

CENTS: A Research Network
for the Sustainable Transport
Community

Circular Economy Network+ in Transportation Systems



**British
Geological Survey**
Expert | Impartial | Innovative



**UNIVERSITY OF
CAMBRIDGE**



**UNIVERSITY OF
SURREY**



**Engineering and
Physical Sciences
Research Council**



What is the Circular Economy Network+ in Transportation Systems?

Objectives

The Circular Economy Network+ in Transportation Systems (CENTS) is a research network for the sustainable transport community, with a focus on the informed design and utilisation of more environmentally friendly, renewable and/or recyclable materials.

CENTS will focus on transport platforms where circular economy (CE) principles have not been well embedded from the outset, in order to identify synergies between different supply chains and to optimise certain practices, such as improved end of life recovery, recycling rates, energy and material efficiency. It will also be 'forward looking' in terms of developing future designs, business models and manufacturing approaches so that emergent transport systems are inherently circular.

In order to deliver novel and effective solutions, CENTS will link academic creativity with industry insight. This will be achieved through a programme of network activities (horizon scanning, workshops, conferences) and funding opportunities.

Leadership Team

CENTS is funded by the [EPSRC](#) and led by WMG at the University of Warwick ([Prof Kerry Kirwan](#); Sustainable Materials), Cranfield University ([Prof Mark Jolly](#); Sustainable Manufacturing), the British Geological Survey ([Dr Evi Petavratzi](#); Mineral Commodities), the University of Surrey ([Prof Richard Murphy](#); Life Cycle Assessment) and the University of Cambridge ([Prof Steve Evans](#); Industrial Sustainability).

Get involved

A Network is only as good as its members so your involvement is critical to its success.

We would like to invite anyone with a professional interest in using research to reduce the environmental burden of transportation systems during their lifetime to join our network.

Joining the CENTS network will enable you to receive updates on events and funding via our newsletter. If you wish to do so, you will also be able to log your research interests and expertise, which will help us further develop the network and deliver tailored activities.

If you would like to play a more active role, you could be involved in numerous additional ways, including sitting on our advisory board, reviewing proposals, mentoring Early Career Researchers, hosting or attending network events, proposing projects and providing secondment opportunities.

To join, please fill in the [CENTS Network registration form](#).

Connect with us on Twitter [@CE4Transport](#)
For any queries, please email circulartransport@warwick.ac.uk
<http://www.warwick.ac.uk/circulartransport>



Feasibility Studies Round 1 – Call for Proposals

Expressions of Interest: Monday 20 April 2020 5pm

Closing date: Thursday 7 May 2020 5 pm

Background

The CENTS network has received funding from the EPSRC to build a community of academic, industry and policy experts to deliver future designs, business models and manufacturing approaches so that emergent transport systems are inherently circular.

The 20th Century was characterised by a massive global increase in all modes of transport, on land, water and in the air, for moving both passengers and freight. Whilst easy mobility has become a way of life for many, the machines (planes, automobiles, trains, ships) that enable this are both highly resource consuming and environmentally damaging in production, in use and at the end of their working lives. Over the years, great attention has been paid to increasing their energy efficiencies, but the same effort has not been put into optimising their resource efficiency.

Although they may share a common origin in the raw materials used, the supply chains of transport sectors operate in isolation. However, there are numerous potential benefits that could be realised if Circular Economy (CE) principles were applied across these supply chains. Circular economy principles refer to designing out waste and prolonging the useful life of materials and products. These include recovery of energy intensive and/or technology metals, reuse/remanufacture of components, lower carbon materials substitutions, improved energy and material efficiency. By considering different transport systems in a single outward-looking network, it is more likely that a cascading chain of materials supply could be realised - something that has historically been very difficult within just a single sector.

Feasibility study funding call

The CENTS research network invites proposals for collaborations between academic and industry partners that will enable cross-disciplinary, foresightful and risky early stage research.

Applications involving Early Career Researchers (ECRs) are particularly encouraged. The expectation is to fund up to five projects of up to a maximum value of £50,000 at full Economic Cost (fEC), with funding to be awarded at 80% fEC. Projects are expected to be approximately 6 months in length, and must complete before the end of Jan 2021.

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Fit with the CENTS Network

Proposals should focus on transportation systems and align with one or more of the 5 CENTS Research Strands:



1. MATERIAL STOCKS AND FLOWS IN TRANSPORTATION



4. CIRCULAR ECONOMY TRANSITIONS



2. WHOLE LIFE DESIGN



5. DIGITAL CIRCULARITY



3. CIRCULAR ECONOMY DECISIONS

Material stocks and flows in transportation

Research into materials (eg. industrial/technology metals, plastics, glass etc.)

Whole life design

End-of-Life recycling, reuse and recovery processes

Circular Economy Decisions

Social, economic, political, financial and logistical barriers to make improved Circular Economy decisions

Circular Economy Transitions

Delivery of Circular Economy at a sector level, using coordinated action by separate economic and civil entities

Digital Circularity

Potential roles of data in the Circular Economy (eg. Big Data, Blockchain technologies connecting transport supply chains, building trust and facilitating data exchange.)



Application Process

Applicants must submit an [Expression of Interest form \(click to access\)](#), followed by the application form, which will be reviewed by the CENTS Management team and a panel of interdisciplinary industry experts.

Each feasibility study is expected to produce a tangible piece of work that would deliver a specific (normally publishable) output, such as a discipline-bridging state-of-the-art review, early stage concept development, or demonstrator technology.

The studies are also expected to lead to further deliverables such as large-scale collaborative proposals to the EPSRC, Innovate UK and other funders.

Selection criteria

The review panel will use the following criteria to rank proposals:

- Quality (Novel, ambitious, and timely; Proposes a plausible hypothesis and clearly identified objectives and outcomes)
- Importance (Meets national strategic and economic needs by establishing or maintaining a unique world leading research)
- Interdisciplinarity
- Involvement of industry partner(s)
- Involvement of Early Career Researchers
- Potential for follow on funding
Pathway to accelerate knowledge transfer to industry partner(s)

Key dates

| | |
|----------------------|--|
| 31 March 2020 | Call for proposals opens |
| 20 April 2020 | Expression of Interest deadline (5 pm) |
| 7 May 2020 | Deadline for submission (5 pm) |
| 1 June 2020 | Successful proposals announced |

All feasibility studies must start by 1 July 2020 and complete by end of January 2021

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Eligibility

Project leads should be employed by a UK university or higher education institution and be eligible to receive EPSRC funding. Applications involving Early Career Researchers (ECRs) are particularly encouraged, as is collaboration with industry. ECRs are defined here as researchers transitioning to or establishing independence. There are no eligibility rules based on years since PhD. Lead applicants are expected to hold a doctorate by the start date of the funding being awarded.

What can the funding be used for?

The budget outline for the proposed feasibility studies can include investigator/ researcher time, travel and subsistence appropriate to delivery of the project, and consumables.

As the grant holder, the University of Warwick is responsible for allocating funding to successful proposals and will reimburse subcontracting organisations at 80% full economic costing. Academic institutions will be required to itemise bills based on 100% FEC and then invoice at 80% FEC.

Submitting proposals

Applicants must submit an [Expression of Interest form \(click to access\)](#) by 5pm on Monday 20 April 2020.

Feasibility study applications should be submitted, using the application form provided, in .pdf format via email to circulartransport@warwick.ac.uk by 5pm on Thursday 7 May 2020.

Additional information

In addition to specific outputs detailed in your proposal, each successful project team is required to work with the CENTS Network Manager to produce a case study (template to be provided) and to present their work at the CENTS annual conferences.

The team also agree to acknowledge support of the work by the EPSRC and CENTS grant (grant number EP/S036237/1) in dissemination outputs, including articles, papers, presentations and interviews. The EPSRC and CENTS branding should be visible and included on presentations.

For any queries, please get in touch with the CENTS Network Manager (Dr Rika Nair) by email (circulartransport@warwick.ac.uk)

If you haven't already, please [Join the Network](#) to ensure you don't miss announcements about further opportunities.

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