nuggets' of information, presented in an appealing, often visual format.
- The rise of better and better generative AI (e.g. building on and improving the current services that use AI to generate text, images, videos) will amplify the availability of a myriad of learning materials in appealing formats



## Activity to engage students

- **Update your understanding of the system**

You will now redraw the system of your choice, in light of the top drivers of change you have selected. Keep your previous drawing in sight and, on a separate flipchart, redraw the system. What are the new actors? Have any of the old actors disappeared or changed their roles? Who are the most powerful actors in this updated system? What are the new relationships forged between the actors - between the old ones, the new ones, the old and new ones? Where does the tension lie in this new world?

Then you will create a short narrative of around 3 paragraphs - the impact scenario - that describes your system of choice (sector/industry/niche) as it is in 2030, in light of the impact the drivers of change have had on your system. The updated mapping of your system is the backbone of this impact scenario, as it describes the actors and their relations.



## Tips for student group work

- ❖ When narrating the impact scenario, keep the beneficiary/ies at the core of the story, in what ways will their life change, in light of new actors, new relations, new tensions?
- ❖ Avoid desirability bias, so don't project your preferred outcomes on the future. Instead, describe the future system as you honestly think will be molded by the drivers of change. This also means you will have to accept some contradictions (future tensions), as no new world/system is a perfect one.

## Step 4. Being an Anticipator - entrepreneurship for the future system



### Prompts for facilitators

- **How do I want to position myself in the future scenario?**

Once the future/impact scenario has been fleshed out, it's time to ask yourselves what kind of actor you want to be in this world, and what kind of relations you want to forge and with whom. Many options are available, so this is a strategic choice to make, based on your intuition and insights regarding what might be some of the winning bets to make in this future world. You can decide you want to be one of the actors that previously existed in the system, but with new traits and different modes of operation. Or you might want to create the space for yourself as a new actor in that sector, proposing a new way of doing things.

The choice made should be guided, always, by a desire to better serve a certain beneficiary, as this ensures the premises for relevance and success. Moreover, It's recommended not to settle for the first ideas, for the obvious evolutions, as it's very likely that many other entrepreneurs might also think to occupy that space.

## *Suggested slide: Example of entrepreneurial idea in Tertiary Education based on the future scenario*

### **WHO DO WE WANT TO BE IN THE FUTURE SYSTEM?**

The new cool & dynamic content provider

### **WHAT WILL WE PROVIDE**

Online platform (Netflix style)

- Visual /high quality short movies
- Navigation through diverse content

### **HOW WILL WE PROVIDE**

- Combining AI & experts for
  - *Mapping relevant knowledge* - AI & Experts for curation
  - *Short movie production* - Generative AI & Visual artists & Domain experts.

Let's give it a name: *University studios*

The example on the slide showcases the stub of a potential entrepreneurial path in the context of the future scenario of the tertiary education system. In this case, the participants chose to position themselves as the new, cool university which positions itself as dynamic content provider

Their offer is based on a few pillars:

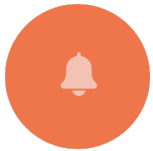
- High quality content that is also presented in an attractive format, capitalizing on the appeal visual/video content has on learners.
- Intuitive navigation between different areas of content, based on their acquired competences and their desire to extend their knowledge.

The offer builds on a few traits, supported by some technological features that emerged as highly important in the scanning for drivers of change:

- Artificial Intelligence and expert input used for mapping knowledge areas
- This involves identifying core knowledge building blocks in a certain domain and recommendations for possible paths for new knowledge acquisitions
- Artificial intelligence complemented by expert insight in order to curate content
- Generative AI in conjunction with visual art experts and domain experts to produce short educational movies.



Special attention should be given, in this case, to the responsible development and use of AI, from an ethical and legal point of view.



## Activity to engage students

In building your entrepreneurial proposition, use the following guiding lines:

- **Present Key features** - how do these features translate in usability? What is the journey/experience of the beneficiary?
- **Expected impacts** - how is/are the beneficiary/ies positively affected? You may refer to an “imaginary hero”, a person who is directly impacted by your idea, and flesh out the positive changes in their lives - how they live/work/perform, how they relate to others, in light of the product/service you put forward.
- **Challenges & solutions** - what challenges will you need to overcome and how? You may explore challenges using the same STEEPV structure (Social, Technological, Economic, Ecological, Political, Values).
- **Responsibility/ ethical issues** - are there sensitive aspects you need to address? Keeping the beneficiary in mind, are there issues that require dedicated mitigation measures? They may refer to privacy, data protection, safety etc.
- **Name your entrepreneurial idea** - give it a catchy name that you feel suggests the main trait/sell of your service/product.



## Tips for student group work

- ❖ Think of technology as a servant, not an end in itself. In what way can technology serve my purpose, to better serve a category of beneficiaries? It is alright to adapt

to change by adopting new technologies that improve your offer, just as it is alright to integrate new technologies that allow you to reach your entrepreneurial objectives faster. What you should definitely shy away from is a mindset of adopting as many technological solutions as possible, just because they are the hype.

- ❖ Choose the name at the end, after you have discussed your idea's main features and the way they impact the beneficiary.

## Step 5. Visioning a radically transformed system



### Prompts for facilitators

- **What is visioning?**

Visioning is a process by which an organization defines its long-term purpose, resulting in a description of what it hopes to be in the future. Rather than concentrating on current and persistent dilemmas, the focus of visioning processes is to clearly articulate future desirable states and transformational goals. In the context of the foresight journey presented in this kit, visioning is the concluding step that allows imagining not only a preferred future state for a certain organization, but goes beyond in imagining a desirable future state of the system in which the organization will be performing.

- **How are visions helpful?**

A shared vision inspires, engages and enables the people who co-created it. It allows them to agree on common values and goals, that have the power to mobilize actors beyond a single organization in working together towards a preferred future. The vision's power lies in 'stretching' the possibilities, while remaining realistic. A vision should go beyond dry, abstract descriptions with pompous words; a true vision is 'lived' and felt - it allows for an emotional engagement that acts as a catalyst for transformation.

- **Visions vs plans**

Visions are different from plans. In essence, the vision depicts a desirable destination, whereas a plan details the pathways towards that transformation and advances even more into operational steps. For the purpose of this foresight exercise, it is enough to flesh out a vision and discuss its embedded paradigm shifts; planning would be a distinct, follow-up effort.

## *Suggested slide: What is a vision*

Building on your entrepreneurial idea, that already ‘shakes’ the future system, envision something

- of importance, truly transforming the system, a desirable ‘paradigm shift’;
- broader than you or your organisation/business;
- that could mobilise others actors towards action.



## *Suggested slide: Example of “higher values” in education*

*Accessing the “key” knowledge of each domain*



*Learning as a gamified conquering of territories*

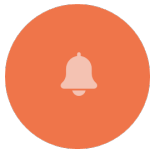


The slide showcases the stubs of two potential visions, focusing on the higher values that define two versions of future educational systems deemed desirable (note: desirability does not mean these future states of the system are void of tensions; yet these are proposed as values that can act as beacon lights that may guide efforts towards transforming the education system). Below we synthesize the traits of these vision stubs, noting that fleshing out the vision in more detail would require more steps, as suggested below in the activity.

*Accessing the “key” knowledge of domains.* Currently, areas of knowledge in any domain are ever-expanding, overwhelming and intimidating learners. The value of this vision lies in streamlining the learning process, suggesting entry gates and main

knowledge areas that a learner should explore to get a basic initial understanding of the domain (be it materials science, or literary theory).

*Learning as a gamified conquering of territories.* The value proposed by this vision build on a gamified approach to learning, where knowledge and competence accumulated is mapped out in a progression of difficulty, with guidelines for a coherent trajectory of learning and associated time and effort estimations,



## Activity to engage students

- Warm up: Identify entrepreneurs whose visions inspired others; try to brainstorm profiles from diverse systems and geographies;
- Describe the first version of the vision
  - Start with the values you want to promote. It is advisable to go beyond generic, positive-sounding words (e.g. “cooperation”, “sustainability”, “empathy”). Articulating them in more detail makes them more telling and inspiring.
  - Focus on the “what” before the “how”. Make explicit the traits of this desirable future state of the system, allow yourself a meaningful conversation about what this future system will have to offer. The time for operational thinking/planning will come after.
- Test the robustness of the vision through role playing. For the vision to have the power to inspire and mobilize others in joining the effort of transformation, it has to allow people to simulate living in that context, gaining an intuition of the positioning of different actors, new types of relationships between them.
- Update the vision. Curate, improve, nuance the initial version of the vision in light of the role-playing exercise. A vision is both a strategic tool and a device that nourishes the imagination. Thus, as with any storytelling effort, it takes a bit of time to create, edit, curate the vision narrative until it is both precise and inspiring.