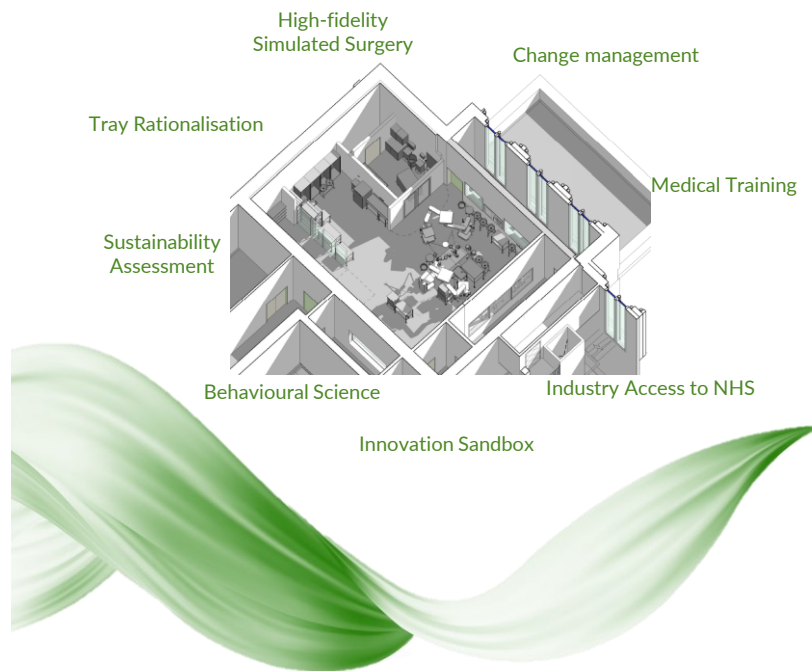


SUSTAIN

The SUstainability and Simulation Theatre for Academia and INdustry



Supported by  Department of Health & Social Care
as part of the [Design for Life Roadmap for Transformative Innovation](#)

SUSTAIN: The Facility

A Sustainable Heritage: SUSTAIN will be based in the site of the first operating theatre at Leeds (dating back to 1869). SUSTAIN will support 'Building the Leeds Way', reduce the carbon footprint and generate high-impact case-studies to spur adoption across the NHS.



A sustainability testbed for accelerating new innovations for NetZero into clinical practice.



Our Ambition: SUSTAIN is a real-life simulated surgical operating-suite environment, with integrated sensor and monitoring systems, that offers companies and care providers the opportunity of develop, test and implement physical and digital solutions into real-life settings.

A Testbed: SUSTAIN will capture and accurately assess both the environmental and human-factors impact of the pathway or innovation being tested. Supporting effective, relevant care innovations get to market in a standardised way which meets the needs of both the end-users and the requirements of clinicians and hospitals.



Outside Digital Information Technology structures, SUSTAIN provides a barrierless, dynamic and timely testing environment – a stepping-stone to NHS delivery

SUSTAIN: Core Themes

Theme 1: Surgical tray and equipment Rationalisation

The Problem: Equipment and consumables use in surgical procedures is inefficient, wasteful and uneconomic

The Result: Unused tools are resterilised at significant carbon and economic cost. Single-use items create a significant waste stream.

The Potential: We have pioneered 'tray rationalisation' methods. This theme investigates automating systematic tray optimisation.

Theme 2: Asset Tracking

The Problem: Equipment loss in surgery causes significant financial, environmental and reputational impact.

The Result: There is a correlation between resource availability and patient outcomes. Regulators require effective asset management.

The Potential: Technological solutions enable asset tracking throughout the hospital and wider working environment.

Theme 3: Sustainable Innovation Testbed

The Problem: there is a lack of support for early-stage innovators in evaluating new technologies for the NHS

The Result: Barriers limit the development and scale-up of early-stage innovations which could benefit NHS Net Zero

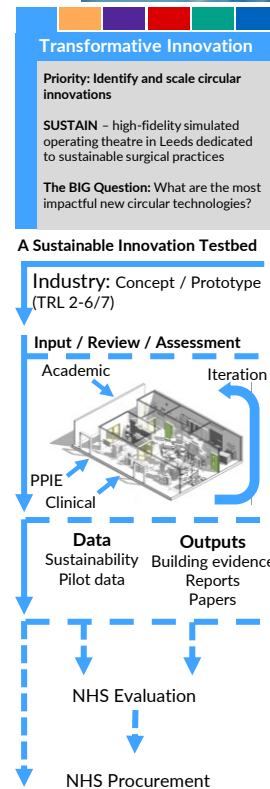
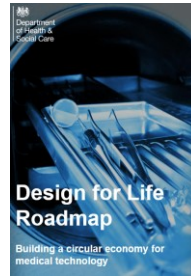
The Potential: SUSTAIN is aligned with the [Design for Life Roadmap](#), robust sustainability evidence,

Theme 4: Sustainable Decision Making & Behavioural Change

The Problem: all technologies and interventions have behavioural implications within the surgical environment.

The Result: The psychological mechanisms underpinning surgical Carbon Reducing Behaviour (CRBs) remain unclear, limiting opportunities for widespread implementation of technologies and practices aimed at increasing surgical sustainability

The Potential: SUSTAIN will use novel behavioural science methods such as eye tracking and video analysis. Helping understand dynamics and mechanisms of CRBs.



SUSTAIN: Collaboration



Industry

Feasibility studies
Pathway to NHS
Development
Passporting



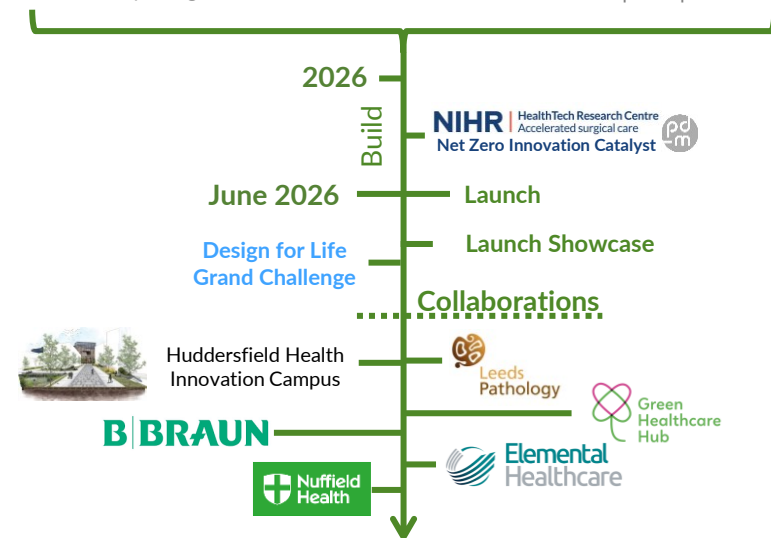
Clinical

Training
Simulation
Procedure optimisation
Knowledge exchange



Academic

Prototype sandbox
Build evidence
Collaboration
Expert input



Interested in collaboration?

Academic Lead: Peter Culmer P.R.Culmer@leeds.ac.uk

Clinical Lead: Adam Peckham-Cooper adam.peckham-cooper@nhs.net

Research Manager: Rory Turnbull r.p.turnbull@leeds.ac.uk

Department of Health & Social Care

NIHR | HealthTech Research Centre
Accelerated surgical care

Sustainability &
Net Zero

NHS
The Leeds
Teaching Hospitals
NHS Trust



UNIVERSITY OF LEEDS

