

# Exploration as interdisciplinary starting point

The concept of developing a learning trajectory across a BSc degree programme for embedding the interdisciplinarity of the sustainable circular bioeconomy



**avans**  
university  
of applied sciences

# René van der Burgt

Educational innovation

Team lead  
Developer  
Change-agent

Avans Educational Innovation  
OpenX - an interdisciplinary learning environment  
Avans Educational Model & Interdisciplinary education

Futuring expert

Contributor  
Developer  
Co-author

Explore The Big Picture (2022 – English)  
STEEP Foresight cards (Multilingual)  
Scenario planning handbook (2012 - Dutch)

## Handboek scenarioplanning

Toekomstscenari  
strategisch instru  
het managen van

Tweede, herziene druk



**Mario van Rijn**  
Author Explore the Big Picture

References:

<https://www.avans.nl/international>

[explore-the-big-picture.com](https://www.explore-the-big-picture.com)

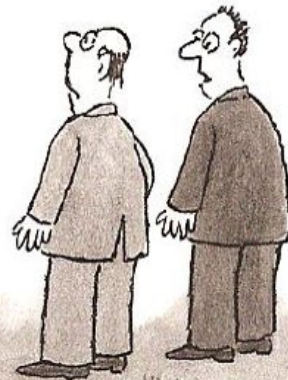
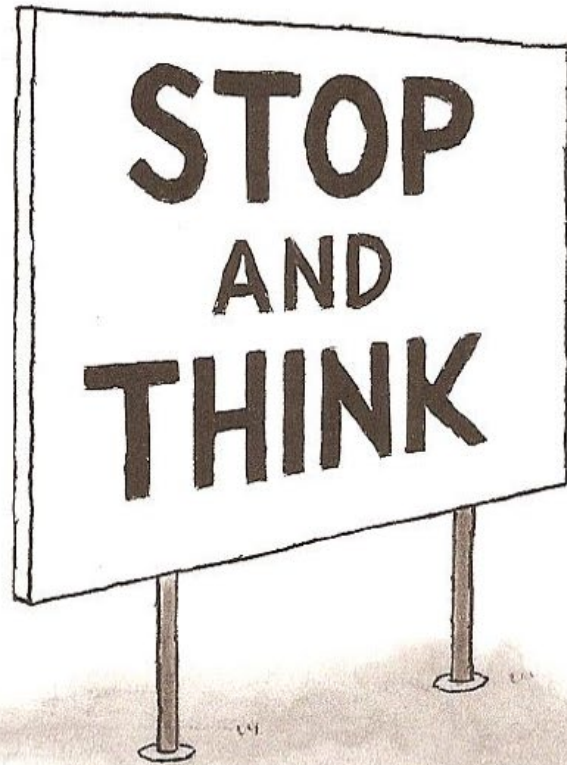


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**“That’s our new mission statement.”**





S. GROSS

*"It sort of makes you stop and think, doesn't it."*

# Biotechnology

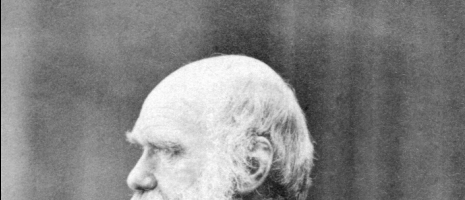
**HIGH IQ**

**NO INHERITED DISEASES**

**ATHLETIC SKILLS**

**PERFECT VISION**

**LOW RISK OF ALZHEIMER'S AND STROKE**



Charles Darwin

# Climate change and biodiversity loss

Today  
With  
Long



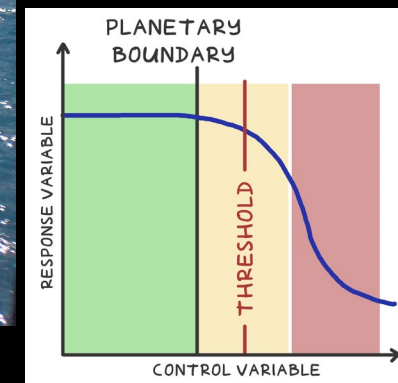
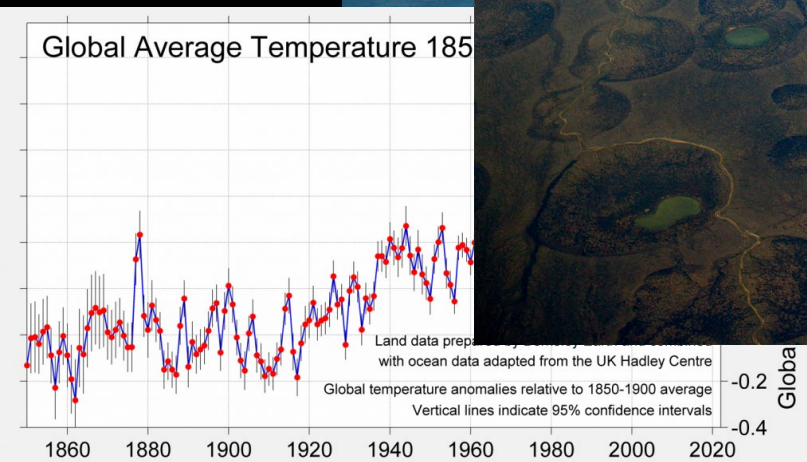
More than **40,000 species** are threatened with extinction



That is still **28%** of all assessed species

AMPHIBIANS <b>41%</b>	MAMMALS <b>26%</b>	CONIFERS <b>34%</b>	BIRDS <b>13%</b>
SHARKS & RAYS <b>37%</b>	REEF CORALS <b>33%</b>	SELECTED CRUSTACEANS <b>28%</b>	

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SAFE OPERATING SPACE    ZONE OF UNCERTAINTY    HIGH RISKS OF SERIOUS IMPACTS

Internal document by Red Bull

# Why



*The way we live, think and work is just a state-of-mind*



2 minute discussion – with your neighbour..

**Who needs to change their mindset?**



## Changing the System

Challenges

What  
is happening?



Opportunities

Why  
is this  
happening?

## Understanding the System

# Explore

## Understanding the future

First recommendations from...



### ANDRÉ KUIPERS

Astronaut European Space Agency



### PROF. DR. JAN PETER BALKENENDE

Former Prime Minister of the Netherlands  
Chairman Dutch Sustainable Growth Coalition



### MARJAN MINNESMA

Director and founder of the Urgenda  
Foundation



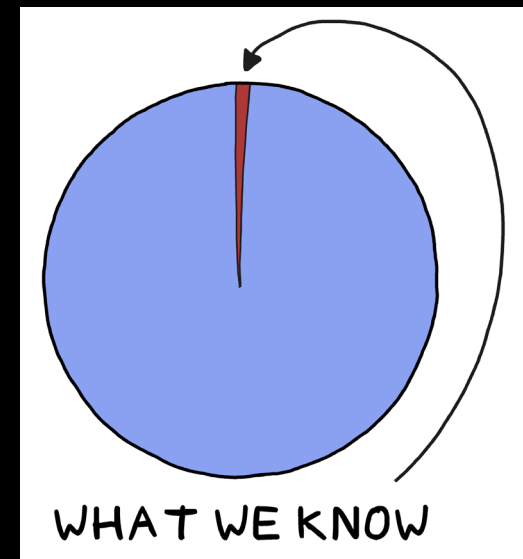
### TOM MIDDENDORP

Former Chief of Defence of the Netherlands  
Chairman – International Military Council on Climate and Security



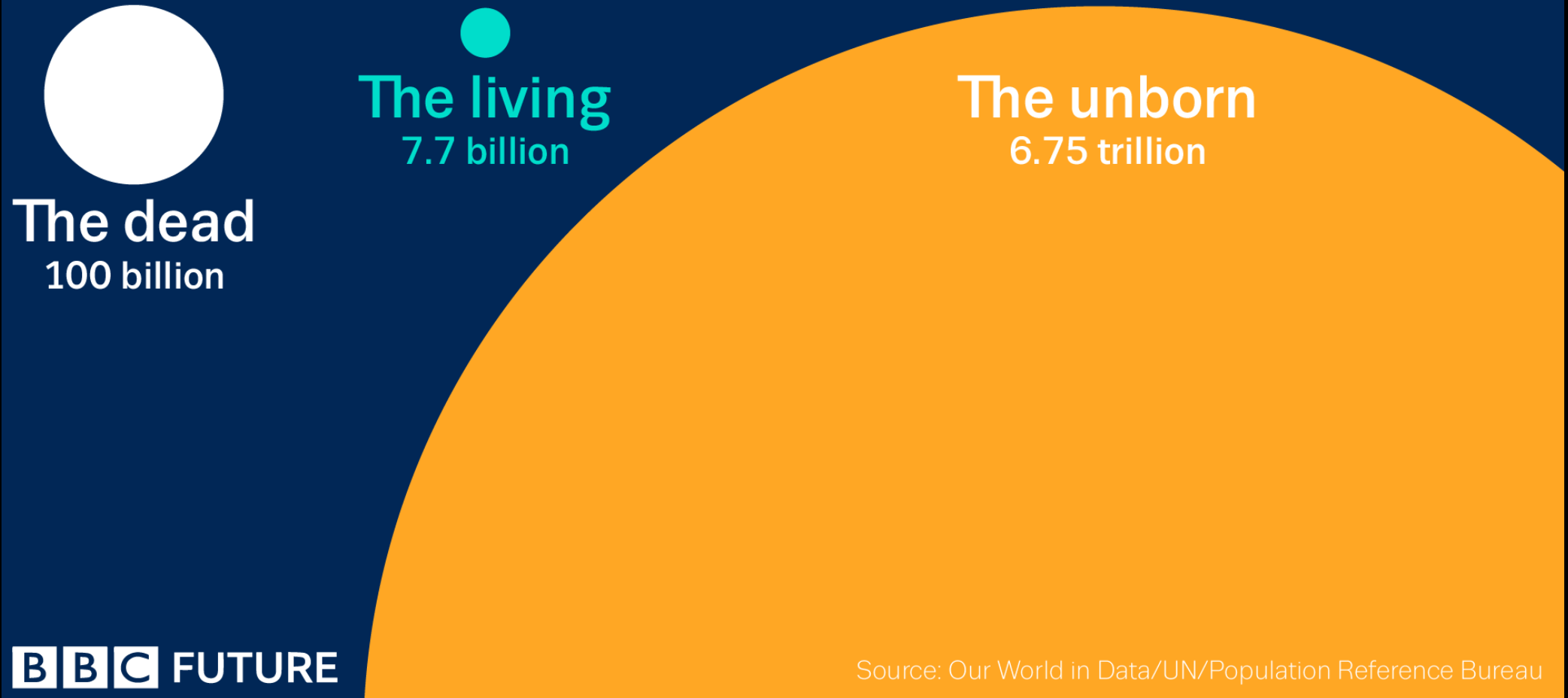
### PAUL RÜPP

Former Chairman & President  
Avans University of Applied  
Sciences



## The scale of **unborn** generations

If we look 50,000 years into the past, and project this century's birth rate 50,000 years into the future, the unborn outweigh every human that has ever lived



# Society



**Training people for  
the (future) job  
market**



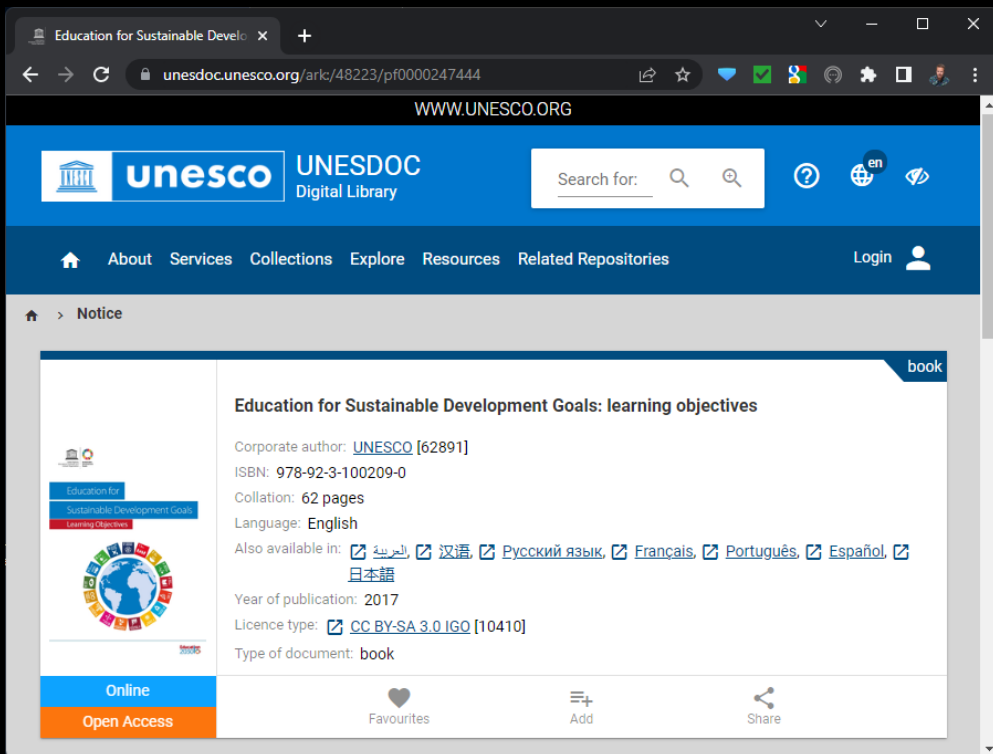
**Higher education**

**Shaping the  
future job market**

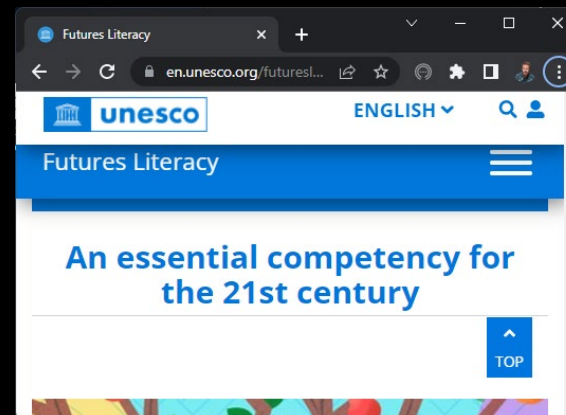
## How to embed?

Exploration is key in every BSc programme...  
find common (learning outcome) ground in stead of competing with each others' topics

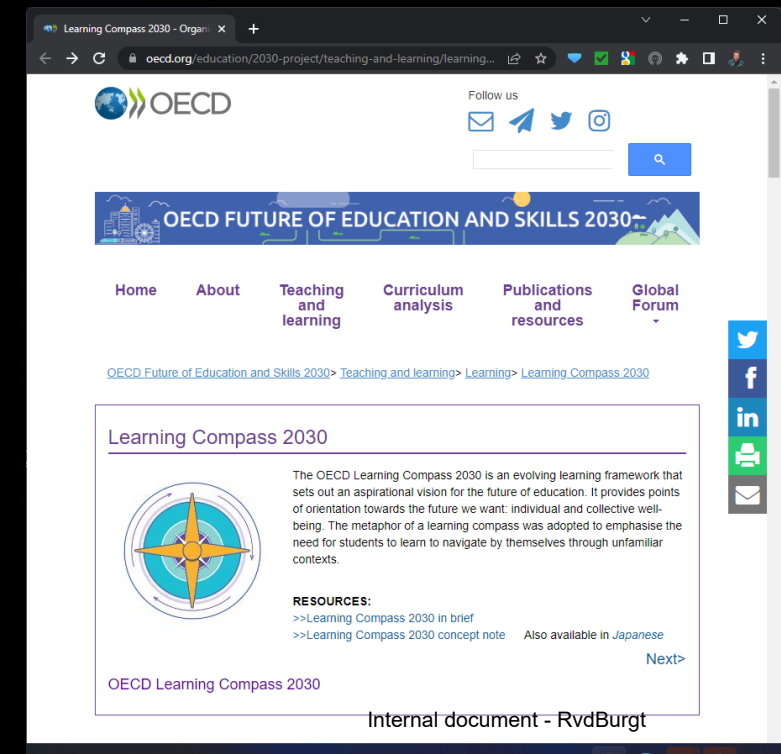
*As a professional, you develop a “critical reflection” on the possible significance and meaning of global developments for “a research theme” by conducting an extensive, well-founded interdisciplinary exploration of transitions, ethical dilemmas and (SDG) challenges. Guided by ...*



The screenshot shows the UNESCO Digital Library interface. The header includes the UNESCO logo and 'UNESDOC Digital Library'. A search bar is present. The main content area displays the title 'Education for Sustainable Development Goals: learning objectives' with a 'book' tag. Metadata includes: Corporate author: UNESCO [62891], ISBN: 978-92-3-100209-0, Collation: 62 pages, Language: English, and Year of publication: 2017. It also lists the license as CC BY-SA 3.0 IGO. A 'Notice' banner is visible at the top left of the content area.



The screenshot shows the UNESCO Futures Literacy page. The header features the UNESCO logo and 'Futures Literacy' in large text. Below the header, the main heading reads 'An essential competency for the 21st century'. A 'TOP' button is located at the bottom right of the main content area.

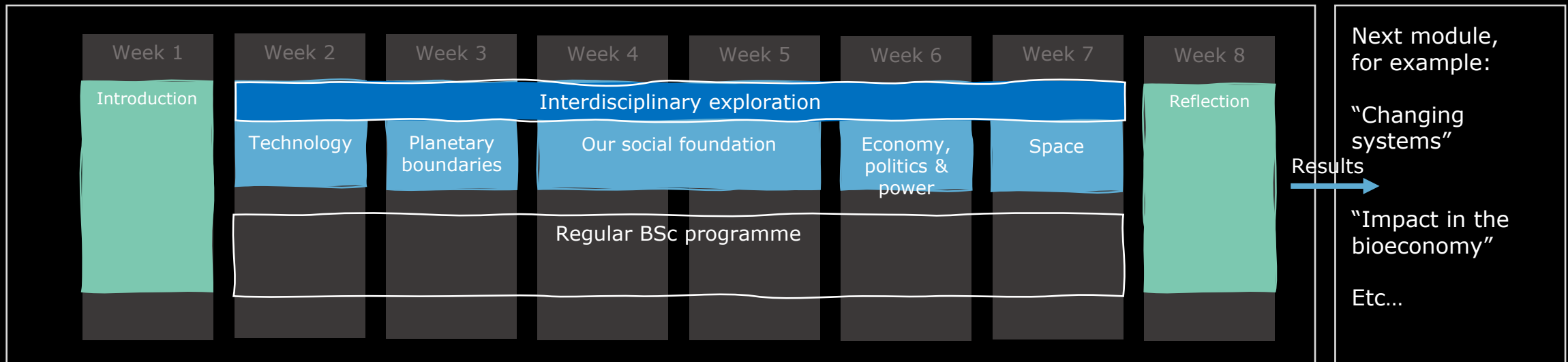


The screenshot shows the OECD Learning Compass 2030 page. The header includes the OECD logo and navigation links for Home, About, Teaching and learning, Curriculum analysis, Publications and resources, and Global Forum. The main heading is 'OECD FUTURE OF EDUCATION AND SKILLS 2030'. Below this, there is a section for 'Learning Compass 2030' which includes a compass icon and text describing the framework. A 'RESOURCES' section lists links to 'Learning Compass 2030 in brief' and 'Learning Compass 2030 concept note'. The page is identified as an 'Internal document - RvdBurgt'.

# How to embed bottom-up

Exploration is key in every BSc programme...  
find common (learning outcome) ground in stead of competing with each others' topics

*As a professional, you develop a “critical reflection” on the possible significance and meaning of global developments for “a research theme” by conducting an extensive, well-founded interdisciplinary exploration of transitions, ethical dilemmas and (SDG) challenges. Guided by ...*



Design, develop and try different educational embedding possibilities...

Honours programme to make impact

Full-module - as an elective

For professionals and students together

Basic course which BSc programs can adapt & integrate

Ongoing track where students dive-in / jump-out from different levels (NLQLF 5,6,7) and sectors

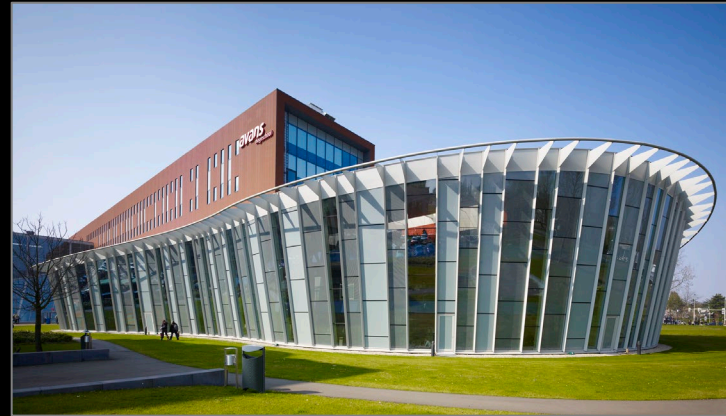
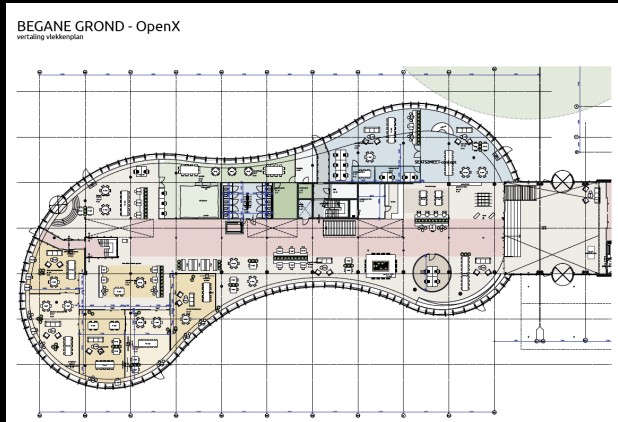
## Avans Ambition 2025

We want to give our students as much freedom as possible to choose what they want to study. Making education more flexible and working together are key; so too is being interdisciplinary and multidisciplinary. And of course devoting personal attention to each other's talents and well-being.

Every Avans student has multiple interdisciplinary learning experiences in their educational programs and can choose interdisciplinary electives.

Avans research will focus on 4 Centre's of Expertise, to make impact. Each topic will develop a research programmes and a matching educational portfolio

# Ambitious interdisciplinary future





## Take-aways



- Take moments to  
Stop, think, and just be...
- We all need to change our mindset
- An interdisciplinary context needs broader thinking and is already aligned with global competences and learning objectives
- Just start, get connected, use your entrepreneurial skills and GO ;-)

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