Edition 3:
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remanufacturing REMANPATH pathways Circular

Welcome to our third newsletter!

RemanPath Circular is the newsletter for ***RemanPath,*** a project that uses education to develop remanufacturing competencies in SMEs. The mission of ***EIT Raw Materials,*** which funds the project, is to develop raw materials into a major strength for Europe. VTT in Finland leads RemanPath (https://www.vtt.fi/sites/remanpathfinder/) with partners from TU Delft, Wuppertal Institute, Grenoble INP, Coventry University and Oakdene Hollins.

In this edition partners share experiences from several recent workshops, including one exploring remanufacturing and the electric vehicle transition, another focusing on remanufacturing and the circular economy, and a third looking at remanufacturing benefits for the hotel industry. We also feature our ***Expert View,*** with Q&A answers from Peggy Zwolinski, Professor of Engineering Design and Sustainable Engineering at University Grenoble Alpes.

Remanufacturing Meets EVs – A Day at Silverstone Racetrack

At an event to explore '*The Electric Vehicle Transition: A Watershed Moment*?' the Coventry University RemanPath team spoke about the project and shared the learning materials. The event was hosted by the *Silverstone Technology Cluster* in the Silverstone Innovation Centre next to the famous race track. Over 50 people attended, including from technology firms, car manufacturers and re-manufacturers, designers, financial organisations, universities and local councils.

Professor Glen Mercer gave a thought-provoking presentation on how the car market is changing, commenting on the trend from new car to used car sales. Professor David Bailey from the University of Birmingham explored the role of electric vehicles (EVs) in improving local air quality and the challenges of increasing EV uptake within the fragmented UK charging network. A lively discussion followed, with Alex Burns, *Milbrook Proving Ground*; John Caress, *Aston Martin*; Simon Holloway, *RML Group*; Julia Pain, *FIA Formula E*; and Sally Povolostsky, *Straight Six Design*. The use of conversion kits to convert internal combustion engine vehicles to EVs was raised. The day concluded when Andy Eastlake from *Low Carbon Vehicle Partnership* explored the changing transport policy landscape.

Over lunch, Professor Sally Dibb and Dr Helen Roby of Coventry University spoke about the RemanPath project, shared the learning materials and explained the business and environmental benefits of remanufacturing. The materials were well received. Some participants talked about their experiences of remanufacturing 'classic' cars, describing how they had converted them to EVs. Others were keen to share the materials with businesses they were supporting through business development work.

Through this event, awareness of remanufacturing was raised with a wider audience, including those who would not necessarily attend a remanufacturing event, or may not have considered the benefits to their businesses.

About Coventry University: Coventry University is an ambitious, innovative university with a reputation for excellent research, business engagement and innovation. The Centre for Business in Society undertakes research to promote responsibility and change behaviours to achieve better economic and societal outcomes. CBiS works closely with the public and private sector and sustainability is a core theme.

Spotlight on… *Circular Economy*

Remanufacturing & the Circular Economy

RemanPath partners run practical events introducing SMEs and other stakeholders to remanufacturing and showing how it can be used. Here, the Wuppertal Institute reports on their event focusing on the circular economy and remanufacturing.

Researchers from the Wuppertal Institute attended the "Pre-Event I - What is Circular Economy?", where they explained about remanufacturing to attendees.

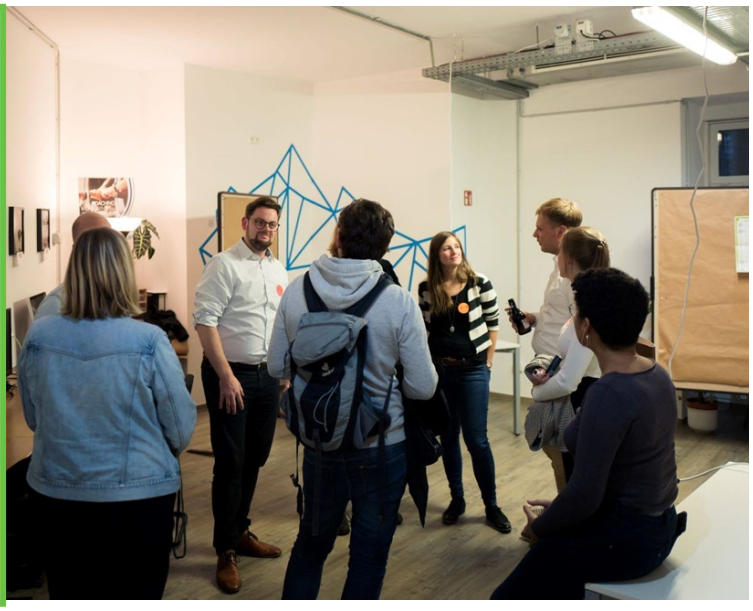
On 5 September 2019, the pre-event of the Climathon Ruhr took place under the title "What is Circular Economy?". The event was organized by the *Impact Hub Ruhr* in collaboration with the *Effizienzagentur NRW* with the aim of bringing the topic of Circular Economy closer to the participants. The *Effizienzagentur NRW* is a consultancy focused on resource efficiency and the *Impact Hub* network aims to build entrepreneurial communities and offer start-ups support.

The event attracted 20 participants from various backgrounds, including start-ups, students and networks interested in moving their business towards a circular economy. Four presentations in total were given by different experts. Research Fellow Carina Koop presented the current research from the Wuppertal Institute on remanufacturing, including the RemanPath project. Patrick Bottermann (CSCP, Research Institute) spoke to participants about the basics of circular economy and how companies can use it as an engine for sustainable innovations. Christopher Buers (*EFA, Resource Efficiency Consulting*) presented details of the CO2 balance in the context of Circular Economy, while Philip Heldt (*Consumer Advisory Service*) informed attendees about the implications of the circular economy for consumers. Following the lectures, participants had the opportunity to ask the panel questions and take part in an interesting discussion.

Climathon Ruhr 2019

This year the *Climate Protection Hackathon Ruhr* (Climathon) took place on 25th and 26th October and included challenges on the Circular Economy topic. Participants in the climate protection hackathon are challenged to develop solutions within 24 hours, showing how the economy can be made more circular. Coaches and experts support the teams. Different pre-events are provided to help the participants prepare themselves for the Climathon.

About the Wuppertal Institute: The institute undertakes research and develops models, strategies, and instruments for transitions to local, national and international sustainable development. Its sustainability research focuses on resources, climate, and energy-related challenges and how they relate to economy and society. Special emphasis is placed on analyzing and stimulating innovations that decouple economic growth and wealth from natural resource use. The thematic focus for the Division of Circular Economy is on a transition towards a circular economy, in which waste is avoided and products are used as along as possible.



Spotlight on… *Hotels*

Remanufacturing and hotels around the world

TU Delft organized a workshop focusing on the sustainability challenges facing the hotel industry. Participants considered how remanufacturing might contribute to solving these challenges, from hotel design to products and operations.

RemanPath seeks to develop remanufacturing thinking with stakeholders who have not traditionally engaged with remanufacturing. This now includes the hotel sector. TU Delft has joined up with the *Hotel School the Hague* to bring new remanufacturing knowledge and thinking to professionals.

Firstly, on the 16th Oct 2019, TU Delft faculty of Architecture and Built Environment hosted 25 professionals from *Hotel School the Hague*. The professionals originated from over 20 countries and were all delegates in the international *Hotel School the Hague MBA programme*. Following an introductory presentation by David Peck, the group formed two teams and played across two tables, the materials game "In the Loop". A follow on working dinner allowed for discussion on the role of remanufacturing in the context of circular cities.

The *Hotel School the Hague* reciprocated by facilitating TU Delft to be a support organization for the sixth edition of the *Genio Worldwide Innovation Summit,* which took place on 21 Nov 2019. This event was hosted at the Amsterdam Campus. During this exciting student challenge, *Hotel School the Hague* brought together delegates from 16 of the best hotel schools in the world and the current leaders of the hospitality industry. As part of this week long event, *Hotel School* invited TU Delft's David Peck to join *The Smart Travel Conference* at the QO Hotel in Amsterdam on 22 Nov 2019.

Hotel School the Hague decided to make Genio the platform for sustainability and innovation in the hotel - hospitality industry. As the focus during the student challenge focused on sustainability and innovations in technology, the *QO Hotel* provided the perfect setting, as it was all about circularity and sustainability. David presented a keynote at the QO Hotel and had a focus on remanufacturing in circular hotel design, building, equipment, products and operation.
https://hotelschool.nl/en/industry-events/events

https://www.qo-amsterdam.com/

About TU Delft: Delft University of Technology (TU Delft) is the Netherlands' oldest and largest university of technology. Its ground-breaking research, education and new venture creation profile focus on engineering and applied sciences. TU Delft provides technological solutions that facilitate the transition to a sustainable, flourishing economy. It is viewed by the business community as a source of outstanding professional scientists and engineers, as a producer of excellent practical knowledge and an innovative partner.

Expert View... Remanufacturing Q&A

Peggy Zwolinski, Prof. of Engineering Design and Sustainable Engineering at University Grenoble Alpes.

Why should businesses get involved in remanufacturing?

To retain maximum value, because the products contain value in terms of material and energy and going back through recycling is not enough in terms of value capture. This allows businesses to have more loyal customers and receive feedback on their design.

What is the biggest challenge firms face?

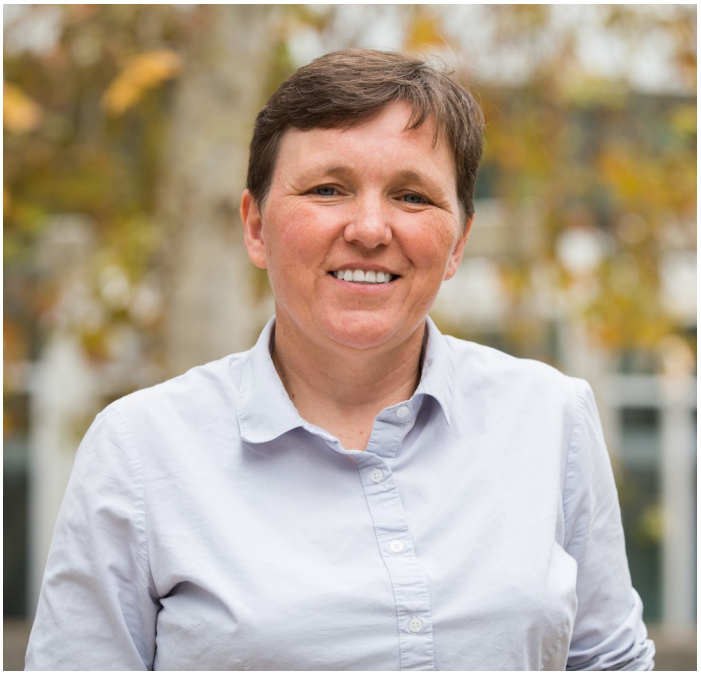
The challenge is to acquire the cores of the products, because this return today is rather random in terms of quality, quantity and delays. A second challenge is to put the customer in the loop, both in terms of return and purchase.

What seems to be the biggest benefit?

The main studies we did in 2003 and updated in 2008, showed the main benefit for companies is that the price of a remanufactured product is at least 20% lower than a new product. There are also environmental impact benefits in terms of material and energy use.

Can you share an example of best practice you have seen?

Companies who started successfully remanufacturing have simultaneously thought about the product, the business and the process. Recently, we worked with Aqua Assainissement; they were successful because they considered the issues of spare parts, negotiated purchase prices and created efficient reverse logistic process.



What single piece of advice do you have for a firm starting its remanufacturing journey?

As well as optimizing product design, the remanufacturing process and the business model, I suggest determining customer's willingness to pay. Some of our studies showed the customer was not ready to pay the same price for a remanufactured product.

Useful Links & Resources

https://www.remanufacturing.eu/remanpath Get free access to Remanpath materials here.
https://www.vtt.fi/sites/remanpathfinder/ Remanpath project website.
http://www.remancouncil.eu/ European Remanufacturing Council supports firms to promote/develop remanufacturing.
http://www.remanufacturing.fr/ French remanufacturing platform to help firms to develop Remanufacturing activities.
https://www.rescoms.eu/ European project ResCoM methodologies and tools for closed-loop manufacturing systems.
https://www.remanufacturing.eu/ ERN (European Remanufacturing Network) project supports the remanufacturing industry and policy and strategy needs through sector representation.
https://www.remanufacturing.eu/case-study-tool.php ERN cases of firms that have achieved remanufacturing benefits.
http://repro2.g-scop.grenoble-inp.fr/ang/indexa.php Repro² tool assists designers to create products for remanufacture.
http://www.scot-reman.ac.uk/ Scottish Institute for Remanufacture (SIR) works with companies of all sizes to support projects to help increase reuse, repair and remanufacture in their operations, to increase innovation in remanufacturing.

eit RawMaterials Connecting matters
EIT RawMaterials is supported by the EIT, a body of the European Union
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