Training Package Content

Module 3, Business opportunity recognition: cities

By Erasmus+ Knowledge Alliance for Business Opportunity Recognition in SDGs – SDG4BIZ (2021-2023)

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Introduction

You are holding in your hands the third part of the SDG4BIZ course material description which hopes to contribute to a more effective involvement of the private sector in the achievement of the UN's Sustainable Development Goals. The material is intended to be used by higher education institutions in entrepreneurship education. In addition to the academics, this material can also be used by the companies of the various kinds to train their own employees and executives and secondary education. The training material was created by the Erasmus+ Knowledge Alliance for Business Opportunity Recognition In SDGs - SDG4BIZ project team during autumn 2021 and spring 2022. The material was tested and piloted before the final version of this document was completed and published in the autumn of 2023. Although this package is mainly the result of the work of entrepreneurship education experts and researchers from two higher education institutions in Finland, it has been directly and indirectly influenced by the views and expertise of all SDG4BIZ project partnership.

The starting point for the development of this material has been that the Sustainable Development Goals (SDGs) set by the United Nations 2015 are likely not met by the target year 2030, if companies do not recognize and utilize the business opportunities inherent in them. It has been estimated that up to 80 million jobs would be created and €10 trillion in business opportunities would be unlocked, if SDGs were realized by 2030. However, the companies have not been able to utilize this growth potential so far. In addition, higher educational institutions (HEIs) focusing on business studies have not offered adequate training and support the competence building of future managers for solving the world's most urgent problems. The mainstream of the training efforts of SDGs, still focus on the awareness building only, not business opportunity recognition related to SDGs. We hope that the effort in SDG4BIZ project and the quality of this material will also motivate other educational institutions and organizations to adopt the training content.

The complete material of SDG4BIZ training consists of five parts, modules. This document, Training Package Content of Module 3 is the third part. It is titled: Business opportunity recognition: cities. The other four modules, address specific opportunities in:

- Sustainable development goals in business opportunity recognition (Module 1)
- Food and agriculture (Module 2)
- Energy, materials and industry (Module 4)
- Health and wellbeing (Module 5)

Each module is equivalent to five credits (ECTS). Please note, that there is a description in a separate document for each module. The set of these descriptions of the five modules is supported by the curriculum (SDG4BIZ curriculum and training package description) and a learning platform (sdg4biz.itslearning.com). This material is available in several languages: in English, Finnish, Spanish, Slovak, German and Turkish. These language versions are more modest workflow-related text files, the function of which was to support the export of translated versions to the learning platform.

In the case that the pedagogical flow, a study path, is matter of interests as it is mounted on a learning platform, please, go to the project page at https://www.sdg4biz.eu/en/. On this page the final policy on how this pedagogical pathway, as implemented in the learning platform, will be accessible after the project.

This module 3 was created by three partner organizations of the SDG4BIZ consortium: TKNIKA has built most of the package. Haaga-Helia UAS and Metropolia UAS have been involved in the development.

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Citation Unless otherwise specified, Courtesy to SDG4BIZ Erasmus+ project partners SDG4BIZ Training Package Content, Module 3, Business opportunity recognition: cities, 2022

Learning goals

This module, Business opportunity recognition: cities, is divided into an orientation (0) and seven sections (1-7) containing actual learning support materials. The orientation, the actual learning section and the expected learning outcomes are as follows.

Sections of module 3	ECTS	At the completion of the section…
	0	**Orientation** 0. the learner outlines the main themes covered in the module of cities and understands the use of the portfolio in learning assignments; the Learner knows the overall structure of the module 3 and how to utilize the learning diary.
	1	**Sustainable growth (SDGs)** 1. the learner can identify SDGs in the context of cities and how these SDGs are relevant for business inthe context of cities.
	1	**Context** 2. the learner analyses factors and megatrends that influence sustainable development at an individual, organizational and societal level within cities we live and work in.
	1,5	**Motivation** 3. the learner recognizes what motivates individuals and organisations to develop sustainable business ideasin cities and communities.
	0,5	**Resources and networks** 4. the learner is able to analyse resources to recognize sustainable value creation. The learner identifies howto manage networks supporting sustainable value creation.
	1	**Business modelling** 5. the learner identifies sustainable business models in cities according to the three different areas selected: silver economy, circular economy, and mobility; the learner analyses business models in cities according to the three different areas selected: silver economy, circular economy, and mobility.
	0	**Next steps** i. the learner is ready to select the next module and answers for the call for action.

How to use this material

The structure of the document has been chosen specifically to help you build an online course using this material. The package can also be used in the classroom although in that case, the pedagogical material, such as workshop manuals or lecture notes, must be further developed. In other words, this material provides rich content and tips for the classroom yet requiring some adaptation.

In addition to the orientation and final parts of the Module, the course is divided into five different sections. In this document, these sections are numbered. The structure of the sections is displayed in a table with two columns. The left column of the table points out a number and a title as well as the order in which the items are designed to be presented. Regarding the content itself is in the right column. Not all the components carry a title nor a number. These elements fall under the headings above them. The intention is to emphasise the specificity of the content block in relation to the preceding ones, and to suggest certain order for the presentation of the items. The structure is demonstrated below: 1.1.1. indicates the place of the item in the study path, “SDGs in Cities” is a sub-title and the content itself follows the subtitle, in this case with a suitable picture.

1.1.1 SDGs in Cities

This section will analyse the impact of the SDGs at the city level. To do so, a brief reminder of the SDGs discussed in module 1 will be given.

To this end, greater emphasis will be placed on those whose impact on cities can lead to better business model opportunities. During the section you will listen to experts talking about the importance of reflecting on the impact and opportunities that the SDGs provide us and in the Business Modelling section you will find experiences of entrepreneurs who have built their business models in the field of cities.

(picture)

Image 2 “New York” , NY: The Real Emerald City, Patrick O'Neill, 2012, https://newyork.thecityatlas.org/lifestyle/new-york-ny-the-real-emerald-city/ , Accessed 14 December 2022.

As SDG4BIZ course is designed to be a self-study course, the learning diary and multiple-choice questions play an important role in verifying learning. Occasionally, the same questions are repeated in the immediate quizzes (Self-tests) and in the final examination (Actions to finalize the course, test). Poll questions (VOTE), in turn, have an orienting function. Poll questions, discussion questions and reflection exercises can also be used in the classroom.

The bibliography and references for each section can be found at the end of the section. Third-party material, books, videos and images form an important part of the study path. However, these have been removed from this material e.g. for copyright reasons. On the other hand, simple search functions, either on the international information network (known as Internet) or in library databases, enables one to replace the indication text (video, picture, article etc.) with updated resources available. In some cases, the material also includes a suggestion on the length of a video or a podcast. The selection of the original links (2021-2022) is added on annexes.

In the annexes you will find other material added to the course such as the lectures and the transcript frameworks.

0. What's in it for me?

DESCRIPTION

(picture)

Image 1 "NY city." Spotlight on SDG 11: Sustainable Cities, UNA-NCA, 2021, https://medium.com/una-nca-snapshots/spotlight-on-sdg-11-sustainable-cities-7a79fadd3116 . Accessed 14 December 2022

Welcome to study sustainable development goals opportunities in sustainable cities and communities. The module is structured in 5 sections, each of which provides different points of view of developing business opportunities in cities.

0. SDGs
1. Context
2. Motivation
3. Resources and networks
4. Business modelling

LEARNING OBJECTIVES

The learner outlines the main themes covered in the module of cities and understands the use of the portfolio in learning assignments.

The Learner knows the overall structure of the module 3 and how to utilize the learning diary.

RESOURCES AND ACTIVITIES

0.1. Welcome

Our group of co-designers warmly welcomes you to explore business opportunities brought up by the SDGs in cities.

Pili Alonso, Mari Jose Barriola, Miren Canellada, Jone Etxebeste and Amaya Sastre from Tknika, Basque Country

Annariikka Rosendahl from Haaga Helia, Finland

Perttu Pohjonen from Metropolia, Finland

0.2. Introduction to the learning diary

0.2.1. What is a learning diary?

Throughout this module, we will strongly encourage you to reflect on your own learning. Your needs and wishes to apply the course contents to your everyday work environments may vary heavily due to the various backgrounds you come from.

If you reflect upon your learning on a regular basis and document your insights carefully, at the end of the course you have something tangible to start making the change happen!

The learning diary is the concrete tool and we have designed the following path for you to follow. Please document your insights using the file format that suits you best and do save the documentation in your own files. The reflections may vary from text to mind maps and other visualizations.

(picture)

During the module you will be reminded on the course platform when it is time to reflect. Then you see this icon

(picture)

You are not expected to submit the learning diary to us. However, you might want to share insights, for example, with your colleagues or business partners with whom you are developing your sustainable business opportunities or your everyday work practices.

Enjoy the journey!

0.3. How to activate a personal Learning Diary

0.3.1. Activation of a personal Learning Diary

Here is a step-by-step instruction how you can activate your own Learning Diary if that was not done as a part of the Welcome module. Learning Diary is basically a Blog that is available in ePortfolio.

In the right upper corner, click your own name and choose ePortfolio from the menu

Click Global settings

Activate your Blog with the below setting

You may share your Learning Diary to others (e.g., peers and colleagues) with the following setting if you wish

Nobody can see and read your Learning Diary if you decide not change Access settings

Remember to save at the end

0.1.1. Open the above activation instructions into a separate browser tab

By clicking the below pdf file, you may keep the above instructions open while activating your Learning Diary.

1. Sustainable Development Goals (SDGs)

DESCRIPTION

In this section you will be asked to explore your city in the light of the SDGs, to explore them and finding a new business opportunity with the help of the SDGs. We aim to enhance the awareness of business growth potential in SDGs and serves the innovation capabilities of EU companies in cities.

LEARNING OBJECTIVES

Learner is able to IDENTIFY SGDs in the context of cities, and how these SGDs are relevant for business in the context of cities.

RESOURCES AND ACTIVITIES

1.1. INTRODUCTION

1.1.1. Introduction Video

https://youtu.be/kx-MxT2tYfA
SDGs in Cities
Amaia Sastre, Tknika

1.1.2. SDGs in Cities

This section will analyse the impact of the SDGs at the city level. To do so, a brief reminder of the SDGs discussed in module 1 will be given.

To this end, greater emphasis will be placed on those whose impact on cities can lead to better business model opportunities. During the section you will listen to experts talking about the importance of reflecting on the impact and opportunities that the SDGs provide us and in the Business Modelling section you will find experiences of entrepreneurs who have built their business models in the field of cities.

(picture)

Image 2 "New York" , NY: The Real Emerald City, Patrick O'Neill, 2012, https://newyork.thecityatlas.org/lifestyle/new-york-ny-the-real-emerald-city/ , Accessed 14 December 2022.

1.2. REVIEW TO 17 GOALS

1.2.1. Introduction video

https://youtu.be/xVWHuJOmaEk

1.2.2. Definition of the Goals

https://www.un.org/sustainabledevelopment/sustainable-development-goals/

United Nations through its website "The Sustainable Development Goals" helps us to contextualise the SDGs, their Facts and Figures, Goals of each of them, as well as information on developments in this field.

(picture)

Image 3 "UN *Take Action for the Sustainable Development Goals*, UN, *https://www.un.org/sustainabledevelopment/sustainable-development-goals/* , Accessed 14 December 2022

1.3. KEY FINDINGS, SDGs INDICATORS

1.3.1. Overview of EU progress towards the SDGs

(picture)

Image 4 "Key findings synopsis 2022", European Comission, 2022, https://ec.europa.eu/eurostat/web/sdi/key-findings , Accessed 14 December 2022

On average, over the respective last five-years of available data – based on the mean scores of the selected indicators – the EU made progress towards most goals. Progress in some goals was faster than in others, and within goals, movement away from the sustainable development objectives also occurred in specific areas.

1.3.2. EU progressed towards the SDGs

(picture)

Image 5 "Key findings SDG11 2022", Eurostat European Comission, 2022, https://ec.europa.eu/eurostat/fr/web/sdi/key-findings, Accessed 14 December 2022

Fig. Eurostat

https://ec.europa.eu/eurostat/web/sdi/key-findings

The European Commission, through Eurostat, is developing this tool in order to get a quick overview of the progress of each SDG and its sub indicators.

These indicators show us the path of business opportunities that will be generated in the coming years that will have an impact on the SDGs.

1.4. CASE! Basque Country Case Study

1.4.1. Basque Contribution to the 2030 Agenda for Sustainable Development

(picture)

Image 6 "Front page Agenda Euskadi 20-30 ", *Administración General de la Comunidad Autónoma de Euskadi*, Gobierno Vasco Basque,

https://www.euskadi.eus/contenidos/informacion/agenda2030/eu_def/adjuntos/Agenda_Euskadi_Basque_Country_2030_garapen_jasangarria.pdf , Accessed 14 December 2022

1.4.2. Basque Country 20_30 Agenda

The Euskadi Basque Country 2030 reflects the degree of alignment and contribution of the Government Programme, and of the sectoral policies that with the goals and targets linked to the goals and targets linked to the 17

(picture)

Image 7 "Agenda Euskadi 20-30 goals and indicators", *Administración General de la Comunidad Autónoma de Euskadi*, Gobierno Vasco Basque,
https://www.euskadi.eus/contenidos/informacion/agenda2030/eu_def/adjuntos/Agenda_Euskadi_Basque_Country_2030_garapen_jasangarria.pdf , Accessed 14 December 2022

1.4.3. Marijose Barriola, Strategies in cities Agenda 20-30

We will introduce a video in which Marijose Barriola, Responsible of Bioscience and Sustainability area of Tknika, talks about Basque Government´s Agenda 20_30.

(video)

https://youtu.be/Lm_czVTJEfo

1.5. SDG impact: Start up and Institutions Experiences

Companies and institutions have an impact on SDGs related to cities, through their business activity and on different areas of their value chain.

In next sections, and specifically in section 5, you will find different CASE! VIDEOS in which you can watch and listen to the contribution of different companies and institutions where they explain their own impact on SDGs in cities.

1.5.1. Map of companies and institutions

(picture)

Image 8 SDG4BIZ cities companies and networks in the BC, own source

Start-ups:

Circular economy case companies: **Jolas, Asfaltia, Trash Peak**

Mobility case companies: **Dynicon, Alterity, Kimua**

Silver economy case companies: **Wellk, Oroi**

Institutions:

MUBIL, a shared commitment which seeks to turn Gipuzkoa and the Basque Country into global industry reference points in new mobility. Website

Ihobe is a publicly owned company coming under the Basque Government´s Ministry of Economic Development, Sustainability and the Environment. Website

Iraurgi Berritzen is a Development Agency of one region of Basque Country.

BBK Kuna is a foundation to promote the SDGs

Adinberri is a foundation that carries out the innovative strategy of the Provincial Council of Gipuzkoa to maximise the potential of innovation at the service of healthy ageing.

1.5.2. CASE! BBK Kuna

BBK Kuna, Home of SDGs, is a space for social innovation in which different agents linked to the Sustainable Development Goals (SDG) participate in order to offer the society of Bizkaia numerous solutions to respond to the challenges of the future.

The Home of SDGs promotes innovative projects, from the heart of Bilbao La Vieja, providing solutions to challenges such as the ageing population and the loneliness of elderly persons, climate change, the technological revolution, the transformation of cities or migration. Challenges linked to Agenda 2030 that have be addressed in order to continue to grow as a society without leaving anyone behind.

Eider Inunziaga, **director of BBK Kuna**, is going speak about the role of this institution in the promotion of SDGs.

Video link: https://youtu.be/rxcJe-ORe8M

1.6. ANALYSING AND SETTING RELEVANT SDGs IN CITIES

1.6.1. Analysing Figures & Goals in SDGS in Cities

With regard to the impact of the SDGs in cities, it is worth highlighting those that can contribute to the business opportunities, such as the followings:

(picture)

Image 9 "UN *Sustainable Development Goals*, UN,

https://sdgs.un.org/goalshttps://www.un.org/sustainabledevelopment/sustainable-development-goals/ , Accessed 14 December 2022

Do we know the specifics of SDG 11? which are the Facts & Figures or Goals & Targets related to cities?

Here are those that correspond to SDG 11:

(picture)

Image 10 "UN Goal 11 Facts and figures", UN, https://www.un.org/sustainabledevelopment/cities/, Accessed 14 December 2022

Reference in United Nations,

(picture)

Image 11 UN Goal 11 targets, UN, https://www.un.org/sustainabledevelopment/cities/, Accessed 14 December 2022

What about other SDGs?

1.6.2. SDG 11 - Explanatory video

Sustainable cities and communities- SDG11

https://youtu.be/NVz1thUnMLk

1.7. Learner's reflection: Learner Diary

Description

1. You have read about SDGs. In which specific SDGs do you foresee business opportunities that have an impact in cities?

We invite you to write down your first post of this module on your Learning Diary.

2.Do you know the strategy your city wants to develop in the field of the SDGs?

Open the Blog where the Learning Diary is created from HERE. It will be opened into a new browser tab so you can keep it open as you go further.

(picture)

Image 12 SDG4BIZ sections image, 2022, SDG4BIZ partnership

1.8. Let's learn by playing

Teaching, learning and practicing sustainability through serious games

https://games4sustainability.org/gamepedia/

(picture)

Image 13 Games for Sustainability logo, Centre for Systems Solutions, https://games4sustainability.org/gamepedia/, Accessed 14 December 2022

Here is an interesting resource for working on the SDGs in a more fun way. Ready to play? Click in the logo

1.9. Key take-aways and references

KEY TAKE-AWAYS

The main items to learn in this section are

Sustainable development Goals (SDGs) and Agenda 2030

Indicators of SDGs

Progressing towards SDS in levels of world, EU, country, and organization

Sustainability reporting

Ranking organisations sustainability.

Thank you for participating the section. I hope you had an inspiring path to the world of sustainable development.

REFERENCES

Future and Food: Dictatorship https://youtu.be/COV-fWlfWAo

Sustainable development goals Take Action for the Sustainable Development Goals - UnitedNations Sustainable Development

EU progressed towards SDGs Key findings - Sustainable development indicators - Eurostat (europa.eu)

Agenda Euskadi Basque Country 2030
Agenda_Euskadi_Basque_Country_2030_sustainable_development.pdf

Sustainable cities and communities https://youtu.be/eA8pWWPex3s

Sustainable cities, Goal 11 https://www.un.org/sustainabledevelopment/

Agenda 2030 Barcelona https://www.un.org/sustainabledevelopment/

Gamepedia (Games for sustainability) Gamepedia - Find more games at Games4Sustainability

UN. Take Action for the Sustainable Development Goals
https://www.un.org/sustainabledevelopment/sustainable-development-goals/

EU Monitoring report
https://ec.europa.eu/eurostat/documents/276524/14173765/Methodology+EU+SDG+assessment+approach+2022.pdf/e1596b6a-6946-cd73-bb61-6222a2d4701b?t=1652271373341

https://www.un.org/sustainabledevelopment/cities/

2. Context

DESCRIPTION

In this section, you will explore your own business environment in the light of the global megatrends: Furthermore, you will learn how to identify and recognize weak signals that may be relevant for your business.

LEARNING OBJECTIVES

The learner analyses factors, megatrends, that influence sustainable development at an individual, organizational, and societal level within the cities we live and work in.

RESOURCES AND ACTIVITIES

2.1. Introduction

2.1.1. Introduction video

https://youtu.be/i9tiQoMCsHU

Context in Cities

Amaia Sastre, Tknika

2.1.2. Welcome to the section in cities

Building a new economy in cities can bring tremendous economic, social, and environmental benefits. If we can reduce congestion, eliminate waste, and bring down costs, higher economic productivity and new growth will allow cities to thrive.

We have detected three different sections to work cities: circular economy, mobility and silver economy. These new business opportunities will support skills development and jobs.

(picture)

Image 14 Seniority Dos and Don'ts For Better Brain Function article image, https://www.seniority.in/blog/dos-and-don-ts-for-better-brain-function/, Accessed 14 December 2022

Image 15 KPMG Mobility 2030 analysis report frontpage, https://assets.kpmg/content/dam/kpmg/uk/pdf/2019/07/opportunities-for-investment-in-future-of-mobility.pdf, Accessed 14 December 2022

Image 16 Products of change, https://www.productsofchange.com/news-article/circular-economy-the-wheel-of-fortune-arthur-parry-on-the-tricks-businesses-are-missing-in-circularity/ Accessed 14 December 2022

2.2. Megatrends in cities

2.2.1. Megatrends

Sustainable cities, towns and suburbs. The concept of eco-city and smart city are essential for citizens' wellbeing and quality of life. Urban areas also serve as hubs for economic and social development and innovation and attract many people thanks to the wide range of opportunities for education, employment, entertainment and culture on offer.

This large concentration of people of wealth, however, often comes with a range of complex challenges such as ensuring sustainable mobility and affordable and decent housing conditions. Another is reducing cities' negative environmental impacts, such as poor air quality, noise, spread of settlement areas and generation of large amounts of waste in urban areas.

(picture)

Image 17 Image, UN environment program, https://www.productsofchange.com/news-article/circular-economy-the-wheel-of-fortune-arthur-parry-on-the-tricks-businesses-are-missing-in-circularity/ Accessed 14 December 2022

Our approach will focus in three aspects:

- Quality of life in cities and communities. Taking into account the demographic changes in the European countries which are aging and show a trend to continue getting older, it is important to focus on the quality of life in cities for the aging population. **SILVER ECONOMY**
- **SUSTAINABLE MOBILITY**, to address transport and related disciplines, that have a direct effect in urban and regional development, health, energy, and environment.
- Environmental impacts, for ~~instance to reduce and manage pollution and waste. There are ma~~ny aspects to tackle but we'll focus on circular economy in cities, as a way to manage waste in urban areas to reduce landfill and pollution. **CIRCULAR ECONOMY**

POLICIY CONTEXT AT EUROPEAN LEVEL

The EU has a wide range of policies in place that address or touch on the different aspects of Sustainable cities and communities and need to be taken into account when thinking about business opportunities.

For instance, the Circular Economy Package supports the transition to a stronger and more circular economy. In 2018, the legally binding targets for recycling and reuse of municipal waste entered into force (4). EU countries will now be required to recycle at least 55% of their municipal waste by 2025, 60% by 2030 and 65% by 2035.

For Sustainable mobility the EU has established guidelines for sustainable urban mobility planning and provides funding for related projects. The Sustainable and Smart Mobility Strategy, adopted in 2020, supports the green and digital transformation of the EU transport system. The Communication on the Urban Mobility Framework (2021) reinforces the enabling EU framework for Member States, regions and cities to develop safe, accessible, inclusive, smart, resilient and zero-emission urban mobility. The Communication 'Towards a European road safety area: policy orientations on road safety 2011–2020' sets a target of halving the overall number of road deaths in the EU by 2020 compared with 2010. The Strategic

Action Plan on Road Safety and the EU road safety policy framework 2021–2030 set a 50% reduction target for deaths and for serious injuries by 2030 compared with 2019 and ambitious road safety plans to reach zero road deaths by 2050 ('Vision Zero') (5).

(picture)

Image 18 Linear economy graphic, Europarl,
https://www.europarl.europa.eu/thinktank/infographics/circulareconomy/public/index.html , Accessed 14 December 2022

2.2.2. Silver economy

Making cities relevant to an ageing population is a key issue, and one which businesses, start-ups, and policies have already been addressing.

Ageing within the European Union (EU) is likely to be of major significance in the coming decades. The most important change will be the marked transition towards a much older population structure, a development which is already apparent in several EU Member States.

Eurostat's population projections show that those aged 65 years or over will account for 31.3 % of the EU's population by 2100, compared with 20.8 % in 2021.

(picture)

You can Take a guess - draw the future population size! in Europe

2.2.3. Mobility

This video from the European Commission how EU transport is on track for the future and shows us the basis of the EU Sustainable & Smart Mobility Strategy.

https://audiovisual.ec.europa.eu/embed/index.html?ref=I-200032&lg=INT

http://audiovisual.ec.europa.eu/en/video/I-200032?&lg=INT

The transportation of people and goods is one of the greatest challenges facing cities today, as it is responsible for over a third of global carbon dioxide emissions. Fortunately, cities around the globe are rising to this challenge, and are busy developing and implementing more sustainable modes of transport.

https://youtu.be/8Fj2ARn1WMY

The EU commission propose a fundamental transport transformation. There is a plan for green, smart and affordable mobility, and the milestones are:

By 2030:

- at least 30 million zero-emission cars will be in operation on European roads
- 100 European cities will be climate neutral.

- high-speed rail traffic will double across Europe
- scheduled collective travel for journeys under 500 km should be carbon neutral
- automated mobility will be deployed at large scale
- zero-emission marine vessels will be market-ready

By 2035:

- zero-emission large aircraft will be market-ready

By 2050:

- nearly all cars, vans, buses as well as new heavy-duty vehicles will be zero-emission.
- rail freight traffic will double.
- a fully operational, multimodal Trans-European Transport Network (TEN-T) for sustainable and smart transport with high-speed connectivity.

These milestones affect also to cities and translated on key areas that are going to be developed on Resources and Networks section.

You can learn more about that in this website:

https://transport.ec.europa.eu/transport-themes/mobility-strategy_en

2.2.4. Waste management and circular economy

Why are cities relevant in the circular transition? Cities have a density and concentration of producing businesses and consuming citizens that generate material and resource flows with circular potential. Most cities also have a scale that on the one hand enables quick decisions, building on the autonomous power to regulate and incentivise, and on the other hand is large enough to enable the establishment of new circular city functions and services, and circular business models.

What does it mean to live in a city with a circular economy? It's a city that promotes better use of resources through procurement policies: that consumes less, and also reuses and recycles water, energy, products and materials; that recycles and manages waste according to regulations; that stimulates an economy of repair, borrowing and second-hand commerce; that nurtures a sharing mindset (car trips, spaces and materials); that fosters a better use of resources in construction (10-15 per cent of building materials are wasted during construction); that stimulates an innovative approach to how the city and its citizens consume, store and use resources.

A circular economic model is one of the pillars of the European Union's European Green Deal strategy[3] and there are already some examples of its application, as well as policies and mechanisms to fund the transition. For example, in Berlin a 30,000 square metre section of the Potsdamer Platz hosts a network of connected green roofing, urban space and a constructed treatment pond for storm water. The pond is treated naturally, so only a limited amount of energy is needed to clean the water, which is used for irrigation and flushing toilets.[4]

You can read the Full report on Circular Economy and Producing Locally by Deloitte DI_Urban-future-with-a-purpose.pdf

https://youtu.be/6N95hM-owjU

2.3. Country-Region-city strategic plan

2.3.1. Strategic plans

Cities and regions launch short and long-term strategies to achieve their sustainability goals. These strategies are a focus point for entrepreneurs in the area, there are policies, initiatives and resources directed to become a more sustainable city.

2.3.2. CASE! Strategic plan HELSINKI

Smart City+ Smart Countryside= Smart Region

The Helsinki Smart Region highlights the smart expertise in Helsinki-Uusimaa. Our smart innovation strategy for the Helsinki-Uusimaa Region brings together the actors from both the cities and the countryside for impactful research and innovation activities under the overarching theme of Resource Wisdom.

(picture)

Image 19 Helsinkismart, https://helsinkismart.fi/wp-content/uploads/2020/09/KOPTERI_DJI_0005_web-1920x1080.jpg, Accessed 14 December 2022

Read more cases…

Helsinkismart

2.3.3. CASE! Strategic plans Spain

In this Barcelona strategic plan, you can find the next strategic lines:

1. Restarting the economy, making it stronger, more resilient and diversified.
2. Reinforcing assistance and resources for social inclusion.
3. Accelerating ecological transition to combat climate crisis.
4. Making the educating, cultural, scientific and sports city stronger
5. Building a safer and more friendly city, based on its neighbourhoods, with a metropolitan perspective.
6. Promoting an open city, with a digitalised administration.

https://ajuntament.barcelona.cat/agenda2030/sites/default/files/2021-01/Agenda%202030%20Barcelona%20SDG%20Targets%20and%20Key%20Indicators.pdf

Another city strategy example plan is this, Valencia. Although both cities are located in Spain, we can observe that each one develops a different strategic plan.

(picture)

Image 18 Adjutament Valencia, Missions Valencia 2030 - Missions València 2030, https://www.missionsvalencia.eu/?lang=en Accessed 14 December 2022

Missions Valencia 2030

2.3.4. CASE! Strategic plans Basque Country

The strategic lines in the San Sebastian strategy plan are called areas, here are the main ones:

Area 1: Designed in DSS

Area 2: People and values

Area 3: A connected city

Area 4: Live, enjoy

(picture)

Image 20 Estrategia Donostia, 2022, https://www.donostiafutura.com/es, Accessed 14 December 2022

Conoce el Plan Estratégico de Donostia-San Sebastián y los proyectos para conseguir un modelo de ciudad basada en la innovación y el conocimiento.

www.donostiafutura.com

Other examples of strategic plans in the Basque Country are Eibar and Vitoria. Eibar is a town witn 20.000 inhabitants and Vitoria is a capital city.

https://www.vitoria-gasteiz.org/docs/wb021/contenidosEstaticos/adjuntos/es/65/68/86568.pdf

https://www.eibar.eus/es/ayuntamiento/planes-y-programas-municipales/plan-estrategico-de-eibar-2025/PlanEstrategicoEibar2025informeSep2016.pdf

2.3.5. CASE! Strategic plans France

The following strategic plan is from Grenoble. When you read through the plan you will realize that the strategic lines of the city are:

1. Living together
2. Living in the city
3. Supply and feed the city
4. Drive the transformation of the city

(picture)

Image 20, city image, Ville de Grenoble, https://www.grenoble.fr/68-grenoble-ville-durable-et-ecocitoyenne.htm, Accessed 14 December 2022

Ville durable

L'ensemble des actions de la Ville participe à faire de Grenoble une ville durable au service de tous.

www.grenoble.fr

2.4. Learner's reflection: Learner Diary

You have read about the megatrends in cities and also about some examples of city strategies. Could you find the megratrends and the strategies of your city?

We invite you to write down your post of this module on your Learning Diary.

Open the Blog where the Learning Diary is created from HERE. It will be opened into a new browser tab so you can keep it open as you go further.

2.5. Key take-aways and references

KEY TAKE AWAYS

Megatrends are long-term global and significant developments. Megatrends are closely interlinkedand they have a direct link also to the SDGs.

Context is an own environment where individuals can influence to things and development. Every decision, small and large, matters in achieving SDGs.

We do not to achieve the SDGs unless the private businesses and the public sector are properly oriented and directed in their activities, to provide the goods and services that are needed for achieving the SDGs. This collaboration creates new business opportunities.

REFERENCES

Sustainable mobility
EC AV PORTAL (europa.eu)

EU Mission: Climate-Neutral and Smart Cities

https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/climate-neutral-and-smart-cities_en

https://ec.europa.eu/info/sites/default/files/research_and_innovation/funding/documents/ec_rtd_he-cities-mission-reveal-factsheet.pdf

2.6. Additional material for context

Article: Urban future with a purpose, 12 trends shaping human living edited by Deloitte Deloitte University EMEA CVBA DI_Urban-future-with-a-purpose.pdf

Book: The 15 circular steps for cities (Second edition), edited by European Investment Bank https://books.google.es/books?id=B2aQDwAAQBAJ&lpg=PP1&pg=PP1&output=embed

https://ec.europa.eu/eurostat/documents/3217494/14665254/KS-09-22-019-EN-N.pdf/2edccd6a-c90d-e2ed-ccda-7e3419c7c271?t=1654253664613

SMART CITY

Article: Everything you wanted to know about smart cities Mohanty, Saraju. (2016). Everything You Wanted to Know About Smart Cities. IEEE Consumer Electronics Magazine. 5. 60-70. 10.1109/MCE.2016.2556879.

Article: Smart Cities: Definitions, Dimensions, Performance, and Initiatives Vito Albino, Umberto Berardi & Rosa Maria Dangelico (2015) Smart Cities: Definitions, Dimensions, Performance, and Initiatives, Journal of Urban Technology, 22:1, 3-21, DOI: 10.1080/10630732.2014.942092

Podcast: Smart cities This podcast discusses smart city-related issues: what are they, what kind of opportunities they provide for companies and people – and do they make us happy? The podcast is hosted by Sonja Malin, Senior Business Advisor at Helsinki Business Hub.

What is a smart city? Definition and examples

3. Motivation

DESCRIPTION

This Section makes you to recognize motivational drivers for sustainable business in Cities.

In this section one of the tasks is to reflect and document your learning in to the Learning Diary. It will be opened into a new browser tab.

LEARNING OBJECTIVES

The learner recognizes what motivates individuals and organisations to develop sustainable business ideas in cities and communities.

RESOURCES AND ACTIVITIES

3.1. Introduction to section: Motivation in Cities

Motivation intro video

https://youtu.be/GYWrrzF_CTk

Welcome to the Motivation in Cities Section

(picture)

Image 221 SDG4BIZ motivation section image, 2022, SDG4BIZ partnership

Welcome to the section motivation in this module on business opportunity recognition in the Cities

So far you have completed one module on business opportunity recognition in SDGs and two different learning sections on the relevance of the cities in solving the wicked problems of our society. Concerning the motivational factors, you have been provided with various perspectives, frameworks and stories that have helped you to reflect and evaluate the motivational drivers of sustainable business in general. You have familiarized with discusses on how SDGs are inspiring companies to shape their businesses towards sustainability, how the triple bottom line model can be a source of motivation and how the variety of sustainable business models can support the sustainable business opportunity recognition of individuals as

well as organizations.

Firstly, this entity bases on the work you have completed earlier. In addition, this module presents motivational drivers: concepts, problems and solutions that might set in motion the innovation process. The cases presented just need the person or a company with a right profile for business development. Further, we pay attention to the concept of social entrepreneurship as an encouraging starting point as in the cities where the intensive social networks and the presence of the large crowd offer more potential for the human centric business development.

In this section, you will be introduced to the carefully selected material that the authors of this section find motivational. The learning activities will cover discussions in the forum, polls and learning reflections.

3.2.1. VOTE! Motivation to develop sustainable business solutions in the cities

This is a warm-up exercise for the motivation section

Please, take this with a curiosity. Each of three polls allows you to give only one answer. Choosing just one might feel forced and difficult–but this, we hope, will make you reflect some. After giving your answer, you will see how the other course participants have answered.

What is your main concern in the cities?

We are emotionally and intellectually orientated. What is your orientation? Out of this list, what motivates you the most to find solutions?

- ○ Environment outsides of the city
- ○ People in my city
- ○ Taxpayers´ money
- ○ Health
- ○ The beauty of the city spaces
- ○ Transport
- ○ Green areas
- ○ Air quality
- ○ Something else

3.2.2. I just voted for “something else” and I liked to share my insights

Especially, if you voted for something else of the given list, please share what by one or two words what motivates you the most to find solutions? In the desired case that the comments kick off a vivid conversation, please continue it in the chat, 3.7 Motivational factors in the Cities (with business potential) I liked to share.

- Start new thread (chat)

Problem solver, praise the problems!Earlier, in the Module 1, you have been guided to identify a problem as a potential motivational start for a sustainable business. Here the same question is repeated. Now you should narrow your focus down to the context of the cities: How to identify a problem that many people or business have and how to solve it. We present also other motivational elements: New city polices, that may challenge the existing businesses by forcing or guiding them in the more sustainable direction, and at the same time creating new opportunities to new business.

The idea, that you might find the problem — and feel motivated to solve it — in your close by surroundings in the city or in the community you live, or work is often a concrete matter: It can be a routine of your daily life, or an inevitable obstacle in your daily work. You may also be motivated with the daily issues at work, the problems of your customers, partners, or colleagues.

There are also problems and needs that might not come from your everyday life but that have large impact on the globe and societies. Mega trends and the UN´s SDGs give you a list of problems to be tackled and to be solved. In the first module and again in the first section of this Module you have learnt about the list of 17 SDGs and abut several matters that currently are in an unsustainable path. From motivational perspective, these topics could be mapped under headlines like: Health and well-being in the Cities, Transport, and mobility in the Cities, living conditions especially housing in the Cities, Air quality or something else that is linked to these complex entities the life in the cities need, like for instance the food security or the crime.

How important this problem is for you? Do you feel motivated to solve it? Will this give you satisfaction if you'll find a sustainable solution to this problem? If the problem is important for you, it will keep you motivated even in those days when you'll face some obstacles that you will need to come over.

What is your relationship with the problem? Do you know the problem well enough to start solving it? It does not always mean that you'll need to know the solution yet but understanding – or willing to understand – the problem is important, as having a personal relationship, or expertise on the field helps you and keeps you motivated to solve it.

You might wonder why it is important to find a problem that really matters you personally – or is closely connected to your own area of expertise. The reason is simple: strong motivation is needed in order to have the grid and persistent to work on the problem and creating a sustainable solution for it.

Orientation for the motivational buffet

As you already learnt from the various company cases, there is a plenty of different ways to build sustainable business!

In the Buffet of the motivational drives, you are provided with the viewpoints that linger around the theme of sustainability and the city reality. For instance, social enterprise can be seen in wider perspective including the systemic viewpoint and the diversity of key players. In the buffet, also research contribution is

presents as research provides us with continuously new viewpoints. For instance, the problem of the light pollution was first seen as a problem of the astronomers, but then the understanding has improved, and currently more and more people are seen that solving the light pollution might be fundamentally important.

3.4. Buffet of the motivational drivers

3.4.1. Catherine Brinkley on the Science of Cities

Sean Carroll's Mindscape Podcast on Science, Society, Philosophy, Culture, Arts, and Ideas, episode 197. (1:08h)

Cities where people living in proximity, bring in resources from outside, separated from the labours of subsistence so they can engage in the trade of goods and ideas. A talk with urban scientist Catherine Brinkley is about the structure of cities, including also, what we can do to make cities thrive as much as possible.

This one-hour intellectual conversation between an American theoretical physicist and philosopher, Sean Carroll and Catherine Brinkley, Professor in Human Ecology, Community and Regional Development, is selected to uncover potential personal and organizational motivational elements that are complex but yet familiar to all who have a feel of city life.

Both the host, Sean Carroll and the guest, Catherine Brinkley live in the West Coast of the U.S. and their perspective, and several cases are from there. However, they also offer wider perspective and mention several cases from Europe as well. The conversation is likely to be motivational especially for them who like to approach topics from wider systemic perspective and who get inspired by lingering intellectual conversations

(picture)

Source: https://podcasts.apple.com/fi/podcast/catherine-brinkley-on-the-science-of-cities/id1406534739?i=1000561582131&l=fi

Ohjelma Sean Carroll's Mindscape: Science, Society, Philosophy, Culture, Arts, and Ideas, jakso Catherine Brinkley on the Science of Cities – 16. toukok. 2022

Apple Podcasts

Sean Carroll's Mindscape: Science, Society, Philosophy, Culture, Arts, and Ideas: Catherine Brinkley on the Science of Cities Apple Podcasts -palvelussa

3.4.2. VOTE! Best Allegory so far

Based on my knowledge today the most suitable allegory for the Cities is:

- Coral reef
- Cell
- Devouring monster
- Cabaret
- Scar on otherwise beautiful landscape
- Unoptimized and poorly build machine
- None of the above mentioned, I have something better in mind

3.4.3. From Social Entrepreneurship into System change leader

Is Social Entrepreneurship a buzz word? In Daniela Papi-Thornton's talk, she explores how the concept has narrowed down over time. In this inspirational speech, she praises problem solving, knowledge based attitude and reminds us that we all have a role in the systemic change.

Daniela Papi Thornton, TEDxBend; Reclaiming Social Entrepreneurship (17:40 min)

https://youtu.be/RdrfMqBRfEQ

3.4.4. POLL: My role in this systemic change

Do you see a role for you in this change Daniela Papi-Thornton talks about? What fits to your motivation level at this moment?

- I would like to start a social business to achieve social or environmental goals
- I would like to take different role than the entrepreneur in this systemic change and I have recognized it
- I already have a different role than social entrepreneur in a system D. Papi-Thornton talks about
- I would like to have a role, but I have not identified it yet
- Instead of the not for profit or low margin profit business i rather look for scalability
- Not my cup of tea

3.4.5. 100 Climate neutral and smart Cities in EU by 2030

The 100 selected cities are now being invited to develop Climate City Contracts, which will include an overall plan for climate neutrality across all sectors such as energy, buildings, waste management and transport, together with related investment plans. This process will involve citizens, research organisations and the private sector.

https://youtu.be/MbzPpUnzLzo

https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/climate-neutral-and-smart-cities_en

3.4.6. POLL Is my City in the list of 100 climate-neutral smart cities

The Cities that were selected for this mission will generate business opportunities directly and indirectly. Is your city in the list?

- I live in one of these cities
- My workplace is in one of the cities
- I have an enterprise in one of these cities
- I am a public servant in one of the cities listed
- I have connection to more than one city in that list
- I have some other connection that might have a business potential
- I have no such connection to these cities

3.4.7. Further readings and more interesting videos

How to be a social entrepreneur: **Andy Stoll** at TEDxUIowa (inspirational and famous cases collected and how to be a social entrepreneur)

https://youtu.be/N8LVa9pb-n8

Journal Articles, that might inspire you

To the themes of this module

Beveridge, R. and Guy, S. (2005) 'The rise of the eco-preneur and the messy world of environmental innovation', Local Environment, 10(6), pp. 665–676. doi: 10.1080/13549830500321972.

Marquart, H. & Schuppan, J. 2022, "Promoting Sustainable Mobility: To What Extent Is "Health" Considered by Mobility App Studies? A Review and a Conceptual Framework", Sustainability, vol. 14, no. 1, pp. 47.

Pesch, U., Spekkink, W. and Quist, J. (2019) 'Local sustainability initiatives: innovation and civic engagement in societal experiments', European Planning Studies, 27(2), pp. 300–317. doi: 10.1080/09654313.2018.1464549.

Other

Horbach, J. and Rammer, C. (2020) 'Circular economy innovations, growth and employment at the firm level: Empirical evidence from Germany', Journal of Industrial Ecology, 24(3), pp. 615–625. doi: 10.1111/jiec.12977.

Jeong, S. S. and Alhanaee, D. W. T. A. (2020) 'Prosocial Motivation as a Driver of Social Innovation in the UAE', Social Science Quarterly (Wiley-Blackwell), 101(7), pp. 2450–2464. doi: 10.1111/ssqu.12913.

Schaefers, T. (2013) 'Exploring carsharing usage motives: A hierarchical means-end chain analysis', Transportation Research Part A: Policy & Practice, 47, pp. 69–77. doi: 10.1016/j.tra.2012.10.024.

Soleas, E. K. (2020) 'Expectancies, Values, and Costs of Innovating Identified by Canadian Innovators: A Motivational Basis for Supporting Innovation Talent Development', Journal of Advanced Academics, p. 1. doi: 10.1177/1932202x20904772.

Treude, M., Schüle, R. & Haake, H. 2022, "Smart Sustainable Cities—Case Study Südwestfalen Germany", Sustainability, vol. 14, no. 10, pp. 5957.

3.5. CASE 1: Emerging topic, the light pollution

3.5.1. The pollution problem in cities

Air pollution represents a prominent threat to global society by causing effects on individuals, medical systems, ecosystem health, and economies in both developing and developed countries. About 90% of global citizens lived in areas that exceed the safe level in the World Health Organization (WHO) air quality guidelines (Liang & Gong 2020). Since 1972, the World Health Organization (WHO) has declared **noise as a pollutant**. Over the last decades, the quality of the urban environment has attracted the interest of researchers due to the growing urban sprawl, especially in developing countries (de Paiva Vianna, Alves Cardoso & Rodrigues 2015)

But what about **light pollution**?

3.5.2. TED talk: TEDxRapidCity, Why we need darkness (by Diane Knutson)

The light and darkness have ruled life for billions of years, with an ancient and tact fast rhythm — until the light bulb was invented. Today, streetlights and facade lights dominate the night and in built-up places it rarely gets completely dark. Seeing the starry sky on a cloudless night is a rare experience. Light pollution has sailed up as one of our gigantic environmental problems, albeit unfamiliar to most.

Navigation of migratory birds is disrupted, the turtles get lost on their way to the shoreline, and the insects' pollination is unaccounted for. The Dark Manifesto is a book about our need for natural darkness and the importance of letting the ancient rhythm have its course — both for the sake of biodiversity and for the good and woe of mankind.

In this video (11:38 min) Diane Knutson introduces the topic.

Recommendation for further reading, Mörkermanifestet 2020 by Johan Eklöf. This book is available currently in Swedish and Finnish only. However, it will be available very soon (year 2022) in several other languages.

3.5.3. More about light pollution

Akiva Blander: Can Designers Combat Light Pollution by Embracing Darkness? In our over-lit cities, lighting

What there is for business

Dark sky association Home page of international association

3.5.4. Further reading: Jägerbrand. A, 2015: New Framework of Sustainable Indicators for Outdoor LED

Abstract: Light emitting diodes (LEDs) and SSL (solid state lighting) are relatively new light sources but are already widely applied for outdoor lighting. Despite this, there is little available information allowing planners and designers to evaluate and weigh different sustainability aspects of LED/SSL lighting when making decisions. Based on a literature review, this paper proposes a framework of sustainability indicators and/or measures that can be used for a general evaluation or to highlight certain objectives or aspects of special interest when choosing LED/SSL lighting. LED/SSL lighting is reviewed from a conventional sustainable development perspective, i.e., covering the three dimensions, including ecological, economic and social sustainability. The new framework of sustainable indicators allow prioritization when choosing LED/SSL products and can thereby help ensure that short-term decisions on LED/SSL lighting systems are in line with long-term sustainability goals established in society. The new framework can also be a beneficial tool for planners, decision-makers, developers and lighting designers, or for consumers wishing to use LED/SSL lighting in a sustainable manner. Moreover, since some aspects of LED/SSL lighting have not yet been thoroughly studied or developed, some possible future indicators are suggested.

Open access journal article (www.researchgate.net)

3.6. CASE 2: 15min city and walkability

3.6.1. What is a 15-minute city?”

Video link: https://youtu.be/McGyONofhi4

3.6.2. Concept of walkability

Video link: https://youtu.be/uEkgM9P2C5U

Jeff Speck: the general theory of walkability (18:46 min)

Jeff Speck is a city planner and urban designer who advocates internationally for more walkable cities (jeffspeck.com)

Cases are from USA, but the concept of walkability is relevant also in Europe. The business could motivate people to walk: by enhancing or utilizing the following cornerstones of the walkability concept: 1) reason to walk (balance of users), 2) A safe of walk (reality and perception) 3) a comfortable walk (space and orientation) and 4) interest (sighs of humanity)

see also the Magazine article: Making Better Places: Ten City Design Resolutions

https://www.planetizen.com/node/138

3.7. Motivational factors in the Cities (with business potential) I liked to share

Is there an inspirational case you like to share? Is there a Sustainable development related complex or simple problem or a potential need that motivates you or your company? Share it especially, if you for any reason, rather leave it for someone else to solve. What is the knowledge base that motivates you?

Please, bear in mind the motivational factors should be relevant in the context of the Sustainable development goals and sustainable growth and have some link to the life and business in the cities or for the cities. Concerning the business potential, you should not be to judging at this moment, as the potential is not always obvious.

Please be supportive to motivational factors shared by others. Let the conversation to take inspirational turns.

Start new thread

3.8. Learner's reflection: Learner Diary

Description

What motivates me and my company regarding the SDGs and the Cities?

Time to open your learning diary! Recall the lesson learned in module 1, and reflect the motivational factors related to your city/ any given city.

Please, reflect the motivational factors on the micro, meso and macro levels. Focus on the motivational factors specific in cities of in one specific city. Keep the focus in motivation: What motivates me and what motivates my company.

Find more research-based information to support your statements. You may utilize the material that is recommended on this section or in the SDG4BIZ course in general, but you should also look for additional materials. Please do not forget the criticism of sources.

This learning diary can be more than one blog post

3.9. Key take-aways and references

Finding and creating business opportunities is a non-linear process that requires motivation. We have presented you some cases that motivated us, hoping that they also inspired you. If you have better capability to recognize matters that motivates individuals and organizations to develop sustainable business ideas in cities and communities, we have reached the learning objective. In addition, we hope, you as a person have a better capability to recognize motivational factors that support you in the business model creation.

Again you may repeat the following questions: How important these problems are for you? Do you feel motivated to solve it? Do you feel motivated to solve it? Will this give you satisfaction if you'll find a sustainable solution to this problem? If the problem is important for you, it will keep you motivated even in those days when you'll face some obstacles that you will need to come over.

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Article: Alves, K. M., Cardoso, M. R., & Rodrigues, R. M. (2015). Noise pollution and annoyance: an urban soundscapes study. Noise & health, 17(76), 125–133. https://doi.org/10.4103/1463-1741.155833

Article: Beveridge, R. and Guy, S. (2005) 'The rise of the eco-preneur and the messy world of environmental innovation', Local Environment, 10(6), pp. 665–676. doi: 10.1080/13549830500321972.

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Article: Marquart, H. & Schuppan, J. 2022, "Promoting Sustainable Mobility: To What Extent Is "Health" Considered by Mobility App Studies? A Review and a Conceptual Framework", Sustainability, vol. 14, no. 1, pp. 47.

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Magazin Article: Speck, J., (2015): Making Better Places: Ten City Design Resolutions, Planetizen, https://www.planetizen.com/node/138

4. Resources and networks

DESCRIPTION

In this section learners focus on analyzing and activating networks in the opportunity recognition process. In addition, this section focuses on the systematic search for resources and ability to overcome resources constraints.

LEARNING OBJECTIVES

The learner is able to analyse resources to recognize sustainable value creation. The learner identifies how to manage networks supporting sustainable value creation.

RESOURCES AND ACTIVITIES

3.2. Introduction to Resources and networks

3.2.1. Introduction

This section focuses on systemically analyzing and activating networks for the opportunity recognition process. Engagement in systematic search for resources and ability to overcome resource constraints.

3.2.2. Introduction Video

https://youtu.be/bwM2TKU6PTQ

Resources & Networks in Cities

Amaia Sastre, Tknika

3.3. Resources in sustainable business value creation

3.3.1. KEYS TO ENTREPRENEURSHIP

Every entrepreneurial project must have certain resources to launch into the market. These resources are not only economic, as there are also other elements that are essential to launch a company:

A. ***HUMAN AND SOCIAL RESOURCES:*** Every entrepreneurial project must have certain resources to launch into the market. These resources are not only economic, as there are also other elements that are essential to launch a company. A company is made up of people, even when it is a small project. People in jobs defined by competencies and tasks. An entrepreneur is a person who

identifies an opportunity and organizes the necessary resources to implement it. Their defining characteristics are confidence, passion, vision, tolerance for uncertainty, learning ability, perseverance and a sense of opportunity.

B. ***ENVIRONMENTAL RESOURCES:*** The market is a complex and abstract place in which companies try to operate successfully. To achieve this, they must deal with internal and external factors. Among the latter is the environment, which is an element that is impossible to control but which actively affects business activity. It is made up of a set of social, economic, political and labor factors that directly and indirectly affect a company. We are talking about a dynamic and variable environment. A distinction can be made between:

- ***General environment*** (macro-environment), made up of a set of more global factors (public policies, the country's economic situation, etc.),
- ***Specific environment or micro-environmen***t, which is made up of those factors that have a direct influence on the future of a business (competition, customers or suppliers).

C. ***TECHNOLOGICAL RESOURCES:*** Technology in business is a growing necessity. As time goes by, the business world is becoming more and more technological. Innovation nurtures business, and as technology creates the appropriate path for the development of innovation, we can say that business needs technology to sustain itself.

Science and technology parks have infrastructures and services specialized in supporting entrepreneurs, such as pre-incubators, incubators and coworking spaces, all of them assisted by professionals specialized in supporting business projects. Therefore, it will be important to analyze the offer of support structures available to all those global entrepreneurs with innovative ideas.

D. ***FINANCIAL RESOURCES:*** Financing a project is not always an easy task and impacts financial health. There are more and more ways to find funds and start up a company, so knowing the different options will allow entrepreneurs to adopt the most convenient way according to the needs of their business. Some sources of financing are identified below:

- Bank loans
- Business Angels
- Venture capital funds
- Startup accelerators and incubators
- Public subsidies and grants
- Crowdfunding campaign
- Bartering

(picture)

Image 22 Resource mix image, https://www.researchgate.net/figure/Resource-mix-a-base-for-all-business-operations_fig1_348266129 , Accessed 14 December 2022

3.4. Resources and megatrends [FOLDER]

3.4.1. Introduction

As defined in the context section, the megatrends analyzed for cities are:

- Silver economy
- Mobility
- Circular economy

What resources are necessary to detect and analyze in order to undertake in these areas in a successful way?

This block analyses the resources needed to develop business opportunities in the megatrends mentioned such as human, social and environmental resources as well as the technological resources associated with the megatrends.

3.4.2. Silver economy

4.3.2.1. Resources and silver economy

RESOURCES & SILVER ECONOMY

A social phenomenon is known around the world as “ageing in place” or “ageing at home” that defines the need of elderly people continuing living in their homes and current living environments with a certain level of independence, rather than living in residential care or moving in with their relatives, mainly their daughters and sons. This area ***generates business opportunities*** in our cities related to the Silver Economy.

This need gave rise to *“The Guneak-Digital Home”* project. It is a technological monitoring project and social study whose objective is to determine the possibilities of building technologies, home automation, health services, care, and the digital home to respond to the needs of elderly people. It therefore aims to contribute to the field of improving the quality of life of elderly people, promoting the autonomy that they lose over the years which translates into business opportunity generation.

Two fundamental factors should be emphasised: first, the preference of elderly people to continue living in their own homes; and second, their ability to adapt these houses to the changing needs of their inhabitants.

The following activities will analyze the human and social resources, the environmental resources and technological resources available that are key to entrepreneurship.

A1. Human needs in silver economy

It is important to analyse the needs that our society has in the field of Silver Economy in order to be able to analyse the resources necessary to generate solutions that generate business opportunities.

It has been found that classifying human needs into the following two groups is very useful and has far-reaching implications:

- ***Existential Needs***: these imply being, having, doing and interacting.
- ***Axiological Needs:*** Subsistence, Protection, Affection, Understanding, Participation, Creation, Leisure, Identity and Freedom

An opportunity arises from the reflection of a need and the subsequent analysis of it:

- What is the need? ***Being (Characteristics)***
- What resources relate to the need? ***Having (Tools)***
- What actions can be defined? ***Doing (Actions)***
- What spaces respond to the need? ***Being (Spaces)***

And based on these two dimensions, a matrix of 36 groups of satisfiers is constructed:

(picture)

Image 23 Retrieved from the document "Proyecto guneak hogar-digital", Tknika (2021)

(picture)

Image 24 Retrieved from the document "Proyecto guneak hogar-digital", Tknika (2021)

A2. Identify your business opportunities

Which 3 needs do you identify with?

- Subsistence
- Protection
- Affection
- Comprehension / Understanding
- Participation
- Leisure
- Creation
- Identify
- Freedom

A3. Case study: SALTO

For example, if we look at the need "Protection", could we generate opportunities in the area of housing protection? High-tech locks that connect to a smart home? The Salto company diversifies its product to provide a solution to this need.

(picture)

Image25:Retrieved from https://saltosystems.com/es-es/?gclid=CjwKCAiAy_CcBhBeEiwAcoMRHNS6eLtKvKz4aeuTl6ZxYfC8QYEzUaf-dfbyFAfjPlkNbvSrjAHOPhoCWYUQAvD_BwE , Salto systems, Accessed 14 December 2022

B1. Environmental Resources

In Europe in 2018, 19.7% of the population was already over 65 years old, which accounted for a fifth of the total population of the EU-28. And according to the forecasts, this ageing process will intensify in the coming decades, given that it is estimated that the number of people over 65 years of age will rise from 101 million (2018) to 149 million in 2050, primarily in the group of people with ages between 75 and 84 (it is estimated that this group will grow by 60.5%).

Urban environments were identified as more advantageous living environments for those above 65 years of age, due to a better provision of services. 42% of the population over 65 years of age in the EU-28 resided mainly in urban settings in 2018 while 20% lived in rural areas, with Spain as the most exceptional case with a majority of the population over 65 living in rural areas

The United Nations and the WHO have been warning for some time that population ageing is a current global phenomenon, taking place in all parts of the world. Social change in family models has caused a reduction in potential informal caregivers of dependent people. This entails an increase in the demand for health and social services and those involving leisure and relationships, as well as security, comfort and mobility needs, constituting the great challenge to which our society must respond.

It is important to know the strategies defined in the environment such as the technological resources that will make the initiatives successful. During this section, a ***strategic project*** for the environment of the Basque Country is analyzed, carried out in collaboration with different entities such as ***Adinberri*** and ***The Gipuzkoa Provincial Council***

C1. Technological Resources (Digital Home)

The needs mentioned in the previous sections generate a multitude of opportunities in the Smart Home field, we refer to smart environments for quality, active and Healthy ageing. The "***digital home"*** is the place where the needs of the family are met in terms of security and control, communications, leisure and comfort, environmental integration and accessibility, through the convergence of services, infrastructures and equipment.

Technologies applicable to the digital home can be grouped into:

- Terrestrial and satellite digital television. DVB-S, Digital Video Broadcast - Satellite
- Telephony
- Information technology: Local Area Networks (LANs)
- Automation: Lighting, air conditioning, energy control, awnings and blinds, control of water and electricity supplies, technical alarms, etc.
- Multimedia (audio-visual devices)
- Security systems and video surveillance
- Broadband Internet access (WAN)

It is also important to select ***the criteria*** for the ideal digital home system:

- Scalability
- Integrability

- Reliability
- Energy consumption
- Security
- Updating and support

There is no ideal technology for the digital home, so we will have to opt for a specific option that covers most of our needs or combine them while ensuring that they are compatible.

In order to facilitate the process of reflecting on the opportunities generated by the technological resources available in each environment, the above criteria are simplified into four concepts. Four concepts have been considered that are useful when deciding on their suitability: affordability, integrability, ease of installation and usability.

(picture)

Image 26 Retrieved from the document "Proyecto guneak hogar-digital", Tknika (2021)

C2. Technologic Resources: Protection-Opportunities

The ***Guneak-Digital Home*** project is a technological monitoring project and social study whose objective is to determine the possibilities of building technologies, home automation, health services, care and the digital home to respond to the needs of elderly people summarising ***a source of knowledge*** for the generation of ***business opportunities*** in Silver Economy in Cities.

In the study carried out by Gipuzkoa Provincial Council's Adinberri strategy aims to maximise the potential for innovation to promote active and healthy ageing. It defines the ***table of digital home solutions*** to basic needs and continuing with the example of the need for "Protection", opportunities are classified into three domains:

- Personal Health and Security Systems
- Access Control: Home access Security Systems
- Technical Alarm Systems

Each of the sections lists technological opportunities that will generate business opportunities in the future related to the technologies described, both from the point of view of generation of product companies as well as installation and maintenance, among others.

(picture)

Image 27 Retrieved from the document "Proyecto guneak hogar-digital", Tknika (2021)

(picture)

Image 28 Retrieved from the document "Proyecto guneak hogar-digital", Tknika (2021)

A multitude of solutions are proposed for each of the needs described in section A1 and classified on the basis of the criteria described in the preceding paragraphs.

adinberri_V8_CAS_EN.pdf

3.4.3. Task Silver Economy

Description

We have defined different working areas, called "needs of technology" in the previous chapter. Choose one or various needs of technology, according to your interests, and think about a business opportunity for these needs of technology. Here you have an example:

1. **Subsistence**: Personal catering. If our elders had a healthy catering service in cities that would provide them with a balanced diet and automated shopping? Could they be connected to health services and personalized with your medical needs?

What about other technology needs? **Protection, affection, Understanding, Participation, Leisure, Creation, Identity and Freedom**

3.4.4. Mobility

4.3.4.1. Resources and Mobility

As mentioned before, Mobility is crucial on cities. There are many efforts and many initiatives and policies to obtain a more sustainable mobility and the EU mobility strategy action plan defines a mobility that should be more:

- SUSTAINABLE
- SMART
- RESILIENT

This area ***generates business opportunities*** in our cities related to the Mobility.

EU Funding opportunities available for Urban Mobility projects can be found in https://www.eltis.org/in-brief/eu-funding

Sustainable mobility

We need a reduction on greenhouse emissions!

(picture)

Image 29: European Commission Mobility and Strategy Action plan facsheet (2021) Source: https://transport.ec.europa.eu/transport-themes/mobility-strategy_en

SUSTAINABLE for transport to become sustainable, in practice this means:

- Boosting the uptake of zero-emission vehicles, vessels and aeroplanes, renewable & low-carbon fuels and related infrastructure - for instance by installing 3 million public charging points by 2030.
- Creating zero-emission airports and ports – for instance through new initiatives to promote sustainable aviation and maritime fuels.

- Making interurban and urban mobility healthy and sustainable - for instance by doubling high-speed rail traffic and developing extra cycling infrastructure over the next 10 years.
- Greening freight transport – for instance by doubling rail freight traffic by 2050.
- Pricing carbon and providing better incentives for users – for instance by pursuing a comprehensive set of measures to deliver fair and efficient pricing across all transport.

Source:https://transport.ec.europa.eu/transport-themes/mobility-strategy_en

Smart mobility

(picture)

Image 30: European Commission Mobility and Strategy Action plan facsheet (2021) Source: https://transport.ec.europa.eu/transport-themes/mobility-strategy_en

Innovation and digitalisation will shape how passengers and freight move around in the future if the right conditions are put in place. The strategy foresees:

- Making connected and automated multimodal mobility a reality – for instance by making it possible for passengers to buy tickets for multimodal journeys and freight to seamlessly switch between transport modes.
- Boosting innovation and the use of data and artificial intelligence (AI) for smarter mobility – for instance by fully supporting the deployment of drones and unmanned aircraft and further actions to build a European Common Mobility Data Space.

Source: https://transport.ec.europa.eu/transport-themes/mobility-strategy_en

Resilient mobility

(picture)

Image 31: European Commission Mobility and Strategy Action plan facsheet (2021) Source: https://transport.ec.europa.eu/transport-themes/mobility-strategy_en

Transport has been one of the sectors hit hardest by the COVID-19 pandemic, and many businesses in the sector are seeing immense operational and financial difficulties. The Commission therefore commits to:

- Reinforce the Single Market - for instance through reinforcing efforts and investments to complete the Trans-European Transport Network (TEN-T) by 2030 and support the sector to build back better through increased investments, both public and private, in the modernisation of fleets in all modes.
- Make mobility fair and just for all – for instance by making the new mobility affordable and accessible in all regions and for all passengers including those with reduced mobility and making the sector more attractive for workers.
- Step up transport safety and security across all modes - including by bringing the death toll close to zero by 2050.

Source: https://transport.ec.europa.eu/transport-themes/mobility-strategy_en

Search for resources on different areas

Future mobility will be transformed by technological innovation and there are many areas where you can think about opportunities in mobility.

KPMG See next diagram:

(picture)

Image 32: Source: KPMG Mobility 2030 report, KPMG, https://home.kpmg/uk/en/home/campaigns/2019/09/mobility-2030-future-of-mobility.html

3.4.5. Circular economy

4.3.5.1. Resources and Circular Economy

Why cities are crucial for circular economy?

Cities have a high concentration of resources, capital and talent spread over a relatively small geographic area and are centres of innovation. Because of this concentration, cities are also uniquely positioned to support certain circular business models, such as sharing models, reuse systems or product as a service model.

We are talking about models such as circular supply models, resource recovery models, product life extension models, sharing models or product service system models which will be explained in the following section.

Every entrepreneurial project must have certain resources to launch into the market and we have learned that **human and social resources**, **environmental resources,** and **technological resources** are resources that need to be assessed and quantified.

Here are some case studies of resources related to the circular economy.

Technological Resources in circular economy

New technologies will be what makes the paradigm shift possible, as they provide the tools that are able to lower costs, automate tasks, and even create economic value.

Not in vain, specialists capable of implementing the new projects will be required. This will be a game-changer for many workers who have the right skills, and a new path for those who are currently being trained or for others who will do so in the coming years.

What technologies will be used? From **artificial intelligence to blockchain, to the Internet of Things, cybersecurity, and Big Data.**

Keys to global digitization, all of which will be used in the transition toward the circular economy. This is set out in the report titled “Creating a digital roadmap for a circular economy,” which states that they will be able to “improve connections and the exchange of information; make products, processes and services more circular; and influence and empower citizens and consumers.”

Frost & Sullivan has conducted an analysis titled "The Impact of Digital Transformation on the Waste Recycling Industry," which analyzes how digitization and new technologies help this circular model.

He analysis shows some examples of this, making it very clear that technology and this economic paradigm must go hand in hand for it to be possible.

- The Internet of Things. This will be present in intelligent containers, robotic classification, and mobile applications, combined with analysis tools and optimization software.
- RFID. Latest-generation sensors and RFID (Radio Frequency Identification) allow real-time data tracking.
- XaaS (Everything-as-a-Service). This is the technology-as-a-service model applied to innovative businesses for which there will be no need to invest in infrastructure.
- Client experience. The ability to focus on the client or consumer experience will become a reality, thereby obtaining better data on what the market is claiming and how recycling and reuse impact each user.
- Big Data and the Cloud. The integration of crowdsourcing models will foster greater demand for Big Data, which is essential for mass information analysis.

Case! IHOBE (Human Resources + environment)

When it comes to assessing the viability of a business opportunity, it is important to know the strategic commitment of the environment, as policies will be derived from them that will facilitate the human and technological resources to carry it out.

Entities such as the one presented below make the environment rich and enable entrepreneurial initiatives in cities in the field of circular economy.

Ihobe is a publicly owned company coming under the Basque Government's Ministry of Economic Development, Sustainability, and the Environment.

This is enshrined in the next purpose *"accelerate an economic revival, creating jobs by harnessing digital, ecological, and social-health transformations as opportunities improve the competitiveness of the productive structure, and integrate environmental criteria into all sectoral policies, not as a condition, but asa competitive factor to create value"*

There are many areas in which ihobe works, below you can see the projects worked on and to learn about these areas of work make us reflect on the business opportunities aimed at cities

(picture)

Image 33 Source: Environmental areas, Ihobe: https://www.ihobe.eus/inicio, Accessed 14 December 2022

Video: Ihobe

https://youtu.be/PKV-LSfbojk

José María Fernández Alcalá

Responsable de Economía Circular

IHOBE, Empresa Pública de Gestión Ambiental

Case: Basque Ecodesign center (Human Resources + Environment)

The Basque Ecodesign Center is a stable initiative set up in 2011 in a framework of cooperation between private sector businesses and the Basque Government. Its goal is to design and implement innovative eco-design projects to generate **knowledge and subsequently transfer** it to the fabric of Basque industry.

Since 2016 the Ideas Laboratory has been integrated within the Basque Ecodesign HUB.

The Ideas Laboratory focuses on researching new market trends and emerging themes regarding the environment and products at the Basque Ecodesign Center.

One of the aspects set out in the personalised watch reports are new emerging areas in the relationship **between the environment and business opportunities**.

When sharing the reports with the partner companies, those areas of interest are first and foremost identified that require greater research and knowledge. Therefore, the Ideas Laboratory sets up "ad hoc" thematic research teams with a multidisciplinary technical profile. Once the research has been performed, the "thematic round tables" are held getting a dual goal:

- To submit to the company the main conclusions of the thematic research carried out by the Ideas Laboratory team from the personalised perspective of the company.
- To work together on a common positioning analysis and a possible associated work plan.

(picture)

[Image 34] Basque Ecodesign Center Logo, Source: http://www.basqueecodesigncenter.net/Default.aspx?IdMenu=20552758-7739-4933-B86F-8A063BB65ABC&Idioma=es-ES , Accessed 14 December 2022

Vídeo: Basque Ecodesign Center

https://youtu.be/-z1NccQwZN4

3.5. Networks and megatrends [FOLDER]

3.5.1. Introduction

Networking, the creation of a network of contacts to create business opportunities, is one of the essential skills for entrepreneurs, as they can have productive approaches that will help them build strong relationships with other people who are also looking to expand their brand or can participate, contribute and generate added value to the project.

A business ecosystem, also known as digital business ecosystem, can be seen as a particular case of a VBE (VO Breeding Environment) with, as its name implies, principles and mechanisms inspired from biological ecosystems

In terms of the megatrends we have defined, the article ***"The Role of Collaborative Networks in Sustainability"*** (Universidade Nova de Lisboa , University of Amsterdam & Ecole Nationale Supérieure des Mines de St Etienne) says:

"It is particularly evident that the challenges of sustainability call for a wide collaboration among multiple stakeholders, as the needed changes exceed the capacity and capability of individual actors"

The megatrends worked on in cities are mentioned among others:

- Collaborative Networks and Ageing
- Collaborative Transportation Systems
- Smart (Energy) Grid

Some of these entities (networks related to the megatrends) are organized in some form of association e.g. associations of SMEs, enterprise incubators or science parks, networks of regional development agencies and associated private (small) consultancy companies. But also, a promising approach could be tripartite network models for collaborative networks.

(picture)

[Image 35] Tri-partite networks in extending active professional life for seniors, Source: Camarinha-Matos, Luis & Afsarmanesh, Hamideh & Boucher, Xavier & Camarinha-Matos, L. & Afsarmanesh, H. & Boucher, X. & al, Camarinha-Matos. (2010). The Role of Collaborative Networks in Sustainability. IFIP Advances in Information and Communication Technology. 336. p 1-16. 10.1007/978-3-642-15961-9_1., *Accessed 14 December 2022*

During this section, three “Networks” fields that generate business opportunities in the field of cities will be analyzed:

- Network for investment sources: *It could be considered both resource and network*
- Technology centers for product development
- Development agencies or environment equivalent

3.5.2. Networks as funding resources

Financing a project is not always an easy task and impacts financial health. There are more and more ways to find funds and start up a company, so knowing the different options will allow entrepreneurs to adopt the most convenient way according to the needs of their business. Some sources of financing are identified below:

1. ***BUSINESS ANGELS***: The 'Business Angels' or private investors are individuals with investment capacity and who have knowledge of the business world, who promote the development of business projects with high growth potential, providing capital and added value to management in its early stages of development life.

2. ***VENTURE CAPITAL FUNDS:*** Venture capital funds are a financing formula widely used by start-ups and innovative companies that are undergoing an expansion process that require investment. Many of them are formed exclusively by private capital companies, but also by large companies, banks, or the Public Administration itself.

Some examples of venture capital in the Basque Country are SPRI (Public Administration capital) and Easo Venture (Private capital), investors from companies that support the Silver Economy or mobility such as Oroi or V2C

3. ***STARTUP ACCELERATORS AND INCUBATORS:*** These types of institutions are responsible for hosting a series of startups and accelerating their growth, helping them in their initial stage to configure their business model, their strategy for attracting clients and attracting financing. Many of them are formed exclusively by private capital companies, but also by large companies, banks or the Public Administration itself.

Mubil was born from the Gipuzkoa strategy as a region specialized in the smart and sustainable mobility. It is a space/ecosystem for meeting, interaction where new opportunities can be generated.

Ship2B Foundation, select technology based startups with high social and environmental impact with the aim of accelerating their growth through among others circular economy.

In Spain, the Association of Business Angels Networks (AEBAN) has as its main mission to promote the activity of these investors and their networks in Spanish territory. It is the association of agents that carry out direct private investment activity in the initial stages, such as investor networks, groups and clubs, family offices, investment companies and funds, accelerators, incubators and venture builders, equity crowdfunding platforms and companies that carry out investment activities. corporate venturing.

4. ***PUBLIC SUSIDIES AND GRANTS:*** The Public Administration does not normally finance business projects directly, but it does make different subsidies and aid available to entrepreneurs that allow them to finance the business. To access it, it is necessary to meet a series of requirements that may vary depending on the aid requested. Most of them are intended for innovation and technology projects that seek internationalization or that belong to a sector that the Administration wants to promote with public funds, such as green companies (in line with state strategies)

5. ***CROWDFUNDING CAMPAIGN:*** Micropatronage, collective financing or, simply, crowdfunding, is a form of collective and collaborative financing, and can become a great asset when it comes to raising funds for a project. Crowdfunding thus consists of putting entrepreneurs who need financing in contact with different investors who want to bet on the company.

Sono Motors is a company that manages to collect funds for the development of vehicles that are charged with energy through the reception of solar rays. Sono Motors was financed through a mixed model of crowdfunding and crowdlending, and managed to collect more than 50 million euros

6. ***BARTERING:*** The exchange of service or 'bartering' means reaching commercial agreements with other companies, through obtaining a benefit without monetary exchange. Although it is not a direct financing system, it helps reduce fixed costs and can lead to savings that can be used to cover other needs.

3.5.3. A1 Case: Basque Country ecosystem

UP EUSKADI

UP! EUSKADI is an open-access tool built by and for founders, investors, executives and tech enthusiasts.

It facilitates data-driven policy and decision making, the sharing of cross-industry knowledge, and will foster the partnerships required to help the next generation of innovators succeed on the global stage.

This new database not only offers the most detailed picture of the Basque Country tech scene up until now but it's also a collaborative project. Any startups, investor, or other ecosystem stakeholders can also add their company details themselves and enhance their profile providing open access to data for the community

(picture)

[Image 36] The Basque Country Ecosystem, Source: https://upeuskadi.spri.eus/en/ , accessed, February 2022

In the app we can find Startups such as ***Kilker Movility*** that are committed to moving towards a more sustainable, safe and healthy mobility model. They want to redefine urban mobility by understanding user needs while seeking the perfect balance between sustainability and technology.

(picture)

[Image 37]:Kilker the electric scooter (2021), Source: https://www.kickstarter.com/projects/kilkermobility/kilker-electric-scooter , accessed February 2022

3.5.4. A2. Practicing with a network: UP! EUSKADI

Analyze on the UP! Euskadi platform which rounds of financing and which new companies have been recently added

Link

(picture)

[Image 38] Startups de Euskadi (2022), Source: Startups de Euskadi – Up Euskadi (spri.eus).Accessed, February 2022

3.5.5. B. Networks as research opportunities

Research centers

Research and education networks (or advanced networks) allow scientists, researchers, academics, teachers and students to collaborate, sharing information and tools through a series of network interconnections.

In some countries, science, technology, and innovation networks are generated as groups of research, development, and innovation entities that, working as a network, develop a balanced mix of R&D&I activity, carrying out specialized and excellent research that contributes to the creation of wealth and welfare.

Both the research centers and the networks created by these agents **facilitate the development of new products and services** generated by these **business opportunities**.

Depending on each region or country, different institutions, entities or bodies are created, which can be classified as follows (examples are added in each typology):

1. **University Research Structures:** SmartGlacis (Universitat Oberta de Catalunya)

(picture)

[Image 39] Smart city (2017) Source: https://symposium.uoc.edu/11570/detail/el-papel-de-las-telecomunicaciones-en-las-infraestructuras-tecnologicas-del-futuro. Accessed 14 December 2022

2. Basic Research Centres and Centres of Excellence : BCBL - Basque Center on Cognition, Brain and Language

(picture)

[Image 40] Eye Tracking Logo (2022) Source: https://www.bcbl.eu/en/infrastructure-equipment/eyetracking Accessed March 2022.

Eye tracking project, Eye tracking enables to investigate the underlying mental processes engaged during reading as well as image and video processing tasks.

What business opportunities can be generated in the field of Silver Economy in cities? Retail sector?

3. Science, Technology, and Innovation Dissemination Agents: Mubil, From Gipuzkoa a region specialized in the smart and sustainable mobility

(picture)

[Image 41]Value proposal (2021), Source: https://www.mubil.eus/en/strategy, Accessed 14 December 2022

4. Technology Centres: develop and transfer technology to the business fabric. They are classified as:

– *Multi-focussed Technology Centres*: Active in R&D in various technologies and in different economic or business sectors. Tecnalia – ICT4SILVER, Gaiker – iceberg, ...

– *Sectorial Technology Centres*: R&D activities focused on a specific economic or business sector. Circle

(picture)

Tecnalia: ICT 4 SILVER project

[Image 42] Tecnalia Logo (2019), Source: https://cms.tecnalia.com/uploads/2019/07/LogoTecnalia.jpg Accessed 14 December 2022

[Image 43]ICT4SILVER Logo, Source:https://www.ict4silver.eu/wp-content/themes/ict4silver/images/ic4silver_logo.png Accessed 14 December 2022

ICT4SILER project meets the needs expressed in the 5 main fields among them Habitat and Urbanism applied to Silver Economy.

(picture)

[Image 44] Gaiker Logo (2020) Source: https://iceberg-project.eu/consortium/ Accessed 14 December 2022

(picture)

[Image 45] Iceberg Circular Economy Logo (2020) Source: https://iceberg-project.eu/ Accessed 14 December 2022

iceberg project is about Circular Economy Based solutions demonstrating the Efficient recovery of valuable material Resources from the Generation of representative End-of-Life building materials.

(picture)

[Image 46]Circe Logo, Source: https://www.fcirce.es/wp-content/uploads/2018/11/LOGO-COLOR.png Accessed 14 December 2022

5. **Cooperative Research Centers (CIC):** develop collaborative research and excellence in a strategic scientific and technological area

CIC Energigune

(picture)

[Image 47] CIC energigune Logo (2022) Source: https://cicenergigune.com/en Accessed 14 December 2022

6. Business R&D units: Research entities focused primarily on experimental development and oriented to meet the R&D needs of their proprietary companies

(picture)

[Image 48]BIND Logo (2022) Source: https://www.spri.eus/es/teics-comunicacion/772-startups-de-mas-de-80-paises-se-inscriben-a-la-sexta-edicion-de-bind-4-0/ Accessed 14 December 2022

Their cross vertical access that allows to collaborate with innovative companies in the main industries leading the industry 4.0 transition such as clean energy & Sustainability.

Some of the technology centers are listed below:

(picture)

3.5.6. C. Networks as business opportunities

Networks as business opportunities

The development and innovation agency are responsible for the development of public policies and strategies for the socio-economic promotion of the region in collaboration with local councils.

They work can be summarized in three main principles of its work philosophy:

- Working closely with and interacting with agents creating collaborative networks and spaces for participation
- Accompanying transformation processes
- Fostering the development of regional activities

Therefore, it is very important that the **promoter of the business opportunity knows** the **network** of the city in which he is going to develop his idea.

An example of a development agency is Iraurgi Berritzen in the Urola Erdia region of the Basque Country that creates a network with companies, educational centers, workers/unemployed, entrepreneurs, tourism agents and traders:

(picture)

[Image 49] Iraurgi Berritzen Logo Source:https://www.iraurgiberritzen.eus/index.php/eu/ Accessed 14 December 2022

Iraurgi Berritzen with SDG4BIZ

Interview to Alazne Larrañaga, Entrepreneurship and Commerce Coordinator in Iraurgi Berritzen – Development Agency.

https://eu1files.itslearning.com/data/901208/400015/Interview_IraurgiBerritzen_english.pdf

(picture)

[Image 50] Iraurgi Berritzen Interview (2022) Source:Tknika for SDG4BIZ .own source

3.6. Case! The Basque network ecosystem

3.6.1. About Basque Resources and Network ecosystem

Having analyzed the different typologies, characteristics of the Resources and Networks that exist to promote the development of business opportunities in the area of cities, it is important to outline those that represent an opportunity in the area to be developed.

Below you can see a map of the Resources & Networks for the case study of the Basque Country environment.

Basque ecosystem mind-map infographic

(picture)

[Image 51*] Basque Ecosystem map (2022) Source: Tknika own source*

3.7. Create your own network ecosystem

Description

Use a mind map program, for example mindmap, and create your own network ecosystem that could be helpful for your business creation opportunity

3.8. Learner's reflection: Learner Diary

Description

5.You have learned about the importance of having Resources and Networks to launch a new business idea. Reflect about which specific Networks and Resources do you foresee for the business opportunities that

you have detected in previous section.

We invite you to write down your posts of this module on your Learning Diary.

Open the Blog where the Learning Diary is created from HERE. It will be opened into a new browser tab so you can keep it open as you go further.

3.9. Key take-aways and references

KEY TAKE AWAYS

Business opportunities may be distinguished based on their origin and the degree of development.

Opportunities for new value creation may be generated through solutions that capture new value through the reduction or elimination of destroyed value or capture currently missed value throughnew activities, relationships, and network reconfiguration.

When solving complex issues, collaboration is essential. Co-innovation builder is a tool to facilitate collaboration and co-innovation.

There are various institutional, strategic, and operational barriers and drivers for sustainable business model innovation.

REFERENCES

https://page.itslearning.com/Files/17964621/adinberri_V8_CAS_EN.pdf

Easo Ventures | Sociedad de Capital Riesgo Vasca y Privada

BIBLIOGRAPHY

Article: Camarinha-Matos, L.M., Afsarmanesh, H. and Boucher, X., 2010, October. The role of collaborative networks in sustainability. In Working Conference on Virtual Enterprises (pp. 1-16). Springer, Berlin, Heidelberg.

3.10. Additional material for resources and networks

https://link.springer.com/content/pdf/10.1007/978-3-642-15961-9_1.pdf

https://www.orkestra.deusto.es/images/investigacion/proyectos/bbk_valor_anadido/ECOSISTEMA_INNOVACION_BIZKAIA.pdf

5. Business modelling

DESCRIPTION

This final section of module 3 summarizes the learning from all previous sections. You will create a model for your business by including the elements of sustainability across the value chain. Furthermore, you will identify the key performance indicators to measure the impact on people, environment, and profit.

As a conclusion of the previous sections, business opportunities related to cities have been detected in these areas, though not the only ones:

(picture)

[Image 52] Summary module 3 (2022) Source: SDG4BIZ own source

In this section one of the tasks is to reflect and document your learning into the **Learning Diary.**

Open a Blog where the Learning Diary will be created from HERE. It will be opened into a new browser tab so you can keep it open as you go further.

LEARNING OBJECTIVES

The learner identifies sustainable business models in cities according to the three different areas selected: silver economy, circular economy, and mobility. The learner analyses business models in cities according to the three different areas selected: silver economy, circular economy, and mobility.

RESOURCES AND ACTIVITIES

5.1. Business modelling: circular economy [FOLDER]

5.1.1. Introduction to Circular Economy Business Modelling

Introduction video

https://youtu.be/9doURDe2p0c

Circular Economy Business Modelling in Cities

Amaia Sastre, Tknika

5.1.2. Circular economy business modelling

5.1.2.1. The importance of circular economy in cities

Welcome to the orientation part in circular business modelling in cities. In this chart, you will find out which is the purpose and role of circular economy for business opportunity recognition/development.

Video link: https://youtu.be/izHdrmKMiso

Source: Retrieved from Circular-economy-brochure.pdf (oecd.org)

Why cities are crucial for circular economy

Cities have a high concentration of resources, capital and talent spread over a relatively small geographic area and are centres of innovation. Because of this concentration, cities are also uniquely positioned to support certain circular business models, such as sharing models, reuse systems or product as a service model.

Two-thirds of us will be living in urban areas by 2050. Despite taking up just 2 per cent of global landmass, our urban centres consume more than 75 per cent of natural resources, are responsible for over 50 per cent of solid waste and emit up to 60 per cent of greenhouse gases, contributing to pollution, climate change and biodiversity loss.

Developments in circular manufacturing, fashion, transport, food and procurement are already being led from urban areas. Now is the time to take full advantage of the wealth of opportunities in cities to create a system that can work long-term for the economy, society, and the environment.

Use our resources and examples to find out how we can re-imagine cities as vibrant systems that operate public services more efficiently, improve how buildings are used, re-imagine city transport and more.

5.1.2.2. Business models for circular economy

1. **Circular supply models,** by replacing traditional material inputs derived from virgin resources with biobased, renewable, or recovered materials so as we can reduce the demand for virgin resource extraction in the long run.
2. **Resource recovery models recycle waste into secondary raw materials**, thereby diverting waste from final disposal while also displacing the extraction and processing of virgin natural resources.
3. **Product life extension models extend the use period of existing products**, slow the flow of constituent material through the economy, and reduce the rate of resource extraction and waste generation.
4. **Sharing models facilitate the sharing of underutilised products** and can therefore reduce demand for new products and their embedded raw materials.
5. **Product service system models**, where services rather than products are marketed, improved incentives for green product design and more efficient product use, thereby promoting a more sparing use of natural resources.

https://youtu.be/o3ByrTTtx9M

5.1.2.3. The 3Ps framework

Unlocking the potential of the circular economy in cities can be transformative, systemic, and functional.

(picture)

[Image 53] The 3Ps framework (2019) Source: Retrieved from Circular-economy-brochure.pdf (oecd.org) Accessed 14 December 2022

The 3Ps framework (OECD 2016) people, policies, and places, provide guidance for action in cities and regions.

First, it implies behavioural and cultural change towards different production and consumption pathways, new business, and governance models in shared responsibility across levels of government and stakeholders (People).

Second, it provides an opportunity for complementarities across water, waste, energy, transport, housing and land use (Policies).

Third, inflows and outflows of materials, resources and products require a reflection on the appropriate scale at which the circular economy is applied and on functional linkages across urban and rural areas (Places).

Implementing the circular economy in cities can bring tremendous economic, social and environmental benefits. The implementation of a circular economy vision could foster the emergence of:

1. **Thriving cities** in which economic productivity increases through reduced congestion, eliminated waste, and reduced costs. New growth and business opportunities support skills development and jobs
2. **Liveable cities** with improved air quality, reduced pollution, and enhanced social interactions
3. **Resilient cities**, reducing reliance on raw materials by keeping products in use and balancing local production with global supply chains

Building a circular economy in cities can bring tremendous economic, social, and environmental benefits.

If we can reduce congestion, eliminate waste, and bring down costs, higher economic productivity and new growth will allow cities to thrive. New business opportunities will support skills development and jobs.

Lower carbon emissions and pollution will improve air quality and urban health and enhanced social interactions will make city spaces attractive and liveable.

5.1.2.4. What is the issue?

Today, cities demand almost two-thirds of global energy, produce up to 80% of greenhouse gas emissions and 50% of global waste. The circular economy can provide a policy response to cope with the above challenges, as a driver for economic growth, jobs and environmental quality.

Cities and regions have a key role to play as promoters, facilitators, and enablers of circular economy. Adequate economic and governance conditions should be in place to unlock its potential.

(picture)

[Image 54]Circular economy (2019) Source: Retrieved from Circular-economy-brochure.pdf (oecd.org) *Accessed 14 December 2022*

5.1.3. CIRCULAR SUPPLY MODELS

PPT 1 CIRCULAR SUPPLY MODELS

5.1.4. RECYCLE WASTE INTO RAW MATERIALS

PPT 2 RECICLE WASTE INTO RAW MATERIAL

5.1.5. EXTENSION BUSINESS MODELS

PPT 3 EXTENSION BUSINESS MODELS

5.1.6. SHARE UNDER UTILISED PRODUCTS BUSINESS MODELS

PPT 4 SHARE UNDER UTILISED PRODUCTS BUSINESS MODELS

5.1.7. PROMOTING NATURAL RESOURCES USE

PPT 5 PROMOTING NATURAL RESOURCES USE

5.1.8. CASE! JOLAS

JOLAS company video

https://youtu.be/GCQ8FCzlThA

Iñigo Isasti, Commercial director and project manager, JOLAS

INTRODUCTION

"*We want to offer the latest and the best. We have a commitment with the world we live in. If we look after our children, we also look after their world in the present and in the future.*"

Small gestures for a great cause. Jolas wants to have a positive influence on the environment. Not only do we use recyclable materials and certify our system of sustainable manufacture, but we also try to breathe new life into the materials we recycle.

We maintain our commitment. We're in a constant process of introducing, in shared environments, the generation of energy from renewable sources. We study new applications that help understand sustainability as a good we all share and that between us we must all take care of.

(picture)

Image 54.1 Jolasplay (2022) Source: El reciclaje va con Jolas. Así es hanit®: la materia prima ideal - Blog - Jolas Play Accessed 14 December 2022

New solutions to new problems. Day after day we strive to find solutions to changing settings in which we

can preserve the essence of every one of us. We create that friendly environment in which the child inside us all can develop to the full.

https://www.jolasplay.com/en/site/blogpost/190

5.1.9. CASE! ASFALTIA

ASFALTIA company video

https://youtu.be/rMJX6ANQJUI

Marisol Barral, Responsible of the R&D department, ASFALTIA

INTRODUCTION

ASFALTIA is a company specialised and at the forefront in asphalt, road and pavement solutions in all areas: research, design, manufacture and paving.

Its headquarters and R&D&I laboratory are located in Gipuzkoa. It has production plants in the Basque Country, Navarre and Burgos and has state-of-the-art machinery.

ASFALTIA forms part of the CAMPEZO GROUP, a leading business group in its areas of activity: Civil Works, Roads and Pavements, Technology and Integral Conservation, Infrastructure Management, Environment, Quarries and Gravel Pits and Restoration of Façades and Buildings.

PROJECTS

Asfaltia is a benchmark in the design, manufacture and spreading of a new generation of sustainable pavements that revalue waste and reduce pollution. For this project, its R&D&I department has designed a recycled bituminous mix made of steel aggregate and plastics from bottles.

In addition to recycled mixes, Asfaltia offers other sustainable alternatives for infrastructures such as decontaminating mixes that reduce the level of pollution and the overheating of urban centres or energetic energy mixes that capture the thermal energy accumulated in the pavement by solar radiation.

This new generation of sustainable asphalts demonstrates Asfaltia's commitment to the environment and its contribution to the Sustainable Development Goals (SDGs) of the 2030 Agenda.

https://www.asfaltia.com/asfalto-reciclado-plastico-ikastola-axular-donostia/

5.1.10. CASE! TRASH PEAK

INTRODUCTION

(picture)

Image 54.2 Trash Peak Logo (2021) Source: https://www.openfuture.org/es/custom/startupincubazul/view/1902 Accessed 14 December 2022

TrashPeak arises from the moral obligation of every surfer to care for and maintain the environment in which he or she is happy, the ocean. Our beaches are ravaged by tons of plastics, which are destroying our coastline. It is known that by the year 2050, the weight of plastics in the oceans will exceed the weight of the fish that live in them.

In the consumerist times in which we live, our brand is committed to the reuse of materials rather than their production. The basis of this project is the manufacture of ecological and sustainable surfboards from plastics collected from our beaches. All this through the innovation of 3D technology.

Through our brand we intend not only to implement a new manufacturing model based on recycling through 3D technology, but also to educate and raise awareness during the process.

RECICLED SURF BOARDS

https://youtu.be/vmg0R9D9AQg

5.2. Business modelling: mobility

Introduction video

https://youtu.be/67cG_x4b4Qg

Mobility Business Modelling in Cities

Amaia Sastre, Tknika

5.2.1. Mobility 2030 What could the future look like?

https://youtu.be/Y_X84lIeRik

These are some of the questions arisen in the video, and many others you may think about.

- Will B2C insurance disappear?
- How will energy companies' business models change?
- What data highways and cyber security will be needed to run transport networks?
- What policies should governments put in place to regulate and sustain the new eco-system?

Always having the user in mind and through networking the value creation chain is changing.
In the next videos you have some companies' examples that are giving an answer through their businesses.

5.2.2. Case! Dinycon

DINYCON's mission states

"The Mission of Dinycon Sistemas is to optimize the mobility of people and vehicles, contributing to the integral development of the surroundings and improvement of the environment."

We can understand better what they do by watching the video below

SMART SOLUTIONS FOR SMART CITIES

More information about DINYCON and their success stories in their website

Do you want to know more about the SMART cities? You can find interesting articles in theAdditional material folder.

DINYCON Video:

https://youtu.be/Dk0g9F2kDAA

Roberto García, CEO of DINYCON Diseño, Ingeniería y Control, gives his input through all the sections of the module in this VIDEO.

5.2.3. Case! KIMUBIL from KIMUA GROUP

CASE! KIMUBIL, a shift on markets, new customers in cities

KIMUAGROUP is a company with an industrial focus but the new paradigm on cities mobility provides them with ideas to develop new products for the new cities concept.

"The alternative for delivery that reduces the carbon footprint"

(picture)

[Image 55] Kimubil photo in Go mobility. (2022) Own source

kimubil_triptikoa_eng_esp.pdf

More information about KIMUA in their website

KIMUBIL Video

https://youtu.be/fPN6l5_5lGU

Nagore Azkue, Innovation Manager of KIMUAGROUP tells us in this video about their journey from industrial products to products for cities.

5.2.4. Case! Alterity

Alterity is a company based in the Basque Country that provides high performance sustainable lithium

batteries company for diverse sectors with diverse solutions. Among them they work in the mobility sector with traction batteries, for any company dedicated to the production of light vehicles, from scooters or bikes to compact or las-mile vehicles.

Xabier Safont, one of ALTERITY's CEOs gives his input through all the sections of the module in this VIDEO.

More information about ALTERITY in this LINK

Alterity Video:

https://youtu.be/05TQuqk8q58

Xabier Safont, one of ALTERITY's CEOs gives his input through all the sections of the module in this VIDEO

5.2.5. Case Wireline

Wirelane / Charge. Pay. Done.

This is the case of a German company on the electric mobility sector that offers a complete solution for charging infrastructure: hardware, software, services.

"Whether charging infrastructure for the public sector, for hotel parking lots, underground car parks or the vehicle fleet – we accompany our customers in the realization of extensive charging infrastructure projects from planning, construction and commissioning to funding management, operation, marketing and customer support."

You can read the article on how the company was created on this LINK.

5.2.6. PPT Opportunities for investment in future of mobility

https://sdg4biz.itslearning.com/LearningToolElement/ViewLearningToolElement.aspx?LearningToolElementId=1934

5.2.7. PPT EU Mobility Strategy_2021020858

https://sdg4biz.itslearning.com/LearningToolElement/ViewLearningToolElement.aspx?LearningToolElementId=1935

5.2.8. Additional material

SMART CITY

Article: Everything you wanted to know about smart cities Mohanty, Saraju. (2016). Everything You Wanted to Know About Smart Cities. IEEE Consumer Electronics Magazine. 5. 60-70. 10.1109/MCE.2016.2556879.

Article: Smart Cities: Definitions, Dimensions, Performance, and Initiatives Vito Albino, Umberto Berardi & Rosa Maria Dangelico (2015) Smart Cities: Definitions, Dimensions, Performance, and Initiatives, Journal of Urban Technology, 22:1,3-21,DOI: 10.1080/10630732.2014.942092

Podcast: Smart cities This podcast discusses smart city-related issues: what are they, what kind of opportunities they provide for companies and people – and do they make us happy? The podcast is hosted by Sonja Malin, Senior Business Advisor at Helsinki Business Hub.

What is a smart city? Definition and examples TWI

5.3. Business modelling: silver economy

5.3.1. Welcome to silver economy

https://youtu.be/xY154ChhTww

Business Modelling in Silver Economy in Cities

Amaia Sastre, Tknika

5.3.2. Why silver economy?

Introduction

(picture)

[Image 56]The agility effect (2020) Source: https://www.theagilityeffect.com/en/article/how-does-the-silver-economy-fit-with-the-smart-city/, Accessed 14 December 2022

5.3.3. Case! WELLK

Introduction

WELLK is a start-up company, and they aim to help having a more active population in cities.

As they say, "*We seek the empowerment of citizens through innovation, the creation of links between people and self-development through sport.*" To reach this goal they have developed an app where they give visibility to all the offer of your municipalityand find all the nearby options to stay active. Walk, receive personalized training, set personalized reminders... everything you need for sports practice.

More info at https://wellk.eus/

Vídeo WELLK

https://youtu.be/th6Xr0vVoaE

5.3.4. Case OROI

Introduction

Oroi is a virtual reality platform with entertainment and cognitive stimulation experiences oriented to improve the emotional wellbeing and train cognitive functions in the elderly population. There are three different apps:

- wellbeing: a wellness app
- cognitive: app with cognitive stimulation exercises
- fit: adapted exercise

The platform is widely recognised by the media. Some testimonials:

"It is a new entertainment therapy that helps them to be happier and remember beautiful memories"

"It is a solution that combines both entertainment and cognitive stimulation, creating a nice and beneficial experience for the user"

More info: https://en.oroi.info/

Vídeo OROI

https://youtu.be/2R4aFq92FOU

5.3.5. Case! ADINBERRI

Introduction

(picture)

[Image 57] Adinberri Logo (2021) Source: https://www.adinberri.eus/es/ Accessed 14 December 2022

ADINBERRI works to guarantee the quality of life of the elderly by promoting active and healthy ageing.

The main Stakeholders and Targets of this institution are:

1. **People +55 and their environment**. The objective of this target is having more autonomous and healthier elderly people.
2. **Socio-health system.** The objective is to have a person centred care where excellence in care and sustainability are its basis.
3. **Business fabric.** The objective is to create a more innovative and competitive silver economy.

More info at https://www.adinberri.eus/es/inicio (in Spanish and Basque)

ADINBERRI resivoz

https://youtu.be/ovKL6fdLCP0

ADINBERRI ubikare

https://youtu.be/nSQidmtXswA

5.3.6. Case! MUGIKON

Introduction

At MUGIKON we lead and implement practical programmes for monitoring, evaluating and advising on

physical activity aimed at different social groups. Thanks to them, we substantially improve people's quality of life, especially in professional groups and the elderly.

More info at https://mugikon.com/# (in Spanish and Basque)

Video MUGIKON

https://youtu.be/LlYDvaYYR4E

(In Basque and Spanish)

5.3.7. Other start-up examples

Adinberri

Do you want to know more than twenty social and / or technological innovation solutions that work on new models of care and care for the elderly?

Twenty products and services of social and/or technological innovation in the fields of accessibility, mobility, security, food, physical exercise, cognitive stimulation, unwanted loneliness, home adaptation and technical aids, among others, aimed at the socio-sanitary market.

Productos y servicios - Adinberri

Silver economy opportunities

(picture)

[Image 58] Savi Logo (2021) Source: https://www.smartageingventuresinternational.com/silver-economy-opportunities/ Accessed 14 December 2022

https://www.smartageingventuresinternational.com/silver-economy-opportunities/

European agetech startups serving the elderly

Birdie: Birdie's tools allow care agencies to improve efficiency across most day-to-day care operations. Our partner's time savings can lead to significant cost savings.

(picture)

[Image 59] Birdie Logo, Source: https://www.birdie.care/ Accessed 14 December 2022

Nectarine Health: The smart Nectarine Health™ at home care system automatically detects if the wearer has had a fall or changes to their activity and sleep levels, providing your chosen caregivers with real-time alerts and well-being insights through our mobile app.

https://nectarinehealth.com/

Isolation: is a Norwegian start-up founded in October 2015 that aims to reduce loneliness and involuntary

social isolation by developing communication tools helping those affected

https://www.noisolation.com/

5.3.8. Additional material

-GUNEAK digital home https://youtu.be/6GKOmnsof_4

Silver economy: Growing impact economy (Peter Varnai) https://youtu.be/KIZL3GQW9o8

5.4. Learner's reflection: Learning Diary

6. During the different sections you have been able to reflect on how to develop a business idea related to the SDGs in the field of cities, and specifically in three different fields: Silver Economy, Mobility and Circular Economy. Now, we invite you to write down your post of this module on your Learning Diary.

Open the Blog where the Learning Diary is created from HERE. It will be opened into a new browser tab so you can keep it open as you go further.

(picture)

5.5. Key take-aways and references

KEY TAKE AWAYS

Business modelling is about defining how a company creates, delivers and captures value, i.e. howit succeeds in a sustainable way in future

Trough the examples given we have understood that every problem can be a business opportunity!

Sustainable business model innovation is a call-to-action process, from the operative level to the executive level

Business modelling tools provide practical applications for the business opportunity recognition based on the SDGs– "*it's easier to act your way to a new way of thinking than to think your way toa new way of acting*."

REFERENCES

1. Circular Economy

https://youtu.be/o3ByrTTtx9M Cities by Ellen MacArthur Foundation

ELLEN MACARTHUR FOUNDATION. Cities and the circular economy https://archive.ellenmacarthurfoundation.org/explore/cities-and-the-circular-economy

Circular-economy-brochure.pdf (oecd.org)

Cities and the circular economy (ellenmacarthurfoundation.org)

Sustainable Cities Initiative (worldbank.org)

Valencia using smart city solutions to deliver on its SUMP | Eltis

Cities and a circular economy | Ellen MacArthur Foundation

2.Mobility

https://youtu.be/Y_X84lIeRik (what could the future be like)

EU Mobility Strategy_20210208110858.pdf

opportunities-for-investment-in-future-of-mobility.pdf

(PDF) Everything You Wanted to Know About Smart Cities (researchgate.net)

Smart Cities: Definitions, Dimensions, Performance, and Initiatives: Journal of Urban Technology:Vol 22, No 1 (tandfonline.com)

How a smart city boosts sustainable business? - HEL of a business! | Pódcast en Spotify

What is a Smart City? – Definition and Examples - TWI (twi-global.com)

3. Silver Economy

Start-ups can help the smart city to integrate with the silver economy (theagilityeffect.com)

Silver Economy in Europe https://youtu.be/KIZL3GQW9o8

Digital Home Guneak https://youtu.be/6GKOmnsof_4

Inicio – Adinberri

6. Next steps

Description

You have completed the training with SDG4BIZ. Before you proceed to print out the certificate, please, complete the short quiz. You may take it as many times as needed.

You have completed the module

What to do next?

Go to the Final Quiz of the module 3 that verifies your learning outcome.
Congratulations, you completed Module 3 of the SDG4BIZ training course!

Annexes

The annexes contain additional links, slides and lecture slides, which can be used either as part of classroom teaching or to build a recorded lecture for online teaching. The links have been compiled in 2021 - 2022 and have not been updated since then.

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D7 Module 3: Business opportunity recognition regarding Ci links

section-block index	Block title	content	link	Own production
1.1.	Introduction	Video: Introduction video	https://youtu.be/kx-MxT2tYfA	x
1.2.	Review to 17 Goals	Video: Introduction video	https://youtu.be/xVWHuJOmaEk	
1.2.	Review to 17 Goals	Website: Definition of the Goals	https://www.un.org/sustainabledevelopment/sustainable-development-goals/	
1.3.	Key Finding, SDGs indicators	Website: Key findings	https://ec.europa.eu/eurostat/web/sdi/key-findings	
1.4.	CASE! Basque Country Case Study	PDF: Basque Contribution to the 2030 Agenda for Sustainable Development	https://www.euskadi.eus/contenidos/informacion/agenda2030/en_def/adjuntos/Agenda_Euskadi_Basque_Country_2030_sustainable_development.pdf	
1.4.	CASE! Basque Country Case Study	Video: Marijose Barriola, Strategies in cities Agenda 2030	https://youtu.be/Lm_czVTJEfo	x
1.5.	SDG impact Start up and Institutions Experiences	Website: MUBIL	https://www.mubil.eus/en/	
1.5.	SDG impact Start up and Institutions Experiences	Website: Ihobe	https://www.ihobe.eus/about-ihobe	
1.5.	SDG impact Start up and Institutions Experiences	Website: BBK Kuna	https://kuna.bbk.eus/en/	
1.5.	SDG impact Start up and Institutions Experiences	Video: SDG4BIZ BBK Kuna	https://youtu.be/rxcJe-ORe8M	x
1.6.	Analysing and setting relevant SDGs in cities	Website: SDG 11	https://www.un.org/sustainabledevelopment/cities/	

1.6.	Analysing and setting relevant SDGs in cities	Video: UN Sustainable Development Goals | Sustainable Cities and Communities (11)	https://youtu.be/NVz1thUnMLk	
1.8.	Let's learn by playing	Website: Games4Sustainability	https://games4sustainability.org/gamepedia/	
1.	Key take-aways and references	Video: Future and Food: Dictatorship	https://youtu.be/COV-fWlfWAo	
1.	Key take-aways and references	Website: Sustainable cities, Goal 11	https://www.un.org/sustainabledevelopment/	
1.	Key take-aways and references	PDF: EU Monitoring report	https://ec.europa.eu/eurostat/documents/276524/14173765/Methodology+EU+SDG+assessment+approach+2022.pdf/e1596b6a-6946-cd73-bb61-6222a2d4701b?t=1652271373341	
2.1.	Introduction	Video: Introduction video	https://youtu.be/i9tiQoMCsHU	x
2.2.	Megatrends in cities	Website: First circular economy action plan	https://environment.ec.europa.eu/topics/circular-economy/first-circular-economy-action-plan_en	
2.2.	Megatrends in cities	Website: Waste management and recycling: Council adopts new rules	https://www.consilium.europa.eu/en/press/press-releases/2018/05/22/waste-management-and-recycling-council-adopts-new-rules/	
2.2.	Megatrends in cities	Website: Guidelines for developing and implementing a Sustainable Urban Mobility Plan (2nd edition)	https://www.eltis.org/mobility-plans/sump-guidelines	
2.2.	Megatrends in cities	Website: Sustainable and Smart Mobility Strategy - putting European transport on track for the future	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0789	
2.2.	Megatrends in cities	Website: The New EU Urban Mobility Framework	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0811&qid=1643915351633	
2.2.	Megatrends in cities	Website: Towards a European road safety area: policy orientations on road safety 2011-2020	https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52010DC0389	

2.2.	Megatrends in cities	Website: Circular Economy	https://www.europarl.europa.eu/thinktank/infographics/circulareconomy/public/index.html	
2.2.	Megatrends in cities	Website: Population structure and ageing	https://ec.europa.eu/eurostat/cache/digpub/demography/vis/00_00_00/index.html?lang=en	
2.2.	Megatrends in cities	Website: basis of the EU Sustainable & Smart Mobility Strategy	https://audiovisual.ec.europa.eu/embed/index.html?ref=I-200032&lg=INT	
2.2.	Megatrends in cities	Website: EU Sustainable & Smart Mobility Strategy – EU transport on track for the future	https://audiovisual.ec.europa.eu/en/video/I-200032?lg=INT	
2.2.	Megatrends in cities	Video: Cities Rise to the Challenge – Sustainable Mobility	https://youtu.be/8Fj2ARn1WMY	
2.2.	Megatrends in cities	Website: Mobility Strategy	https://transport.ec.europa.eu/transport-themes/mobility-strategy_en	
2.2.	Megatrends in cities	PDF: Urban future with a purpose - 12 trends shaping human living	https://filecache.itslearning.com/prod.eu-central-1.filerepo/3e77/abcd-a9b8-4810-98ca-ca9605bf11bf?response-cache-control=max-age%3D299&response-content-type=application%2Fpdf&response-content-disposition=inline%3B%20filename%3D%22DI_Urban-future-with-a-purpose.pdf%22%3B&version=1&isDownloadRequest=0&expires=2023-03-28T06%3A38%3A28Z&sign=9tNsxx45Sio7IPyWqkXP4xoNEzcC44A4rcjU7oT3Wjs%3D	
2.2.	Megatrends in cities	Video: The transition to circular cities	https://youtu.be/6N95hM-owjU	
2.3.	Country - region - city strategic plan	Website: Helsinki Smart Region	https://helsinkismart.fi/	
2.3.	Country - region - city strategic plan	PDF: Barcelona: Sustainable Future	https://ajuntament.barcelona.cat/agenda2030/sites/default/files/2021-01/Agenda%202030%20Barcelona%20SDG%20Targets%20and%20Key%20Indicators.pdf	

2.3.	Country - region - city strategic plan	Website: Missions Valencia 2030	https://www.missionsvalencia.eu/?lang=en	
2.3.	Country - region - city strategic plan	Website: Estrategia San Sebastián	https://www.donostiafutura.com/es	
2.3.	Country - region - city strategic plan	PDF: La Agenda Vitoriana 2030	https://www.vitoria-gasteiz.org/docs/wb021/contenidosEstaticos/adjuntos/es/65/68/86568.pdf	
2.3.	Country - region - city strategic plan	PDF: Plan Estratégico de Eibar 2025	https://www.eibar.eus/es/ayuntamiento/planes-y-programas-municipales/plan-estrategico-de-eibar-2025/PlanEstrategicoEibar2025informeSep2016.pdf	
2.3.	Country - region - city strategic plan	Website: Grenoble - Ville durable	https://www.grenoble.fr/68-grenoble-ville-durable-et-ecocitoyenne.htm	
2.	Key take-aways and references	Website: EU Mission: Climate-Neutral and Smart Cities	https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/climate-neutral-and-smart-cities_en	
2.	Key take-aways and references	Website: documents	https://ec.europa.eu/info/sites/default/files/research_and_innovation/funding/documents/ec_rtd_he-cities-mission-reveal-factsheet.pdf	
2.	Additional material for context	PDF: OECD Regional Outlook 2019 - Leveraging Megatrends for Cities and Rural Areas	https://books.google.es/books?id=B2aQDwAAQBAJ&lpg=PP1&pg=PP1&output=embed	
2.	Additional material for context	PDF: Sustainable development in the European Union - Monitoring report on progress towards the SDGs in an EU context	https://ec.europa.eu/eurostat/documents/3217494/14665254/KS-09-22-019-EN-N.pdf/2edccd6a-c90d-e2ed-ccda-7e3419c7c271?t=1654253664613	
2.	Additional material for context	PDF: Everything You Wanted to Know About Smart Cities	https://www.researchgate.net/publication/306046857_Everything_You_Wanted_to_Know_About_Smart_Cities	

2.	Additional material for context	PDF: Smart Cities: Definitions, Dimensions, Performance, and Initiatives	https://www.tandfonline.com/doi/full/10.1080/10630732.2014.942092	
2.	Additional material for context	Podcast: How a smart city boosts sustainable business?	https://open.spotify.com/episode/2HYxSi51DS17wSuwrMSNg1?si=_GcF2xd9Qf62cRVBKe5KRg&nd=1	
2.	Additional material for context	Website: What is a smart city? - Definition and examples	https://www.twi-global.com/technical-knowledge/faqs/what-is-a-smart-city	
3.1.	Introduction to section: Motivation in Cities	Video: Motivation intro video	https://youtu.be/GYWrrzF_CTk	x
3.4.	Buffet of the motivational drivers	Podcast: Sean Carroll's Mindscape: Science, Society, Philosophy, Culture, Arts,	https://podcasts.apple.com/fi/podcast/catherine-brinkley-on-the-science-of-	
3.4.	Buffet of the motivational drivers	Video: Reclaiming Social Entrepreneurship | Daniela Papi Thornton | TEDxBend	https://youtu.be/RdrfMqBRfEQ	
3.4.	Buffet of the motivational drivers	Website: The 100 selected cities	https://ec.europa.eu/info/sites/default/files/research_and_innovation/funding/documents/ec_rtd_he-cities-mission-reveal-factsheet.pdf	
3.4.	Buffet of the motivational drivers	Video: EU Cities Mission: Meet the Cities	https://youtu.be/MbzPpUnzLzo	
3.4.	Buffet of the motivational drivers	Website: EU Mission: Climate-Neutral and Smart Cities	https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/climate-neutral-and-smart-cities_en	
3.4.	Buffet of the motivational drivers	Video: How to be a social entrepreneur: Andy Stoll at TEDxUlowa	https://youtu.be/N8LVa9pb-n8	
3.5.	Case 1: Emerging topic, the light pollution	Video: Why we need darkness	https://www.ted.com/talks/diane_knutson_why_we_need_darkness	
3.5.	Case 1: Emerging topic, the light pollution	Website: Johan Eklöf, Mörkermanifestet	https://www.nok.se/forfattare/e/johan-eklof/	

3.5.	Case 1: Emerging topic, the light pollution	Website: Can Designers Combat Light Pollution by Embracing Darkness?	https://metropolismag.com/viewpoints/lighting-designers-fighting-back-behalf-darkness-night/	
3.5.	Case 1: Emerging topic, the light pollution	Website: International Dark-Sky Association - Lighting	https://www.darksky.org/our-work/lighting/	
3.5.	Case 1: Emerging topic, the light pollution	PDF: New Framework of Sustainable Indicators for Outdoor LED (Light Emitting Diodes) Lighting and SSL (Solid State Lightinh)	https://www.researchgate.net/publication/271416840_New_Framework_of_Sustainable_Indicators_for_Outdoor_LED_Light_Emitting_Diodes_Lighting_and_SSL_Solid_State_Lighting	
3.6.	Case 2: 15 min city and walkability	Video: What is a '15-minute city'?	https://youtu.be/McGyONofhi4	
3.6.	Case 2: 15 min city and walkability	Video: The general theory of walkability | Jeff Speck | TEDxMidAtlantic	https://youtu.be/uEkgM9P2C5U	
3.6.	Case 2: 15 min city and walkability	Website: Jeff Speck	https://www.jeffspeck.com/	
3.6.	Case 2: 15 min city and walkability	Website: Making Better Places: Ten City Design Resolutions	https://www.planetizen.com/node/138	
3.	Key take-aways and references	Website: Noise pollution and annoyance: An urban soundscapes study	https://www.noiseandhealth.org/article.asp?issn=1463-1741;year=2015;volume=17;issue=76;spage=125;epage=133;aulast=de	
4.1.	INTRODUCTION Resources & Networks	Video: Introduction video	https://youtu.be/bwM2TKU6PTQ	x
4.5.	CASE! The Basque network ecosystem	Image: Basque ecosystem mind-map infography	https://drive.google.com/file/d/1_qzttxbiYazACRGTbCagui-vqzSQkpmi/view?usp=sharing	
4.6.	Create yout own network ecosystem	Website: MindMup	https://www.mindmup.com/	
4.	Key take-aways and references	Website: Easo Ventures	https://www.easoventures.com/	
4.	Additional material for recources & networks	PDF: The Role of Collaborative Networks in Sustainability	https://sdg4biz.itslearning.com/LearningToolElement/ViewLearningToolElement.aspx?LearningToolElementId=1907	
4.	Additional material for recources & networks	PDF: Ecosistema de innovación de Bizkaia	https://sdg4biz.itslearning.com/LearningToolElement/ViewLearningToolElement.aspx?LearningToolElementId=1908	
5.1.	Business modelling: circular economy	Video: Introduction video	https://youtu.be/9doURDe2p0c	x

5.1.	Business modelling: circular economy	Video: If Cities Are the Answer What Is the Question?	https://youtu.be/izHdrmKMiso	
5.1.	Business modelling: circular economy	PDF: The Circular Economy in Cities and Regions	https://www.oecd.org/cfe/regionaldevelopment/Circular-economy-brochure.pdf	
5.1.	Business modelling: circular economy	Video: Cities Consume 75% of Natural Resource - How can a Circular Economy Tackle This?	https://youtu.be/o3ByrTTtx9M	
5.1.	Business modelling: circular economy	Website: Ellen MacArthur Foundation	https://ellenmacarthurfoundation.org/	
5.1.	Business modelling: circular economy	Video: Jolas company video	https://youtu.be/GCQ8FCzlThA	x
5.1.	Business modelling: circular economy	Website: Jolas	https://www.jolasplay.com/en/site/blogpost/190	
5.1.	Business modelling: circular economy	Video: ASFALTIA company video	https://youtu.be/rMJX6ANQJUI	x
5.1.	Business modelling: circular economy	Website: Asfalto recilado para el acceso del Colegio Axular Lizeoa en Donosti	https://www.asfaltia.com/asfalto-reciclado-plastico-ikastola-axular-donostia/	
5.1.	Business modelling: circular economy	Video: Recycled surf boards	https://youtu.be/vmg0R9D9AQg	
5.1.	Business modelling: circular economy	Website: Cities and the circular economy	https://ellenmacarthurfoundation.org/cities-and-the-circular-economy-deep-dive	
5.1.	Business modelling: circular economy	Website: Sustainable Cities Initiative	https://www.worldbank.org/en/region/eca/brief/sustainable-cities-initiative#:~:text=Sustainable%20cities%20are%20resilient%20cities%20that%20are%20able,and%20should%20address%20economic%2Ffinancial%2C%20social%2C%20and%20environmental%20issues.	
5.1.	Business modelling: circular economy	Website: Valencia using smart city solutions to deliver on its SUMP	https://www.eltis.org/resources/case-studies/valencia-using-smart-city-solutions-deliver-its-sump	
5.1.	Business modelling: circular economy	Website: Circular cities: thriving, liveable, resilient	https://ellenmacarthurfoundation.org/topics/cities/overview	
5.1.	Business modelling: circular economy	PDF: Circular Business Model Design Guide	https://sdg4biz.itslearning.com/LearningToolElement/ViewLearningToolElement.aspx?LearningToolElementId=1926	

5.2.	Business modelling: mobility	Video: Introduction video	https://youtu.be/67cG_x4b4Qg	
5.2.	Business modelling: mobility	Video: KPMG Mobility 2030 What could the future look like	https://youtu.be/Y_X84lIeRik	
5.2.	Business modelling: mobility	Website: DINYCON	https://www.dinycon.com/en/home	
5.2.	Business modelling: mobility	Video: CASE! DINYCON video	https://youtu.be/Dk0g9F2kDAA	x
5.2.	Business modelling: mobility	PDF: KIMUBIL	https://filecache.itslearning.com/prod.eu-central-1.filerepo/6bca/0d78-7527-42cd-a2db-d0aede2c36d6?response-cache-control=max-age%3D300&response-content-type=application%2Fpdf&response-content-disposition=inline%3B%20filename%3D%22kimubil_triptikoa_eng_esp.pdf%22%3B&version=1&isDownloadRequest=0&expires=2023-03-28T08%3A30%3A30Z&sign=5qqKVRkt10l6O0kRQXHLSm90vJJBHFpEv63eLZnNtWE%3D	
5.2.	Business modelling: mobility	Video: KIMUA Group	https://youtu.be/fPN6l5_5lGU	x
5.2.	Business modelling: mobility	Website: Alterity	https://alterity.energy/	
5.2.	Business modelling: mobility	Video: Alterity	https://youtu.be/05TQuqk8q58	x
5.2.	Business modelling: mobility	Website: Wirelane	https://www.wirelane.com/de	
5.2.	Business modelling: mobility	Website: Building the Future of Electric Mobility	https://www.ideo.com/post/building-the-future-of-electric-mobility	
5.2.	Business modelling: mobility	PDF: Future of mobility Opportunities for investment	https://sdg4biz.itslearning.com/LearningToolElement/ViewLearningToolElement.aspx?LearningToolElementId=1934	
5.2.	Business modelling: mobility	PDF: Sustainable and Smart Mobility Strategy - putting European transport on track for the future	https://sdg4biz.itslearning.com/LearningToolElement/ViewLearningToolElement.aspx?LearningToolElementId=1935	
5.3.	Business modelling: silver economy	Video: Introduction video	https://youtu.be/xY154ChhTww	x
5.3.	Business modelling: silver economy	Website: How does the silver economy fit with the smart city?	https://www.theagilityeffect.com/en/article/how-does-the-silver-economy-fit-with-the-smart-city/	
5.3.	Business modelling: silver economy	Website: Wellk	https://wellk.eus/	

5.3.	Business modelling: silver economy	Video: Wellk	https://youtu.be/th6Xr0vVoaE	x
5.3.	Business modelling: silver economy	Website: Oroi	https://en.oroi.info/	
5.3.	Business modelling: silver economy	Video: Oroi Cognitive Presentation	https://youtu.be/2R4aFq92FOU	
5.3.	Business modelling: silver economy	Website: Adinberri	https://www.adinberri.eus/es/inicio	
5.3.	Business modelling: silver economy	Video: NAIHA by Ubikare - Evento Silver is Gold de ADINBERRI	https://youtu.be/nSQidmtXswA	
5.3.	Business modelling: silver economy	Video: RESIVOZ by Caser Residencial & Vicomtech	https://youtu.be/ovKL6fdLCP0	
5.3.	Business modelling: silver economy	Website: mugikon	https://mugikon.com/#	
5.3.	Business modelling: silver economy	Video: mugikon	https://youtu.be/LlYDvaYYR4E	
5.3.	Business modelling: silver economy	Website: Adinberri Productos y servicios	https://www.adinberri.eus/es/encuentro-merkatuan-prest/productos-y-servicios/	
5.3.	Business modelling: silver economy	Website: SAVI Smart Ageing Ventures International	https://www.smartageingventuresinternational.com/	
5.3.	Business modelling: silver economy	Website: EU-Startups	https://www.eu-startups.com/about/	
5.3.	Business modelling: silver economy	Website: birdie	https://www.birdie.care/	
5.3.	Business modelling: silver economy	Website: Nectarine Health	https://nectarinehealth.com/	
5.3.	Business modelling: silver economy	Website: No Isolation	https://www.noisolation.com/	
5.3.	Business modelling: silver economy	Video: Guneak Hogar Digital	https://youtu.be/6GKOmnsof_4	
5.3.	Business modelling: silver economy	Video: Peter Varnai: the importance of silver economy	https://youtu.be/KIZL3GQW9o8	

1 . Circular supply models

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SDG4BIZ

1. Circular supply models

As you have read before, there are five headline business models for circular economy

1. Circular supply models, by replacing traditional material inputs derived from virgin resources with biobased, renewable, or recovered materials so as we can reduce the demand for virgin resource extraction in the long run.
2. Resource recovery models recycle waste into secondary raw materials.
3. Product life extension models.
4. Sharing models facilitate the sharing of underutilised products
5. Product service system model.

In this chapter, we explain some circular supply models, by **replacing traditional material inputs** derived from virgin resources with bio-based, renewable, or recovered materials, reduce demand for virgin resource extraction in the long run.

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1. Circular supply models: Replace material inputs

- In this chapter, we explain some examples of circular supply models that **replace traditional material inputs** derived from virgin resources with bio-based, renewable, or recovered materials.
- Reduce demand for virgin resource extraction in the long run.

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1. Circular supply models: Replace material inputs

- You will read and learn about 4 different companies in Europe.
- These companies have understood the importance of replacing raw materials for recycled ones.

  - FORTUM BATTERY
  - DURAT
  - HANNUM
  - RESTER

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SDG4BIZ

1. REPLACE MATERIAL INPUTS: FORTUM BATTERY SOLUTIONS

Picture: Value-creating strategy (Fortum Sustainability 2020)

Source: Fortum Sustainability 2020

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SDG4BIZ

1. REPLACE MATERIAL INPUTS: DURAT

Picture: Example images in Clean Baltic Sea (Durat)

Source: Clean Baltic Sea (durat.com)

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SDG4BIZ

1. REPLACE MATERIAL INPUTS: DURAT

COMPANY

- Durat is one of the oldest manufacturers of solid surface materials in Europe. Durat has experience of over 17 years in manufacturing and fabricating solid surface material.

DURAT - RECYCLED TO LAST

- Durat is a unique, sustainable solid surface material which contains recycled post industrial plastics and is 100% recyclable.
- The Durat Circular concept is a new step towards a comprehensive circular economy and closed material cycle.
- Durat repurchases, refurbishes and sells used Durat products. Our goal is to ensure the longest possible life cycle for Durat material and re-use 100% of the materials we produce

Source: Clean Baltic Sea (durat.com)

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1. REPLACE MATERIAL INPUTS: HANNUN

Picture: Example image in Hannun Company website.

Source: Hannun | Muebles de madera que cuidan delplaneta

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1. REPLACE MATERIAL INPUTS: HANNUN

COMPANY

- At Hannun, we have spent years supporting and fostering an industry based on slow furniture, where the environment, people and society are looked after.
- At present, we can safely say that we are the most sustainable option available across the whole furniture market.

COMMITMENT

- When the impact is so positive, the only thing we comfortable doing is fully committing to doing things “in a different way”.
  - Saving the planet
  - Putting people at the heart of what we do
  - A more inclusive society
  - Zero waste

Source: Hannun | Muebles de madera que cuidan delplaneta

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1. REPLACE MATERIAL INPUTS: RESTER

Picture: Example image in Rester Company website.

Source: [Rester (impactreport.app)]

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SDG4BIZ

1. REPLACE MATERIAL INPUTS: RESTER

OUR GOAL

- Rester is a leading global forerunner in building textile recovery value chains.
- We act as a bridge between different sectors in the development of the textile circular economy.

RESTER HAS A PLAN TO HELP

- At Rester, we are on the front line when it comes to offering circular solutions that enable waste textiles to be turned back into raw materials.
- We bring together a unique set of capabilities to make resource-efficient solutions for textiles. Our team has vast experience and a proven track record in B2B business, and we use our deep understanding to apply proven technologies and create new value chains.

Source: Rester (impactreport.app)

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SDG4BIZ

Metropolia

Haaga-Helia

STU
SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA

YAŞAR ÜNİVERSİTESİ

FENICE
GREEN ENERGY PARK

brain Ideen

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its learning

Tknika

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2. RECICLE WASTE INTO RAW MATERIAL

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2. RECYCLE WASTE INTO RAW MATERIAL

Resource recovery models recycle waste into secondary raw materials, thereby diverting waste from final disposal while also displacing the extraction and processing of virgin natural resources.

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2. RECYCLE WASTE INTO RAW MATERIAL

- The United Nations estimates that by 2030, about 5 billion people will live in cities, and by 2050 two thirds of the global population live in urban areas (UN DESA, 2012). Cities and urban communities offer better opportunities – economic, education, entrepreneurial. They are places with concentration of food, people, technology, entertainment and community.

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2. RECYCLE WASTE INTO RAW MATERIAL

- Urbanisation and its impacts is a major global challenge. Today cities account for 60 to 80% of energy consumption and 75% of carbon emissions while using 3% of the land.
- To ensure a sustainable future, ecological and societal challenges must be addressed simultaneously (Raworth, 2017). In this context, materials are also the enablers of sustainability and are the natural integrators, if used in a resource-efficient way.

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1. RECICLE WASTE INTO RAW MATERIAL COMPANIES EXAMPLES

Asfalto recilado para el acceso del Colegio Axular Lizeoa en Donosti - ASFALTIA

Innovación | Jolas | Juegos infantiles (jolasplay.com)

Nike Grind | Changing the Game From the Ground Up

De palas de un generador eólico a proteger bicicletas | OVACEN

1. RECICLE WASTE INTO RAW MATERIAL COMPANIES ASFALTIA

Picture: example images of Asfaltia, S.L.

1. RECICLE WASTE INTO RAW MATERIAL JOLAS

Picture: Image by Jolas; Electrotalleres Zarautz S.A.

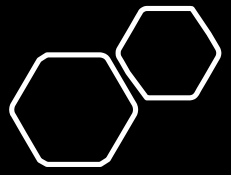
1. **RECICLE WASTE INTO RAW MATERIAL COMPANIES NIKE GRIND**

NIKE 2025 TARGETS SUMMARY

- Over the next five years, we will bring our purpose to life through 29 targets focused on people, planet and play.
- PEOPLE: We invest in the power of people to move the world forward.
- PLANET: To protect the planet we don´t wait for solutions, we create them.
- PLAY: Nike invests in play and sport for all kids, because an active next generation means a healthier and more equitable future

Nike Circular Design Guide

1.



1. **RECICLE WASTE INTO RAW MATERIAL COMPANIES OVACEN**

- Today, the useful life of an onshore wind farm is between 20 and 25 years. Of the total mass of a wind turbine, between 85 – 90% can be recycled, which is not bad at all.
- However, turbine blades are more difficult to recycle.
- If we add that the first European wind farms are reaching the end of their useful life, we have a problem! Above all, for Germany, Spain or Denmark, for being "first-timers".
- The first option is to recycle and plan "B", because it can be... ! Reuse! And, Denmark is getting it right.

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3. PRODUCT LIFE EXTENSION BUSINESS MODELS

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3. PRODUCT LIFE EXTENSION BUSINESS MODELS

Product life extension models extend the use period of existing products, slow the flow of constituent materials through the economy, and reduce the rate of resource extraction and waste generation

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SDG4BIZ

3. PRODUCT LIFE EXTENSION BUSINESS MODELS

- Cities are places where people come together, work, trade, produce, enjoy social interaction, study and innovate. Like living organisms, cities require considerable flows and stocks of resources (such as energy, fuel, metal, wood, water, food, materials for buildings and infrastructure and land).
- After ‘use’, the residues are then discharged to the environment. These ‘outflows’ often exert significant pressures on human health and natural environments located well beyond the surroundings of cities**.** This is the reason of the true importance of extending products life before finally throwing it away.

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3. PRODUCT LIFE EXTENSION COMPANY EXAMPLES

- Zero Waste | Plastic Free | A Strong Love of the Sea | Albatross (albatrossdesigns.it)
- DAME. Award-winning sustainable period products. (wearedame.co)
- The easiest way to buy & sell furniture | AptDeco
- Valtra reconditions the old gearboxes of tractors in its Reman programme: “We extend the service life of tractors by up to 30 years” - Sitra

3. PRODUCT LIFE EXTENSION COMPANY EXAMPLES: ALBATROSS

Picture: Example images of Albatross Designs company.

RAZOR BLADES UPCYCLING

But, from the inception of this program we had more ambitious goals. Namely, that we wouldn't just recycle the steel through a downward spiral of convention, but **upcycle** it into products as robust or more robust as the blades themselves. And, of course, if we are designing these subsequent products, they, too, would need to necessarily create a direct, positive environmental impact

~~Zero Waste~~ | Plastic Free | A Strong Love of the Sea | Albatross (albatrossdesigns.it)

3. PRODUCT LIFE EXTENSION COMPANY EXAMPLES: ApTdECO

Picture: Example images of AptDeco, LLC.

Source: The easiest way to buy & sell furniture | AptDeco

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3. PRODUCT LIFE EXTENSION COMPANY EXAMPLES: VALTRA

Picture: Example images of Valtra Inc.

Source: Valtra | Tractores | Your Working Machine

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4. SHARE UNDER UTILISED PRODUCTS

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4. SHARE UNDER UTILISED PRODUCTS

Sharing models facilitate the **sharing of under-utilised products**, and can therefore reduce demand for new products and their embedded raw materials.

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4. SHARE UNDER UTILISED PRODUCTS

The city's circular economy activities, recognize that the sharing economy opens up opportunities to make better use of materials and resources.

Multiple innovations have sprung from it that increase access to and use of public and private assets, including the sharing of household items, space, modes of transport, and even food.

Several of these activities have also led to closer connections forming between residents.

4.COMPANIES EXAMPLES THAT SHARE UNDER UTILISED PRODUCTS

- Amovens | Alquiler de coches, Renting y Viaje compartido entre particulares
- How It Works | Couchsurfing
- PRODUCTSHARE: Earn 100% Cashback When Friends Buy Products You Shared.

4. COMPANIES EXAMPLES THAT SHARE UNDER UTILISED PRODUCTS: AMOVENS

Picture: Example images of AMOVENS SOLUCIONES, S.L.

WE WANT CITIES TO HALVE THE NUMBER OF CARS IN OUR CITIES.

- Cities are filled with parked cars. They sit unused 96% of the time, and when they are used, it's only by 1.3 people on average.
- Cars are a significant contributor of CO2 emissions. If we got better at sharing cars in our cities, we could do with half the number of cars and take better care of our planet.
- That's why Amovens helps people share cars.

Source: Amovens | Alquiler de coches, Renting y Viaje compartido entre particulares

4. COMPANIES EXAMPLES THAT SHARE UNDER UTILISED PRODUCTS: COUCHSURFING

- **YOU HAVE FRIENDS ALL OVER THE WORLD, YOU JUST HAVEN´T MET THEM YET.**

- Couchsurfing is a service that connects members to a global community of travelers. Use Couchsurfing to find a place to stay or share your home and hometown with travelers.

Picture: Example images of Couchsurfing International, Inc.

How It Works | Couchsurfing

4. COMPANIES EXAMPLES THAT SHARE UNDER UTILISED PRODUCTS: KIDIZEN

Picture: Example images of Kidizen, Inc.

- **KIDIZEN IS…**
- a **MARKETPLACE** that provides a storefront for moms to independently create and run, earn money and find the latest styles for their kids.
- a **COMMUNITY** that connects moms with other moms through shared experiences and a shared sense of style.
- a **PLATFORM** that provides a safe venue where moms can express themselves and go through the joys and challenges of motherhood together.

Source:Kidizen - Buy & Sell Gently Used Kids' Clothes and Shoes

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5. PROMOTE AN EFFICIENT USE OF NATURAL RESOURCES

Co-funded by the Erasmus+ Programme of the European Union

5. PROMOTE AN EFFICIENT USE OF NATURAL RESOURCES

- Cities are the epicentres of human activity. They cover less than 2% of the earth's land surface but generate about 70% of GDP and house more than half the human population. The importance of cities is only going to increase in coming decades as another 2.5 billion people move to urban centres.
- This intense production and consumption requires huge quantities of natural resources. Cities account for more than 60% of global energy use, 70% of greenhouse gas emissions and 70% of global waste. Current practices are depleting the Earth's finite resources, changing its climate and damaging its natural ecosystems. With our planetary life support system in the red, we need to put cities on a serious resource diet.

- http://unhabitat.org/urban-themes/climate-change/

5. PROMOTE AN EFFICIENT USE OF NATURAL RESOURCES

- Environmental Activism - Patagonia
- doTERRA Canada Official Site | dōTERRA Essential Oils
- CST - Instituto Costarricense de Turismo | ICT
- Sustentabilidad | Biopappel
- Comprometidos con el Medio Ambiente - inditex.com

5. PROMOTE AN EFFICIENT USE OF NATURAL RESOURCES: PATAGONIA

- Patagonia's self-imposed Earth tax, 1% for the Planet, provides support to environmental nonprofits working to defend our air, land and water around the globe.

- At Patagonia, we appreciate that all life on earth is under threat of extinction. We're using the resources we have—our business, our investments, our voice and our imaginations—to do something about it.

Picture: Example images of Kidizen, Inc.

nvironmental Activism - Patagonia

Picture: Example images of dōTERRA International, LLC.

5. PROMOTE AN EFFICIENT USE OF NATURAL RESOURCES: DO TERRA

- Founded in 2008, doTERRA was built on the mission of sharing tested-grade essential oils with the world.

- doTERRA has also been able to help communities improve their own economic futures through its Co-Impact Sourcing® model and the doTERRA Healing Hands Foundation.

https://www.doterra.com/CA/en/co-impact-sourcing

5. PROMOTE AN EFFICIENT USE OF NATURAL RESOURCES: CST TOURISM

Picture: Example images of Instituto de Turismo de Costa Rica.

- Sustainable tourism development must be seen as the balanced intention to use appropriately our natural and cultural resources, to improve the quality of life of local communities and to obtain economic success in the activity, which will also contribute to the national development. Tourism sustainability is not only the answer to the demand, but also an essential condition to successfully compete now, and in the future.

Picture: Example images of BIOPAPPEL (McKinley Packaging, S. de R.L. de C.V.)

5. PROMOTE AN EFFICIENT USE OF NATURAL RESOURCES: BIOPAPEL

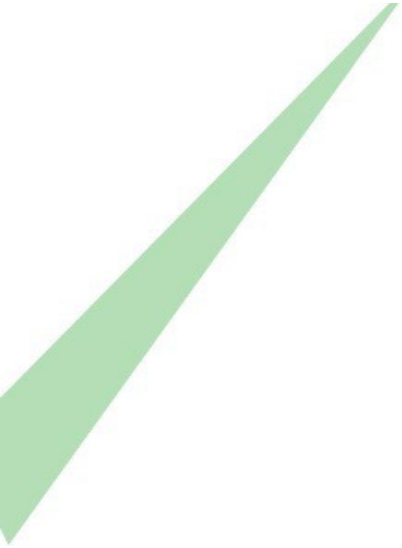
At Bio PAPPEL, we move forward, deciding to be a part of the solution to the climate change problem, that is why we evolve our DNA and business identity and develop an effective sustainability model.
This model allows us to produce paper without cutting down trees, recycle paper on a large scale, co-generate green energy using the steam from our industrial operations, recycle water from our industrial processes, and capture 8 times more Carbon than we release

5. PROMOTE AN
EFFICIENT USE OF NATURAL RESOURCES:
INDITEX

COMMITTED TO THE ENVIRONMENT

The pressure on the planet's limited resources and the challenge of climate change require rapid and coordinated action among all. At Inditex we apply multidisciplinary measures to protectbiodiversity and reduce our impact on water consumption, climate change and the use of productive and energy resources.

Picture: Example images of Diseño Textil, S.A. (Inditex, S.A.)



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YAŞAR ÜNİVERSİTESİ

FENICE
GREEN ENERGY PARK

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