

One Planet - Natural Resources of the One Planet - Circular Economy

**Arctic wood building and circular economy forum
May 23-24, 2018 in Kemi, Finland**

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VISION

Finland will succeed as a
pioneer of sustainable
well-being.



SITRA

One Planet – Natural Resources of The One Planet



Natural Resources

Climate change

Water

World population



Material flow

End of life

By-products

Repair

Reuse

Redesign

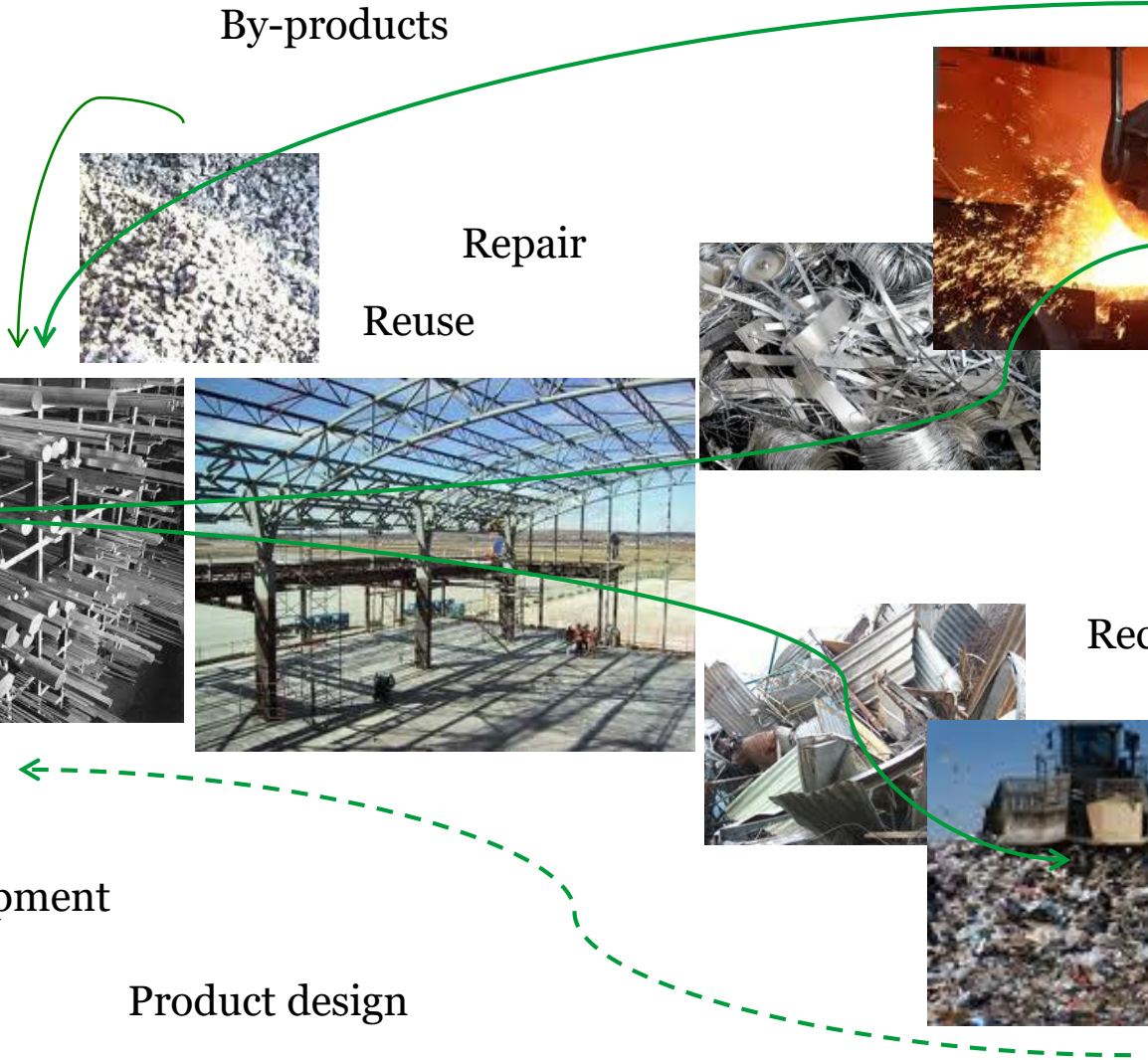
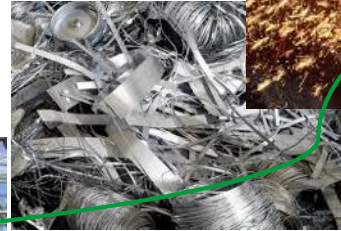
Recycle

Process development

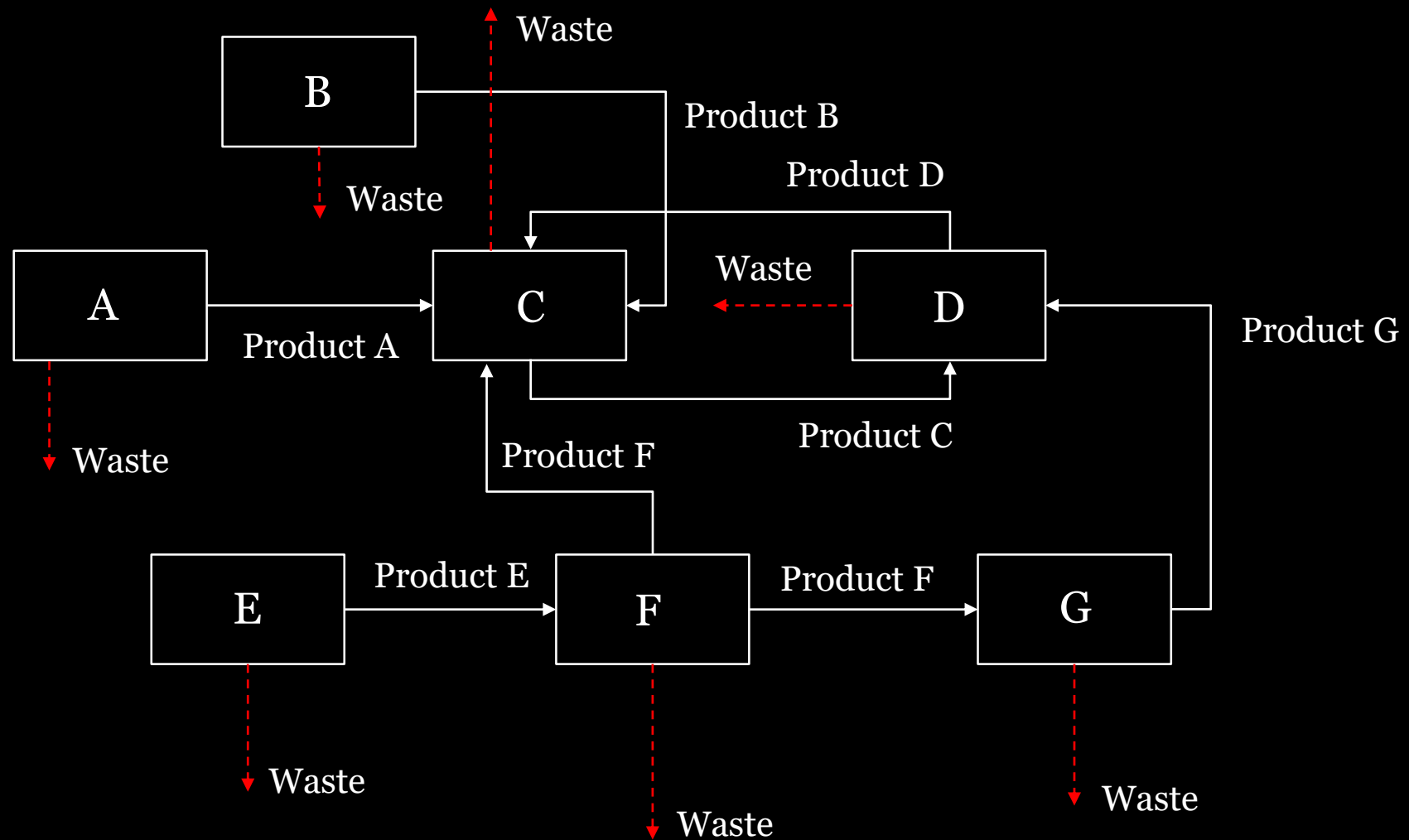
Material development

Product design

No waste material



Industrial processes



Scaling up the Finnish industrial symbiosis know-how (Sitra, Kemi Digipolis, Kemi city, Lappi AMK)



The Arctic Industries ecosystem and Kemi-Tornio circular economy – Bringing best learnings forward

4 years of systematic development has led to a full-scale industrial symbiosis and circular economy between various industry sectors in Northern Finland.

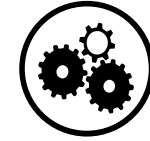
Now the key is to take the learnings and systematically bring the know-how to other industrial parks and facilities.

How to make it happen?

- Bring together cross-sectoral experts and project managers
- Create operational models on symbiosis
- Invite other clusters to open workshops to make sure the best techniques are put into practice
- Facilitate discussion between private and public entities to tackle administrative bottlenecks

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Technical loops



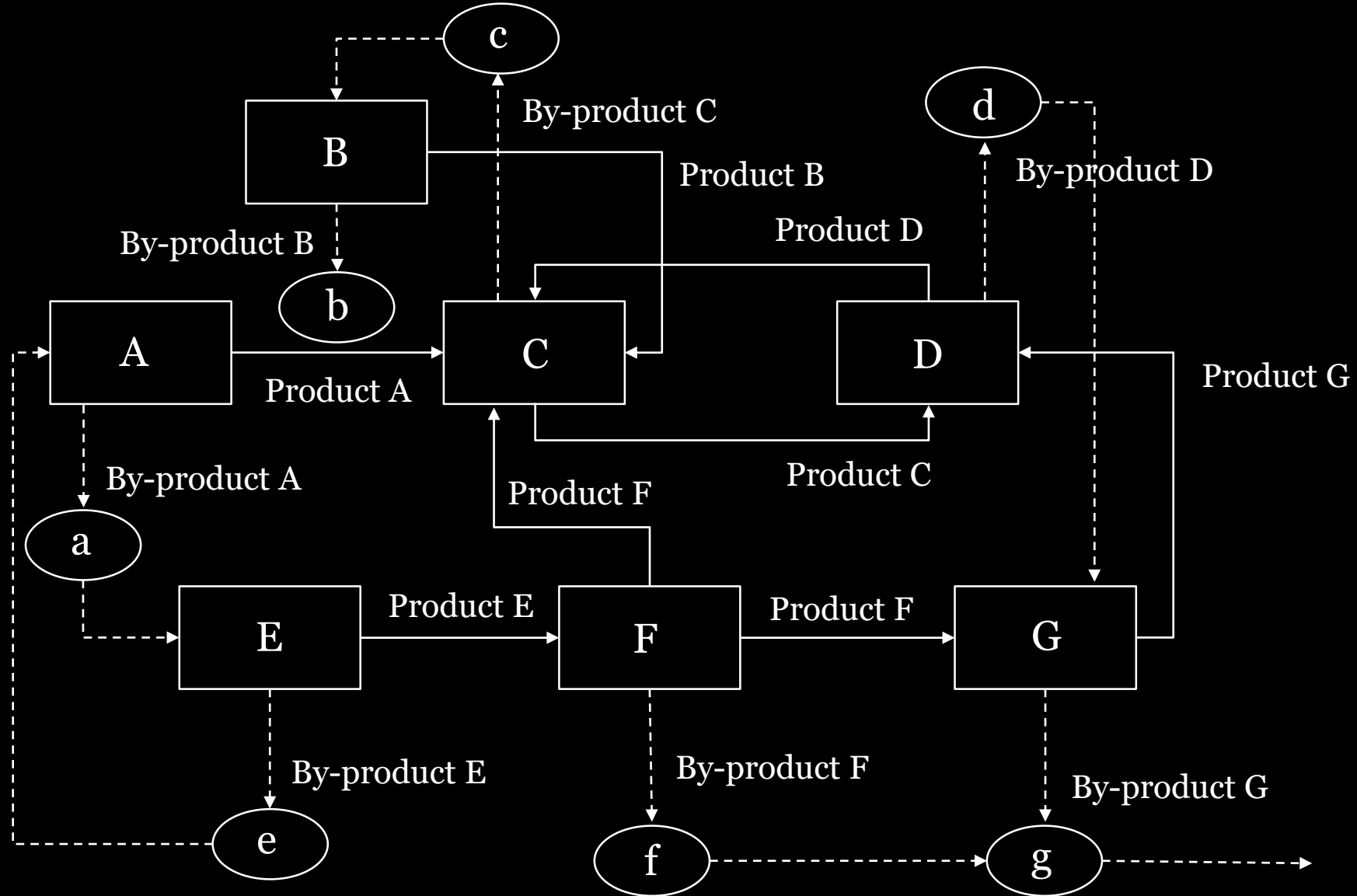
A cluster optimizing resource and side-stream usage between different industry sectors: metal producers, pulp and paper mills, power plants and chemical industry

1,7 million tonnes of industrial by-products annually

8 % of Finland's exports

Next up! Transform 14 potential cases in the region into circular economy parks

Eco industrial park and processes planning



Circular economy in education - the future talents (Sitra & various partners)



Circular economy teaching for all levels of education - Creating experts and change agents of tomorrow

Advanced education system is one of Finland's strengths. We co-operate with all levels of education to ensure that circular economy thinking reaches as many Finns as possible – Providing future experts with the tools they can use to build a sustainable future and new business.

Examples of what we're doing:

Creating inspirational courses, study modules and material on circular economy

Explaining circular economy in an inspirational and understandable form, making students, as well as teachers, understand circularity in a holistic manner. All material and courses are linked to current syllabus.

Making inspirational school visits

Students to actively participate in advancing circular economy by interesting classes f.e. what possibilities does sharing economy have in the class or how can a student minimize consuming in everyday life.

Including circular economy businesses in miniature city concept

Circular economy models are build into learning environment Me & MyCity, which is rewarded as world's best educational innovation with annually 75 000 students participating.



Common action



A total of 73 500 reached students and 1 800 reached teachers in all educational levels

Co-operating with 11 universities, 14 universities of applied sciences, 12 vocational colleges and many other organizations

Me & MyCity reached 76 % of all sixths graders and 26 % of ninth graders

More about our education projects [here!](#)

Transportation and logistics

Forest Industry

Engineering

Construction Industry

Processing Industry

Mining Industry

Marketing

Electronics Industry

**Circular
Economy
Specialist**

Business

Chemistry

Environmental legislation

Chemical expert

Hybrid and
composite

Forestry

Communications

Environmental Policy

material specialist

Agriculture

Food Industry

Education

Procurement

Contract Law

What next?



LIFE CYCLE OF THE MATERIAL

PRODUCT DESIGN AND MATERIAL DEVELOPMENT

INDUSTRIAL PROCESS DEVELOPMENT

HOW TO MAKE THE TRANSITION

HOW THE SILOS HINDER TRANSITION TOWARDS CIRCULAR ECONOMY?

NEW WAY TO THINK AND ACT

SYSTEMIC THINKING

CREATIVE MAKING

MATERIAL DEVELOPMENT

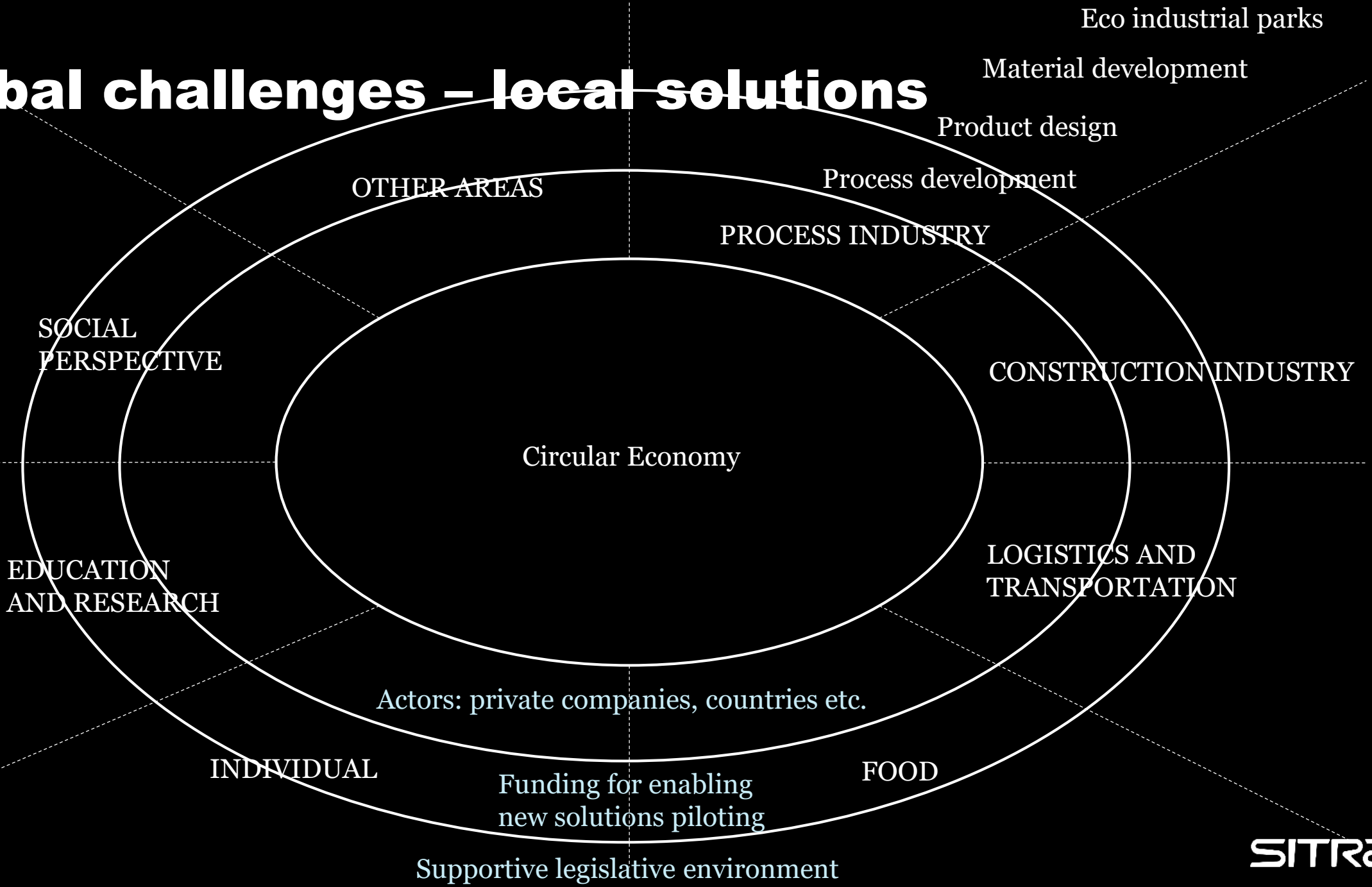
PRODUCT DEVELOPMENT

INNOVATIVE ACTION

PRODUCT DESIGN

INDUSTRIAL DESIGN

Global challenges – local solutions



Remember these

- Market economy cannot be based on the (over)use of natural resources any longer.
- Natural resources are limited. Use of these resources has to be sustainable.
- The sustainable use of natural resources has to be the most profitable way to act.
- Promote material cycles.
- Life cycle thinking has to be integrated into material development and product design phases of the product.
- All age groups, professions and education levels are needed.
- Sustainability and Circular Economy are the new normal.

YOU DECIDE!

Every (day) decision matters!



Circular Economy as a New Normal

“The closure (including optimization) of resource cycles can only be achieved if all the chemical, physical, technical, economic, legal, administrative, environmental, and social issues are considered together in a systemic way”





Time is NOW!

World Circular Economy Forum WCEF

In June 2017 Sitra organized first WCEF in Helsinki, Finland

This ground-breaking event presented **The world's best circular economy solutions** and gathered together **the most recognized experts and decision makers in the field.**

1,600 key people from more than 90 countries shared ideas on 5-7 June 2017.



In 2018 we'll meet in Japan! The next WCEF will be held in Yokohama 22.-24.10.2018

The Ministry of the Environment of Japan and Sitra are proud to host the second WCEF in Yokohama.

Save the date and stay tuned: www.wcef2018.com

RISE TO SHINE!



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