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The Competitive University for a Sustainable Society

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Master of Engineering in SUSTAINABILITY MANAGEMENT

Karelia University of Applied Sciences

FINLAND

Master of Engineering, Sustainability Management

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PhD, Principal Lecturer

https://www.karelia.fi/en/sustainability-management/

SUA Slovak University of Agriculture in Nitra

ВУАРР ПЛОВДИВ

University of Thessaly Founded 1984

Karelia University of Applied Sciences

Université de Reims Champagne-Ardenne

Università degli Studi di Milano Bicocca

Universidad de Córdoba

Sustainability Management

- Master's Degree in Engineering (Meng), 60 ECTS
- Extent and duration: 2 years
- Location: Part-time, Online
- Study places in Joint Application: 40
- Language of tuition: English
- Application Period: January (Joint admission), additional admission in July 1st – August 11th
- Student selection method: elective pre-assignment and interview

Master of Engineering in
SUSTAINABILITY MANAGEMENT
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Professional profile

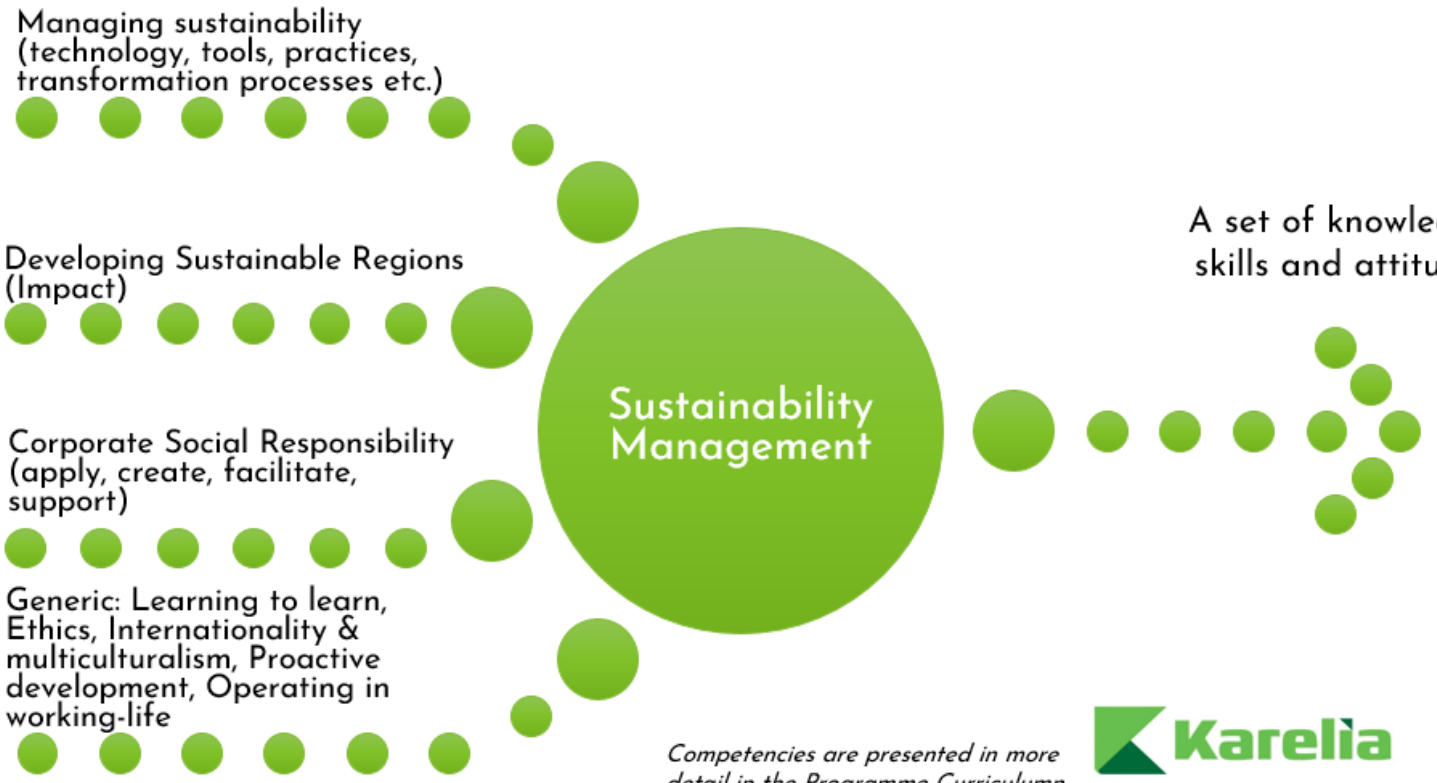
- As a Master of Engineering in Sustainability Management,

> “…you will lead and support the deployment of sustainable technologies, organisational change processes, and collaboration networks for environmentally and socially responsible businesses”

- This online Master's Programme uniquely combines technological and strategic business aspects of sustainability.
- It builds on businesses’ needs to meet rising sustainability requirements and carry out sustainable strategic planning.
- It educates professionals responsible for creating and implementing relevant technology solutions, enhancing process and product sustainability, and leading corporate sustainability efforts.

Competencies

Sustainable development competence
(UNESCO)



Competencies are presented in more detail in the Programme Curriculumn.

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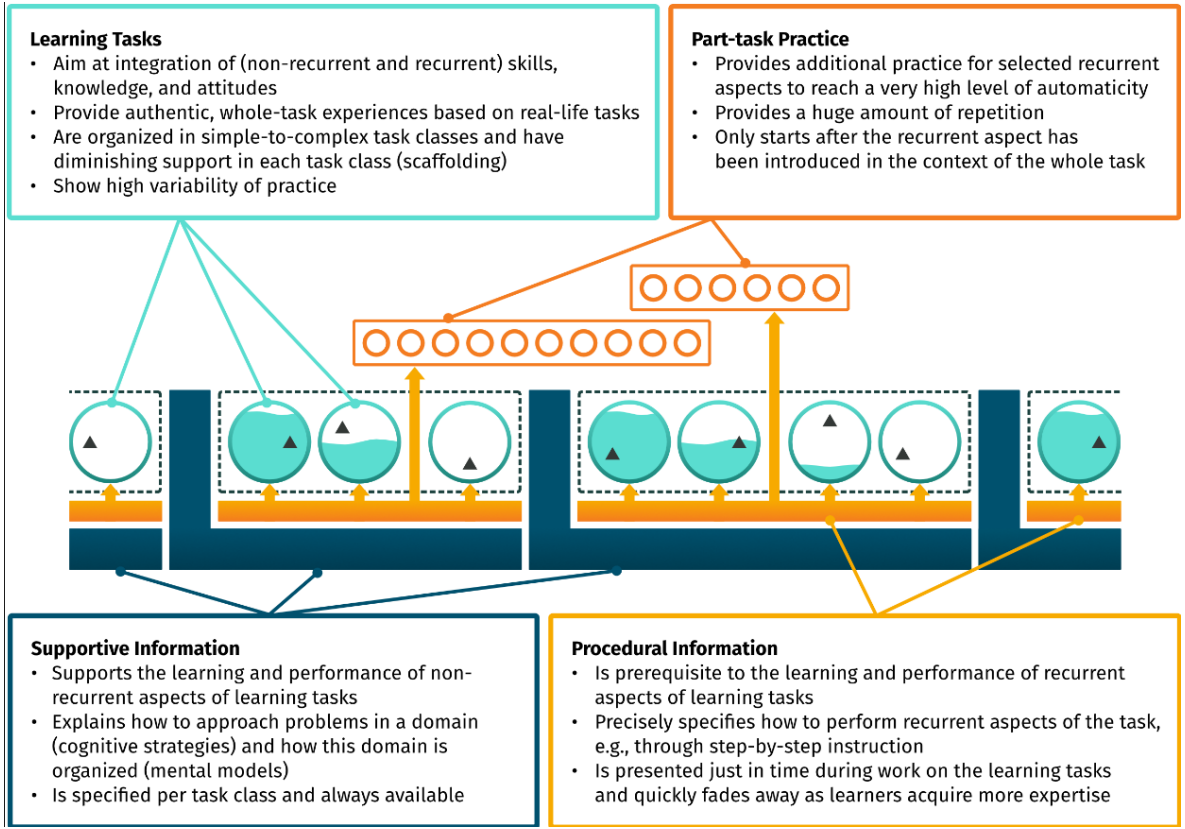
4C/ID Model – how it could support learning of complex topics?



Jeroen J. G. van Merriënboer
Maastricht University The Netherlands
The Four-Component Instructional Design Model An Overview of its Main Design Principles

Karelia

Preparatory Process of Sustainability Management

Experience through earlier Bachelor and Masters Programmes (in Finnish)

INVEST workshops for the curriculum development

Consultation by an educationalist from VHL

Interviewing alumni – finding out **professional tasks and subtasks**

Discussing/ interviewing companies and other organisations to further specify and validate the tasks

Considering how those **tasks** can be adapted to a reasonable level **as course assignments**

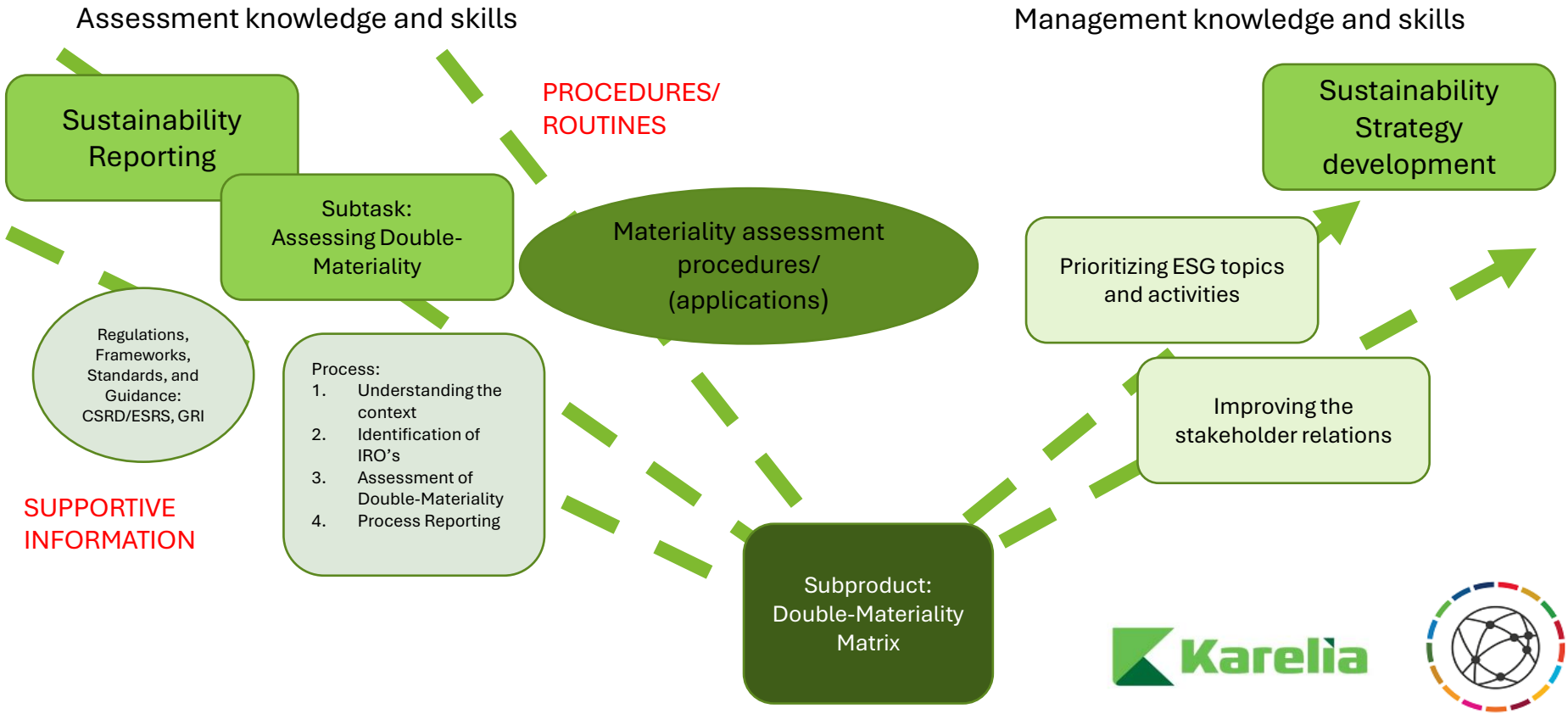
Continuous improvement!

Knowledge and skills for assessments and management

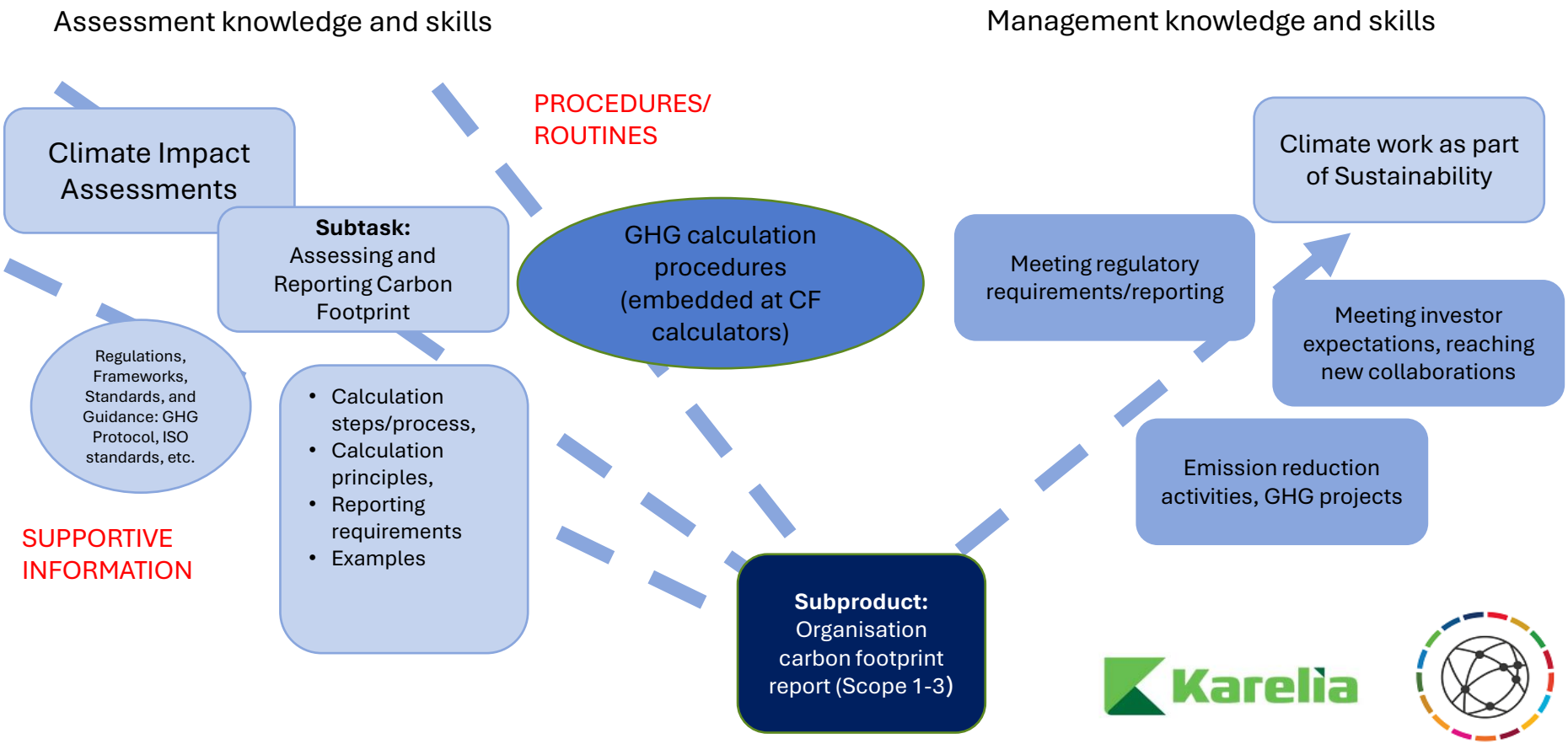
- Knowledge and skills on assessments and how to use the results for management are essential parts of the Sustainability Manager's Profession

- Procedure:
  - Should always lead to the same outcome/ = routine
  - Automation of the routines
- Supportive information:
  - Theory & concepts: understanding the theory and knowing the strategy on how to use that in practice
  - Step-by-step processes
  - Models and guidelines that help in completing tasks

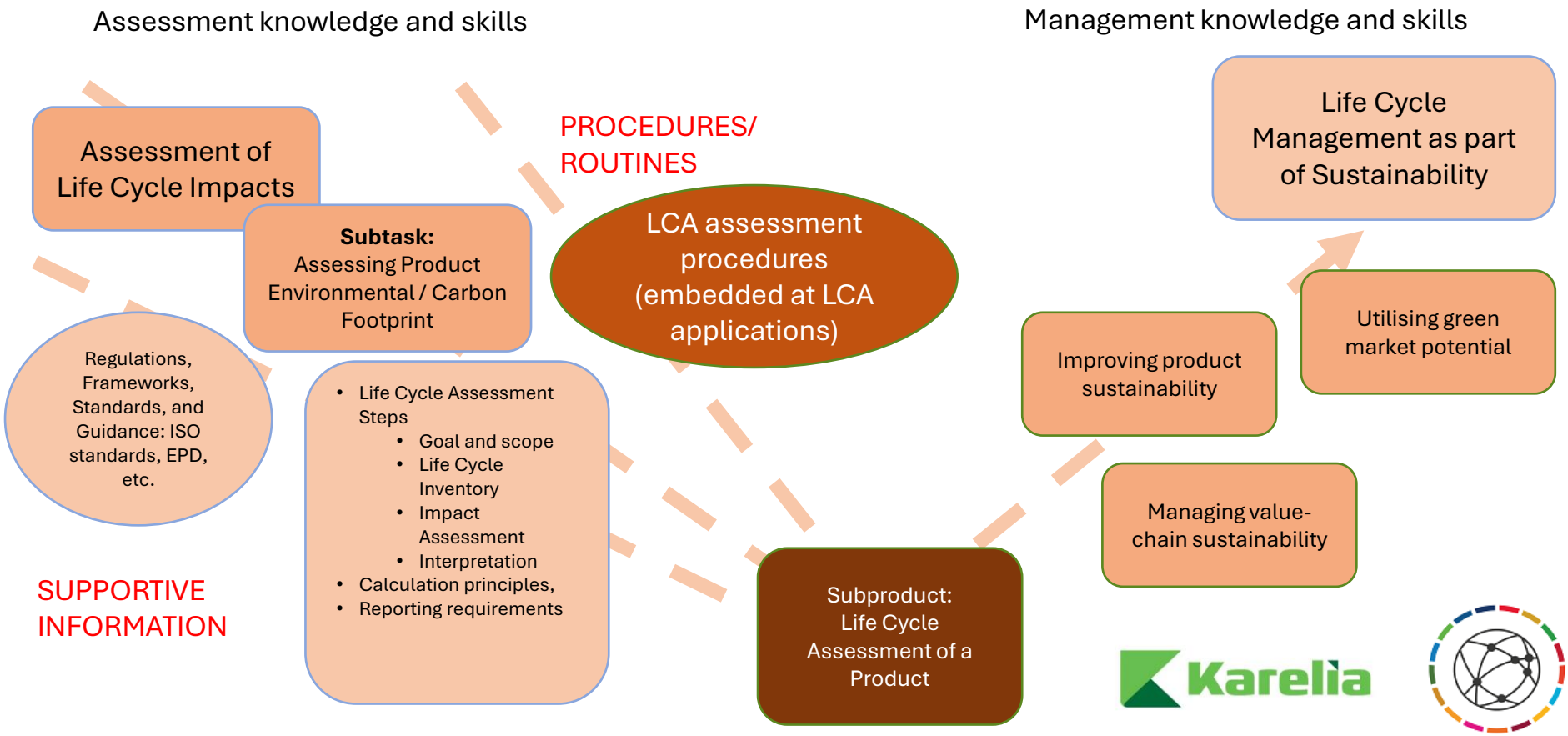
Examples of professional products, tasks and subtasks:
Sustainability Reporting, Double-Materiality Assessment, and Managing Sustainability



Examples of professional products, tasks and subtasks: Carbon footprint assessment and climate work



Examples of professional products, tasks and subtasks:
Product life cycle assessment and Life Cycle Management



Opportunities and challenges of the Model

- Opportunities:
  - Increases **understanding of professional roles and tasks**, and their requirements
  - Creates **models for completing professional tasks** in Sustainability Management
  - Similarities and **synergies between subtasks are evident** – no need to practice all subtasks. The same types of procedures and routines often prevail

- Challenges
  - The professional tasks in full-scale are **complex and demanding** – how to **downscale** them to be an appropriate level for learning purposes (without losing relevance and content
  - The amount of **supportive information** increases constantly
  - There is a need for **professional tools** that provide support to implement various routines and procedures

Courses and professional tasks

- **Environmental and Social Responsibility, 3 ECTS**
  - How to create new environmentally and socially responsible businesses or transform current businesses into more responsible ones?
  - How to assess and report corporate sustainability issues?
- **Change Agency for Sustainability, 2 ECTS**
  - How to integrate sustainability into business strategy, policies, processes, and practices to create long-term benefits?
  - How to lead complex development processes?
  - Data management for running and managing a sustainable business
- **Engineering for Climate Impacts, 5 ECTS**
  - How to estimate and reduce carbon footprint and adapt business practices to a changing climate?

Courses 1/2

- **Life Cycle Management, 5 ECTS**
  - Understanding and improvement of sustainability along the value chains, utilizing appropriate tools and methods
  - How to improve the product and process sustainability?
- **Energy Service Management, 5 ECTS**
  - How to manage service activities in energy efficiency projects?
  - Managing and leading an energy efficiency team
  - How to coordinate customer service in energy efficiency

Courses 2/2

- **Co-creation for Sustainability, 5ECTS**
  - Identifying, engaging, and maintaining successful partnerships to create long-lasting, sustainable value networks
  - How to conduct Knowledge and Technology Transfers?
  - How to manage Industry projects/development processes?
- **Elective studies, 5 ECTS**
  - Applied Research in CE (5 ECTS)
    - How to utilise latest research and standards when developing circular economy?
    - How to conduct conduct circular economy case studies and utilise results for the working life?
  - Success strategies in SMEs (5 ECTS), Management Tools and Techniques (5 ECTS)
  - Applicable earlier studies, studies from other universities, Intensive weeks
- **Final Thesis, 30 ECTS**

Programme Activities

- Course-based online sessions/workshops (weekly)
- Online Webinars (monthly):
    - *Opening event (Sept 3rd, 2025)*
    - *The Four-Component Instructional Design Model in Sustainability Management (10.9.2025)*
    - *Engineering for Climate Resilience (29.10.2025)*
    - *Co-Creation for Sustainability (30.10.2025)*
    - *Communicating Change / Change Agency (26.11.2025)*
    - *Life Cycle Management: Managing Product Sustainability (Feb 2026)*
    - *Energy Service Management (March 2026)*
    - *Applied Research in Circular Economy (April 2026)*
- Student counselling
- Intensive weeks (as the programme evolves)

Working-life Collaboration

- Working-life connections
  - Alumni interviews in the curriculum planning phase
  - Business meetings in the course planning phase
  - Working-life connected professional tasks, such as
    - Double-Materiality Assessments (Sustainability Reporting),
    - Carbon Footprint Assessments,
    - LCA Screening Studies
    - Action Plans for Energy Management
    - Circular Economy Case Studies
  - Stakeholder collaboration process to involve working-life partners in webinars/course events

International collaboration

- University of Cordoba (Sociology – Agroecology), Technische Hochschule Wildau, The University of Reims Champagne-Ardenne (URCA): guest lectures and some webinar collaborations
- Autumn: Co-creation for Sustainability (5 ECTS), *cases on collaborative processes, tools and methodological guidance for co-creation* (online); (Case Mupapa Wood – Zambia)
- Spring 2026: *Applied Research in Circular Economy – development of case studies*

Thank you

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