

Leiden-Delft-Erasmus Centre for Sustainability

Achievements 2017



Universiteit
Leiden
The Netherlands

TU Delft Delft
University of
Technology

**Erasmus
University
Rotterdam**

Erasmus

Introduction by prof. dr Arnold Tukker

‘Welcome to this 2017 review of the Leiden-Delft-Erasmus Centre for Sustainability (CfS). The three universities, Leiden University, Delft University of Technology and Erasmus University Rotterdam, have joined forces to create CfS specialising in the topic of resource efficiency and circularity. These two important themes form a policy agenda regionally with the Roadmap Next Economy (RNE) of the Metropolitan Region of Rotterdam/Den Haag; nationally with the government-wide program on a circular economy; at the EU level with the Circularity Package; and at international levels with, for example, China and Japan pursuing circularity and resource-efficiency agendas.

Thanks to three of its main universities, as well as other universities in the region, the province of South-Holland is proving to be a global hot spot for circularity knowledge. My own institute, the Institute of Environmental Sciences Leiden (CML), is a pioneer in life cycle assessment and material flow analysis, and can thus indicate the sectors that are most in need of change. Industry-wide change requires new sustainable technologies and product designs, something which fortunately the Delft University of Technology (TUD) excels in. TUD is the only Pioneer University in Europe who is a member of the Ellen MacArthur Foundation. However, new technologies and designs only work if embedded into

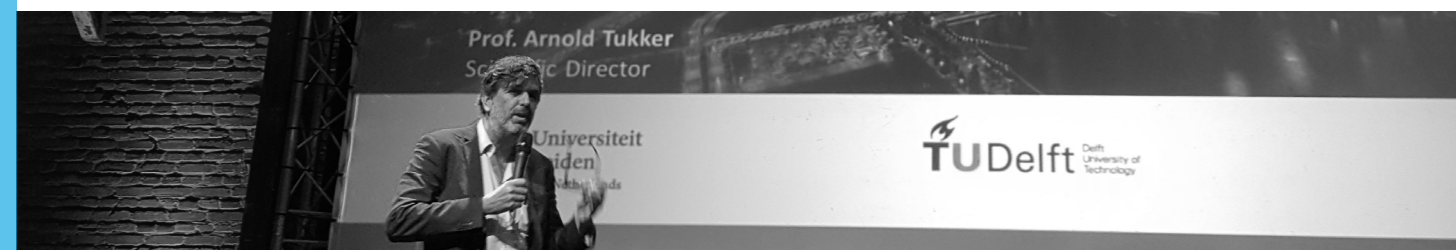
business models that can outcompete the old, linear ones – hence, we have at Erasmus University the Rotterdam School of Management, one of the most prominent business schools in Europe. Finally, when the transition to a more circular economy cannot be made via the market alone, you need strong policies to facilitate the change. Thanks to the Dutch Research Institute for Transition (DRIFT) of EUR, the Faculty of Technology, Policy and Management at Delft and the Institute of Public Administration at Leiden, we can field world-class staff and policy makers

“2017 was the year that CfS really took off”

With CfS staff only reaching full capacity in 2016, I feel that 2017 was the year that CfS really took off. We established three innovative, operational hubs focusing on Greenport horticulture, Resilient cities, and Inclusive societies. We worked closely with the region to set up a knowledge and innovation programme with regard to circularity. We got more engaged with RNE. We organised various successful seminars, including one at the end of the year on EU-Chinese collaboration on circularity. Plus, as one of the few LDE centres, we supported a now thriving community of CfS students that boasts 2000 followers on Facebook.

I am sure 2018 will see many more impressive developments. I wish you a pleasant read!

Kind regards,
Gertjan de Werk - Associate Director
Esther Philips - Research Manager
Eva van Baren - Research Broker
Fenna Plaisier - Community Manager



2017 SAW...

- the launches of the Greenport Hub and Resilient City Hub
- the first 5 master's students in the Inclusive City Hub graduating from their respective colleges
- the start of the open research pilots with "Het Groene Hart Werkt" and "Central Innovation District (CID)".
- many student activities run by an active, growing community of 2000 students
- the start of three collaborative European-wide research projects
- a strengthened community of scientists, experts and students
- the making of new partnerships, networks and collaborations

- a lot of hard work, many interesting discussions, strategic decisions and of course lots of fun!

We are really looking forward to 2018 and want to keep the momentum going into the new year. 2018 will see us work together on innovative solutions for a circular and sustainable future!

A successful start for our knowledge and innovation hubs!

In our knowledge and innovation hubs, we develop science-based solutions for a circular economy. We work together with dedicated students from different disciplines, with public and private organisations and with engaged scientists. Every hub has its own character and its own scope for addressing challenges

in the circular economy! Besides developing interdisciplinary research projects, we organise seminars and knowledge cafés, whilst holding meetings with students and external stakeholders.

THE INCLUSIVE CITY HUB

The Inclusive City Hub started at the beginning of 2017 with 5 graduate students. At the Knowledge Café event on 29 June, the students presented their results to key stakeholders, scientists and peers.



Tjerk Wobbes - coordinator of the Inclusive City Hub

“How can contemporary technologies and insights be integrated in an inclusive way so that local people can collaborate and benefit? How can people be the fuel of innovation? Profound research is needed to reevaluate cities as collaborative spaces that can provide energy, food, materials and thus be an integrated part of the circular economy. Also the direct landscape surrounding us has great potential for providing sustainable resources as well as enriching the lives of urban inhabitants. We see the ecologically and socially inclusive city as the breeding ground for a happy life.”

Katrin Wendt - MSc student Global Business and Sustainability (EUR)

“I joined the hub because I thought the business connections could be useful for conducting my research. I also loved the final presentations because they made you feel like you actually contributed something with your research and your thesis does not end up in some file room, never to be looked at again.”



This year the hub will have 16 students from Leiden, Delft and Erasmus exploring research themes such as:

Reorganising the public spaces in Rotterdam in an inclusive and social way.

Sustainable development of the rural Midden-Delftland area within the urbanised metropolitan region.

Organising a bottom-up process in redeveloping the Central Innovation District in Den Haag to a fully circular area.

STUDENTS ABOUT THE INCLUSIVE CITY HUB



“For me the greatest benefit of the hub is the interdisciplinary network of students, experts, and stakeholders that you work with.” **Katrin Kosch**



“I joined the Inclusive City Hub because I want my master's thesis research to be valuable beyond the walls of my university. Making connections is an important part of sustainability, and I believe involving students with initiatives like this helps to enrich the academic field.” **Graham Browning**

THE RESILIENT CITY HUB



Benjamin Sprecher - coordinator of the Resilient City Hub

"In the past years, cities have really stepped up their game by adopting very ambitious sustainability targets. These targets are often the result of a political process, and our hub explores what is needed to realistically achieve them. In close collaboration with our partners, the municipalities of Leiden and The Hague, we had our first official hub meeting in October. Currently, we have more than 15 MSc students researching a broad range of topics related to urban sustainability and resilience. Examples include the transition away from gas-based heating systems to sustainable heating, resilience against flooding from storm water, and the recycling of critical materials."

STUDENTS ABOUT THE RESILIENT CITY HUB

Carolien van den Berg

"I joined the hub because it is motivating to put research into practice. Researching actual problems knowing that my findings will really be implemented, rather than ending on a bookshelf, is very motivating. We try to find solutions for real world problems and look to make a real impact."



James Murray

"A thesis can be quite a lonely experience; joining the Resilient Cities hub gave me an opportunity to get feedback on my ideas and see perspectives I hadn't yet thought of. Also, it's just fun being around like-minded characters"

THE GREENPORT HUB

The Greenport Hub began on 22 June with a successful event at the Koppert Biological Systems in Berkel en Rodenrijs where 60 participants from the horticulture sector were present. Following this, the hub partnered with the World Horti Centre in Naaldwijk to hold its first opening seminar: "Drones in the Greenhouses" delivered by Guido de Croon (TU Delft). This fruitful partnership with the World Horti Center gives the hub access to an international network in the horticulture sector. In December, the

Greenport Hub organised a Hackathon in the World Horti Center for BSc students of the Rotterdam School of Management (RSM). As part of the honours programme Lessons Learned from Silicon Valley, 40 international students worked a total of 30 hours on challenges brought forward by companies in the horticulture sector.

Central themes in the Greenport Hub are: Digitalization, Circular Economy, Health and Wellbeing and Sustainable Urban Delta's"

Coen Hubers - Greenport Hub Coordinator

"In the heart of the world's largest modern greenhouse area lies the World Horti Center. This is the leading business and innovation centre in the horticulture sector. The Greenport Hub connects the centre to CfS and the Leiden-Delft-Erasmus universities, and together we are currently working on 7 UN Sustainable Development Goals (SDGs)."



Eric Persoon (CEO Forever Plant Groups) about the Greenport Hub Hackathon

"Confronting, but inspiring; the students really listened to me and my colleagues during the first Greenport Hub Hackathon. In a short period the information we gathered has been transformed into a multi-year plan. I'm really impressed. This is the way to draw high-potential students into horticulture."

Joined Summer course – DORP

30 students from Leiden, Delft and Erasmus joined the summer course DORP 2017 where they worked in interdisciplinary teams on real-life innovation challenges. The course took place at Welcome to the Village, a pop-festival in the north of the Netherlands. Since festivals function as mini-societies, they are the perfect playgrounds for innovation. The students

worked together in teams with entrepreneurs, artists, craftsmen and experts on challenges faced by organisations, universities and startups. The students gave valuable input and for them it was a valuable experience to learn how to work in interdisciplinary teams. Furthermore, they learnt how to convert ideas into innovation.



TESTIMONIALS



"I learned that innovation goes fast; you really have to put your knowledge into practice as quickly as possible, so that when you notice mistakes you can correct them early on."
**Nena Bode - Industrial Ecology
Leiden University**



"The students in my team totally burned our old business case and rebuilt a way better one"
**Molkie - owner of
Comp-A-tent**

A solid basis for Centre for Sustainability

GERTJAN DE WERK (ASSOCIATE DIRECTOR) REFLECTS ON 2017

"The main goal of 2017 was to create a solid basis for the Centre for Sustainability. We successfully managed to expand our community; get our first research projects funded; and started to align our LDE master's programmes. The interdisciplinary course Sustainable Business Game and our summer course DORP was a huge success. This was because of the positive involvement of

students from all three universities. In 2018, we aim to expand our work by having a greater impact in practice, and by providing more opportunities to Cfs students and researchers."



OUR MAIN ACTIVITIES FOR 2018

1. Grow and improve our Circular Innovation Hubs

We aim to increase the number of organisations that approach us to address any challenges they may have; increase the amount of graduate students to over 50; and create solid fundamental research lines engaging more scientists from our three universities!

2. A knowledge and innovation programme for a Circular Economy in Zuid-Holland

In the Groene Hart and the Central Innovation District of The Hague we will start to lay the scientific foundation for the transition to a circular economy.

3. Expand interdisciplinary education possibilities for LDE master's students

We aim to expand the list of elective courses for Leiden, Delft and Erasmus students within the Circular Economy master's programmes.

Joined research projects

"As research manager at LDE Cfs I'm proud of our first European collaboration on the subject of waste collection systems in the H2020 project 'COLLECTORS'. Next to this, our active role within the EU Interreg North Sea Region project "Open Innovation Quarters for quick end-user feedback and support of new products and services" will help us bridge the gap between science and actual innovation. I'm looking forward to helping realise future research in the field of the Circular Economy within our Knowledge and Innovation Hubs." **Esther Philips - Research Manager**



The LDE Centre for Sustainability collaborates on several European research projects. Currently there are three main projects:

1. CircEuit

Funded by the Horizon 2020 Programme of the European Commission. The mission of CircEuit is to develop a cohort of future leaders in research, policy and business through an innovative training programme focused on an interdisciplinary approach to Circular Economy.

2. COLLECTORS

Funded by the Horizon 2020 Programme of the European Commission. The main objective is to disclose and use available information on different waste collection systems; to gain insight into the overall performance of these systems; and to support decision-makers in shifting towards more efficient systems through capacity-building and establishing implementation guidelines.

3. Inno-Quarter

Funded by the North Sea Region Programme of the European Union. The "Open Innovation Quarters" is a project for quick end-user feedback and support of new products and services. During festivals - students, researchers, entrepreneurs, artists and other stakeholders will jointly develop sustainable solutions to the problems they raise.



Eva van Baren - Knowledge Broker

"This year has been all about exploring a new collaboration between the LDE Universities and the South Holland Province (PZH). Together we aim to bridge the gap between (fundamental) research and practice to be able to accelerate the transition towards a circular economy. Next year, I'm looking forward to formalizing our collaboration, to operationalizing our joint pilot projects and to setting up much needed research trajectories."

OUR NETWORK EVENTS: MEET SCIENTISTS, STUDENTS AND PROFESSIONALS

"LDE Centre for Sustainability aims to connect science and practice. My responsibility is to build and strengthen our community so that we can work better together on solutions for a circular economy. This is why I have introduced network events where people from science can meet with practitioners to discuss and connect! Our first event was a great success with

inspiring talks from Dick van Veelen (CEO of VIS groep) and Phil Brown (researcher on circular design at TU Delft). We anticipate having more network events in 2018, so subscribe to our newsletter and get an invitation to our next event. I look forward to meeting you!"

Fenna Plaisier - Community Manager



Centre for Sustainability Students is...

a student board with an entrepreneurial mindset and green ambitions. We represent Leiden, Delft and Erasmus students and assist the CfS management team. Our mission is to build a community of

ambitious, sustainability-minded students crossing three universities. Our aim is to prepare students for a career in the sustainability field.

"Our community is the next generation of sustainability professionals"

Ruben Rekers - Chair



Student activities

The student board organised various activities in 2017.

In January, we organised a Master's Thesis Market in Delft where researchers and PhD candidates presented their research to master's students. The master's students were exploring different ideas for their thesis topics and took inspiration from the work presented. Since it was such a success, we expect to run two more thesis markets again next year!

In April, we helped organise the Entrepreneurial Inspiration Days (EID) that took place in Rotterdam, where we among others convened the workshop of Jan Porthoine, founder of KarTent.

In Leiden, we helped organise the Sustainable Business Battle in Leiden-The Hague. At the Sustainable Business Battle, we facilitated the Education Day with lectures from Arnold Tukker and Rene Kleijn (CML - Leiden University).

We also took advantage of the intro weeks to inform people about our centre, and to host lots of fun activities! Lastly, we kicked-off our 'inspiration nights', where we show a documentary and enjoy an open discussion afterwards.



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