



Cofinanciado por el programa Erasmus+ de la Unión Europea



WELCOME TO THE **futor**

FORESIGHT GUIDE

TO FUTURES THINKING

Futures thinking is a creative and exploratory process that helps you make better informed decisions through understanding the drivers of change in the present.

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INTRODUCTION

WHAT IS FORESIGHT?

According to the famous Merriam-Webster dictionary foresight is 'an act or the power of foreseeing' - therefore, when you practice foresight you make an effort to consider what might happen in the future. Futures thinking and foresight are sometimes used interchangeably (synonymously).

WHY A FORESIGHT GUIDE?

As a participant in FUTOR your task is to think about creative solutions to environmental challenges. To be able to do so, it is advisable that you think about not only present issues, but also the future consequences of inaction or of your proposed intervention.

WHAT TO EXPECT?

This is a brief guide over 14 pages that will introduce you to some interesting ideas and useful tools that can help you with your project.

BRIEF INSTRUCTIONS

How to use this guide

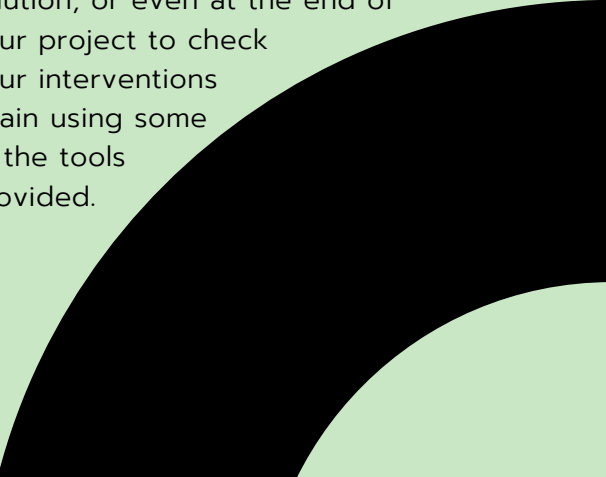
READ OR CONSULT

This guide introduces you to nine useful and interesting ideas and tools that can help you with your project. You can read through it from beginning to end or you can just pick the pages that you feel are the most important for your project.

When to read this guide

BEFORE, DURING, AFTER

Reading this guide from beginning to end at the start of your project will give you a strong foundation to base your work on. You can also consult this guide during your project, for example when you get stuck or are unsure about a solution; or even at the end of your project to check your interventions again using some of the tools provided.





WHAT IS VUCA?

VUCA stands for Volatility, Uncertainty, Complexity and Ambiguity. The term was first used in 1987 by the United States Army War College and has become increasingly popular since then. VUCA has been invented in order to better understand the present and therefore be able to make better decisions about the future.

V, U, C & A

VOLATILITY

We say that something is volatile when it is unexpected or unstable and of unknown duration. For example, for most people the Covid-19 pandemic was unexpected and its exact impact and duration unknown.

UNCERTAINTY

When there is some information available on the basic causes and effects of an event or action but change is possible. For example, the vaccines against Covid-19 are helping us to decrease the number of infections, but a mutation of the virus could change this trend.

COMPLEXITY

When a situation has so many interconnected parts and variables that it can be overwhelming to process in its entirety. Think of trying to find out the origin of Covid-19.

AMBIGUITY

The relationships between parts are completely unclear and there is no precedent to rely on. For example, a new kindergarten is established where human children attend alongside puppies, kittens and baby monkeys. Nobody knows where this would lead.

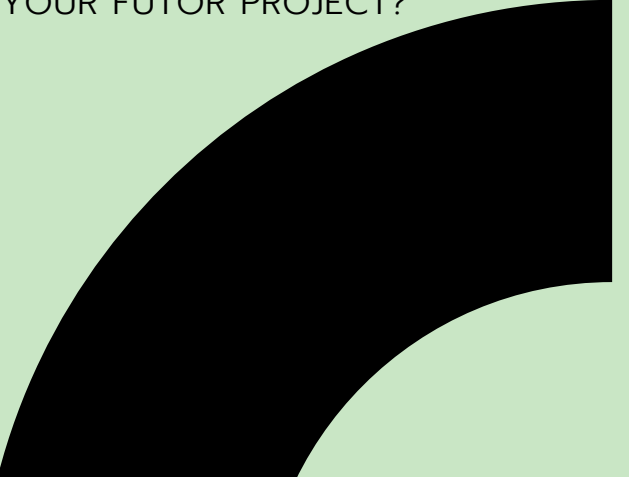
How to use VUCA?

REFLECT ON THE CIRCUMSTANCES

Any given situation or event can be volatile, uncertain, complex and / or ambiguous. Stop and reflect.

Example:

WHAT WILL BE THE IMPACT OF YOUR FUTOR PROJECT?





HORIZON SCANNING

You are scanning the horizon when you are looking for early signs of something disruptive happening. For example, dark clouds gathering is a sign of a storm coming.

THE USE OF HORIZON SCANNING

WHY HORIZON SCANNING IS USEFUL

Imagine you are doing something important, for example studying for a test or an exam. You sit down where you are but soon you realise that people are coming and going and making noise. You could have avoided being disturbed if you had chosen a quieter place to study.

TIPS AND TOOLS

Scanning the horizon is especially useful when you have little or no experience of that which you are going to do.

1) LITERATURE

It is often a good idea to start by researching the literature.

2) PEOPLE

Talking to people with experience of what you are trying to do can help you avoid the mistakes they have made.

3) COURSES OR WORKSHOPS

A course or a workshop can often prepare you for the task ahead by teaching you a tested method to complete it.

4) ATTENTION

Do not forget to pay attention!





ASSUMPTION TESTING

We all have assumptions. Think of a dish you do not like. Have you really tried and tested it as prepared by different cooks or do you just assume that it tastes the same no matter who prepares it? Assumption testing teaches us to reflect on what we believe.

STRATEGIES

ASSUMPTION REVERSAL

Make a written list of your assumptions about a topic. For example, Greenland is big, cold and covered in ice. Then reverse these: Greenland is small, warm and green. Then read up on Greenland online. You will discover that Greenland is big and cold for the most part, but - mainly as a result of climate change - some coastal areas are now ice-free allowing locals to farm certain crops.

ASSUMPTION QUESTIONING

As a second step you could ask yourself why you had some false assumptions. Using our last example, one reason why Greenland is often thought to be completely covered in ice is that on maps it usually appears as a "white island". Yet, if you look closely, most maps reveal that coastal areas are not ice-covered.

TIPS AND INSIGHT

When and why to test


TEST IN ADVANCE

Assumption testing works best when used before you begin working on something. That way you can avoid some issues that would be caused by false assumptions.

Limitations

CHALLENGING TO SPOT

Unconscious assumptions can be challenging to identify for many people. It always helps to write down your views about the topic in question and reflect on them.





FUTURES WHEEL

You have probably heard about brainstorming. Futures Wheel is a tool that helps you brainstorm in a structured way, how trends or events might impact, for example, the environment. It can help you identify unintended consequences of an event or a decision. It works best when you want to test a defined plan of action.

HOW TO USE IT

1) WRITE A DEFINED TREND, EVENT OR DECISION IN THE CENTRE OF THE WHEEL

Alone or in a group consider six possible consequences of this and write them in the first set of blank circles (the inner circles with a red lining).

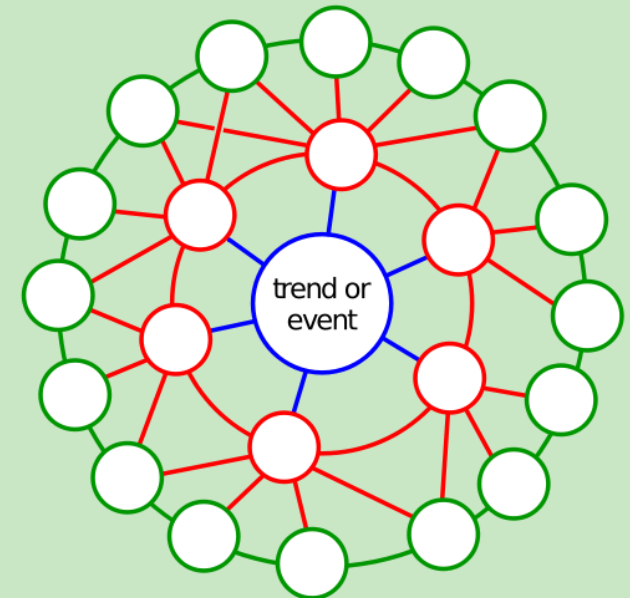
2) THE CONSEQUENCES OF CONSEQUENCES

Now brainstorm some possible consequences of the six consequences of the original trend, event or decision and write them in the second set of blank circles (the outer circles with a green lining).

3) EVALUATE

Consider the first and second sets of consequences and evaluate alone or in a group the original trend, event or decision. If one or more consequences are undesirable, you could consider whether you should come up with a different decision.

THE WHEEL



Tip: Sometimes you cannot change the original trend or event but you can still better prepare for unwanted consequences.



SCENARIOS

Scenarios are stories that describe alternative ways in which things might develop in the future. These stories can help you understand the impact and consequences of different future situations. Unfortunately, scenarios can be somewhat time-consuming to research and they can easily be mistaken for predictions or forecasts of the future.

CREATING YOUR SCENARIOS

DEFINE THE QUESTION

Start by defining what you want to use scenarios for. For example, you could use scenarios to test if creating a butterfly park is a good idea.

COVER MULTIPLE FUTURES

Using the butterfly park example, you should now consider all events and processes that could impact setting up and running your park. These could be harsh weather that would kill the butterflies, people collecting butterflies in jars, diseases, some of your peers losing interest in maintaining the park, you having too little time, and so on.

TEST YOUR PLANS

Once you have thought of as many scenarios as you can, consider how likely they are to happen and imagine how you would handle them. Give each a score between 1-5, where 1 is very unlikely and 5 is very likely to become reality. Then tick the ones you believe you are very likely to be able to handle. You should reconsider your plans if you end up with one or more very likely scenarios that have not received a tick.



WIND TUNNELING

Wind tunnelling builds on your experience with scenarios. Imagine that you have tested your plans against a set of scenarios (see page before) and you realise that there are likely barriers to your plans yet you cannot or do not want to change them. Then you may try wind tunneling.

PREPARE FOR CHALLENGES

KEEP AN EYE ON THE BIGGEST CHALLENGES

Consider the scenarios that could make your plans impossible. Alone or in a group brainstorm ways to keep these in check so that they will not surprise and overwhelm you.

MAKE YOUR PLANS MORE ROBUST

What could you do to make your plans more robust? For example, how could you protect the butterflies of a butterfly park against harsh weather? One option could be monitoring the weather forecast and providing shelter.

DELEGATE TASKS

Importantly, try not to do it all alone. Delegate tasks from day one if you have a team.

CASE STUDY

Butterfly park

DESCRIPTION

A group of four students would like to help rare butterflies multiply and educate their peers about the importance of protecting our butterflies. They decide to turn an old greenhouse in the school yard into a butterfly park.

Biggest challenges

HOW TO PREVENT THEM

One student is responsible for keeping an eye on the weather forecast, humidity and keeping the greenhouse temperature within limits, another does maintenance and two students guide visitors in the greenhouse.

Improving their plan

HOW TO MAKE IT MORE ROBUST

They place a big bucket of water with a water heater inside. This will help them with constant humidity and temperature, which are better living conditions for butterflies.



BACKCASTING

In backcasting your starting point is a desirable future outcome. Once you have imagined this, you can begin to identify the actions required to achieve your goal. Backcasting can also help you recognise barriers to achieving your goal and therefore can provide useful information for an action plan.

WORKING BACKWARDS

BRAINSTORM NECESSARY CHANGES

By now you are already familiar with a range of futures thinking tools that can help you come up with the right plan. What does this plan require of you? As a start, brainstorm the changes you and your team need to make.

ANALYSE AND REDEFINE CHANGES

The second step is brainstorming what making these changes requires. The Futures Wheel (page 6) can come be used here.

CREATE AN ACTION PLAN

Now create an action plan. You could do this by exploring scenarios and wind tunneling.

ACTION PLAN TIPS

List all required action steps

DELEGATE TASKS

Make sure that every step or task is delegated to one or more individuals and write them down. This will help avoid misunderstandings and encourages action.

Identify resources


KNOW WHAT HELP IS AVAILABLE

Resources can be people, books and digital literature, money, tools and many others. Importantly, always identify and write down your resources at the planning stage so that everyone knows how to complete their tasks.

Agree on a deadline

JUST A LITTLE PRESSURE

Agree on a reasonable deadline for every step and remind people of this deadline in advance.





PLANETARY BOUNDARIES

Now that you are familiar with several futures thinking tools and methods, we will explore some important ideas that can help us better understand the natural environment and the Planet. The first of these are Planetary Boundaries. The nine Planetary Boundaries are areas in which we need to put limits on human activity and development.

PART ONE: AIR AND CLIMATE

MINDFUL OF THE AIR - 2X

The air we breathe in sustains us and, therefore, its cleanliness is essential for our survival. Air has many components and the fine particles suspended in it, so called **aerosols** can impact both our health and the climate.

Apart from aerosols that originate from human activities that produce pollution, **ozone** is another planetary boundary linked to air quality. A layer of ozone high up in the sky protects us from the radiation of the Sun. Without this shielding ozone layer, humans and other organisms would not be able to survive. Ozone holes are thinner patches in the ozone layer produced by air pollution. In places where they occur more people suffer from skin cancer, for example.

CLIMATE CHANGE

You have probably heard that the Earth's climate is changing. For now most parts of the Planet are becoming warmer than before, the water level in the seas is rising and extreme, previously unusual weather is becoming more usual. One of the most important reasons why this is happening is that we use too much oil, coal, gas and wood. When these materials burn, the fumes they produce change the composition of the air and trap more heat around the Planet.

Note: We have discussed three planetary boundaries so far: aerosols, ozone holes and climate change. Another six are covered on the next page.



PART TWO: LIFE, LAND AND WATER

Human activity has caused the loss of countless animal and plant species and the extinction (disappearance) of species is ongoing. For example, the disappearance of bees would lead to us not having enough food since bees carry pollen from flower to flower which makes it possible for plants to produce fruits.

SOIL AND WATER POLLUTION

We often hear about air pollution, but the chemicals in the products we create affect the waters and the soil, too. Many of these chemicals remain in the soil and water for long periods of time and their quantities often increase as more and more of them are produced. They can cause illnesses in people, animals and plants and can lead to the disappearance of species.

FERTILIZERS

Although fertilizers used for growing plants contain chemicals that are naturally found in the environment, the quantities of these chemicals are so high that when they leak to lakes and other water bodies they can suffocate fish and other organisms.

WATER USE

Most of us use more clean water than what is available in our environment. It takes a long time for water to be cleaned by the soil and rocks that it filters through. If we do not start using less water, more and more of us will have no clean water to use.

LAND USE

People change their environment all the time. We build houses, blocks, factories, roads, cut down forests and create fields for our food plants and animals. As we change the Planet we affect the plants and animals that live on it and we also add to the problem of climate change.

ACIDIC OCEANS

Air pollution also impacts the composition of the oceans. It makes them acidic (like lemon juice) and harms animals and plants.

THE DOUGHNUT MODEL

The last two pages introduced you to Planetary Boundaries, the areas of human activity and development that urgently need to be limited for our own survival and the survival of the Earth itself. This page will tell you about a possible way of doing this by using a model from the Netherlands called the Doughnut, or the Doughnut Model.

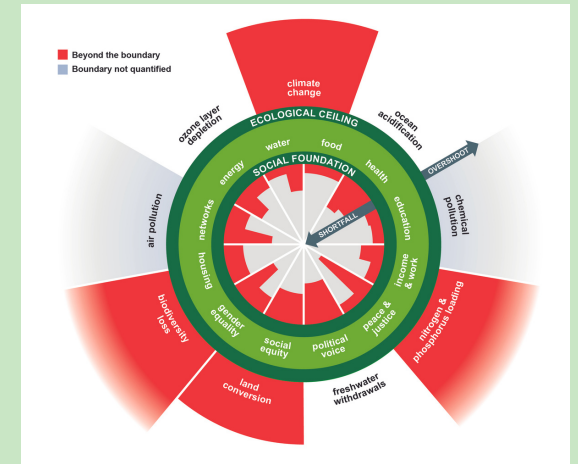
THE USE OF THE DOUGHNUT

WHY DOUGHNUT?

Take a look at the image of the Doughnut Model to the right and the three doughnuts in lower right corner of the page. Doughnuts divide space into an area inside the doughnut (the middle) and an area outside of it. The Doughnut Model uses this shape to help us see when human activities are dangerously high (the red zones outside the Doughnut), dangerously low (the red zones inside the Doughnut) or just right (the green zone, which is the Doughnut itself).

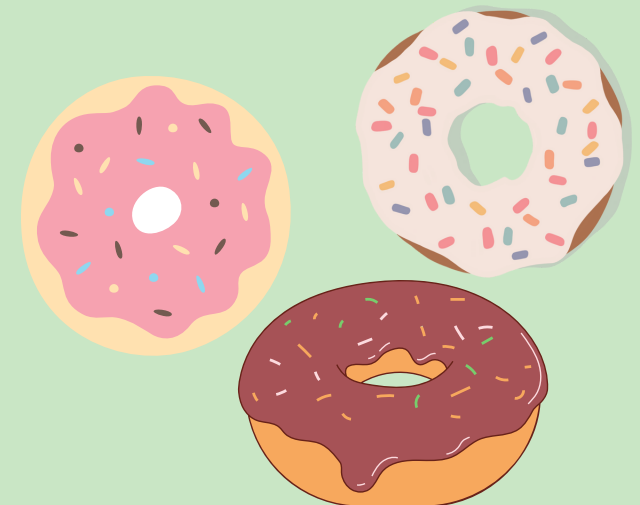
RED ZONES

When activities are in the red zones they are either too high (outside the Doughnut) or too low (inside the Doughnut). Some human activities can also be too low and cause poverty.



THE GREEN ZONE

Human activities in the green zone are just right: they are balanced between human needs and what the Earth can safely support. Activities in this zone are within the Planetary Boundaries.





DPSIR

DPSIR is an acronym, a word created from the first letters of other words, just like VUCA on page 3. In this case those original words are *drivers*, *pressures*, *states*, *impacts* and *responses*. It may sound mysterious at first, but this page will try to explain to you what DPSIR is for and how it is used.

BREAKING DOWN DPSIR

DRIVERS AND PRESSURES

Drivers in DPSIR are understood as the forces or activities that cause a problem. Pressures are the immediate effect of these forces or activities. For example, airplanes (drivers) cause air pollution (pressures).

STATES AND IMPACTS

States are understood as the resulting condition of the environment. Impacts are how this condition affects people, animals and plants. Dirty air (state) can cause illnesses such as asthma (impact).

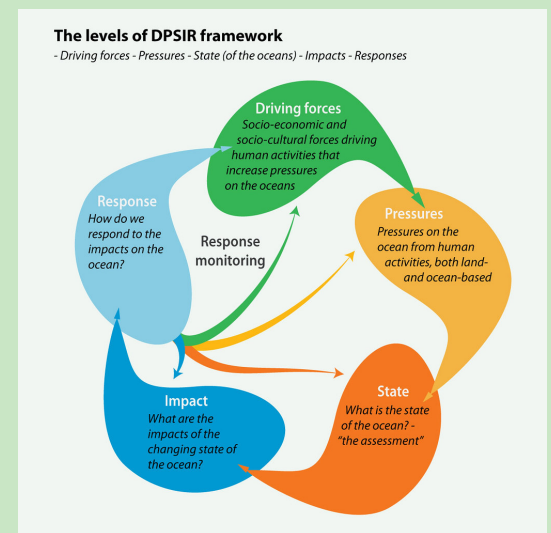
RESPONSES

Responses are how we can best respond to these problems. In other words, how we can solve or reduce the problems. If we fly less, we will reduce the pollution caused by airplanes.

THE USE OF DPSIR

UNDERSTANDING THE LINKS

DPSIR has been created to understand how our human activities lead to environmental problems and often ill health in not only plants and animals but also humans. The image below shows you how scientists work out these links and try to find solutions that can improve the situation.





AUTHORS' SUMMARY

If you are reading this page, you have probably already read the previous pages. I hope you have found this guide useful and to the point. Some ideas may still be a bit unclear to you, but do not worry: nobody expects you to be an expert on them! Help will be plentiful during FUTOR!

BRAINSTORM AND PLAN

One of the most important lessons this guide intends to teach you is the importance of good planning. All is well if you dedicate time and team effort to planning - even if you forget to use the tools and ideas listed here.

EXECUTE IN COLLABORATION

Another important lesson concerns the importance of team work. FUTOR projects are not designed for individuals, but for teams!

NO PROBLEMS, ONLY CHALLENGES!

Sometimes things go wrong no matter how well you plan and how much teamwork you invest. Solving challenges will only make you better prepared next time. Actually, they are gifts!




ABOUT THE AUTHOR

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Matyas has spent ten years working as a teacher in four different countries. He has also worked as a school counsellor, children's rights author and an environmental scientist.



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