

# COLLABORATING WITH BUSINESS

by academics in Arts, Humanities and Social Sciences

## The Business School researcher building the circular economy with Volvo Construction

*A phone call to the Swedish giant laid the foundations for a project which could make manufacturing and construction significantly more climate change-friendly, says Dr Kathi Kaesehage.*

The world's population is expected to throw away more than 6 million tonnes of waste each day by 2025. The substantial environmental and financial costs of this issue have inspired a growing number of individuals, start-ups and social enterprises to look for solutions in the concept of the circular economy. **The Ellen MacArthur Foundation**, domestic appliance manufacturer **Miele**, and clothing brand **Patagonia** are all vocal supporters of the model, which promotes the preservation resources by using materials for as long as possible then recycling or repurposing them at the end of their useful lives.

The idea's popularity is particularly evident in the growth of the recycling and reuse of consumer products such as cars, electronics and kitchen appliances. Dr Kathi Kaesehage



believes there is a significant opportunity to apply the circular economy to other often overlooked products such as construction vehicles. However, she says, the scale of these products' supply chain, the diversity of stakeholders and their production and usage pose challenges. "The circular economy relies on active participation from all actors. You can encourage people to return plastic bottles or mobile phones relatively easily. Still, it is much more challenging for large companies to encourage customers to return industrial waste", she explains.

"A £500,000 commercial excavator holds its value and can have a lifespan of more than 100 years, during which time it can be sold on to new owners multiple times anywhere around the world. Its parts are unlikely to find their way back into the original supply chain at the end of its life. Finding another way for these companies to adopt circular practices creates a huge opportunity. Where they lead, both industry and society at large will follow."

Kathi set out to find a different way to apply circular methods on the assembly line. “Through its partnerships with the World Wildlife Fund (WWF) and its funding for research, Volvo has developed a reputation as a sustainability trailblazer. So, I decided to pick up the phone to some contacts in its construction equipment division I knew through our work with UK construction group Costain,” she recalls.

Kathi hoped to share best practice from Volvo Construction with firms in the UK construction sector. However, the Swedish giant’s response took her in a very different direction.

“The sustainability team was refreshingly honest. They explained they have the same difficulties adopting circular practices in their manufacturing process as many other large companies do”, she says. “We soon agreed on the idea of an exploratory project to find new ways of benchmarking and distributing circular solutions throughout the company. We were particularly interested in understanding the role diverse stakeholders play to enable circular practices.”

Kathi worked with the **Knowledge Exchange and Impact** team to secure external funding to pursue the project. Together with her MSc Carbon Management student, Richard Stevenson, and Malene Køster Lasthein from the Danish company Circular Transition, she visited Volvo Construction Equipment’s headquarters and manufacturing plants in Gothenburg and Eskilstuna. Meeting the company’s leaders and employees gave Kathi a new appreciation of how deceptively small changes can have a significant impact on improving climate change-related practices. “What struck me most was the sheer number of people involved in building these huge machines and the care each one of them takes

to avoid waste. Simple actions such as reusing screws and leftover metal, when multiplied hundreds of thousands of times, can have a huge cumulative effect”, she reflects.

“The greatest challenge large companies face is communicating these activities to other areas in the business and institutionalising them. The Volvo group, as a whole, has the scale to make a significant impact and has already had success in its **car division**. The circular economy’s complexity means lessons need to be shared more, and one needs to learn from interdisciplinary innovations.”

Kathi is now writing a qualitative whitepaper for the company and planning to share what she learned from the project back in the UK. She says the work has also supported her teaching. “Sharing these anecdotes helps students to understand theories on sustainability, climate change and innovation from a human perspective”, she notes. “It shows them that change doesn’t happen without people driving it. It’s a great example of how big businesses need to go through a learning process too.”

She is also keen to explain how the project challenged her expectations of industry engagement.

“I expected Volvo to have all the answers, but what I realised is companies are willing to learn from academics and students too”, she says. “Big businesses have a huge obligation to role-model climate change-friendly behaviours, and they want to work with to do so. There’s absolutely nothing to lose from reaching out to learn how.”



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