



ENOTHE

European Network
of Occupational Therapy
in Higher Education



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3D printing an OT Eco-Social present and sustainable future

PhD. Salvador Simó, MsC,
MBA.

Director of the [Mental Health Chair](#) at
UVic-UCC.

Coordinator Research group [Innovation in
Mental Health and Social Wellbeing](#).



Hanneke Van Bruggen Lecture

There are men/woman
who fight a day and they are good.
Those who fight a year, and they are better.
Finally, those who fight all their life.
They are the essential ones.



Bertold Brecht

Thanks to:



ENOTHE

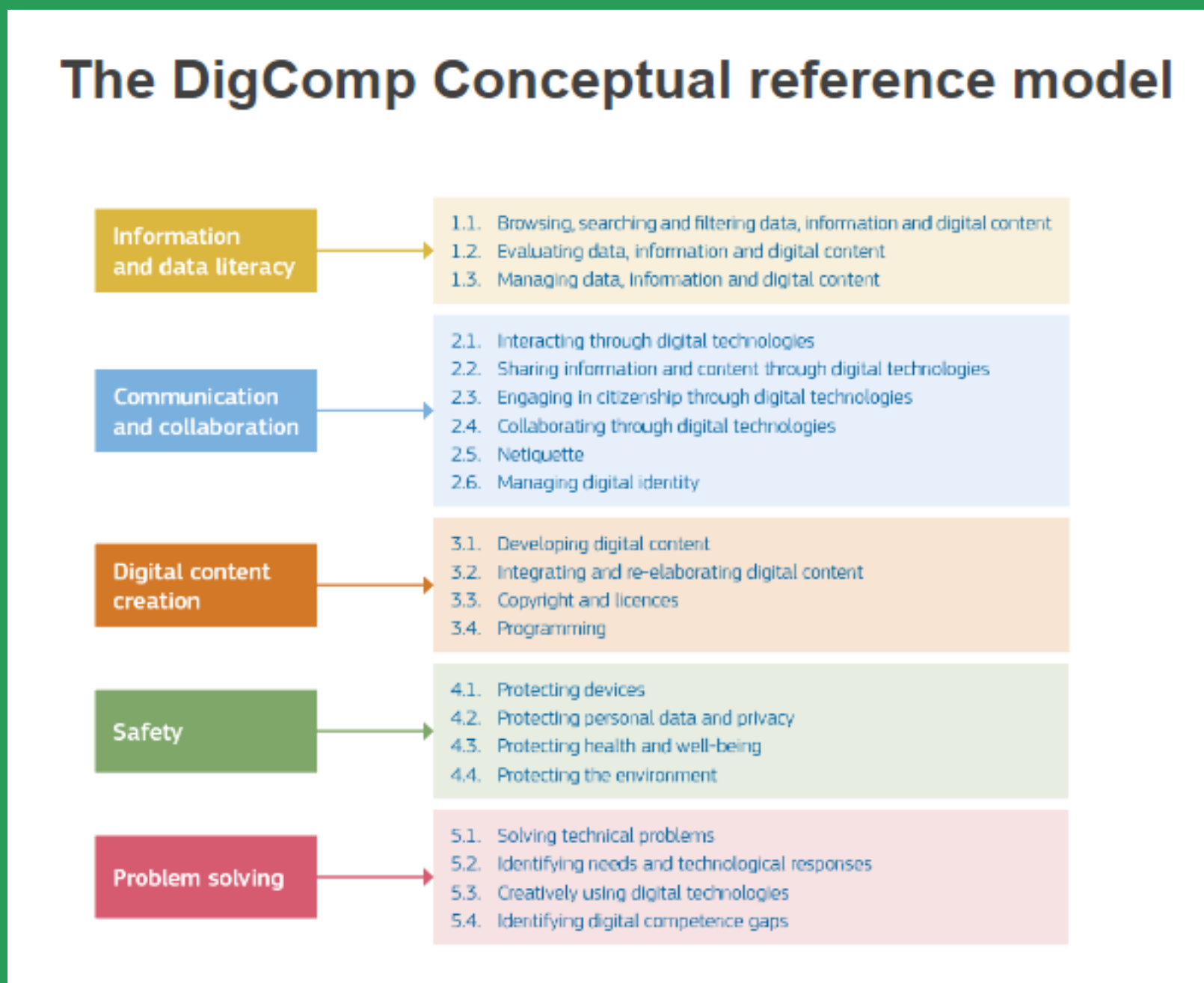
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Digital competences

Digital competence involves the "confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It is defined as a combination of knowledge, skills and attitudes."

(Council Recommendation on Key Competences for Life- long Learning, 2018).



KEY COMPETENCES FOR LIFELONG LEARNING

#EUkeycompetences
#EuropeanEducationArea
#lifelonglearning

Europe's Digital Decade

The EU is pursuing a **human-centric, sustainable vision for digital society** throughout the digital decade to **empower citizens and businesses**.

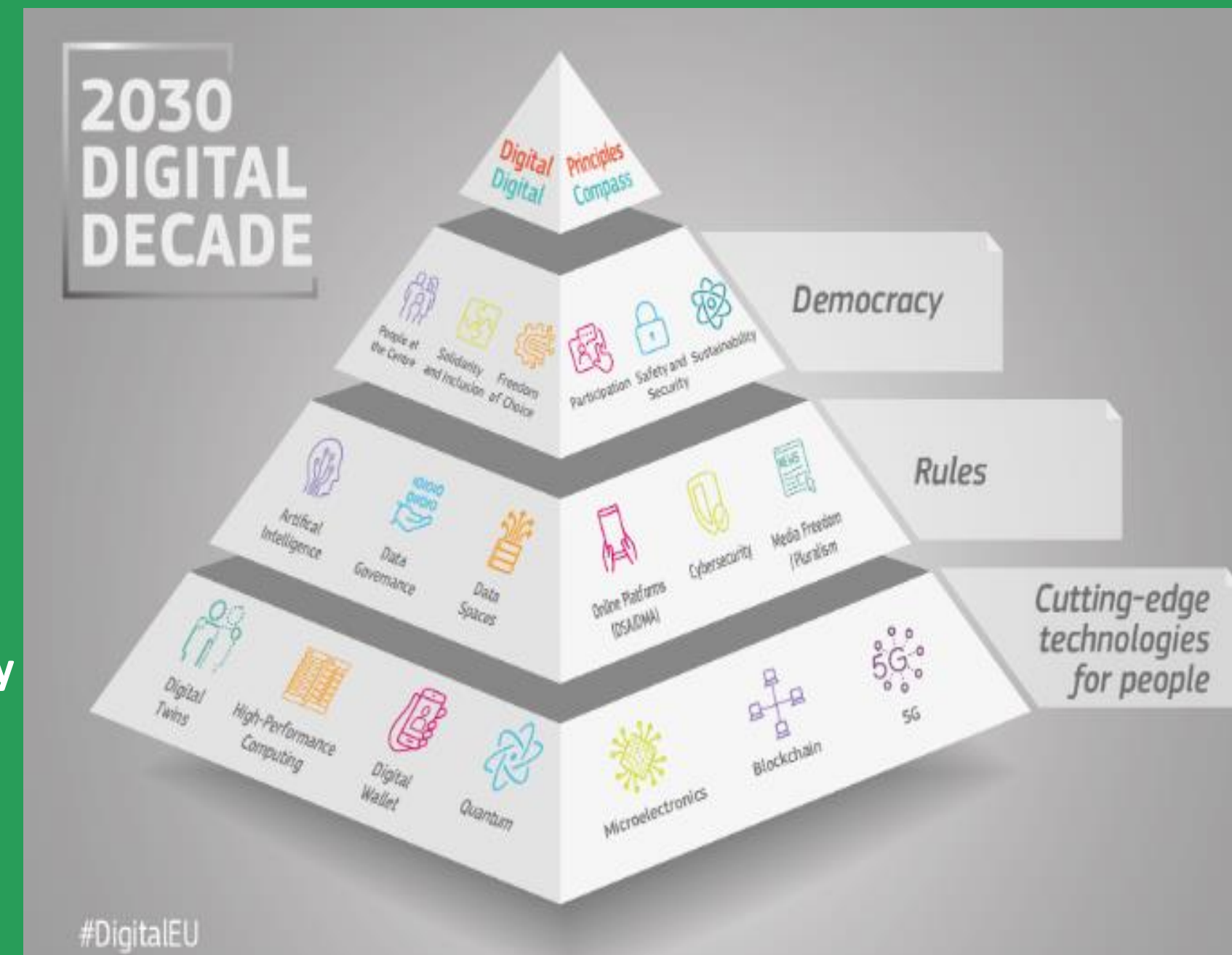
Digital society and digital technologies bring new ways to **learn, entertain, work, explore**, and fulfill ambitions.

They also bring new **freedoms and rights** and give EU citizens the opportunity to reach out beyond physical communities, geographical locations, and social positions.

However, there are still many **challenges** associated with the digital transformation.

The digital world should be based on European values – where **no one is left behind, everyone enjoys freedom, protection and fairness**.

Europe's Digital Decade is where everyone has the **skills to use everyday technology**.



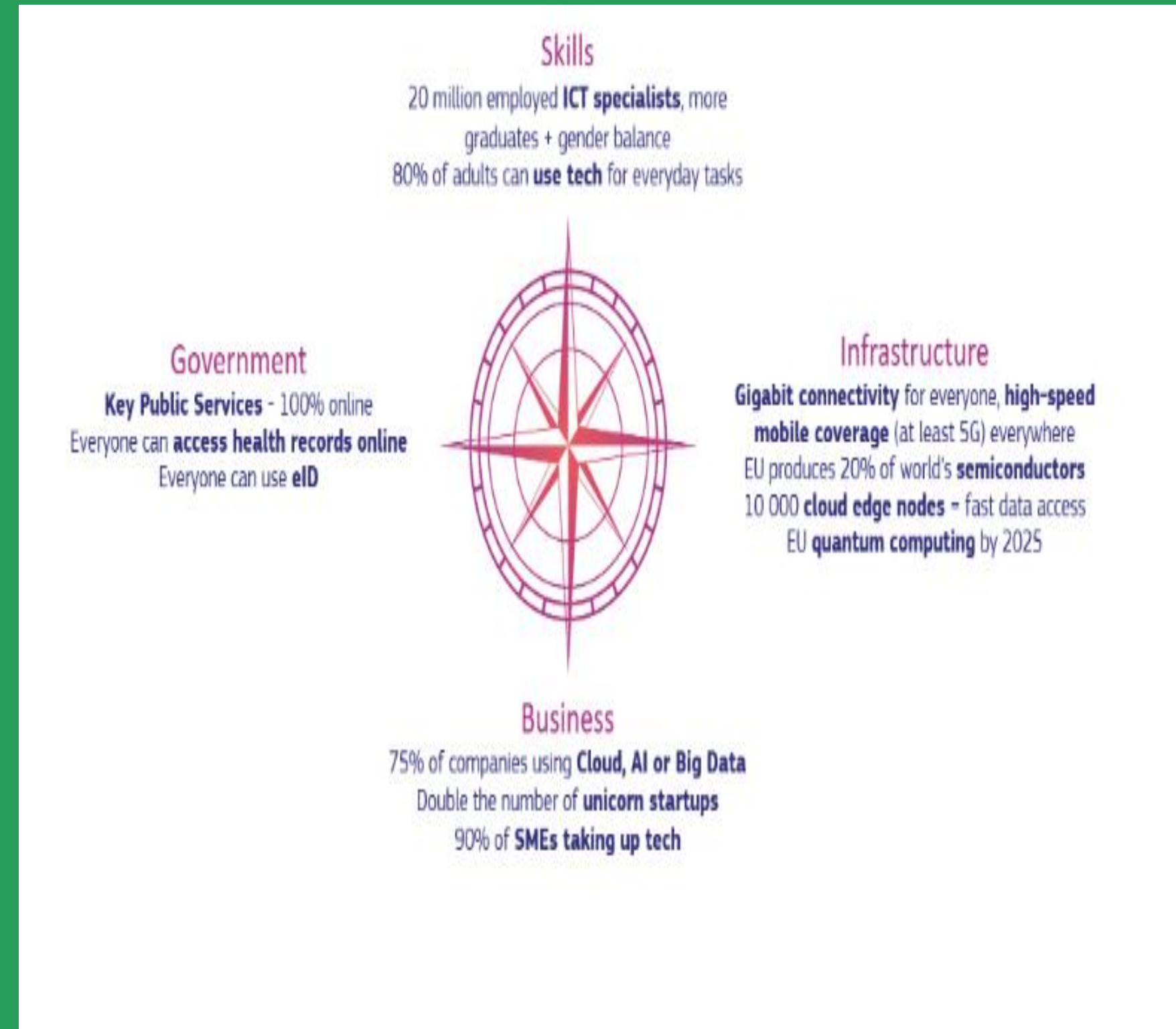
Europe's Digital Decade

Targets and objectives

The Digital Decade policy program sets out digital ambitions for the next decade in the form of clear, concrete targets.

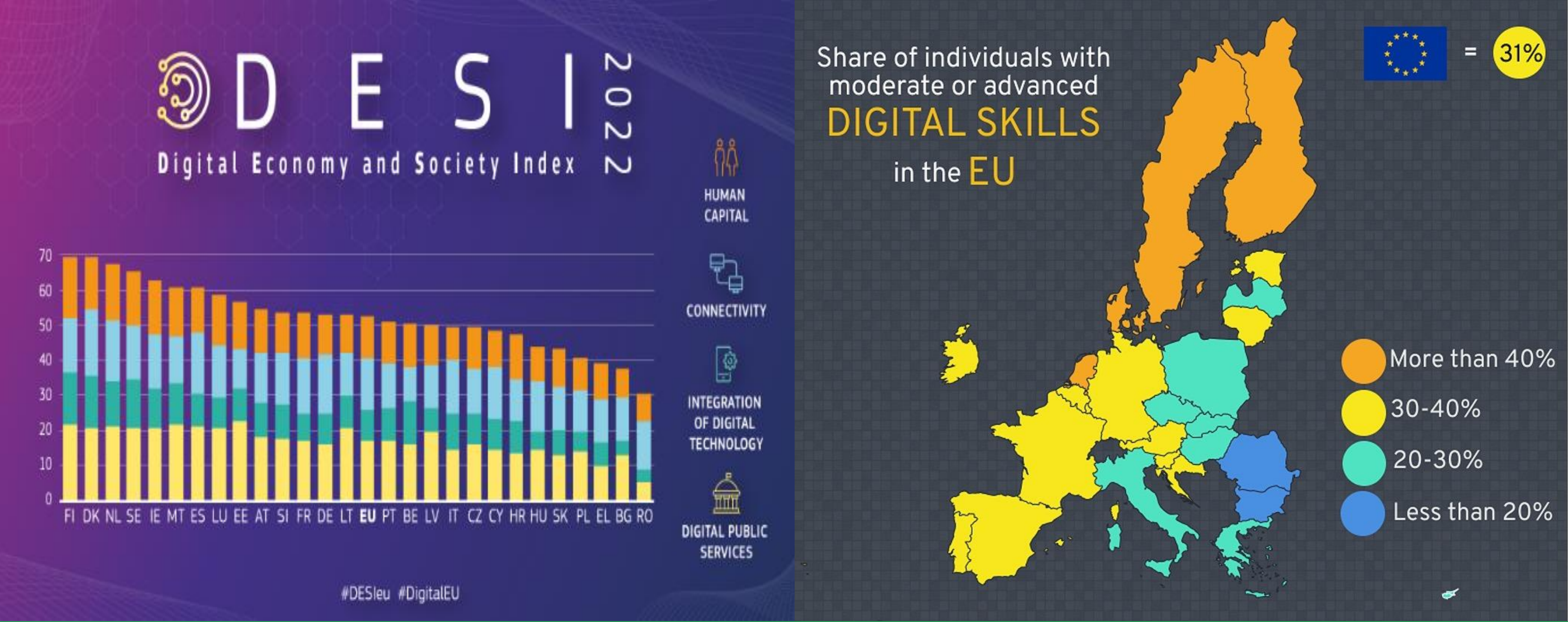
The main goals can be summarized in 4 points:

1. A digitally skilled population and highly skilled digital professionals;
2. Secure and sustainable digital infrastructures;
3. Digital transformation of businesses;
4. Digitalisation of public services.



The Digital Economy and Society Index (DESI)

The European Commission has been monitoring Member States' digital progress through the **Digital Economy and Society Index** (DESI) reports since 2014 to 2022.





A Digital Europe needs Digital Skills



@eSkillsGrowthEU #DA15eskills #DA15eu

Young Population

Nearly all young people are online but they need to be prepared for their digital future



95% of the 16-24 year olds in the EU are regular internet users

Education has to adapt to the digital era

Less than half of children are in schools that are highly digital-equipped



Only 20-25% of school children are taught by digitally confident & supportive teachers



Curricula need to be redesigned to integrate digital skills & learning



We need to raise the number of students in ICT - especially women

The number of ICT graduates has decreased by 15% between 2005 & 2013



There are twice as many male as female graduates in STEM (science, technology & mathematics)

Students in all domains need to be educated in digital skills, not just those who choose an ICT career



Working Age Population

Digital technology creates new jobs

There is rising demand for ICT professionals. These jobs are in all sectors of the economy



Every job in ICT creates 3 more jobs elsewhere in the economy



With high unemployment in Europe, these jobs are sorely needed

Existing workforce needs to be trained

15% of the workforce in the EU have never used the internet



The lack of graduates in ICT is leading to a gap estimated at 825 000 unfilled jobs by 2020



32% of the EU workforce have low or no digital skills

Provide training & support for the unemployed towards a career in digital domains



Older Population

Everybody needs to go digital

By 2060 one in three Europeans will be over 65 years old



53% of the older population in the EU has never used the internet

Services are increasingly designed as digital by default. The need for public services is particularly strong amongst the older population but only 23% access them online



We need to raise awareness of the benefits of going digital

The most common reasons for not going online are: lack of interest, lack of skills, cost factors



Provide support to older people to get online & develop digital skills

Use innovative solutions e.g. twinning with younger people online



Digital services should be accessible to everyone

Older people have disabilities to a greater extent than others

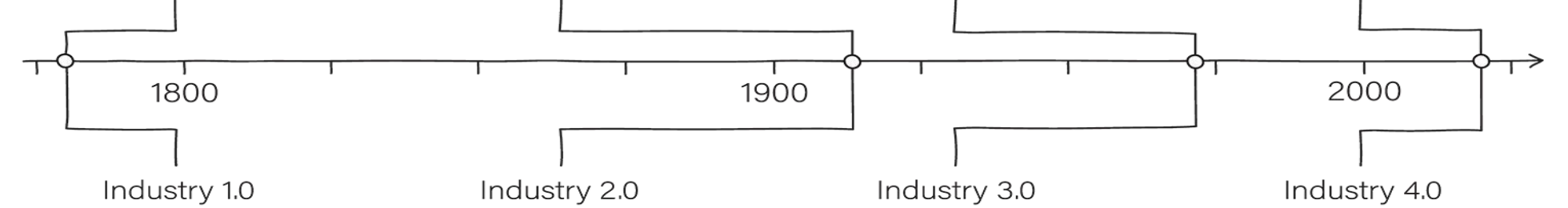
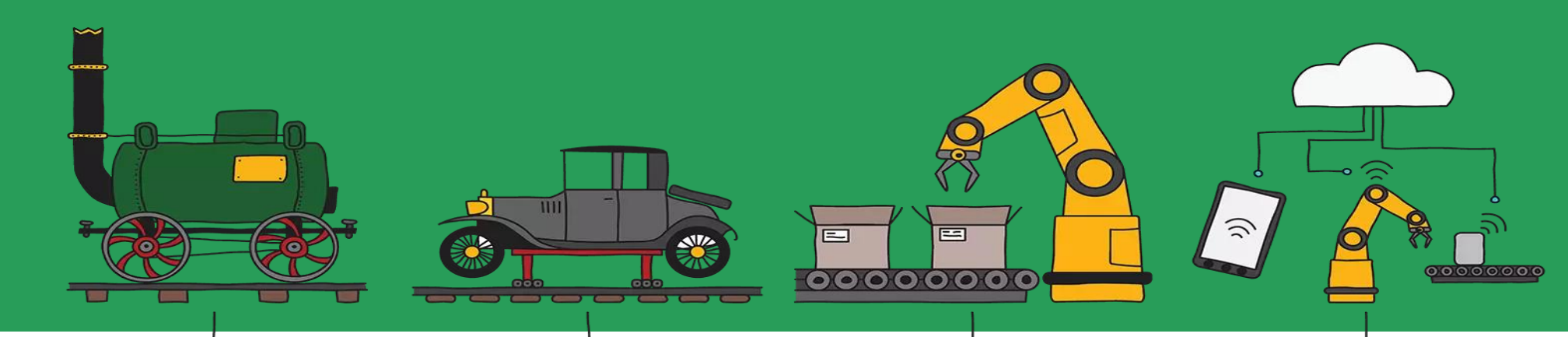




4th Industrial Revolution

Occupational consequences?
Leisure, self-care, productivity

- Globally:
 - Destruction of thousands of traditional low-level jobs.
 - Appearance of thousands of jobs only for those with the digital competences.



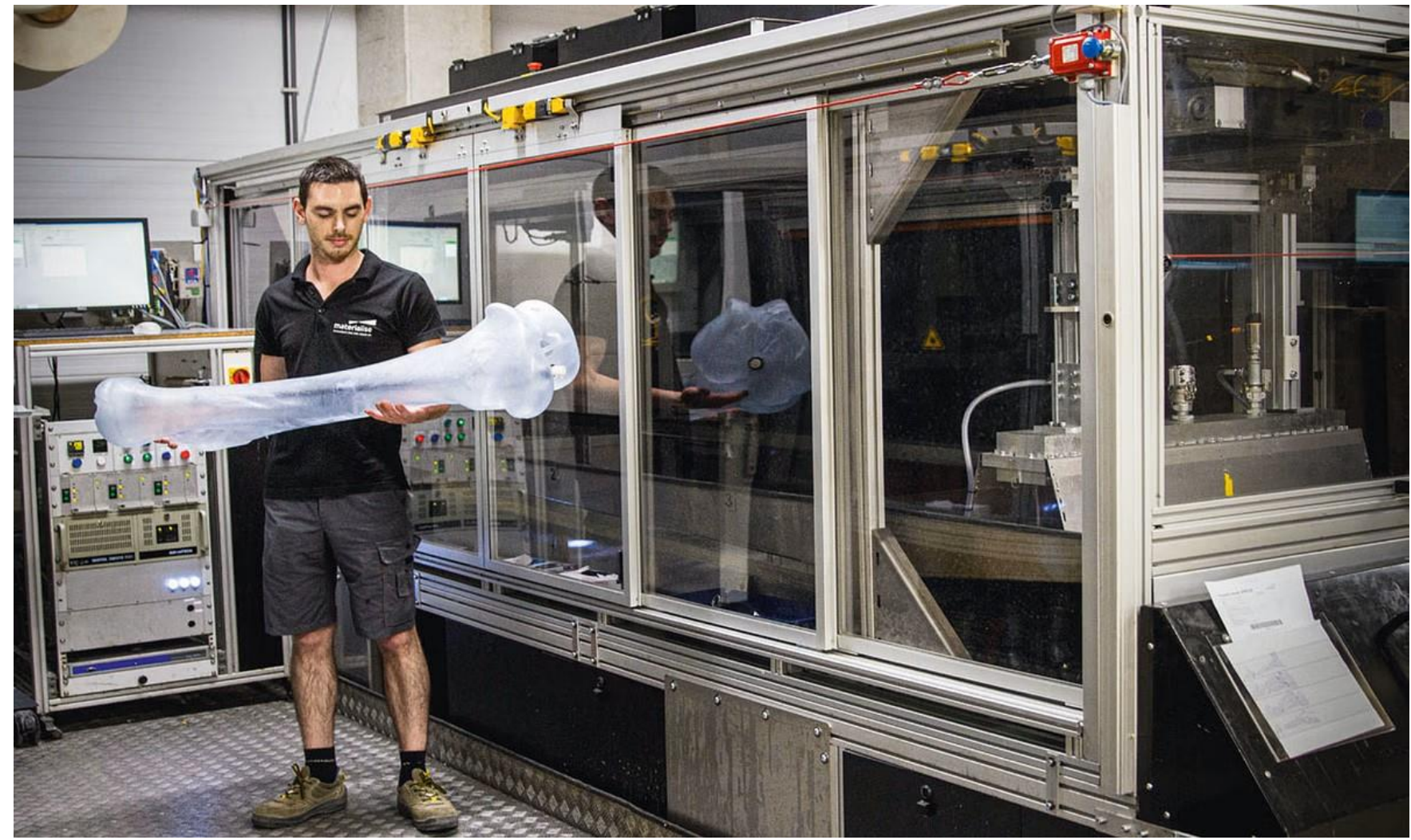
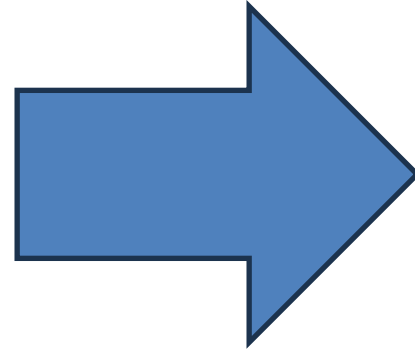
Industry 1.0
 The Industrial Revolution begins. Mechanization of manufacturing with the introduction of steam and water power

Industry 2.0
 Mass production assembly lines using electrical power

Industry 3.0
 Automated production using electronics, programmable logic controllers (PLC), IT systems and robotics

Industry 4.0
 The 'Smart Factory'. Autonomous decision making of cyber physical systems using machine learning and Big Data analysis. Interoperability through IoT and cloud technology.

3D Printing
Virtual reality
Internet of Things...



Occupational revolution (transition)

Hull House (Chicago)

INDUSTRY 4.0



Warning!

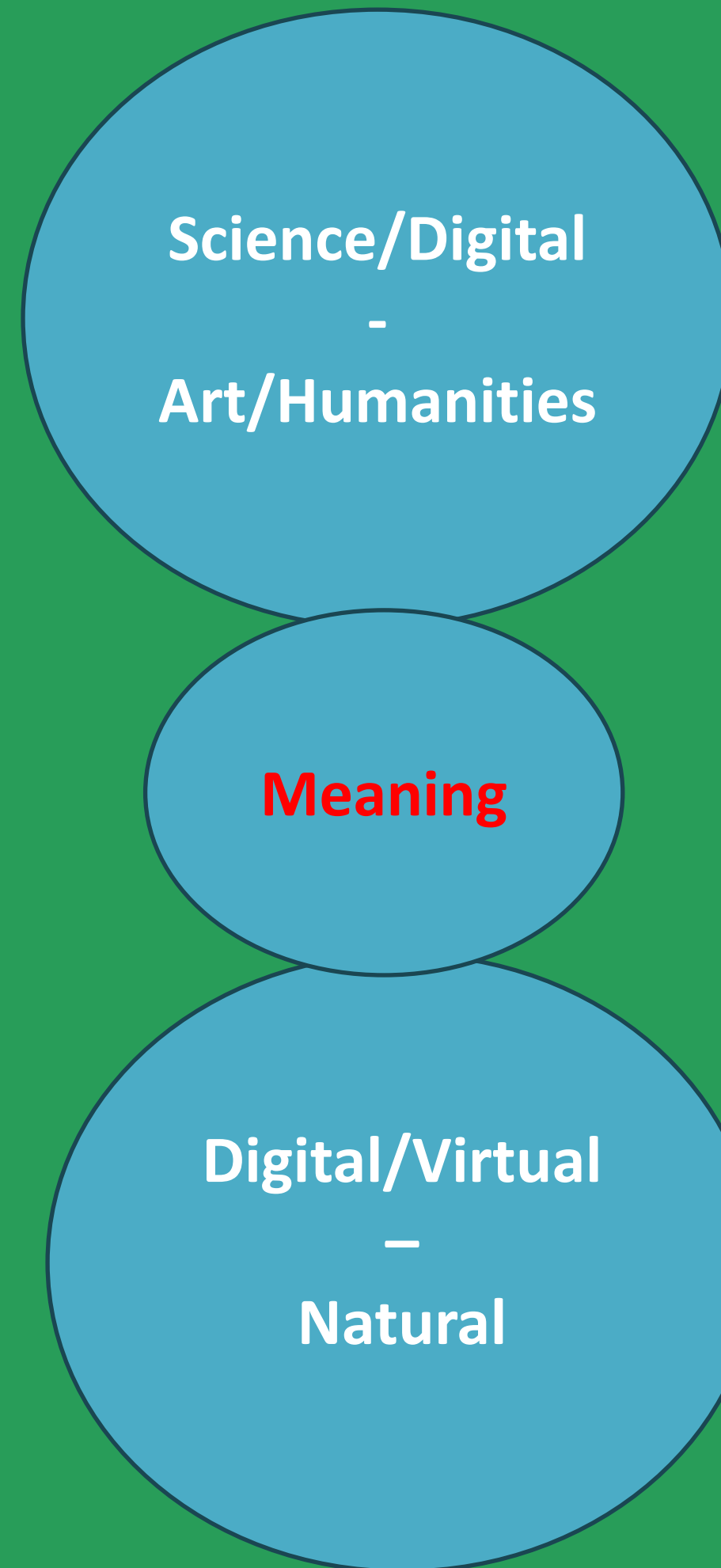
Virtual reality
Social media

Health consequences

Lack of physical exercise
Stress
Depression - suicide
Anxiety
Cyberbullying
...

Social consequences

Isolation - loneliness
Lack of belonging
Decrease of citizenship
...





Green Economy



A green economy is defined as low carbon, resource efficient and socially inclusive.

In a green economy, growth in employment and income are driven by public and private investment into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services.



Occupational Ecology

The human being is a being-in-the-World (Heidegger, 1998).


The ecological environment is the always present container of human occupations.

Human occupations and ecological environment mutually affect each other.

Occupational ecology is an emerging occupational science field of study. It is the transdisciplinary study of the deep and inseparable connection between the human occupation and ecological environment.

1. Human occupation as the major force of ecological degradation. The study of economic alternatives systems.
2. The direct relationship between human occupation, environmental degradation and poverty as a case of occupational injustice
3. Ecological degradation as a cause of illness and occupational disfunction
4. Doing ecology as a meaningful occupation
5. Occupation in the ecological environment as an instrument of well-being and social participation.
6. Human occupation as an agent of ecological restoration
7. Sustainability: Redesign of occupational patterns and lifestyles

Occupational ecology: An emerging field for occupational science

Salvador Simó Algado 

Deputy Director of the Mental Health Chair, Coordinator of the Innovation in Mental Health and Social Well-being research group – ISaMBeS, IRIS-CC, Universitat de Vic – Universitat Central de Catalunya, Spain

ABSTRACT

The following article highlights the need to develop an occupational ecology, that is, the study of the deep and inseparable connection between human occupation and the ecological environment. Occupational ecology emerges as an occupational science field of study in an interprofessional and transdisciplinary dialogue. Potential fields of study are proposed for the development of an occupational ecology. Different projects and examples are presented to illustrate this proposition. This knowledge may empower, among other disciplines, the development of an ecosocial occupational therapy, translating theory to praxis, whose purpose is the creation of healthy, inclusive, and sustainable communities. Ecopations and eco-occupations are presented as key related concepts for occupational ecology.

ARTICLE HISTORY

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KEYWORDS

Occupational science;
Ecology; Climate change;
Ecopations; Eco-occupations;
Ecosocial occupational
therapy

Eco-Social OT

Ecosocial OT is based on the development of occupational therapy projects (preferably action research) that integrate the impact on well-being, social participation and a positive ecological impact, from an occupational justice and human rights perspective.

One of the purposes is “to build healthy, inclusive and sustainable communities. A human group that recognizes its mutual interdependence in which everyone feels and participates as a citizen with full rights, regardless of any occupational problem. This community is evolving in harmony with the natural environment to meet the needs of the present without compromising those of future generations to meet their own needs” (Simó Algado, 2012, p. 13).

Eco-social occupational therapy

[Salvador Simó Algado](#)  and [Elizabeth Ann Townsend](#) [View all authors and affiliations](#)

[Volume 78, Issue 3](#) | <https://doi.org/10.1177/0308022614561239>

Terapia Ocupacional eco-social:hacia una ecología ocupacional/Eco-social Occupational Therapy: on the way to occupational ecology

Salvador Simó Algado
Universitat de Vic







Relato de Experiencia

Terapia ocupacional desde una perspectiva ecosocial de la salud mental

Terapia ocupacional na perspectiva ecossocial da saúde mental

Occupational therapy from an ecosocial perspective of mental health

Oscar Quiroz Mansilla^a , Cristian Paredes Ojeda^a , Pablo Neira^{a,b} , Salvador Simó Algado^c 

Ecología ocupacional: El estudio de caso de la megaminería en Argentina

Occupational Ecology: The case study of the megaminería in Argentina

Sustainability Matters: Guiding Principles for Sustainability in Occupational Therapy Practice, Education and Scholarship

2018



POSITION STATEMENT

Environmental Sustainability, Sustainable Practice within Occupational Therapy



Education

(Occupational Therapy)

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*La teràpia ocupacional és la
plina que promou la salut i el
tar a través de l'ocupació"*

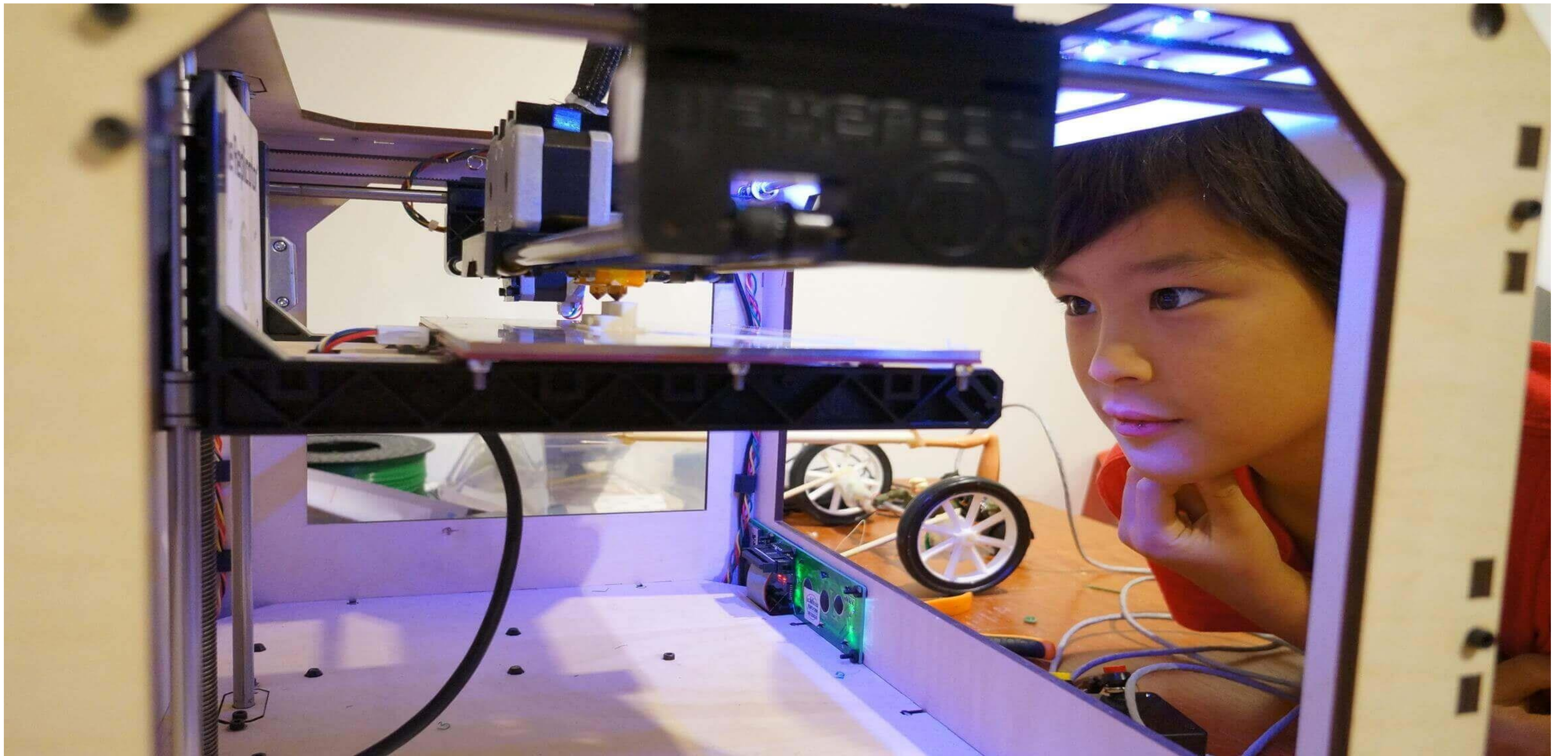
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oportació
a la comunitat

BELLIMENT

Seguretat
necessitats
bàsiques
dignitat
economia

**FORMACIÓ
E-GREEN**
DE DILLUNS A DIVENDRES
10:00 - 14:00

E- GSD Project = 3 D Printing x MH Well-being + Employment



Communities X Sciences = 3 D Printing + Education

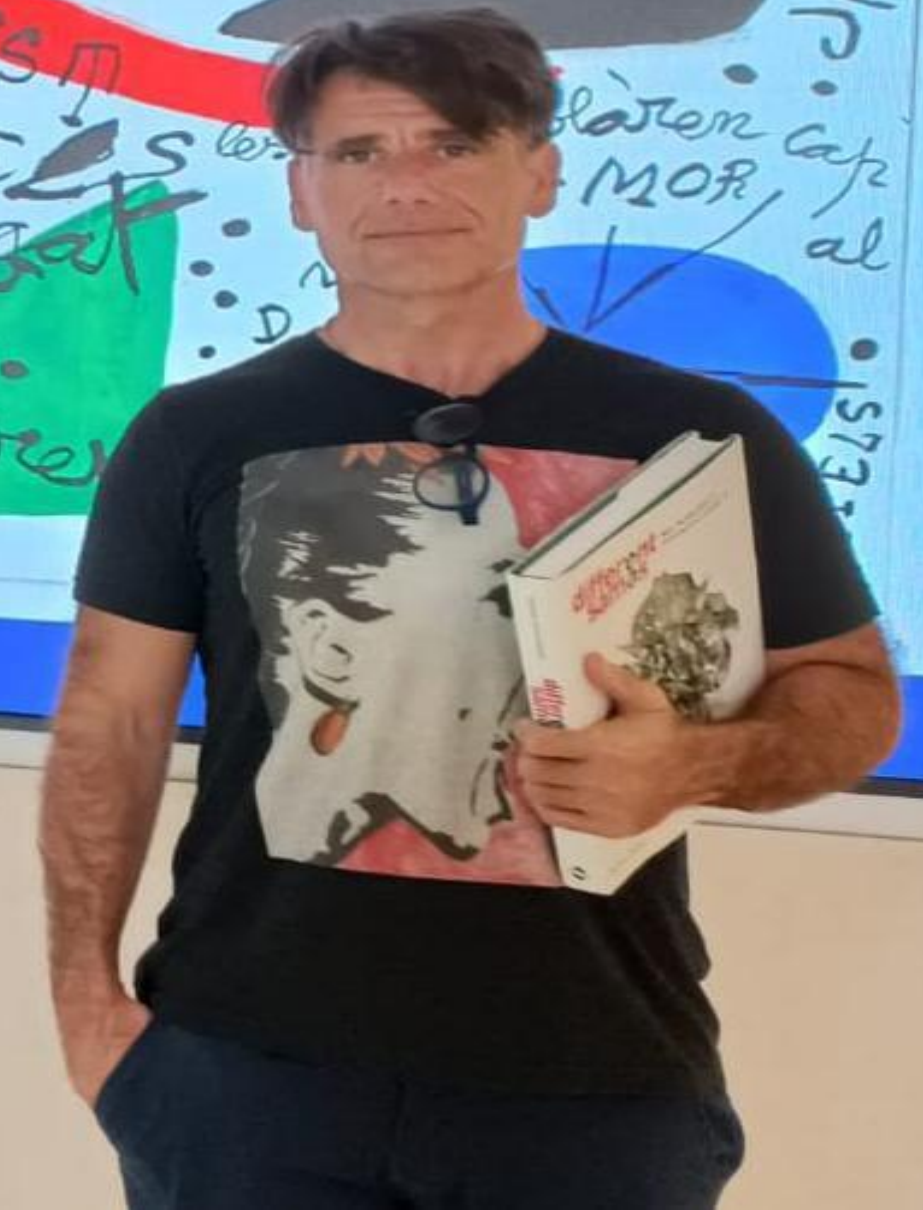
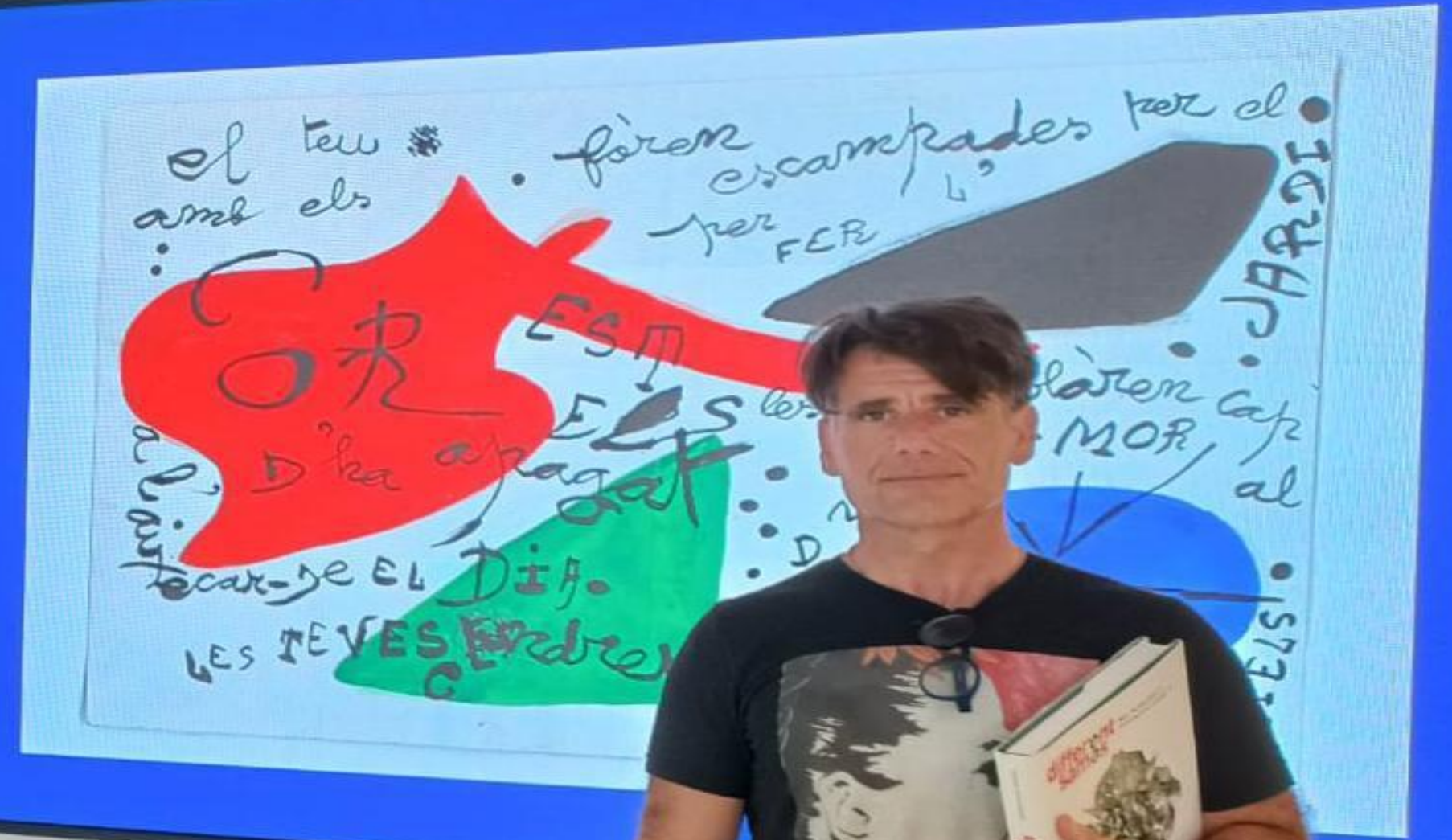


Mirari Project= Virtual reality x wellbeing + social participation



**JOAN MIRÓ /
ALEXANDER CALDER**
ESPAÇO EM MOVIMENTO

CASA DE SERRALVES



Serralves Foundation Project = Art + Virtual reality x wellbeing + social participation



VR Occupation = Virtual reality x Wellbeing + Job inclusion. **Ph. D. Ivan Alsina.**



EBA Centelles Project: Community Occupational therapy + New technologies + Primary attention. **Ph. D. Néstor Aparicio.**





Service-learning methodologies





Social Enterprise
E-GREEN SOCIAL DESIGN
E-GSD - CALLDETENES

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DE CATALUNYA



Ajuntament de
CALLDETENES



Diputació
Barcelona



Fundació "la Caixa"



OCCUPATIONAL JUSTICE – OCCUPATIONAL INJUSTICE

Occupational justice, which is understood as the promotion of a social and economic change that will allow access to meaningful occupations.

Occupational justice is based on the idea that humans have the right to engage in diverse occupations that are meaningful, support quality of life, and promote health. (Standyk, et al., 2010).

Occupational justice emphasizes equity and participation in relation to occupational choice, to enhance well-being and develop a more inclusive society (Hocking, 2017).

Occupational justice asserts that inequalities in participation are a breach in human rights (Wilcock & Townsend, 2000).

Occupational injustices occur when these rights are violated. Occupational stewardship, a justice-based approach to promoting occupation for health without jeopardizing the ecology, has also been advocated (Rushford & Thomas, 2016).



Hocking, C. (2017). Occupational justice as social justice: The moral claim for inclusion. *Journal of Occupational Science*, 24(1), 29–42. <https://doi.org/10.1080/14427591.2017.1294016>

Rushford, N., & Thomas, K. (2016). Occupational stewardship: Advancing a vision of occupational justice and sustainability. *Journal of Occupational Science*, 23(3), 295–307.

Standyk R, Townsend E., Wilcock. A. (2010). Occupational justice (T. E. Christiansen, Ch. (ed.); pp. 329–358). Pearson Education.

Wilcock, A.; Townsend, E. (2000). Occupational terminology interactive dialogue. *J. Occup. Sci.*, 7(2), 84–86.

OCCUPATIONAL THERAPY – ECOLOGY

The World Federation of Occupational Therapists claims that sustainability matters (WFOT, 2012) recognized the repercussions of the global climate crisis as a great challenge to both human well-being and sustainable development. (WFOT, 2012, 2018).

Do Rozario (1993) stated the need to promote a harmonious relationship for individuals and communities to advance wellbeing and sustainability through **occupation** and **socio-political action**.

Zemke (2004) encouraged us to reflect about how **human occupation** can contribute to **planetary balance**.

Ikiugu (2008) illustrated ways in which individuals could increase their **positive environmental impact through daily occupations**.

We can develop activities considered meaningful due to its restorative impact on the Planet as part of our legacy for present and future generations **Ikiugu and McCollister (2011)**

Occupations must be understood from an **ethical position in which the individual, society and the species** are considered as part of a planetary community (**Méndez, 2011**).

As occupational therapists our collective professional reasoning can **promote a sustainable and resilient future**, this is our ethical obligation (**Dennis & Dorsey, 2015**).

Eco-occupations: occupations that are driven by the motivation of individuals and communities to combine personal needs with the ecosystem protection (**Ung et al., 2020**).



Ikiugu, M. (2008). Occupational science in the service of GAIA: An Essay describing a possible contribution of occupational scientists to the solution of prevailing global problems. Baltimore, MD: PublishAmerica.

Ikiugu, M. & McCollister, L. (2011). An occupation-based framework for changing human occupational behaviour to address critical global issues. *International Journal of Professional Practice*, 2(4), 402–417.

Méndez, J. (2011). Ocupación como proceso ecológico. In J. Trujillo, A.; Sanabria L.; Carrizosa L.; L.; Méndez (Ed.), *Ocupación: sentido, realización y libertad*. (pp. 129–147). Universidad Nacional de Colombia.

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Zemke, R. (2004). Time, space and the kaleidoscopes of occupation. *American Journal of Occupational Therapy*, 58(6), 608–620.

JOB – EMPLOYMENT - WORK

If occupational therapists allowed various clients' viewpoints to shape occupational categories, perhaps linkages between professions and well-being could be found and handled more easily in theory and practice (Hammell, 2009).

Diverse approaches to work have been taken in occupational science scholarship and elsewhere. Potential inequities and precarity at work have been a source of concern, and critical perspectives have been proposed to draw attention to these worries and advance complex comprehensions of tensions that may arise between neoliberal framings of work and people's interests, capacities, and potential (Asaba et al., 2021).

Benefits of employment on human development and health have been made, but without analyzing the characteristics of specific jobs (Seijo et al., 2017).

Economic and labor market changes in line with neoliberalism have posed problems in many Western contexts by personalizing the social issue of unemployment and limiting perceived occupational possibilities for how people inhabit different relations to work (Laliberte Rudman, 2013).

This makes the potential perpetuation of inequities, precarity, and exclusion from occupational engagement visible (Laliberte Rudman, 2013; Laliberte Rudman & Aldrich, 2016).

The 'individualization' of work occupations (Laliberte Rudman, 2013) connected to the global spread of neoliberalism is illuminated by this critical approach by focusing on conditions and opportunities (Farias & Laliberte Rudman, 2019; Gerlach et al., 2018).



Farias, L., & Laliberte Rudman, D. (2019). Practice analysis: Critical reflexivity on discourses constraining socially transformative occupational therapy practices. *British Journal of Occupational Therapy*, 82(11), 693–697. <https://doi.org/10.1177/0308022619862111>

Laliberte Rudman, D. (2013). Enacting the critical potential of occupational science: Problematizing the individualizing of occupation. *Journal of Occupational Science*, 20(4), 298–313. <https://doi.org/10.1080/14427591.2013.803434>

Laliberte Rudman, D., & Aldrich, R. (2016). 'Activated, but stuck': Applying a critical occupational lens to examine the negotiation of long-term unemployment in contemporary socio-political contexts. *Societies*, 6 (3), 28. <https://doi.org/10.3390/soc6030028>

Seijo, S. V., Farias, L., e Rivas-Quarneti, N. (2017). Precarious work as situated occupation: exploratory study of workers' experiences in the context of the Spanish economic crisis. *Revista Brasileira de Terapia Ocupacional*, 25(4), 671-685.



ORIGINAL
PRUSA I3

extruder
 stepper motor

CE

PRUSA
RESEARCH

E-GSD

E-GREEN SOCIAL DESIGN



¿WHAT IS E-GREEN SOCIAL DESIGN?

E-GSD is a social enterprise whose mission is to generate well-being and quality employment for young people by promoting a more inclusive, healthy and sustainable society.

Our vision is:

- Tackle youth unemployment by inserting them in the framework of an Economy 4.0 (4th Industrial Revolution).
- Improve their wellbeing (emotional/mental).
- Combat climate change from the Green Economy.
- Bringing new technologies closer to society.

Our values are:

- Well-being
- Equality
- Social justice
- Sustainability
- Innovation
- Global citizenship
- Hope



We work directly with the SUSTAINABLE DEVELOPMENT GOALS OF THE UNITED NATIONS **3, 4, 8, 9, 10, 11, 12, y 13.**



OBJETIVOS DE DESARROLLO SOSTENIBLE

17 OBJETIVOS PARA TRANSFORMAR NUESTRO MUNDO



Who we are... (promotion

team)
Salvador Simó

PhD in Inclusive Education. Master's Degree in Business Management.
Occupational therapist.
Deputy Director of the Chair of Mental Health UVic-UCC, professor of the FCSB and international.

More than 20 years of experience in social entrepreneurship and welfare projects.



Néstor Aparicio

PhD student in Health Sciences. Master in Educational Technology and Digital Competences.
Occupational therapist.

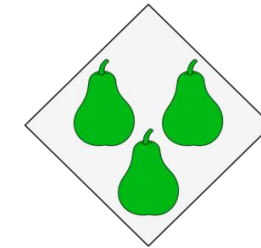
Founder of Tangencial, an NGO that brings 3D printing to the community.
Professor of Occupational Therapy at UVic-UCC.



One project:

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Ajuntament de
Calldetenes



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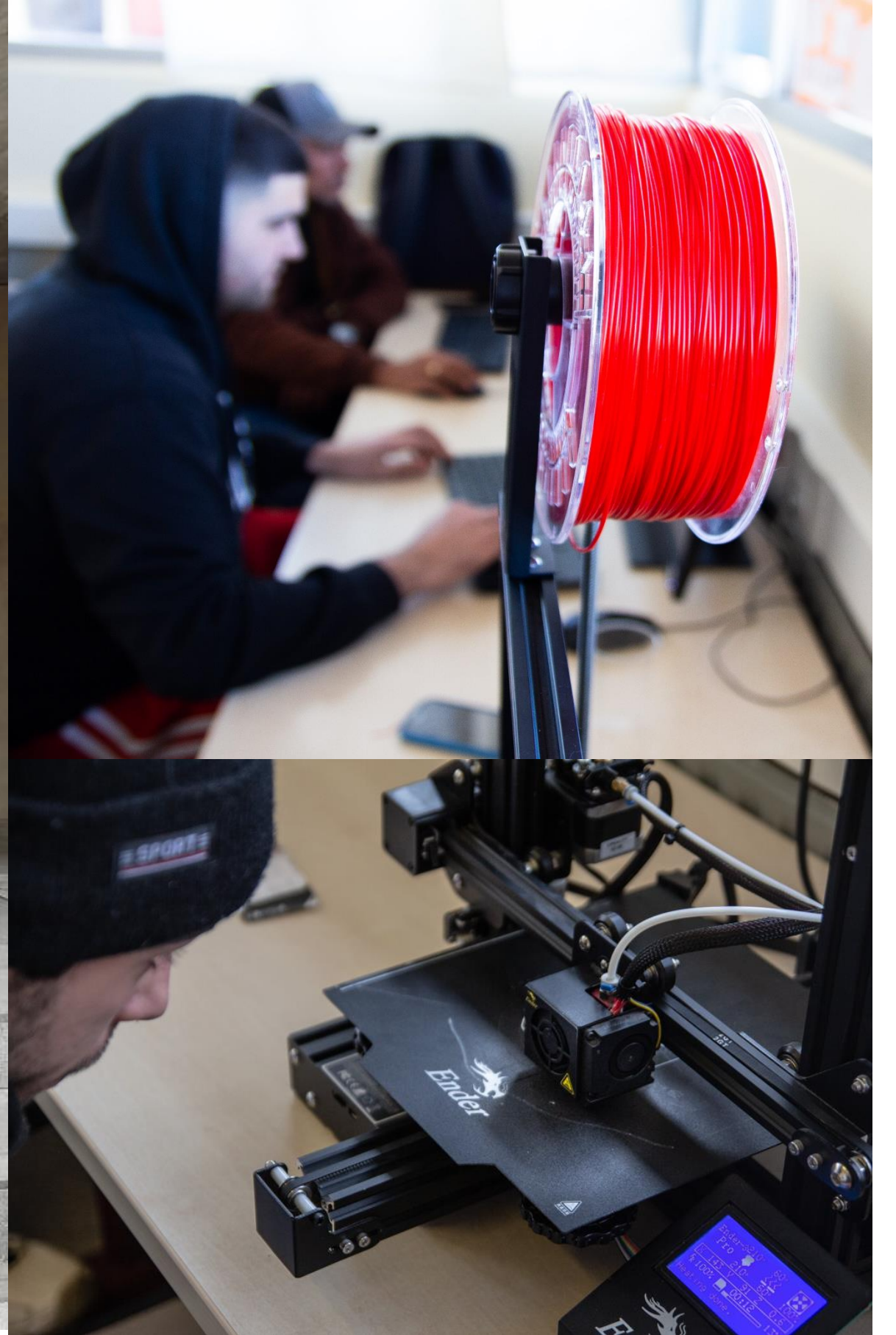


Consell
Comarcal
d'Osona



PBX

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GETTING STARTED

Our work axes are:

Youth employment:

The 4th Industrial Revolution implies the disappearance of traditional jobs and the generation of new ones.

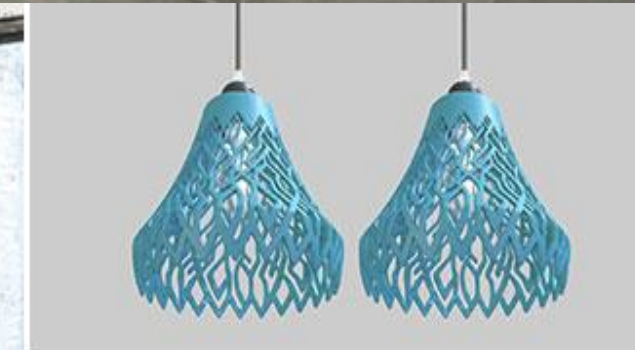
Having job stability makes it possible to create a meaningful life project.

Well-being (emotional and mental):

In the face of the malaise, aggravated by Covid 19, with high rates of psychiatric admissions, addictions, self-harm, etc. It is essential to look after their wellbeing.

Sustainability:

Climate change is a global challenge. Plastic waste is a serious problem. It is essential to recycle them to turn them into new products from the Green Economy.



FABRICATION

Plastic and ceramic 3D printing.

Manufacture of decorative products, interior design, urban planning and landscaping with digital manufacturing and recycled plastics.

LAB CALDETENES

A space for innovation and creativity open to citizens.

The community fabric will be invigorated by bringing technology closer to society.



Training

Training of a group of 10 young people:

384 hours of digital fabrication and plastics recycling.

96 hours of social entrepreneurship and job coaching.

Work experience in companies in the sector.

DIGITAL FABRICATION LAB

Digital fabrication space for learning and employment equipped with:

Filament 3D printers.

Ceramic 3D printers.

Filament or pellet 3D printer with a print size of 1m x 1m x 0.9m.

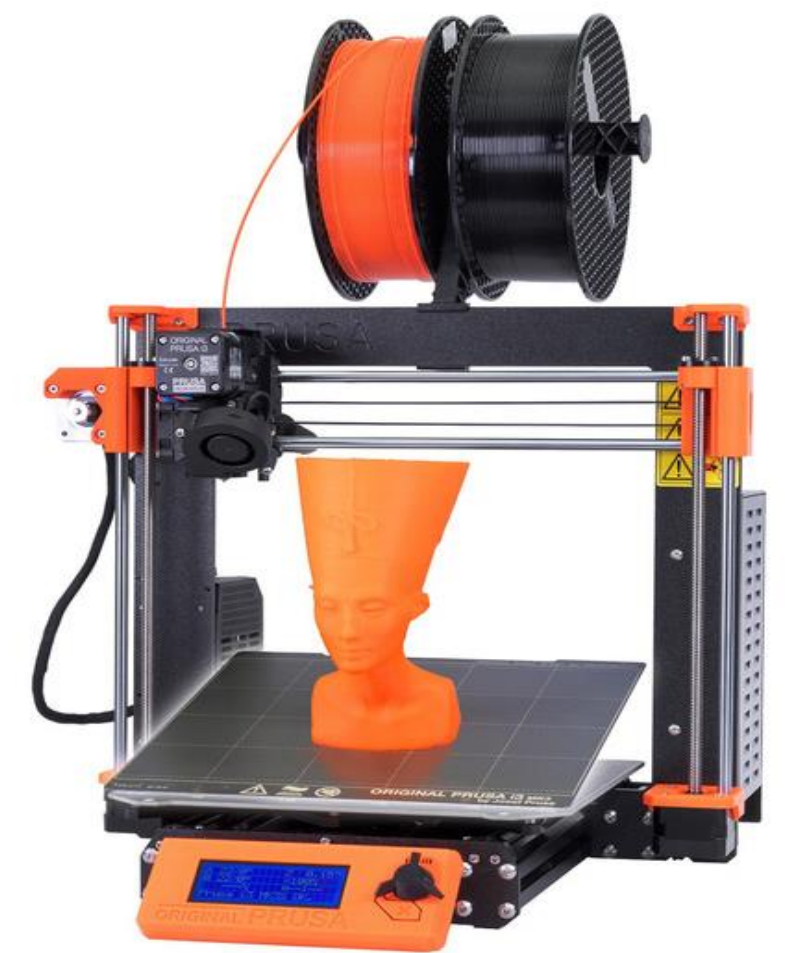
Resin 3D printer.

Laser cutter.

Recycled plastic extruder.

Plastic recycling station.

Plastic carpentry equipment.



TIMELINE TRAINING - INTEGRATION - SOCIAL

ENTERPRISE Entrepreneurship training, digital manufacturing, and recycling.

PARTICIPANT SELECTION

Support from Occupational Therapy.

(January-June 2023)

The participants have been selected in collaboration with Calldetenes Town Council and the Osona County Council.

A group of 10 participants will be formed

(December 2022)

TRAINING AND OCCUPATIONAL THERAPY

INTERNSHIPS IN COMPANIES

Internship in companies in the sector putting into practice manufacturing, design and maintenance skills.

(October-December 2023)

Individualized follow-up (coaching) to facilitate job placement. The social enterprise E-GSD.

(December 2023)

EMPLOYMENT INSERTION



¿WHAT HAPPENS AFTER TRAINING?

Once the training has been completed and each young person has achieved the learning objectives, two possible paths open up:

- 1** Work in the E-GSD social enterprise that we will have set up to give continuity to the project.
- 2** Accompanying them to find work in companies in the sector for their integration into the labour market.



LATEST NEWS!!!

We now have the new
E-GSD headquarters in the
Calldetenes Business Park

Opening:

15th December 2023!

We look forward to seeing
you.







THANK-YOU

Let's
cooperate:

Contact:



salvador.simo@uvic.cat

www.salvadorsimo.org

34-679617999