Logistics and Supply Chain Management Research Centre.
The Logistics and Supply Chain Management (LSCM) Research Centre is an international research centre that focuses on research, development and application of leading edge multi-disciplinary work which impacts on logistics and supply chain management nationally and internationally.

We work with various stakeholders including:

**Academics**

**Industrialists**

**Businesses**

**Policy makers on Research & Development**

and offer...

**Knowledge exchange**

**Consultancy**

**Executive education and training**
What is special about the LSCM Research Centre?

The LSCM Research Centre has global expertise in the fields of Sustainable Supply Chain, Innovative Models and Methods, Information Intense Supply Chains and Performance Measurement and Improvement. Specific areas of interest are:

**Sustainable Supply Chain**
- Eco-logistics
- Industrial eco-systems
- Low carbon and green supply chain
- Operations management
- Reverse logistics
- Sustainable development in supply chain
- Transformational logistics
- Supply Chain Life Cycle Analysis

**Innovative Models and Methods**
- Carbon footprint framework
- Enterprise network management
- OASES methodologies
- Supply chain management methodology
- Supply chain mapping, appraisal and Diagnostics
- Modelling
- Supply Chain Environmental Analysis Tool

**Information Intense Supply Chains**
- Enterprise Resource Planning (ERP)
- E-supply chain (e-commerce, e-business and e-organisation)
- Knowledge management in supply chain
- Extended ERP (ERP II)
- Logistics information systems
- Big Data

**Performance Measurement and Improvement**
- Supply chain accounting
- Performance management of logistics and supply chain
Impacts

Members of the Logistics and Supply Chain Management Research Centre undertake cutting edge research and create practical tools which impact on practice, academia and industry throughout the world. Below are examples of two practice tools that have been developed for industry:

Reverse Logistics Toolkit

Retailers and manufacturers can't afford to ignore reverse logistics, and so research work was carried out for both the UK Department for Transport and CIMA on the development of a reverse logistics diagnostic and performance improvement toolkit. The toolkit enables companies to audit their returns management activities and identify where opportunities exist to reduce costs and waste and improve customer service. The work is funded by the Department for Transport.

Supply Chain Environmental Analysis Tool (SCEnAT)

SCEnAT is an £825,000 project funded by Yorkshire Forward and can help companies map and understand where their carbon footprint hotspots are in the supply chain and enable them to target and evaluate the effects of appropriate interventions. The key benefits of the tool and its use include:

- Improved efficiency and bottom line costs.
- Closer relationship with suppliers, customers and stakeholders
- Cost-effective, informed and quantifiable intervention and innovation strategy in key areas of the supply chain
- Balanced economic demands with a reduced carbon footprint
SCEnAT
Supply Chain Environmental Analysis

SCEnAT is a first step on the pathway in adopting a balanced green supply chain system approach

The SCEnAT tool is a robust, cloud based DSS application. It is a modular supply chain modelling tool, which incorporates a very advanced Life Cycle Assessment (LCA) and I-O methodology, supply chain mapping, intervention database and performance evaluation and KPI facilities.

It provides supply chain visibility and transparency across the supply chain as often it is difficult to capture information such as your supplier’s supplier. Getting a complete map of your supply chain for a precise assessment of the environmental impact of your supply chain can be a very challenging task but very useful for creating competitiveness. SCEnAT is capable of capturing scope 1, 2 and 3 emissions, i.e. direct and indirect/embodied emissions, upstream and downstream across the entire supply chain.

The pioneering Supply Chain Environmental Analysis Tool (SCEnAT) identifies key opportunities and means to transition towards low carbon supply chains. It has been used by household names with global supply chains, such as Rolls Royce, Unilever and Tata Steel, to substantially reduce their carbon emissions. This state-of-the-art methodology was developed by the University of Sheffield, the University of Hull and the Stockholm Environment Institute at York, with support from the Centre for Low Carbon Futures.

To find out more information about the SCEnAT tool and its features, please visit the SCEnAT website:

www.scenat.com
The LSCM Research Centre has formed close collaborations with a number of leading regional, national and international organisations, providing a platform for practical research and a test-bed for the development of novel industrial tools.

The Centre’s Business Advisory Group brings together leading supply chain practitioners from influential national and international organisations. They provide valuable practical insight into current and future research being undertaken and insightful feedback on tools created by LSCM to ensure the commercial relevance of the centre’s work.
Community

LSCM Research Centre has a vibrant Postgraduate research community involving PhD students and Post Doctoral Research Associates (PDRAs). Research projects have strong alignment to the strengths and priority areas of the Centre. We are committed to develop the next generation research leaders that will make an impact on business, industry, policy and society.

All of the PhD students and PDRAs in the Centre are funded either by EPSRC, EU funding, industry, government, or consortium such as White Rose. We have strong alliance with the ESRC and EPSRC Doctoral Training Centres (CDT) and our researchers are part of those communities. Our research and projects have inter and multi disciplinary at the core.

The LSCM Research Centre is involved in the following Doctoral Training Centres.

Centre for Doctoral Training in Advanced Metallic Systems
Established in 2009 with a £6.3M investment from EPSRC, the CDT in Advanced Metallic Systems aims to address a growing skills gap in metallurgical science and engineering by providing a national doctoral training centre.

The White Rose Social Science Doctoral Training Centre
A accredited by the Economic and Social Research Council in 201, is a collaboration across the social sciences at the Universities of Leeds, Sheffield and York.

E-Futures
E-Futures is a Doctoral Training Centre that will train a new generation of scientists and engineers to address the challenges inherent in making the transition to a sustainable energy future. The Centre is funded by the EPSRC.
Seminars, Workshops & Events

LSCM Research Centre’s schedule of seminars and events is ambitious and it has already attracted leading experts and academics speakers in different fields. Seminar and events are aimed at a varied audience of academics, businesses and representatives of local and national government. Some of the events hosted by LSCM Research Centre in 2013 and 2014 include:

**BIG Energy Upgrade Celebration Event** – The Big Energy Upgrade Celebration Event took place on Friday 21st March 2014 at Halifax Hall, Sheffield. Key note speakers included the Shadow Secretary of State for Energy and Climate Change Rt. Hon. Caroline Flint MP, who praised the initiative and highlighted its impacts on the local economy.

**Research Seminar by Professor Thomas Choi (Arizona State University)** 17th February 2014. This seminar detailed research which Professor Choi is undertaking as WP Carey Business School Chair and Director of the Centre for Supply Networks at Arizona State University including supply networks as a complex adaptive system, social network analysis of supply networks, service outsourcing triads, non-linear buyer-supplier relationships, supply base management, supplier-supplier relationships, supply chain disintermediation, structural embeddedness in supply networks, multi-tier supply chain management.

**Dr Nick Eyre (Oxford University), UK Energy Efficiency Policy Seminar** - 16th December 2013. This seminar focussed on how Energy efficiency has been an important driver of the reduction in UK emissions of CO2 in recent decades and remains a key element of Government energy and climate policy. The ingredients of successful policy are understood, but there are major challenges to delivering long term goals.

**Greening supply chains: The SCEnAT (Supply Chain Environmental Analysis) Tool** - this seminar demonstrated, in adopting SCEnAT (Supply Chain Environmental Analysis) companies can gain an understanding of the critical hot spot of GHG emission within the supply chain and identifying tools to reduce the impact of such emissions. SCEnAT uses the most advanced Life Cycle Analysis (LCA) and provides a systemic view for modelling supply chain and decision making.

**BIG Energy Upgrade Green Deal Value Chain** – an event that celebrated the contribution of the BIG Energy Upgrade to the national Green Deal and looked at future implications for homes and businesses across the Yorkshire and Humber region. The event saw the participation of Richard Mellish (DECC), representatives from local authorities, green deal providers, academics from the University of Sheffield and a panel of the UK’s biggest energy providers.
Research

Members of the LSCM Research Centre undertake cutting edge research throughout the world. This vibrant research community attracts significant investment from a wide range of funding bodies and industry partners around the world. Find out more about our recent and current projects below:

**Smart CO2 Transformation (SCOT)** Project is a collaboration with European partners to develop Strategic European Research Agenda aimed at improving the technical and economic performance of emerging CO2 transformation technologies. SCOT is the first ever European initiative in the field of CO2 recycling. The consortium gathers five regions (Belgium, France, Germany, Netherlands and UK) which are strongly committed and already well advanced in this emerging area of CO2 recycling. Funded by Seventh Framework Programme of the European Community (FP7) (£2.5 million)

The **GREEN-AgriChains** project aims at tackling all aspects of Green Supply Chain Management (SCM) and Logistics, focused on the Agrifood sector. In this framework, it will deal with sustainable farming, reverse logistics, green procurement and sourcing, waste management and packaging reuse, transportation, energy consumption efficiency, green marketing, green accounting, and corporate social responsibility. Funded by Seventh Framework Programme of the European Community (FP7) (£3 million)

**The Big Energy Upgrade** (2010-2014) This project delivered a new approach to energy efficiency to some of the region’s most deprived and fuel poor communities. Hundreds of residents have benefitted from a series of targeted schemes, which have helped implement effective energy saving home improvements and create and safeguard a multitude of jobs. Total funding £15.56m of which £7.10m was funded by the Yorkshire and Humber European Regional Development Fund Programme 2007 to 2013.

**Green Deal Pioneer Places** Project funded by DECC for research on Green Deal £872k
Research

TRANSFER Project  TRading Approaches to Nurturing Sustainable consumption in Fashion and Energy Retail. knowledge exchange project funded by ESRC will facilitate knowledge exchange between energy and fashion retailers regarding the promotion of sustainable consumption (£326k).

PrESS Project  (2013-2015) Promoting Environmentally Sustainable SMEs. The project is a multi-partner international project which is led by the University of Sheffield using Supply Chain Environmental Analysis Tool (SCEnAT) tool, which helps business and industry understand their supply chain environmental impact. In this project, this tool is being further advanced to improve delivery of sustainability and cost reduction. EU LLP funded project (£517k).

NEX-GIFT Project  (2013-2015), NEXt Generation sustainable Freight Transportation. Project aims to determine state-of-the-art methodology and systems for sustainable freight transportation in UK-US-India region. The objective is to establish practices and processes for reducing the environmental impact caused by the freight industry. The consortium of the project brings together four leading universities: The University of Sheffield, UK; Indian Institute of Technology, Delhi, India; Rutgers, The State University of New Jersey, USA; and Temple University, USA with complementing expertise. Funded by UKIERI Foundation (UK-India Education and Research Initiative) of the British Council. (£49,490)

Green design to green disposal  (March 2014 - Feb 2016). This project is developed in collaboration with colleagues at the Indian Institute of Management, Ahmedabad to investigate the various stages of product life cycle from product design to disposal stage to develop a green supply chain. The project explores the barriers and motivations for adopting green practices in Indian and UK industries, and analyses the emerging concepts, tools and methodologies in green supply chain to develop green strategy for the next generation. Funded by UK-India Education and Research Initiative (UKIERI) (£60,000)

Supply Chain Accounting and Employment Practices in the Rising Economies: Global Commodity Chains, Cost Effectiveness and Competitiveness  Professor John Cullen is one of the co-investigators on this major ESRC project which runs from August 2013 - July 2016. The principal investigator is Professor Pauline Dibben from the Management School. The project explores the present role and future potential of supply chain accounting in monitoring and promoting better labour standards within the automotive and textile sectors in Brazil and South Africa. Supply chain accounting involves using innovative accounting and management control practices to evaluate relationships between an organisation and its customers and suppliers in order to ensure that these relationships create value, are cost effective, and/or meet additional criteria such as labour standards.
Substitution and Sustainability in Functional Materials and Devices
(1 April 2014 to 31 March 2019) The vision of this project is to utilise materials engineering, multiscale modelling, advanced manufacturing, supply chain/life cycle analysis and industrial partnerships to establish a holistic response to substitution and sustainability within the UK Functional Materials & Devices sector. The project will involve recruiting at least 5 PDRAs and other researchers and will also provide 4 PhD studentships. Funded by EPSRC, Standard Research Grant (£3,113,335.00)

Defence Support and Logistics (DSL) programme. This Project is led by QinetiQ and funded by MOD/DSTL. Professor Lenny Koh is the PI and lead on the Resilience theme. The consortium involves a large number of industry and several universities.

Future Direction

The LSCM Research Centre aims at providing a dynamic environment to foster the career development of academics and researchers at all levels and at strengthening collaboration with its wide range of partner organisations.

LSCM Research Centre’s success will be measured by its capability to influence the research agenda as well as policy, industry and society at large through the application of its supply chain resource sustainability approach.
How to get involved

Find out more about our projects, collaborations and how your organisation could benefit from working with us.

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