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BUILD SOLUTIONS

ECOLOGICAL BUSINESS TRAINERS' WORKSHOP CONCLUSION REPORT

Work Package:	WP4
Deliverable	D4.1
Due date:	M7
Submission date:	M7
Responsible partner:	WU
Version:	v0
Author(s):	WU
Deliverable type:	Report
Dissemination level:	Public website

CONTENTS

1 – FOREWORD

Building Urban Intelligent Living Design Solutions

Cities currently host more than half of the world population, which is projected to increase up to 70% by 2050 (UN, 2014). Already, cities account for 70% of global CO2 emissions (C40). With the expected population growth, cities would hence be the source of an estimated 85% of global GHG emissions.

There is a growing recognition and awareness that nature can help to provide viable solutions by using and deploying the properties of natural ecosystems and the services that they provide in a smart and 'engineered' way (EC). These living solutions provide sustainable, cost-effective, multi-purpose and flexible alternatives for various objectives. Working with nature, rather than against it, can further pave the way towards a more resource efficient, competitive and greener economy. It can also help to create new jobs and economic growth, through the manufacture and delivery of new products and services, which enhance the natural capital rather than deplete it (EC).

With that in mind, the big question is, why are nature-based solutions not used more to address the global urban challenges?

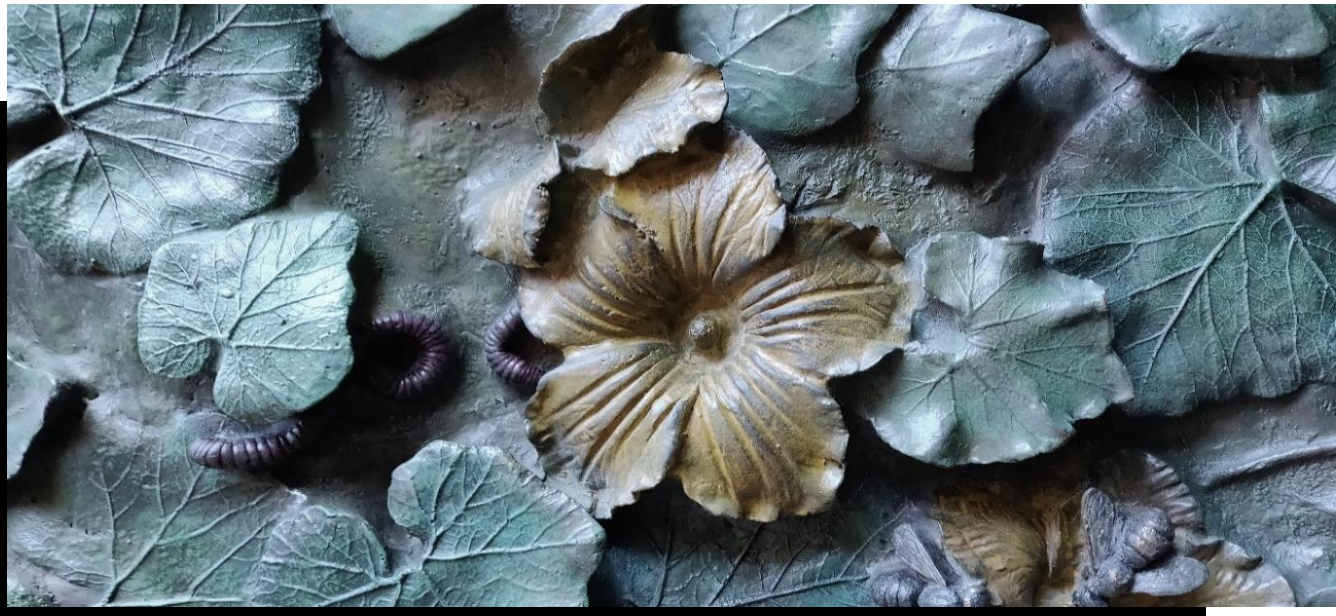
The main answer would be that there's a distinct skill and financing gap in the biotechnology sector. While we currently have great researchers in biotechnology, too often the commercialization and hence the implementation of their discoveries stumble due to a lack of personal experience in entrepreneurship and cooperation with industry leaders (Fritsch, 2010).

And even when most of those skills are present in a team attempting to commercialize a technology, another obstacle rears its head: the lack of short-term funding available to biotech start-ups and spinoffs (Swamidass, 2008). Recently, the High-Level Group for the European Innovation Council published their first recommendations which state that funding for disruptive, market-creating start-ups with deep-tech solutions (like biotech) is severely fragmented and doesn't meet the needs of the start-ups for developing the technology (http://ec.europa.eu/research/eic/pdf/eic_recommendations_set-1_2017.pdf). The lack of funding can be attributed to multiple factors, chief amongst them being the perceived risk and the huge capital expenditures necessary to develop sound biotechnology solutions.

Building Urban Intelligent Living Design Solutions (BUILD Solutions) project aims to set up transdisciplinary cooperation among universities and business, engaging students, teachers and researchers and providing them with the necessary entrepreneurial skills and connections to bring intelligent living solutions to the market, by investigating biological systems, creating smart design prototypes, business plans, plans for start-ups and working with accelerators.

The project's objective is to develop an experimental transdisciplinary educational system linking biology, intelligent design and business through several kinds of activities, such as courses for students and trainers, symposiums, development of educational resources, the set-up of an accelerator programme, launching an international call for ideas and creating new networks.

The project is co-funded by the Erasmus+ Programme of the European Union.



Living design solutions provide sustainable, cost-effective, multi-purpose and flexible alternatives for several urban challenges.

2 - ECOLOGICAL BUSINESS TRAINERS WORKSHOP, WU

2.1 Introduction

BUILD Solutions project is aimed at developing an experimental transdisciplinary educational system linking biology, intelligent design and business through several types of activities, including courses for students and trainers, symposiums, development of educational resources, the set-up of an accelerator programme, the launch of international calls for ideas, and the creation of new networks. Therefore, since one of the main objectives of the project is to introduce entrepreneurship education in the fields of biology, intelligent architecture and business, the project consortium is composed by both academic and industrial partners.

In this vein and in order to help structuring the transdisciplinary education programmes, BUILD Solutions have organized at the beginning of the project a set of 3 trainer workshops that aimed at sharing multidisciplinary knowledge among the three discipline trainers. In these sessions trainers from each discipline explained to the others basic technical concepts and educational methodologies that are commonly used in their respective fields so they can get familiarized with the content and terminology.

The 3 Trainers workshops took place during the first months of the project, being the first at the University of Lorraine (M5, March 2019), the second at IAAC (M6, April 2019) and the third at the University of Vienna (M7, May 2019). Each Higher Education Institution ensured the participation of 2 staff members from each of their teaching and training teams, and each SME brought at least 1 staff representative. These Trainer Workshops were structured as a 3-days intensive programme where knowledge, concepts, and methods were shared in order to overcome the usual disciplinary barriers and to discuss the innovative modules and test them internally in peer learning sessions. As a result, experts were trained to be teachers at the Students Year Program and allowed them to get familiar with concepts belonging to the fields of biotechnology, design for urban resilience and business through a transdisciplinary lens.

The third BUILD Solutions Trainer Workshop, titled "Ecological Business Teachers Training Workshop" was led by WU and took place from 15th – 17th May, 2019.

2.2 About the Organisers

The Ecological Business Teachers Training Workshop was organized by the Regional Centre of Expertise on Education for Sustainable Development Vienna (RCE Vienna) at the Vienna University of Economics and Business, with the support of Greentech Challenge (GTC).

RCE Vienna is an UN-certified science-society interface that aims at transdisciplinary research and new methods of transformational learning, teaching and knowledge exchange in the area of sustainable development and a "green economy". The RCE Vienna is based at the Vienna University of Economics and Business and aims at topics such as sustainability-driven entrepreneurship education, or SDGs-oriented innovation and start-ups. In this context, the RCE

Vienna conducts transdisciplinary research, teaching and training and focuses on the regional implementation of science.

GTC also known as GREENTECH CHALLENGE or Green Innovation Group A/S has a goal of "making green business good business". GTC realises this goal by putting new great green technologies in front of municipalities, ministries, foundations, agencies and large companies. Through its five years of existence, GTC has built one of the world's largest databases of technologies from unlisted companies. The company thus provides services which help to accelerate the green transition by matching real needs in the private and public sector with green innovative solutions. This comprises the connection of green startups and incumbents to fuel green innovation change. Green Innovation Group A/S operates in 8 EU partner countries.

Green Innovation Group A/S connects relevant stakeholders in order to succeed implementing green solutions. Therefore, they have a big and relevant network available that can help to accelerate and disseminate information about the curriculum developed in the Co4Future project. Moreover, they have strong experience in the work with companies from the Greentech area and know about their existing problems.

2.3 Main Topics

The main topics addressed at the Ecological Business Teachers Training Workshop were the following:

1. **Sustainability-driven entrepreneurship**
2. **Entrepreneurial education**
3. **Tools for entrepreneurial education**
4. **Impact investment and investors**
5. **Transformative learning processes**

Experts of the RCE Vienna team introduced the trainers from the biology and design disciplines to the basic approaches and methodologies to sustainability-driven entrepreneurship and subsequent tools and formats for related educational programmes and entrepreneurial education. In addition to this, another related focus was the topic of impact investment and in what form and in what way start-ups from our division could be of interest to impact investors and how our start-ups become investment-ready.

Besides a guided tour to several best practice samples of sustainable entrepreneurship in Vienna, the team of the RCE provided insights about the theory and practice of transformative learning in the specific context of start-up education in order to add to our objective on establishing the project's one-year transdisciplinary programme.

2.4 Methodology

The Ecological Business Trainer's workshop at the RCE Vienna was structured as a 3-days intensive programme and was held in Vienna from the 15th to the 17th of May 2019. In total, 8 participants were present, 4 trainers and 4 SMEs. The chosen format of the overall workshop was a mixture of blocks of specific inputs, structured discussions and excursions to interesting case study sites.

Day 1 was dedicated to build a common knowledge based on the principles of and approaches to sustainability-driven entrepreneurship, and the theories behind it. Additionally, the team of the RCE Vienna organized a tour in the city of Vienna to two sites of special interest for our topic: 1) the Kunsthaus Wien and 2) the Architekturzentrum Wien. Both sites offered various examples of applied urban eco-technologies, which were inspired by ecological principles and the business cases behind them.

Example of applied urban eco-technologies, inspired by ecological principles and business cases.

On Day 2, based on the established common knowledge base about sustainability-driven entrepreneurship, the trainers from the RCE Vienna provided insights in using various teaching tools for a sustainability-oriented start-up training/education. Special attention was devoted to understanding and applying the sustainability business canvas as well as answering the question of how to communicate sustainability issues of start-ups as economic benefit in their elevator pitches. In the afternoon, the RCE trainers organized a round table on impact investment supported by the Entrepreneurship Center Network and the Impact Investing Organization (IMFINO).

Day 3 was devoted to the development of the one-year transdisciplinary programme by exploring different methodologies for collaboration and the opportunities to integrate elements of transformative learning. Additionally, the steering committee meeting was held on this day.

3 – OUTPUTS

3.1 Programme

The participants in this workshop, having expertise in biology and design/architecture field became familiar with the concept of sustainability-driven entrepreneurship and its implications for the project, especially the transdisciplinary students programme. Next to this inter- and transdisciplinary knowledge exchange and learning process, the participants learned how to use and apply a solid set of teaching tools highly suitable for any ecological business programme which is along the line with the main objective of informing the development of the transdisciplinary students programme.

Detailed workshop programme (download it here):

Day 1 "Understanding the Entrepreneurship Arena"

10:00 – 10:15	Introduction EA Building, 1st floor, WU Campus, Location: https://campus.wu.ac.at/?campus=1&centerx=1826350.637908695&centery=6142830.0543232&zlevel=21&floor=1
10:15 – 11:00	Sustainability-driven entrepreneurship, Christian Rammel, RCE EA Building, 1st floor, WU Campus
11:15 – 12:00	Education for Entrepreneurship, Martin Peterson, GTC EA Building, 1st floor, WU Campus
12:30	Lunch at Café Ansari
14:30	Kunst Haus Wien
17:30	Architekturzentrum Wien

Day 2 "Tools for Entrepreneurial Success"

09:00 – 12:15	Sustainability business canvas Michael Ambrose, BOKU EA Building, 1st floor, WU Campus
12:15	Lunch at the campus
13:30 – 15:00	Elevator Pitch Martin, GTC EA Building, 1st floor, WU Campus
16:00 – 18:00	Round table with Richard Vrzal, IMFINO and Rudolf Dömötör, Entrepreneurship Center Network, WU LC Building, Clubraum, WU Campus, Location: https://campus.wu.ac.at/?campus=1&q=clubraum
19:30	Dinner at Restaurant Wetter

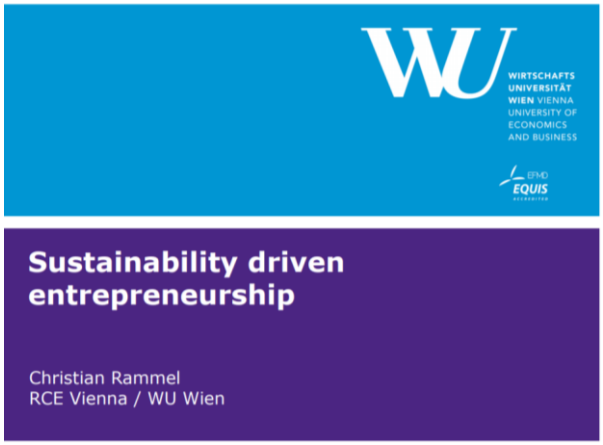
Day 3: "Program Development through Transformative Learning"
EA Building, 1st floor, WU Campus

09:00-10:00	Introduction to Transformative learning
10:00-15:00	Steering Committee meeting
13:00	Lunch at the campus
14:30-15:00	Steering Committee meeting

3.2. Partners presentations

WU, Christian Rammel

Sustainability Driven Entrepreneurship



Download it here

WU

Transformative Education

Download it here

BOKU, Michael Ambros

Sustainable Business Model Canvas

Download it here

3.3. Event pictures

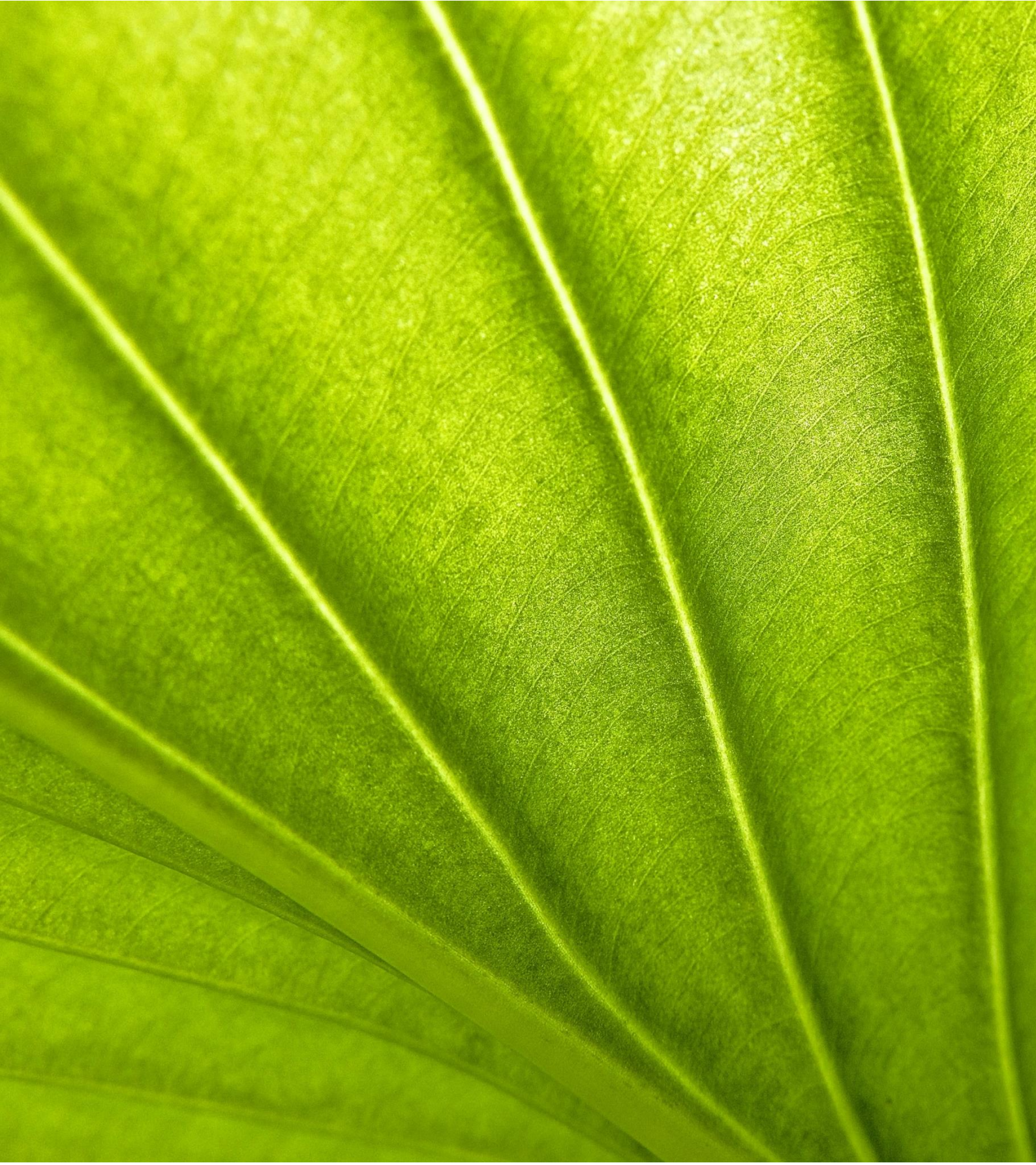

solution
SHARING ECONOMY

4 - CONCLUSIONS AND RECOMMENDATIONS

Even though the workshop participants had different disciplinary backgrounds, we succeeded to achieve a common understanding of ecological business / sustainability-driven entrepreneurship and its further transfer for teaching –what helped us to establish another basic element of our study programme. The workshop also confirmed our basic assumption that a transdisciplinary study programme, as well as successful start-ups in the field of living design or nature-based innovations, must be based necessarily on a multi-disciplinary fundament.

The multidisciplinary collaborative setting of BUILD Solutions was also reflected in the chosen workshop setting, which helped to strengthen the capacity of the particular partner institutions for the further transdisciplinary teaching and coaching of our future start-ups. It also turned out, that real-life cases, such as *Kunsthaus Wien* and the *Architekturzentrum Wien* are highly essential for reflecting on the concrete economic potential of living design or nature-based innovations. Such bridges to practical cases should be also considered and reflected upon in our future study programme.

Building a common knowledge based on the principles and approaches to sustainability-driven entrepreneurship!



Building Urban Intelligent Living Design Solutions, 2018-2021

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