



Sustainability integration

- Teaching methods for
mass courses

Photo by [Miguel Henriques](#) on [Unsplash](#)



Ethics panel

Photo by [Science in ND](#) on [Unsplash](#)

Exemplifying a potential situation for the students i.e. future experts

New technology with business prospects and without legislation is not an uncommon situation

In these cases, ethical considerations are needed in an individual and at a company level

A close-up photograph of several interlocking metal gears. The gears are made of a light-colored metal, possibly aluminum or steel, and show signs of wear and use. The lighting is dramatic, highlighting the teeth and the circular holes in the gears. The word "Connections" is overlaid in a bold, red, sans-serif font across the center of the image.

Connections

Photo by [Bill Oxford](#) on [Unsplash](#)

Example courses & fields of technology for the panel

Basics in information technologies: face recognition

Measurement of biological phenomena: gene technology

SCI-project: artificial intelligence

Roles



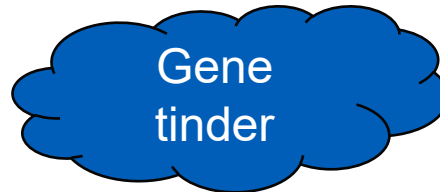
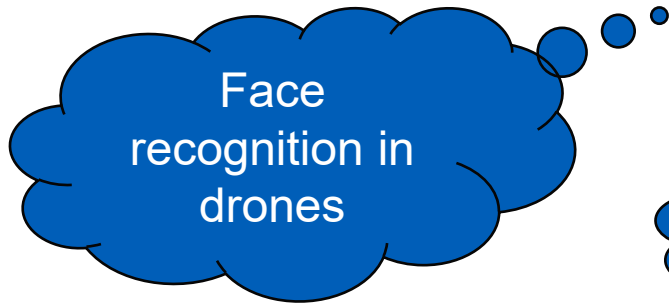
Roles and views-examples

Facilitator: introduction, questions for panel and audience, disclaimer

Researcher: “we do research based on where we get the funding, and the others will decide on how they apply the outcomes”

Ethics / legal expert: “there are things to consider in the research and in the business”

Entrepreneur: “we are not doing anything illegal, and this is an innovative business opportunity”



A close-up photograph of an open notebook with a fountain pen resting on it. The notebook pages are filled with handwritten text in cursive. The pen is silver with gold accents. The background is a warm, blurred brown color.

Pre-task & Script

Preparing for the panel

- **Students: read or watch a material on the topic, (return one-page reflection)**
- *”Pohdi minkälaisia eettisiä valintoja joutuisit insinöörinä tekemään tämänkaltaisia tekoälyn sovelluksia kehittäessäsi. Tarkastele erityisesti millä tavoin sinun pitäisi henkilökohtaisissa valinnoissasi huomioida (oman etusi lisäksi) palkan maksavan yrityksen etu, kohdehenkilöille aiheutetut hyödyt ja haitat ja yhteiskunnan yleinen etu.”*
- **Teaching team: agreeing upon the choreography**
- Introduction (by the facilitator)
- Short opening words (by each panelist)
- Opportunities (entrepreneur & researcher)
- Ethical considerations (ethics expert)
- Company presentation
- Questions to audience
- How could the risks be tackled
- Would you be willing to work for my company? (entrepreneur)
- ...

Sustainability lecture at Tuotantotalous 1

- Connected with the course project “Making a business plan”



How to include sustainability in our plans?

- Business plan
- Production as a part of a supply chain
- Production planning
- Processes and operations management

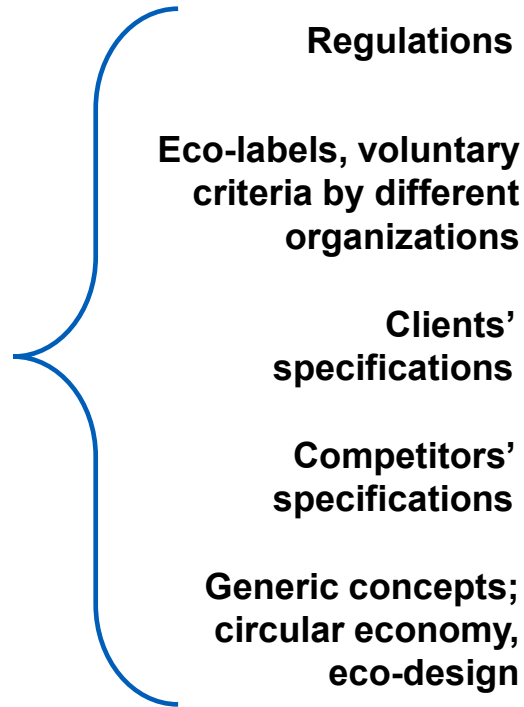
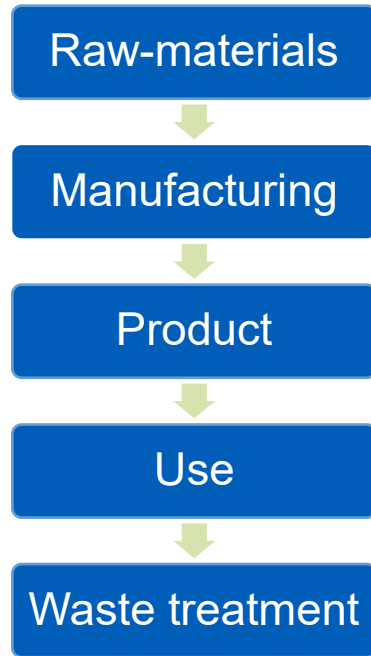


A business idea: T-shirts!

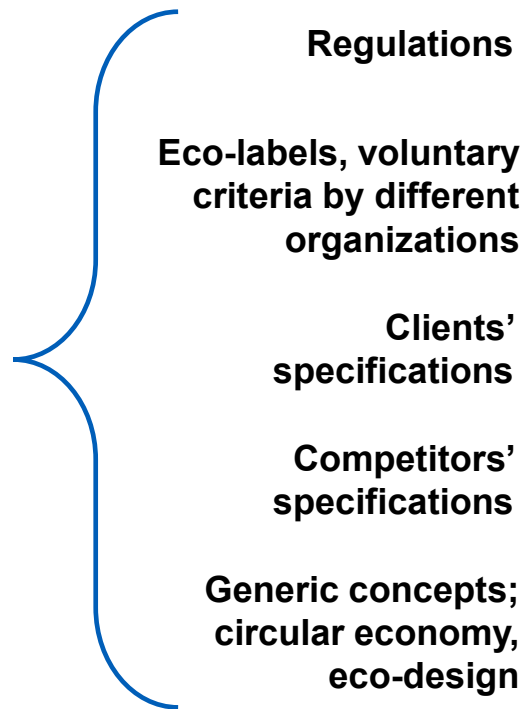
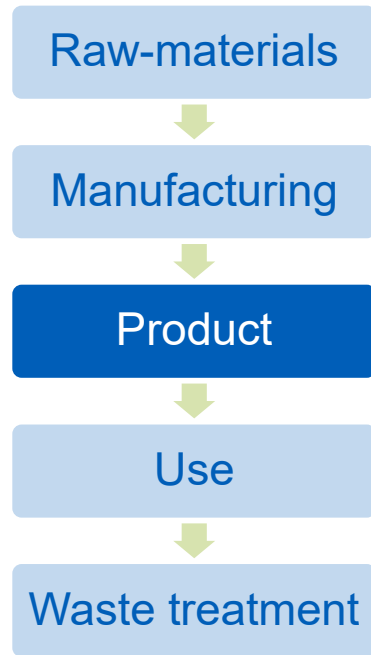
*But how to make
it a sustainable
one?*



Guidance available throughout the entire supply chain / product life cycle



Examples for product specifications?



REACH (EU chemical regulation)¹

EU Eco-label for textiles, Öko-tex^{2,3}



*Example of a
discussion topic*

*Different
approaches for
improving
sustainability*

