



Department
of Health &
Social Care

Design for Life: Building a Circular Economy for Medical Products

HIL: De-Carbonising the Life Sciences Sector - September 2026

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What is Design for Life?

The government programme to build a circular economy for medtech products by 2045

A **Circular Economy** means maintaining products in their highest value state for as long as possible. To do this, Design for Life will particularly focus on:

- **Reuse:** the repeated use of a product for its intended purpose through processes such as sterilisation.
- **Remanufacture:** Returning a product to as-new condition and placing it back on the market as a new product.
- **Recycling:** Disassembling a product into its basic components, materials, or substances to be used again in the medtech sector or beyond.



Definition of 'medtech products'

All devices, PPE and other physical products that support delivery of care are within scope.



The opportunities



Cost savings

Circular medical devices are often cheaper. In some cases more than 50% savings can be realised. Increased materials recovery could generate income vs disposal costs



Growth

An economy-wide shift to circularity (all sectors, not just medtech) is estimated to bring £75bn to the UK economy and create half a million new jobs by 2030

Resilience and patient safety

During the COVID-19 Pandemic, 66% of Belgian companies who employed circular techniques experienced considerably less disruption than those that didn't



Sustainability

Circular approaches will support delivery of a net-zero NHS. Reuse of medical devices as opposed to single use is associated with an average decarbonisation of 38-56% within their whole lifecycle



The case for change



Sharps bins at an NHS hospital (~49 sharps bins per day)



'A skip a week' of mattresses at an NHS trust



2 weeks of single-use tourniquets at a single phlebotomy clinic



Walking aids and equipment



A shipment of disposable curtains from China at an NHS trust

Question:
How did we
get here?



The Design for Life Roadmap



Design for Life has been developed with a collaborative that now includes over 170 stakeholders from across the **medtech industry**, **health family**, and **academia**.

Leadership & Alignment

Unclear direction and misaligned strategies across the value chain leads to inconsistencies, inefficiencies, and inertia, hindering meaningful, coordinated progress.

Behavioural Change

The medtech landscape is one in which linear products are the default choice, maintained by a lack of value placed on circular systems and limited support for change.

Commercial Incentivisation

Stakeholders are insufficiently incentivised, or in some instances are disincentivised to choose and deliver circular solutions.

Regulations & Standards

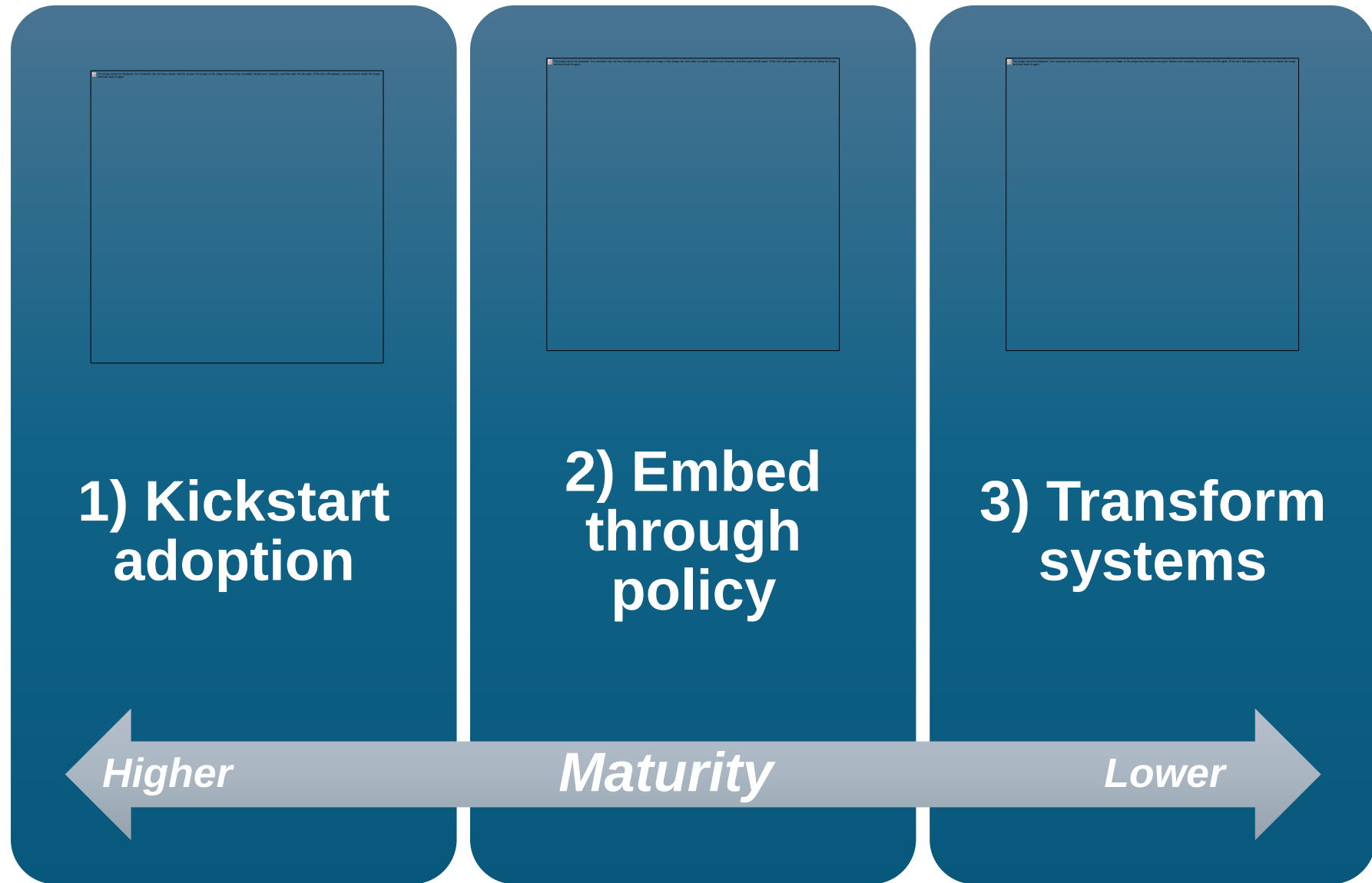
UK regulatory regimes and technical standards predate circularity and have potential to further enable the medtech sector to recognise opportunities and align internationally.

Physical & Digital Infrastructure

Existing physical and digital infrastructure and supporting services hold back the scaling of circular solutions, both locally and nationally.

Transformative Innovation

The innovation ecosystem is not tailored to circular objectives, leading to impeding solution developments.



- **7 product pilots** across **12 NHS trusts** with the Centre for Sustainable Healthcare
- Captured cost and carbon savings of the switch to reusable products
- And in-depth information on the switching process (and challenges therein)
- Findings included:
 - Reliance on highly motivated individuals
 - IPC teams supportive, but often lack confidence/evidence
 - Commercial and financial barriers, such as upfront costs

Clinical Expertise

- Nursing
- Anaesthetics
- Surgery
- Royal Colleges

Health Family

- NHSSC
- NHSE Commercial
- Greener NHS
- DHSC

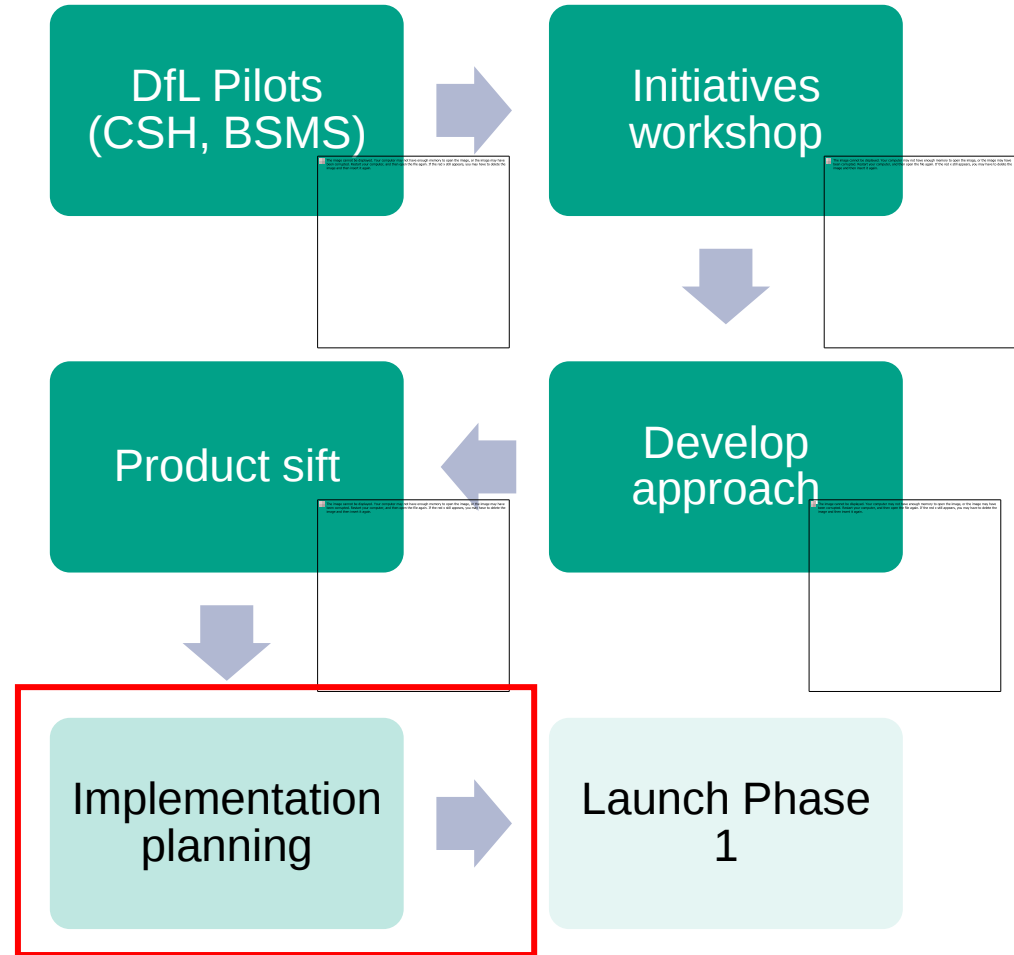
Sterile Services

IPC

Trust Procurement

- Sandwell and West Birmingham
- Dudley Group
- UCLH
- Royal Wolverhampton
- Sussex
- South Tees
- Coventry and Warwickshire
- Northampton

Clinical Engineering



Accelerating adoption

- ✓ *Set direction*
- ✓ *Support and de-risk adoption*
- ✓ *Realise the benefits*

Materials

- Implementation guidance
- IPC guidance:
 - national consensus
 - evidence-led
 - product-specific

Policy

- Finance and budgeting measures
- Procurement support

Comms

- National comms
- Industry collaboration

Priority products - Reuse



Collated 60+ reusable products already on the market and highlighted by system stakeholders



Sifted using RICE methodology (Reach, Impact, Confidence, Effort) to assess benefit, cost and feasibility

Shortlist

Tourniquets



Blood Pressure Cuffs



Theatre hats



Sharps Containers



Priority products - Reduce

Greener NHS developing guidance for reduction of:

Gloves



Couch Roll



Pulp



Future products under consideration include...

Curtains



Scissors



Medical Holloware



Surgical Gowns



Nasendoscopes



Suture kits



Embed through policy

Leadership & Alignment

Priority: Develop circular KPIs and metrics

NIHR | Innovation Observatory

Question: How do we measure circular economy performance?

Commercial Incentivisation

Priority: Deliver Value Based Procurement (VBP)

Question: How could we incentivise the sector to reuse, remanufacture and recycle?

Regulations and Standards

Priority: Align regulatory environment with global counterparts



Question: how do regulatory barriers impact circularity of equipment?

Transformative Innovation

Priority: Identify and scale circular innovations



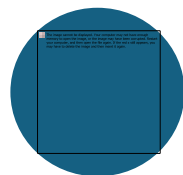
Question: How far do existing innovation pathways support circularity?



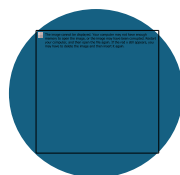
Design for Life Infrastructure Working Group - DHSC & IDSC co-chaired



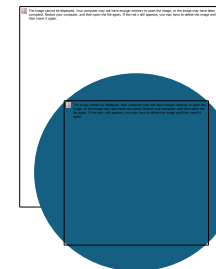
Baseline
(National
Decontamination
Capacity Survey –
Arup)



Target
(BSMS Demand
Modelling
project)



Approaches
(NIHR
Innovation
Observatory)



**Decontamination
framework**

Research

- Centralised vs on-site capacity?
- Point of Care decontamination methods?
- Servitisation vs ownership?
- Integration with repair, remanufacture, recycling?

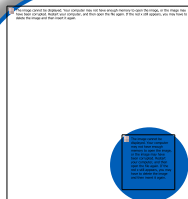
Survey overview

- Content includes:
 - Throughput of devices and linen
 - Turnaround times
 - Operating hours
 - Staffing
 - Equipment
 - Space, storage, transport, portering
 - Contingency arrangements
- It takes an estimated **15-45 minutes** to complete depending on facility
- Running **7 September – 16 October**
- Third party suppliers can supply data centrally



National decontamination capacity survey

Help build the first national picture of decontamination capacity across England.

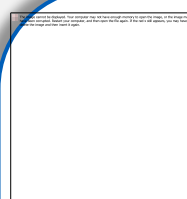


For decontamination service leads

Take part

We are seeking survey responses from:

- Sterile services departments
- Endoscopy decontamination services
- Laundry & linen services



For NHS colleagues & sector networks

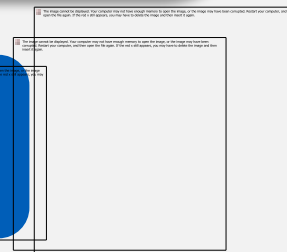
Help us reach the sector

You can support the survey by:

- Sharing the survey link with relevant contacts in sterile services, endoscopy and linen & laundry
- Raising survey awareness through your networks

DHSC in partnership with NHS England are undertaking a national survey to better understand decontamination capacity. Whether you are completing the survey or sharing it through your networks, your support will help us develop a stronger understanding of decontamination capacity and future infrastructure needs across England.

**Scan to find
out more**



Thank you

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Josh Crosley

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Adoption, Infrastructure, Regulation, Markets

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