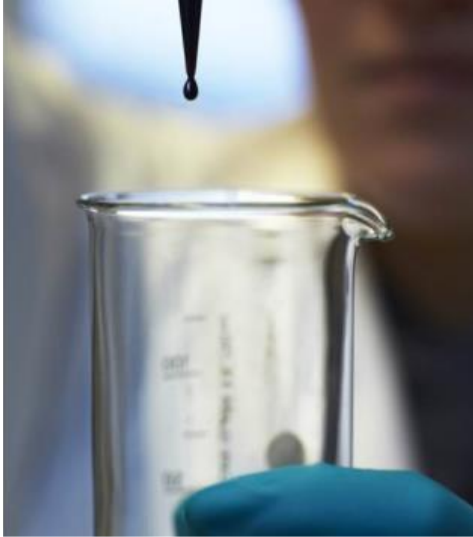


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## RESEARCH INSTITUTE STRENGTHENS ITS LCA CAPACITY BY INTERNAL COLLABORATION AND DATA INFRASTRUCTURE

Raul Carlsson\*, Katarina Lorentzon, Emma Rex, Tatjana Karpenja, Jennifer Davis, Petra Edoff

The 10:th International Conference on Life Cycle  
Management

01-08 September 2021, Stuttgart/Germany

RISE Research Institutes of Sweden

**Built environment**



# Content

- Presentation of RISE, the organizational context of the project
- How the project work to strengthens RISE's LCA capacity by internal collaboration and data infrastructure
- What the project has achieved and aim to achieve during 2021

We are Sweden's research  
institute



## Joined forces for Sweden

- RISE was formed to accelerate Sweden's innovation power and create better conditions for the problem-solvers of society.
- More than 30 research institutes and some 130 unique testbeds have been gathered in one organisation.
- The combination of forces gives us unique expertise that is broad and comprehensive.
- RISE has a special mission to support small- and medium-sized enterprises.



Revenue

340

M€

8

Most attractive  
employer  
(graduate engineers)

87

Income from public  
financiers (M€)

625

Research publications

2025

The year when RISE is  
climate neutral

2800

Employees

48%

Business income

129

Testbeds and  
demonstration  
environments

18

Income from  
EU projects (M€)

39%

Women

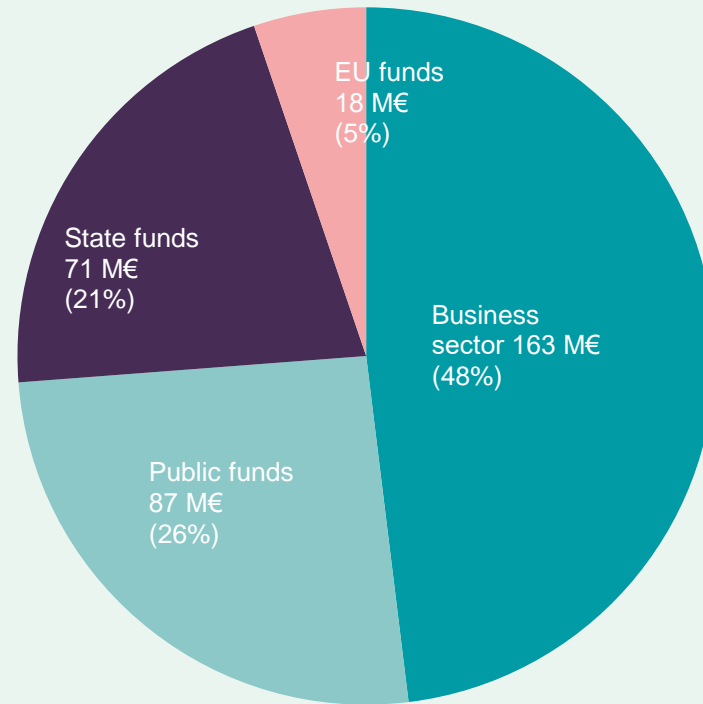
46

New patents

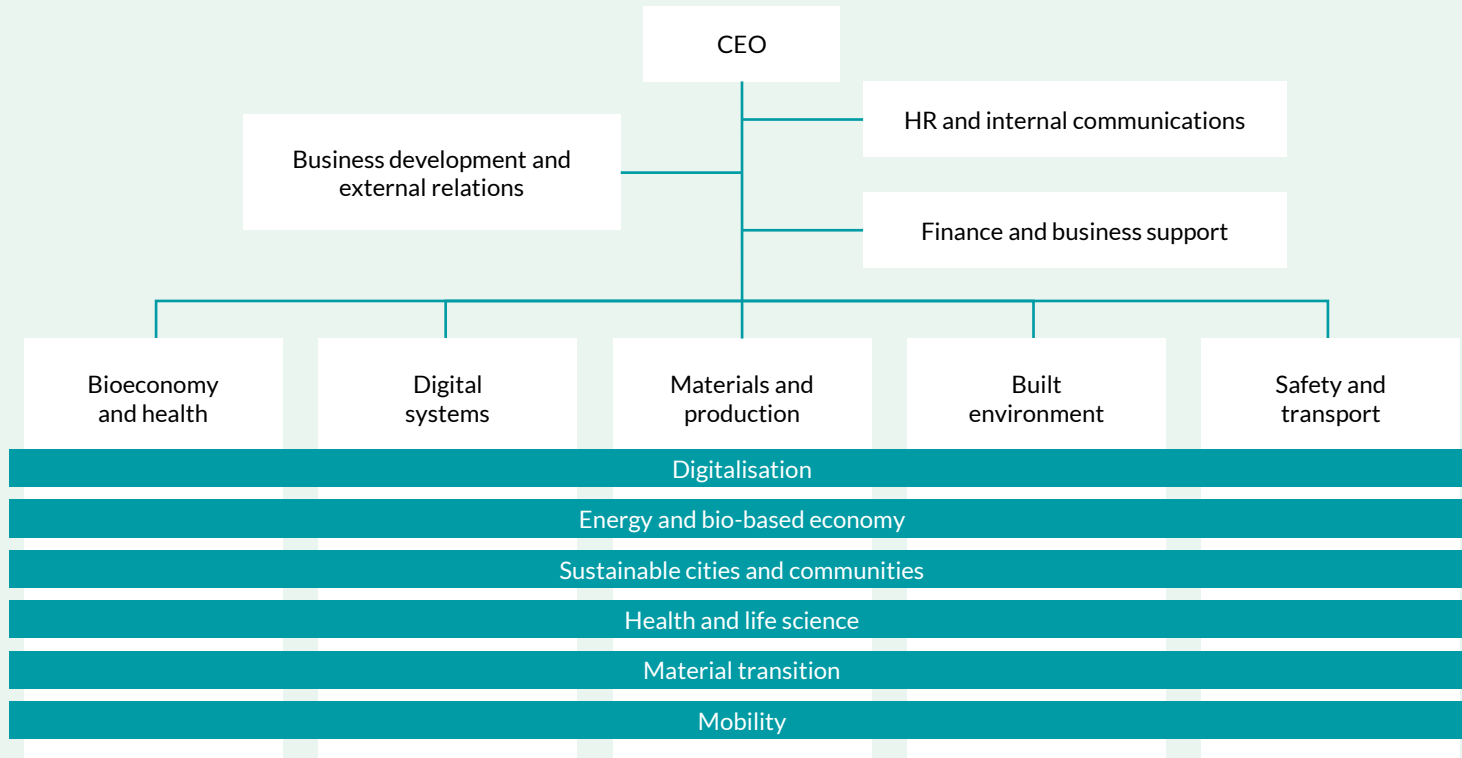


# Distribution of net sales

All figures refer to 2020.

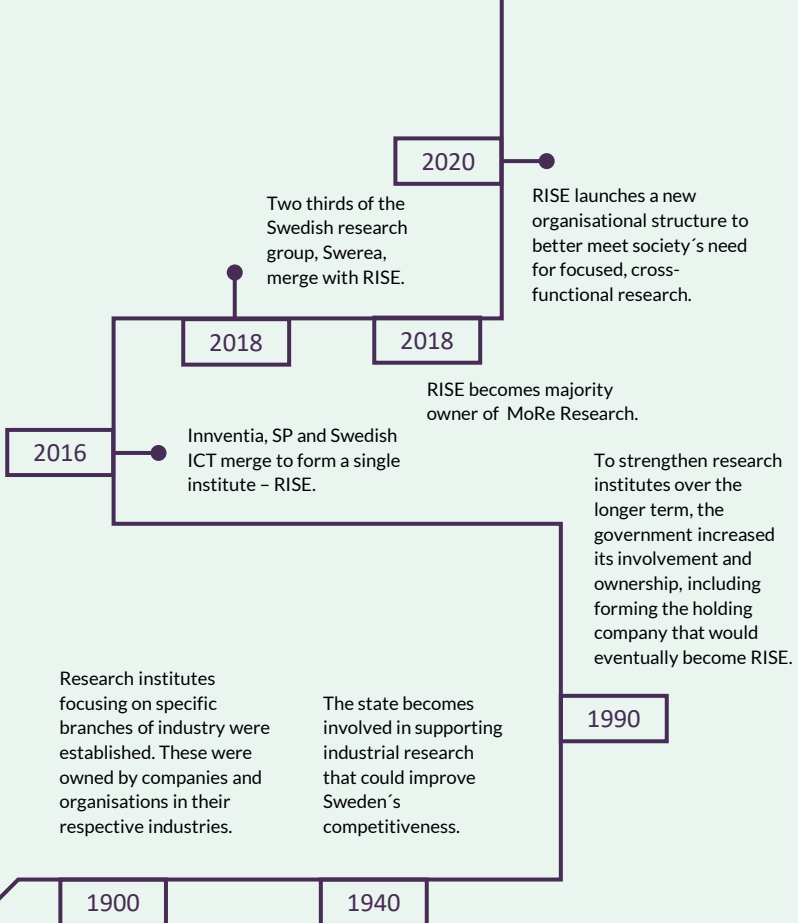


Total: 340 M€



# The history behind Sweden's research institutes

RISE is a young organisation with a focus on the developments of today and tomorrow, but Swedish research institutes have roots that can be tracked back to the turn of the previous century.





# For a better future and those who'll take us there

RISE is Sweden's joined forces for interdisciplinary innovation and transformation. More than 30 research institutes and some 130 testbeds gathered in one independent organisation with a broad range of competencies.

By gathering in one RISE we are equipped to handle the great and complex challenges of our time. So that we can become a driving force in the transformation of society and business.



# RISE's different LCA competence groups

Most of the research institutes that during the last years merged to create RISE Research Institutes of Sweden had previously developed unique ways of delivering LCA competence, services and data to Swedish industry and public sector.

**Batteries:** Sustainable electrified transport services

**Construction & construction products:** Climate-declared construction and construction products

**Food:** Conscious & climate-smart consumption of food

**Packaging:** Black belt in eco-friendly and circular packaging

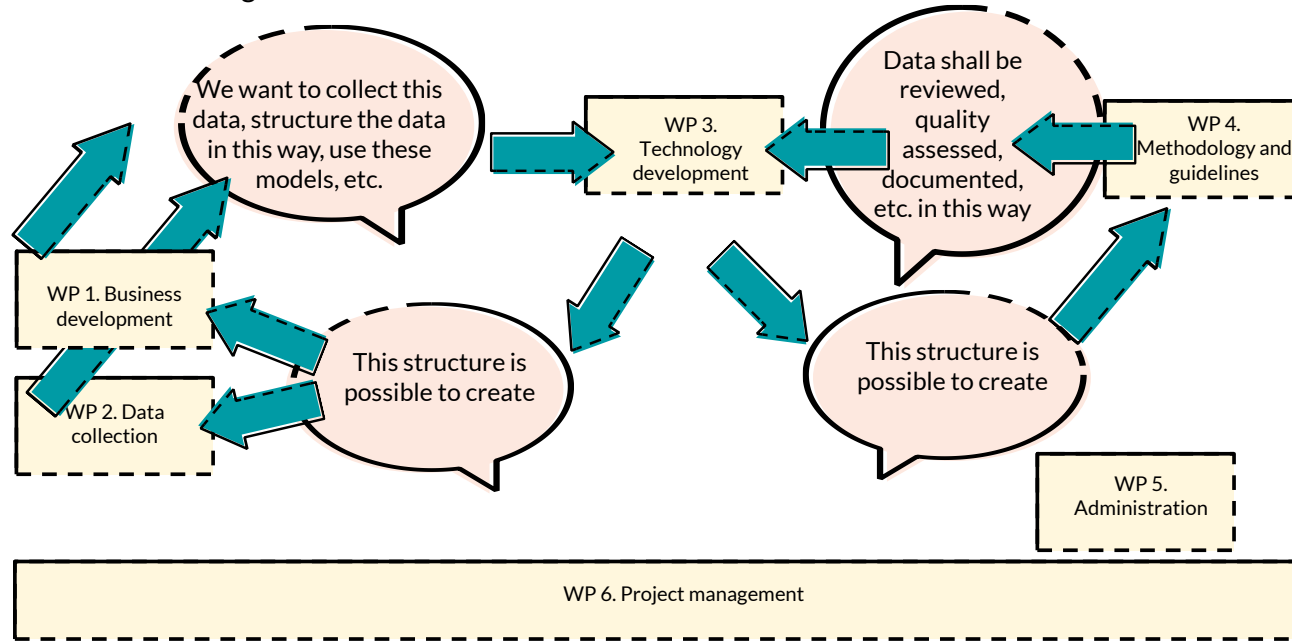
**Textiles:** Environmentally friendly and non-toxic textile value chains

**And much more...**

Thereby RISE holds a unique position to establish itself as a leader in the LCA field, in practical application areas such as lifestyle and sustainability analyses, scenario simulation and modeling, service innovation, and policy recommendations at different system levels.

# Synergize different LCA competence groups

Synergize competence groups by collaborating on an operational infrastructure of knowledge, internal standards, and data sharing, as well as concerted LCA offerings.



This intends to increase availability of the life cycle competence connected to RISE's technical breadth, to provide synergized competence in support of sustainable transition to industry and society.

# Respond to increased demand by synergized competence and data

Erbjudande	Livsmedel	Byggnader och byggprodukter	Förpackningar	Batterier	Textilier
<b>Offer</b>	Climate database with general climate footprint for food	Cost-effective EPDs and climate declarations to promote the environmental work of the construction industry.	1. Climate database for packaging 2. Circular packaging database	Climate database for batteries	LCA and toxicity database for processes in textile value chain
<b>Dataformat</b>	Climate footprint	EPD	EPD	EPD	EPD
<b>Unicity (what's unique?)</b>	<ul style="list-style-type: none"> <li>• First climate footprint database for food</li> <li>• First climate footprint database for food</li> </ul>	<ul style="list-style-type: none"> <li>• Data calculation (road food environmental certificate)</li> <li>• Data for (road food industry) data for (road food)</li> </ul>	<ul style="list-style-type: none"> <li>• First climate database for packaging</li> <li>• First climate database for packaging</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluation of specific use cases in different vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• Detailed LCA data and toxicity data for complex textile value chain</li> </ul>
<b>Longer-term offer</b>	<ul style="list-style-type: none"> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> </ul>	<ul style="list-style-type: none"> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> </ul>	<ul style="list-style-type: none"> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> </ul>	<ul style="list-style-type: none"> <li>• Tailored offers to the different customer segments</li> </ul>	<ul style="list-style-type: none"> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> <li>• Specific climate footprint database</li> </ul>

Actually not intended for you to be able to read, since this is strategic business data. So this picture only presents the fact that we are working hard to map our market to be able to effectively reach out.



# Data documentation requirements

During 2020 the first step towards this goal resulted in an internal shared view of RISE's LCA offerings and common fundamental and flexible data documentation principles for all different life cycle data within RISE's different life cycle competence groups

## Ambition

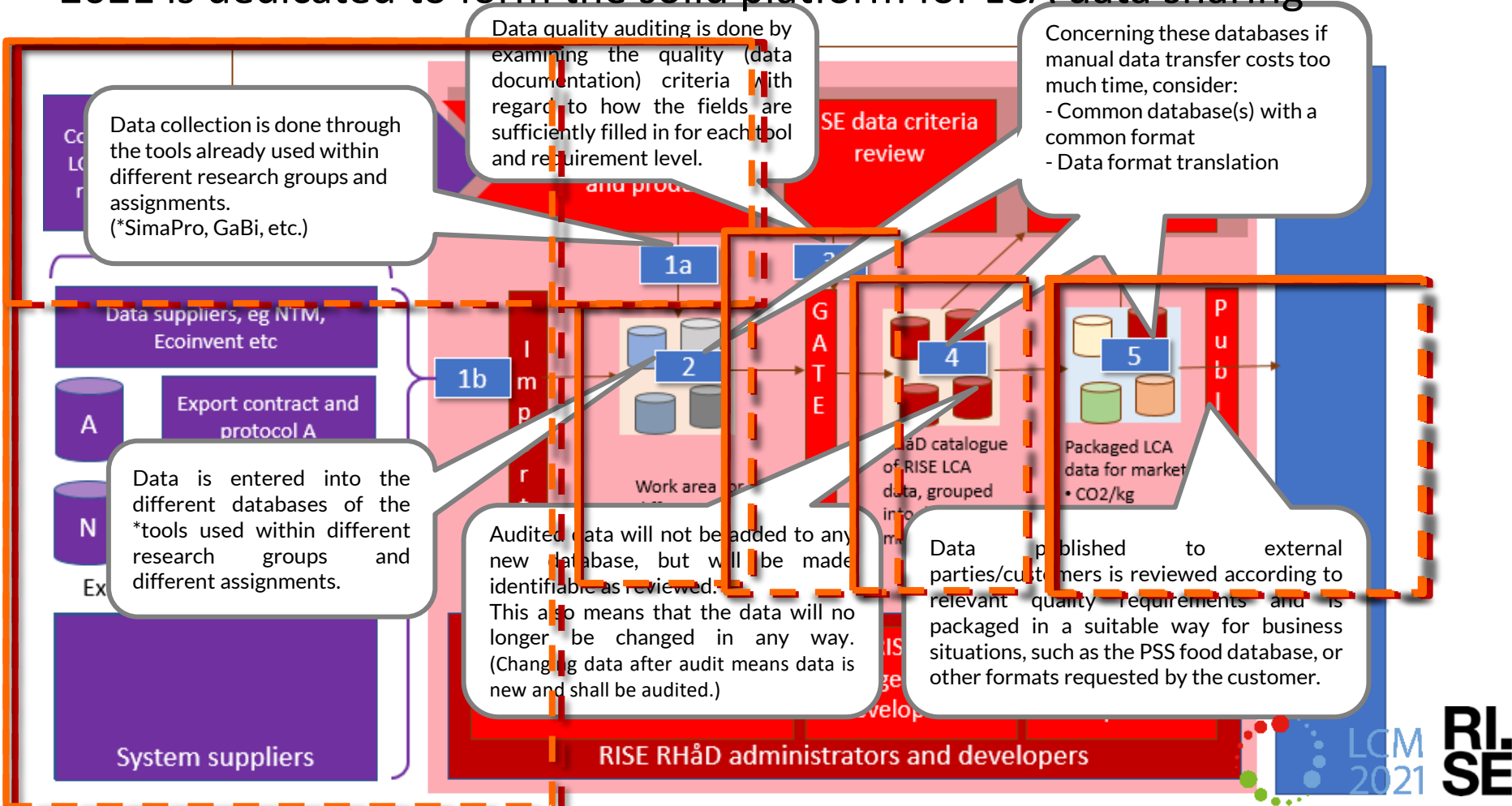
- Understand the data sufficiently so that it can be re-used
- Not too complicated
- Common minimum level
- Recommend setting higher demand for different applications

## Data documentation requirements

1. Clear system boundaries and description of:
  - a) What is included
  - b) What is excluded
2. Functional unit and reference flow
3. Clear data sources for the foreground system in the dataset.  
From which producer or producers is the data collected?
4. Clearly described which environmental impact categories can be analyzed from the data (e.g. climate impact, etc.).
5. Years of data for the foreground system in datasets (e.g. production in 2006)
6. Description of how transparent the dataset is

An achievement, considering that formats for data presentations within RISE ranges from aggregated carbon footprint results of per kg of products to ILCD European Product Environmental Footprints.

# 2021 is dedicated to form the solid platform for LCA data sharing





# Summing up

RISE is a new merger of many research institutes

- With many different LCA competence groups
- With many different LCA markets
- But with many similar needs for data and competence to share

In 2019 the effort to build-up a common RISE Sustainability database was initiated

- The work has started bridging views on data
- The work is currently synthesizing common work flows and a common data sharing platform

The goals for 2021 are

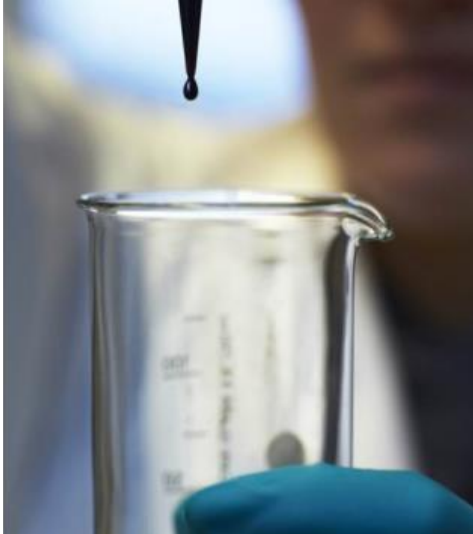
- Positive synergies with work and data
- Positive synergies with market reach-out



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