

**UK - Advancing Circular Economy,
Resource Servitization and
International Collaboration**

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RESOURCE MANAGEMENT WEEK 2023

ASSURING SUSTAINABILITY IN RESOURCE

MANAGEMENT



UNECE

National Interdisciplinary Circular Economy Research Programme

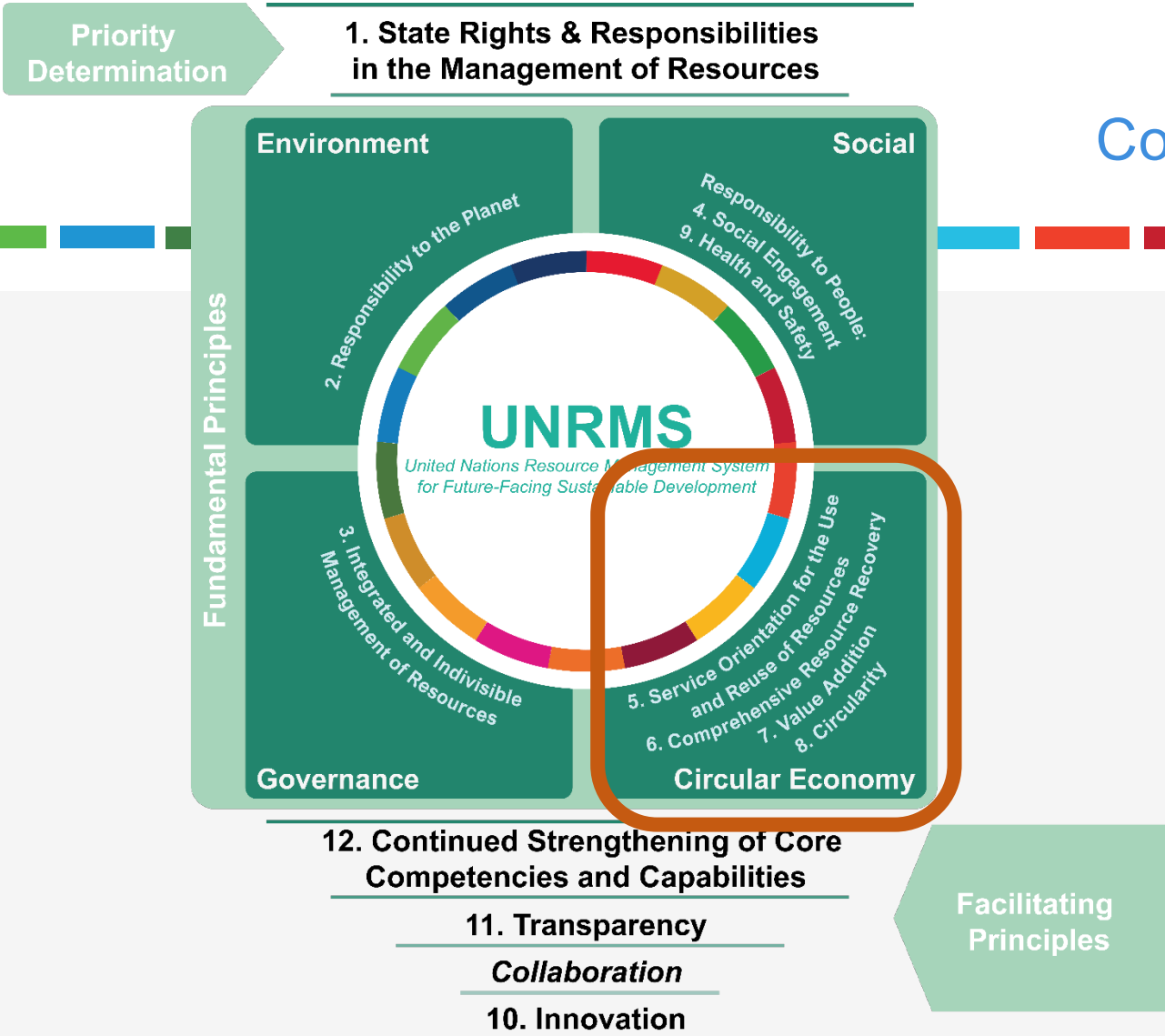


- £30 million investment from UK
Research and Innovation is split across five National Interdisciplinary Circular Economy Research Centres - - and an integrating Circular Economy Hub.
- Accelerating and upscaling Circular Economy Research and Innovation.
- 4 year, 34 Universities, 64 Academics, 42 Early Career Researchers, 60+ PhD Studentships, over 120 Industrial Partners.



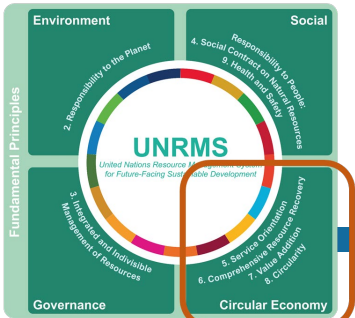
NI^{ER} PROGRAMME

UK
RI UK Research
and Innovation



UNRMS adapted for Cornwall Technology Metals Case Study

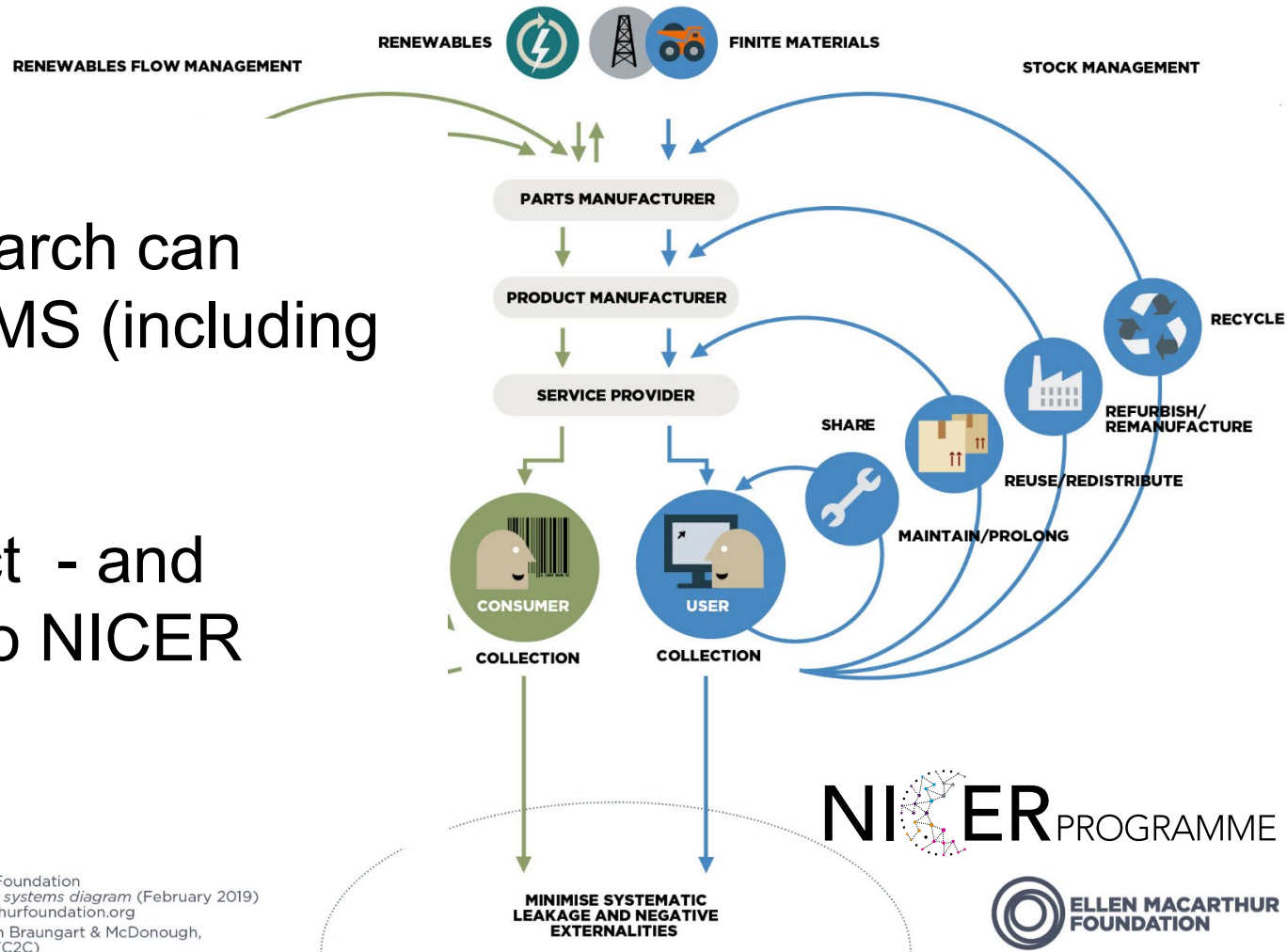
Condensed UNRMS diagram, developed in Cornwall Case study E. Marquis, F. Wall



NICER programme circular economy research

Multidisciplinary and across the whole value chain of the flows

- NICER research can inform UNRMS (including UNFC)
- Gives impact - and feedback - to NICER research



SOURCE
 Ellen MacArthur Foundation
Circular economy systems diagram (February 2019)
www.ellenmacarthurfoundation.org
 Drawing based on Braungart & McDonough,
 Cradle to Cradle (C2C)

NICER PROGRAMME



Circular Economy Resources and Case studies

<https://ce-hub.org/>

NI^{ER} PROGRAMME

UKRI UK Research and Innovation



CENTRE RESOURCES



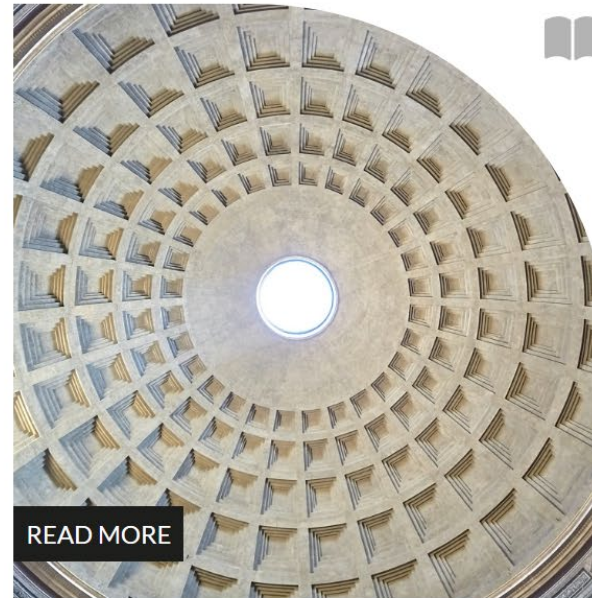
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CE-HUB DIGITAL SERIES:
EXTENDING THE LIFE OF
CONSUMER ELECTRONICS



READ MORE

CE-HUB DIGITAL SERIES:
EXTENDING PRODUCT
LIFESPANS



READ MORE

CE-HUB TECHNICAL REPORT: A
GUIDE TO PUBLIC DATA
RESOURCES FOR A CIRCULAR
ECONOMY MODELLING AND

Peter Hopkinson,
Fiona Charnley
are Co-Directors

Multiple CE interventions



Identified opportunities for transformative technological changes will feed back to the scenario modelling in Challenge 1.



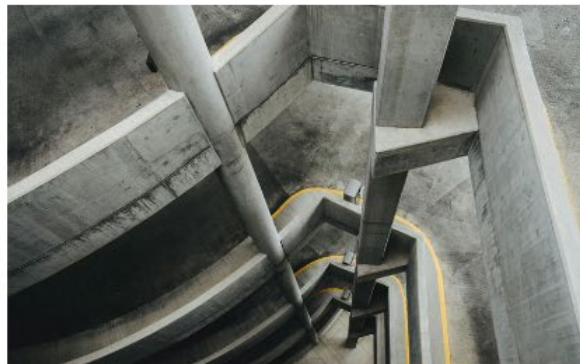
Focus Area 2A – Design



Focus Area 2B – Material Processing



Focus Area 2C – Manufacture



Focus Area 2D – Service



Focus Area 2E – End of Life



UKRI Interdisciplinary
Circular Economy Centre
for Mineral-based
Construction Materials

Julia Stegemann, UCL is Principal Investigator

<https://www.ucl.ac.uk/circular-economy-centre-for-construction-minerals/research/challenge-2-technological-innovation>

Sophisticated approaches to CE

Help towards servitisation models

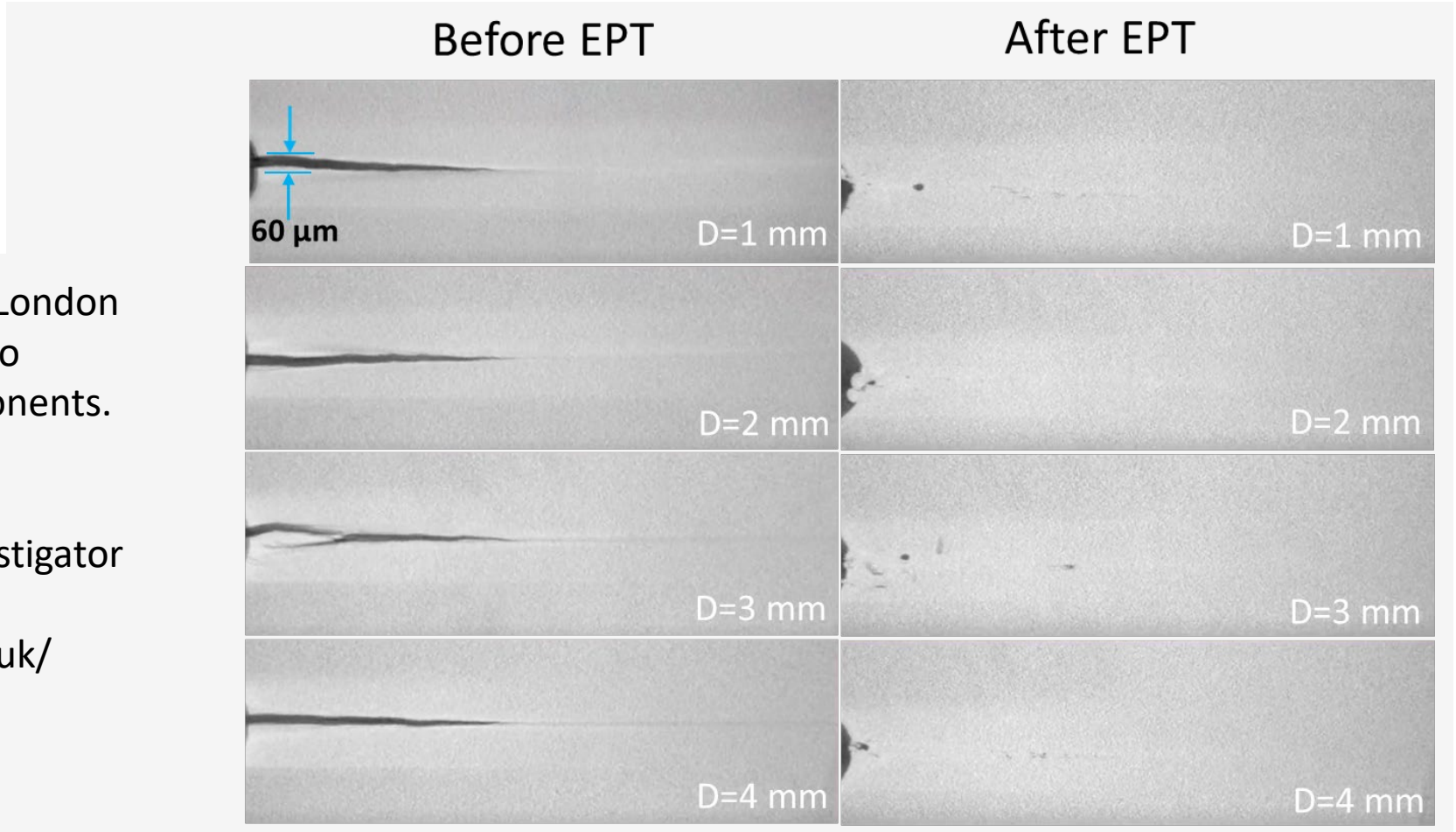


UKRI Interdisciplinary Centre for Circular Metals

Research at Brunel University London using electropulse treatment to extend the life of metal components. Major metal structures

Zhongyun Fan is Principal Investigator

<https://www.circularmetal.co.uk/>



Circular Economy in primary minerals supply

for critical minerals



UKRI Interdisciplinary Centre for Technology Metals

Making a roadmap for a whole value chain new circular economy for CRMs centred on the UK example

Includes  **British Geological Survey**

Led to Cornwall case study of UNRMS

Eva Marquis – Met4Tech research fellow
Frances Wall, Principal Investigator Met4Tech

<http://met4tech.org/>

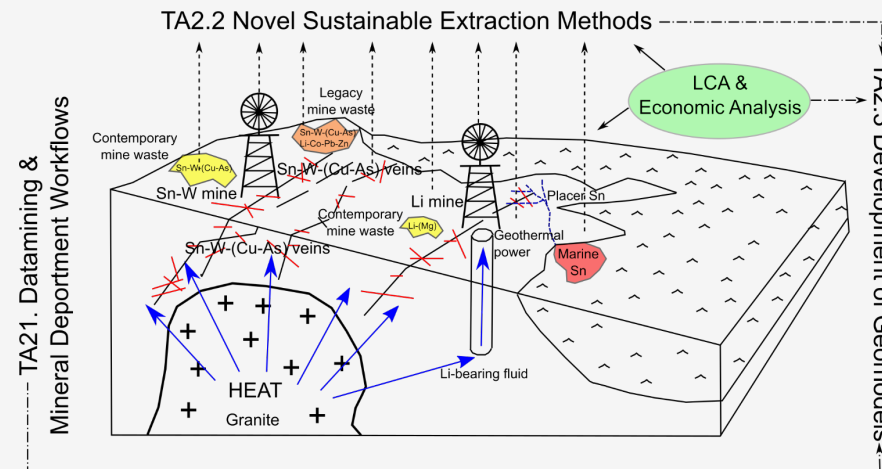


Figure 2. Preliminary conceptual circular economy geomodel for Cornish granite-related Li, Sn and W mineralisation and related mine waste

Teaching review & International collaboration on case study learning



BEng Mining Engineering international degree apprenticeship, starts Sept 2023



- Reviewed Camborne School of Mines course modules, e.g. BEng Mining Engineering for inclusion UNRMS topics, & specific UNRMS, SDGs
- Pilot study for possible next case studies - colleagues in Zambia, Indonesia, Canada, Namibia
- UNRMS is new to everyone. They are interested to find out more (films will be very useful).
- Zambia – Copperbelt University in the lead 😊



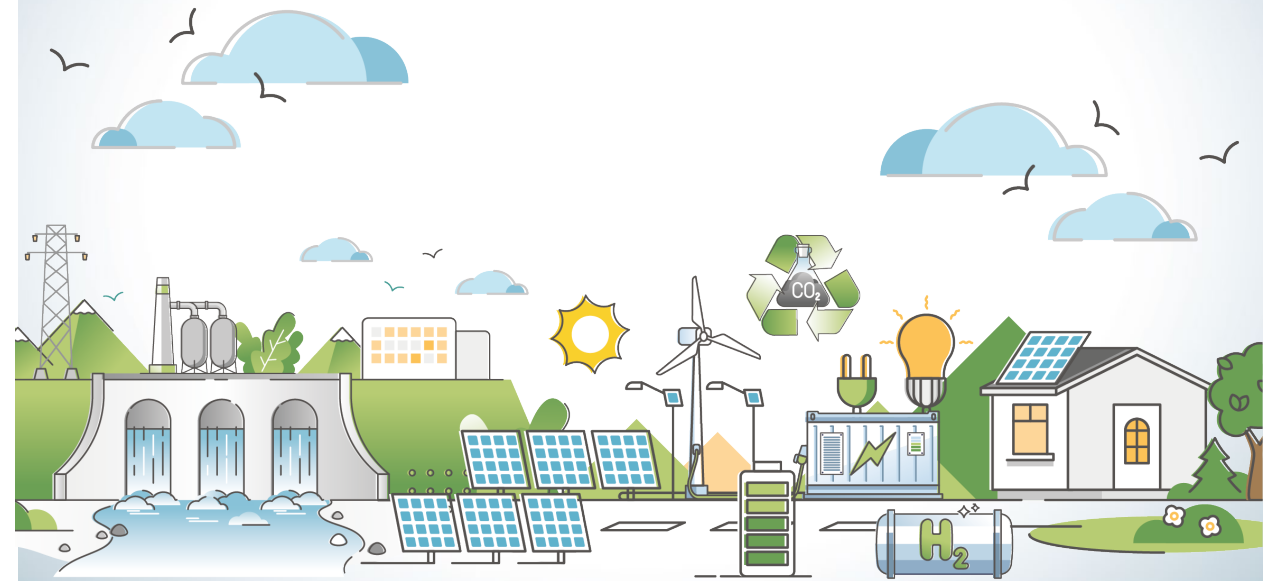
Zambia workshop on UNRMS this week in Lusaka

Thank you!

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University of Exeter

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Date 28 | 04 | 2023, Geneva



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