PRODUCT CATALOGUE

Revolution-ZERO
More effective, more economic, more sustainable

The COVID-19 pandemic exposed critical vulnerabilities in our healthcare supply chains, nowhere more evident than in medical textiles. Mountains of single-use gowns, drapes, and packaging accumulated in our hospitals and clinics, whilst global supply chains buckled under unprecedented demand. Simultaneously, the environmental cost became impossible to ignore—millions of tonnes of clinical waste, vast carbon emissions from manufacturing and disposal, and the depletion of precious resources for products used just once.

Revolution-ZERO was founded in 2020 in direct response to these challenges. We have recognised that the veterinary profession, with its commitment to care and stewardship, was ideally positioned to lead a fundamental shift away from disposable medical textiles.

Revolution-ZERO

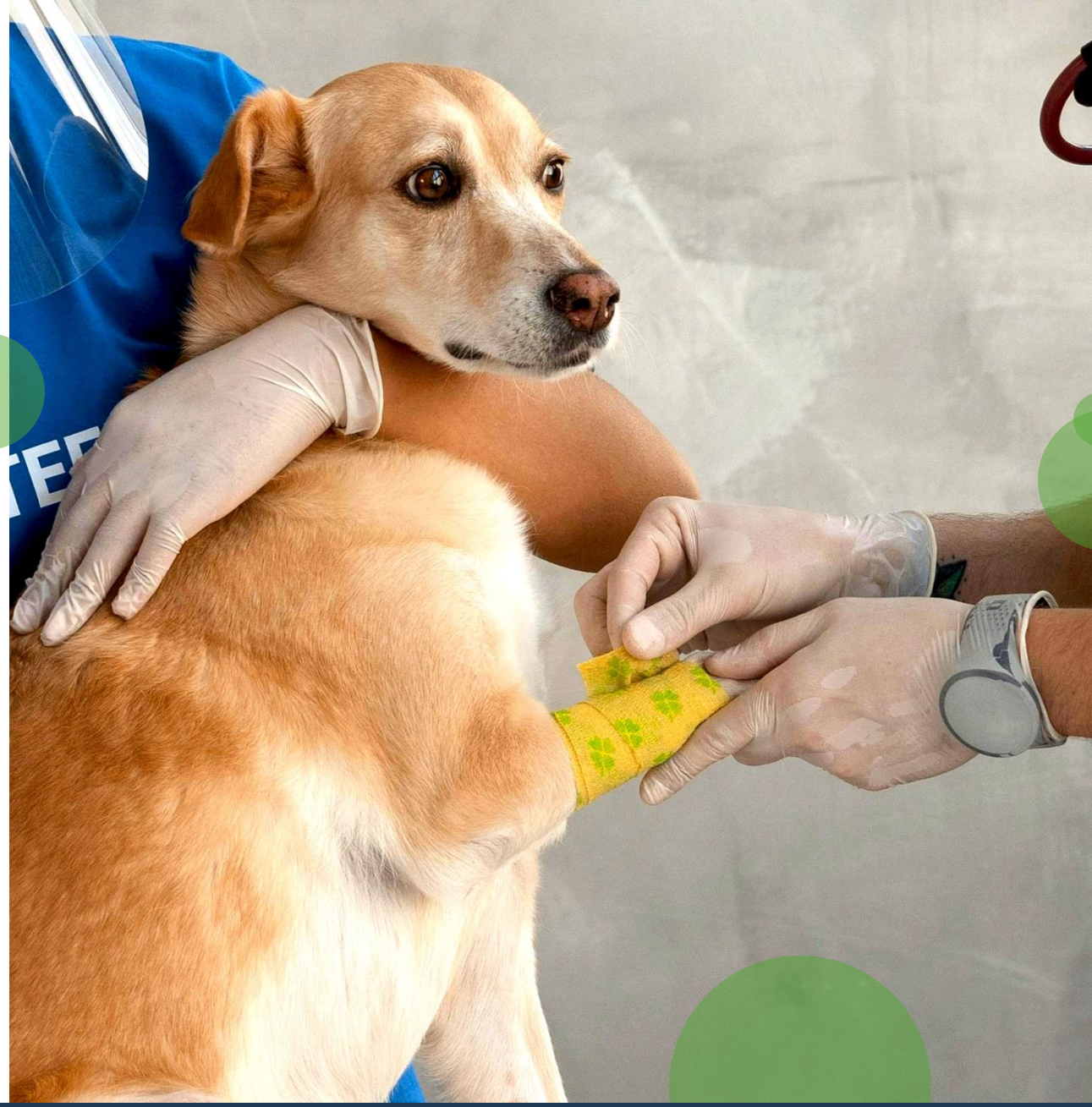
More effective, more economic, more sustainable

Our mission is to displace single use medical textiles with more effective, economic and sustainable reusable alternatives

This catalogue presents our range of solutions chosen or developed specifically for veterinary practice—from theatre gowns and surgical drapes to sterile packaging and specialised cleaning systems. Each product has been engineered to deliver superior performance whilst dramatically reducing environmental impact and operational costs.

The products you'll find in these pages represent more than alternatives to single-use items. They embody a smarter, more resilient approach to veterinary care—one that protects your patients, your team, and our planet.

Tom Dawson
Founder, Revolution-ZERO
Honorary Professor in Circular Health Economics
University of Exeter



Revolution-ZERO
More effective, more economic, more sustainable

The Clinical Case: Science led and state of the art

- £1.9 million in NHS co-development funded R&D
- High tech polyester/carbon textiles co-designed for wearing, draping, durability, washability and circular life cycles
- Minimised environmental impact utilising advanced chemistry and systems addressing microplastics, waterway pollution and planetary health
- Revolutionary detergent (ZERO-DECON®) and patent pending packaging (Tex-Protect®) systems
- Clinical standards compliance UKCA EN 13795-1 MHRA

Co-development with and Validation by

University of Exeter
UCL
University of Southampton

The Economic Case – Gown Unit Economics

2025 Status Quo

Single-use purchase
Wholesaler

→

Product use

→

Product Disposal
Clinic staff, space and waste subcontractor

Gown costs

£4.50 (average UK single use for veterinary markets)

Avg. £0.50

Total
£5.00

Product as a Service (**PaaS**)

Revolution-ZERO® process

Reusable purchase
Revolution-ZERO

→

Product use

c.65-75 uses

Processing
Local, on-site process, Use Practice staff

Product re-purposed or recycled at EOL

Gown and Packaging costs

£55.27 (full retail)

£0.85 65 uses (allowing for loss and damage)

£0.74 75 certified uses

Avg. £1.52 per use

Assuming 3 minutes processing time by an employee on £30,000 salary (experts take 90 seconds)

Water, waste, power, chemical, label costs included

Total per use

≅£2.37

Saving
≅ £2.63

Customer Benefits

- Reduced cost
- Seamless implementation
- Control over stock
- Secure supply
- Reduced storage
- Little/no wastage
- Reduced carbon footprint
- Reporting of environmental benefits
- Improved staff satisfaction

≅50% Savings

Revolution-ZERO
More effective, more economic, more sustainable

The Sustainability Case: Modelled Environmental Impact

UCL Modelled Savings Per Use**
Compared to single-use equivalent and comparative weight dependent

Item	**Weight** (g)	**Carbon** (kg)	**Water** (L)	**Waste** (kg)
Small Standard Performance Gown	319	1.26	0.88	0.26
Medium Standard Performance Gown	355	1.40	0.98	0.29
Large Standard Performance Gown	376	1.49	1.03	0.31
Extra Large Standard Performance Gown	415	1.64	1.14	0.34
Internal Packaging	67	0.012	-	0.03
External Packaging	93	0.016	-	0.05
Packaging Tie	5	0.001	-	-

****Representative**** **Actual savings are variable and dependent on the relative weights of the matched single use and reusable items**

Technical fabrics and washing

- 99% Polyester, 1% Carbon Fiber
- High tech 99% polyester microfibre that is designed for wearability, durability and recyclability
- 1% carbon yarn in the construction for anti-static, some microbial resistance and non-linting properties
- Negligible microfibre shedding due to long-chain polyester filament composition

The Standard Performance Fabrics are certified to be washed and reused at least 75 times.

Max. water temperature 90°C

Do not bleach

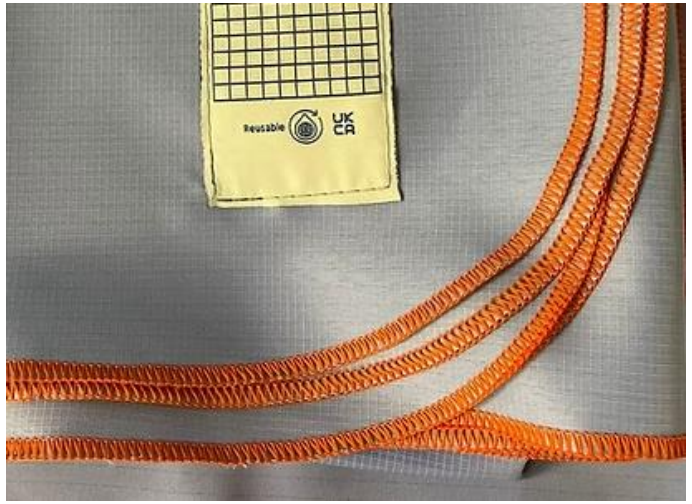
Mild drying process

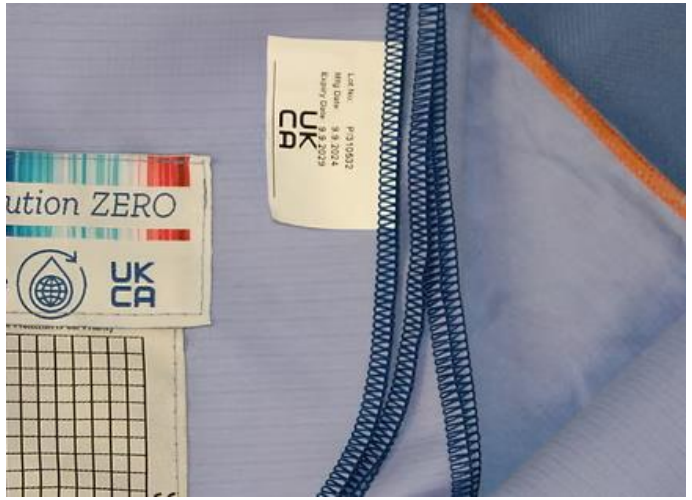
Do not iron

Do not dry clean
Do not use solvents to remove stains

Revolution-ZERO provide evidence-led expert technical support for integrating sustainable textile use and processing practices within your clinical settings.

Standards & Sustainability





UK CA

Declaration of Conformity:
Reusable surgical gowns and draping systems certified as Class I Medical Devices

EN 13795-1/2

Garments and draping systems made of fabrics complying with the technical standards EN 13795-1 and EN 13795-2

MHRA

MHRA Registered - Labelling according to MDR 745/2017

Zero Waste Strategy:
Return for storage, repurposing and/or recycling when reaches end of clinical life

Gowns

Revolution-ZERO
More effective, more economic, more sustainable

Standard Performance Surgical Gown

Number of uses 75

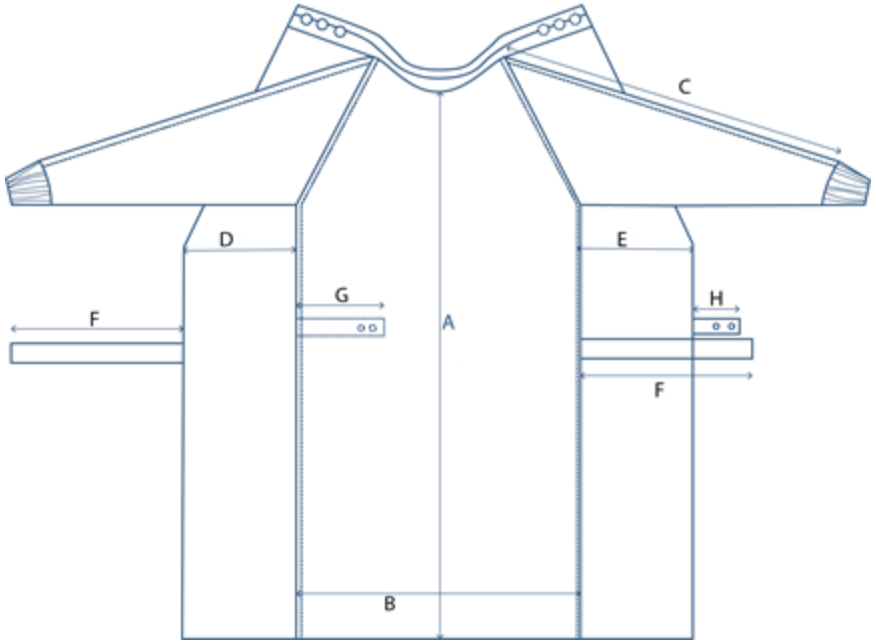
Retail from £0.41/use

Sizes

Small
Medium
Large
XL
XXL
Custom

Revolution-ZERO
More effective, more economic, more sustainable

Sizing



	Description	S	M	L	XL	XXL
A	**Neck to hem**	110	116	121	126	131
B	**Side seam to side seam**	55	60	64	68	72
C	**Shoulder to wrist**	70	79	82	86	86
D	**Side seam to edge right back panel**	55.5	58.5	61.5	63.5	63.5
E	**Side seam to edge left back panel**	39.5	41.5	43.5	45.5	45.5
F	**Waist tie length**	60	60	60	60	60
G	**Internal popper tie length**	19	19	19	19	19
H	**External popper tie length**	8	8	8	8	8

Measurements in cm

Features

- Provides standard risk protection against fluid strike through with high density fluid repellent microfibre
- Coloured webbing on the neck to make identifying the the size easier
- Designed with cuffs fabricated in latex-free rib for comfort
- Snap and tie fastenings at back-neck and waist
- Raglan sleeves designed for comfort and better range of movement

Tracking options:

1. **RFID/Bar/QR Code:** Used to track items, uses, stock numbers and environmental impact
2. **Grid:** A textile grid stitched onto the garment used for marking usage number
3. **Date limited:** Based on maximum weekly usage rates

Revolution-ZERO
More effective, more economic, more sustainable

Isolation Gowns

Number of uses >100

Retail from £0.18/use

Sizes
Medium
Large
XL
Custom

Impact Calculator
Impact Link

Revolution-ZERO
More effective, more economic, more sustainable

Aprons

Number of uses >100

Retail from £0.13/use

Sizes Short
Standard
Custom

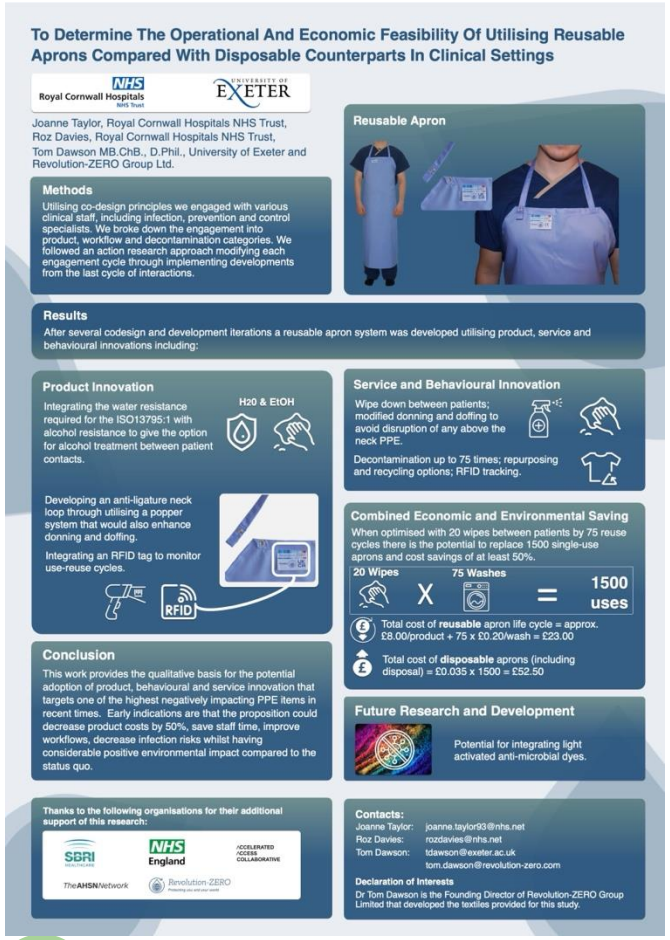
Revolution-ZERO
More effective, more economic, more sustainable

Features

- EN13795-1 compliant and MHRA certified
- >20 cm water resistance resistance
- 130g/m^2 polyester 99.4%, carbon 0.6%
- Integrates fluid impermeability required for the ISO13795:1 with additional solvent resistance
- Anti-ligature neck loop and no over-the-head donning and doffing
- RFID/Grid/QR/Barcode tracking
- Can be run through 75+ washes

To Determine The Operational And Economic Feasibility Of Utilising Reusable Aprons Compared With Disposable Counterparts In Clinical Settings

Annual Conference 2022
IP2022 | United Kingdom



Methods

Utilising co-design principles we engaged with various clinical staff, including infection, prevention and control specialists. We broke down the engagement into product, workflow and decontamination categories. We followed an action research approach modifying each engagement cycle through implementing developments from the last cycle of interactions.

Results

After several codesign and development iterations a reusable apron system was developed utilising product, service and behavioural innovations including:

Conclusion

This work provides the qualitative basis for the potential adoption of product, behavioural and service innovation that targets one of the highest negatively impacting PPE items in recent times. Early indications are that the proposition could decrease product costs by 50%, save staff time, improve workflows, decrease infection risks whilst having considerable positive environmental impact compared to the status quo.

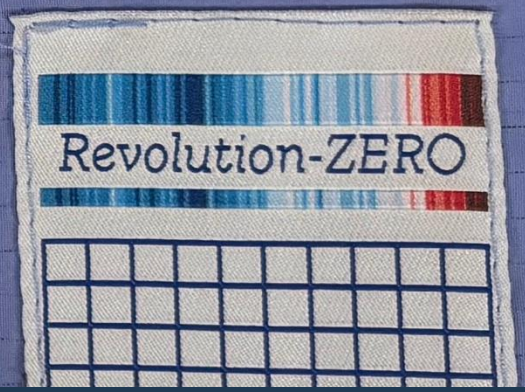
Savings per 1000 single-use aprons, 5 uses per wash model standard healthcare

40 kilograms carbon

10 kg waste

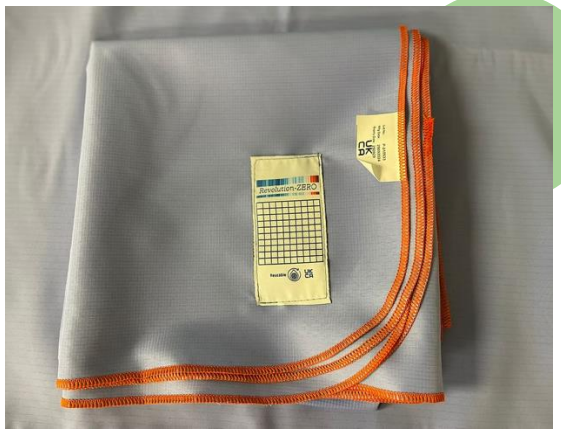
*Dawson, TA - Public Health Wales and Bupa EcoDisruptive

Drapes



Surgical Drapes/Wrap

Plain Veterinary Drapes



Number of uses **75**

Retail from £0.11/use

Sizes
80x80cm
100x100cm
120x120cm
140x140cm
Custom

Table Cover

Trolley Drape

Revolution-ZERO
More effective, more economic, more sustainable

Major Surgery Drape, Fenestrated

Absorbent, Fenestrated Veterinary Drapes

Number of uses 75

Retail from £0.40/use

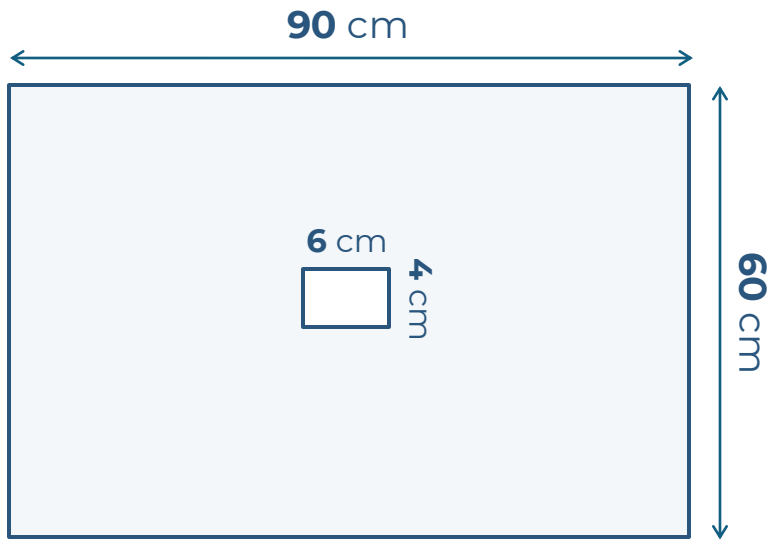
Sizes
4x4
4x6
6x8
8x8
8x15
Custom

Revolution-ZERO
More effective, more economic, more sustainable

Spay Drape, Fenestrated

Number of uses **75**

Retail from **£0.25/use**



Absorbent Drapes

Absorbent, including impermeable backed drapes

Number of uses
Sterile/Nonsterile 75/200

Retail from £0.05/use

Sizes
Small
Medium
Large
Custom

Multiple utility

Many use cases including absorbent surgical drapes, operating table under blanket, dry/wet wipes and absorbent recovery pads

The Co-development Of A Bespoke Reusable Surgical Drape System For Hip Joint Replacement Surgery.

Annual Conference 2022
IP2022 | United Kingdom

Methods

Utilising codesign principles we engaged with the full orthopaedic surgery team. The interaction started with sharing current reusable products, gathering feedback and modifying to suit.

This engagement focused on user-led requests on how to improve function with a be-spoke system made to suit specific requirements whilst being based on a reusable medical textiles solution.

Results

The feedback on the construction quality, feel and function of the drapes was positive. Requests for adhesive systems were able to be met using sterilisable, dissolvable tapes.

The single-use system was copied like-for-like with additional dimensional modifications made to better suit requirements. A flexible loop system was developed for the head drape allowing improved shielding between the anaesthetics team and sterile surgical field.

Conclusion

There are multiple benefits from developing high quality reusable surgical textiles with local manufacturers. One of these relates to the ability to rapid develop bespoke systems for specialist procedures. This study reinforced the utility of this approach with strongly positive feedback from the surgical team.

Packaging

Revolution-ZERO
More effective, more economic, more sustainable

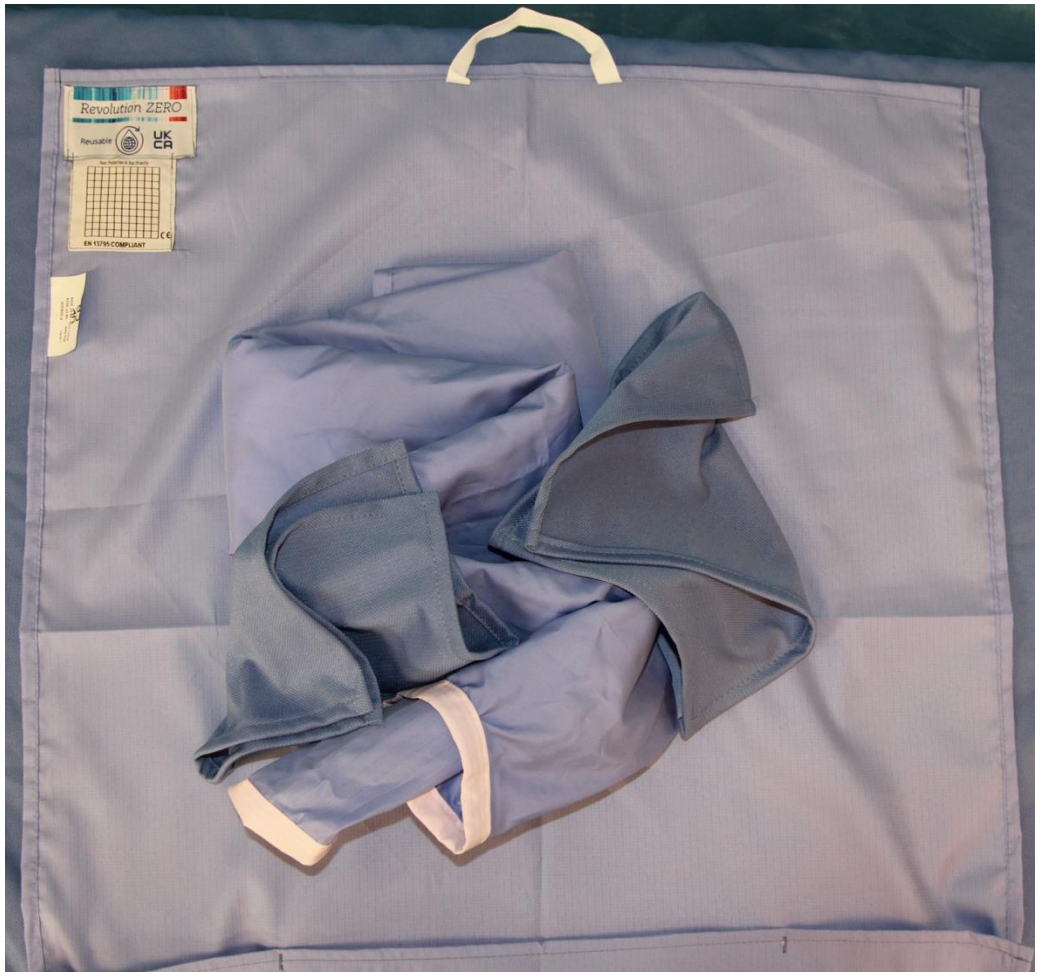
TEX-PROTECT™
Next generation sterile packaging systems

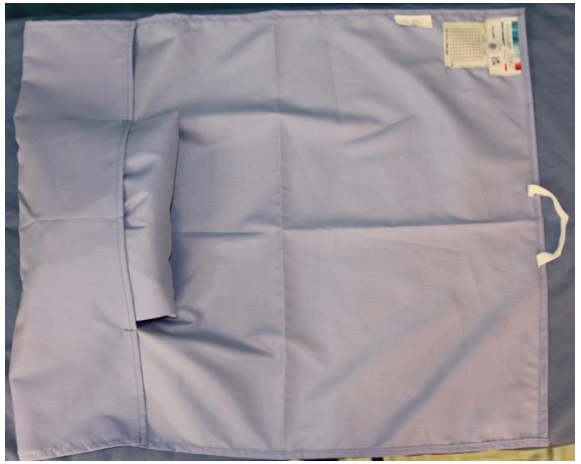
- Low environmental impact reusable packaging system
- Coloured ties to indicate gown sizes for easy recognition
- Validated to maintain sterility for **at least 6 months**, even in challenging storage conditions*
- Saves 100% of current packaging waste
- Can be utilised for gowns, drapes, surgical instruments and single-use items
- Co-developed with the NHS, University of Southampton and University College London

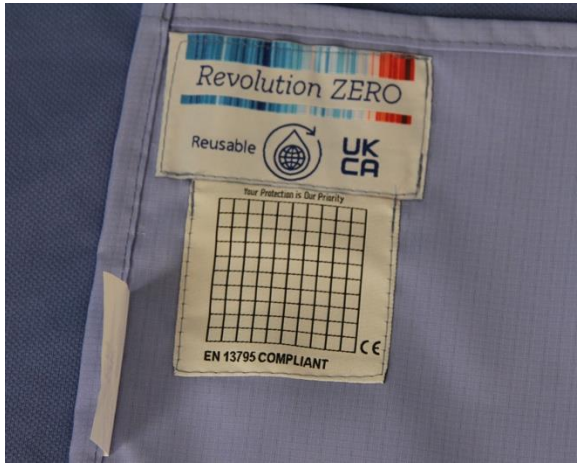
*Infection Prevention Society Journal 2025:
https://journals.sagepub.com/doi/10.1177/17571774251372746

Revolution-ZERO
More effective, more economic, more sustainable

External Virtual Pouch Packaging







Number of uses 75

Retail from £0.18/use

Sizes Gown
Procedure
Custom

Multiple utility

Can be utilised as a reusable sterile packaging system for multiple items including textiles, surgical instruments, single use items and procedure sets

Revolution-ZERO
More effective, more economic, more sustainable

Internal Virtual Pouch Packaging

Number of uses 75

Retail from £0.14/use

Sizes Gown
Procedure
Custom

Accessories

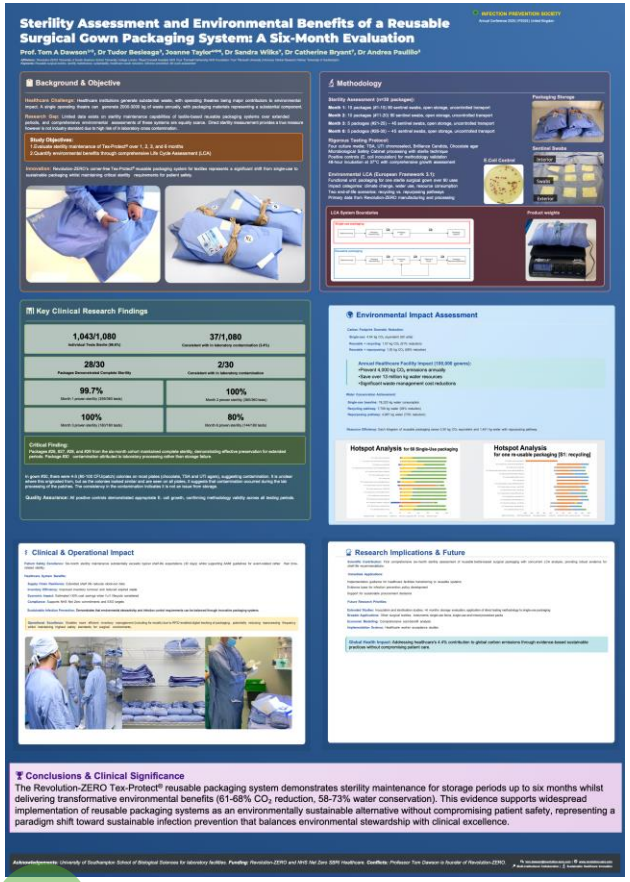
Colour coded gown packaging ties

Recycled and recyclable pull-through tags

Revolution-ZERO
More effective, more economic, more sustainable

Sterility Assessment and Environmental Benefits of a Reusable Surgical Gown Packaging System: A Six-Month Evaluation

Infection Prevention Society
Annual Conference 2025
IP2025 | United Kingdom



Research Implications & Future

Patient Safety Excellence: Six-month sterility maintenance substantially exceeds typical shelf-life expectations (30 days) whilst supporting AAMI guidelines for event-related rather than time-related sterility.

Healthcare System Benefits: Supply Chain Resilience: Extended shelf life reduces stock-out risks

Inventory Efficiency: Improved inventory turnover and reduced expired waste

Economic Impact: Estimated >30% cost savings when f u l l lifecycle considered

Compliance: Supports NHS Net Zero commitments and ESG targets

Sustainable Infection Prevention: Demonstrates that environmental stewardship and infection control requirements can be balanced through innovative packaging systems.

Operational Excellence: Enables more efficient inventory management (including for recalls)

Annual Healthcare Facility Impact (100,000 gowns):

Prevent 4,000 kg CO_2 emissions annually

Significant waste management cost reductions

Save over 13 million kg water resources

Masks

Revolution-ZERO
More effective, more economic, more sustainable

Reusable Fluid Resistant Surgical Masks

Number of uses 40

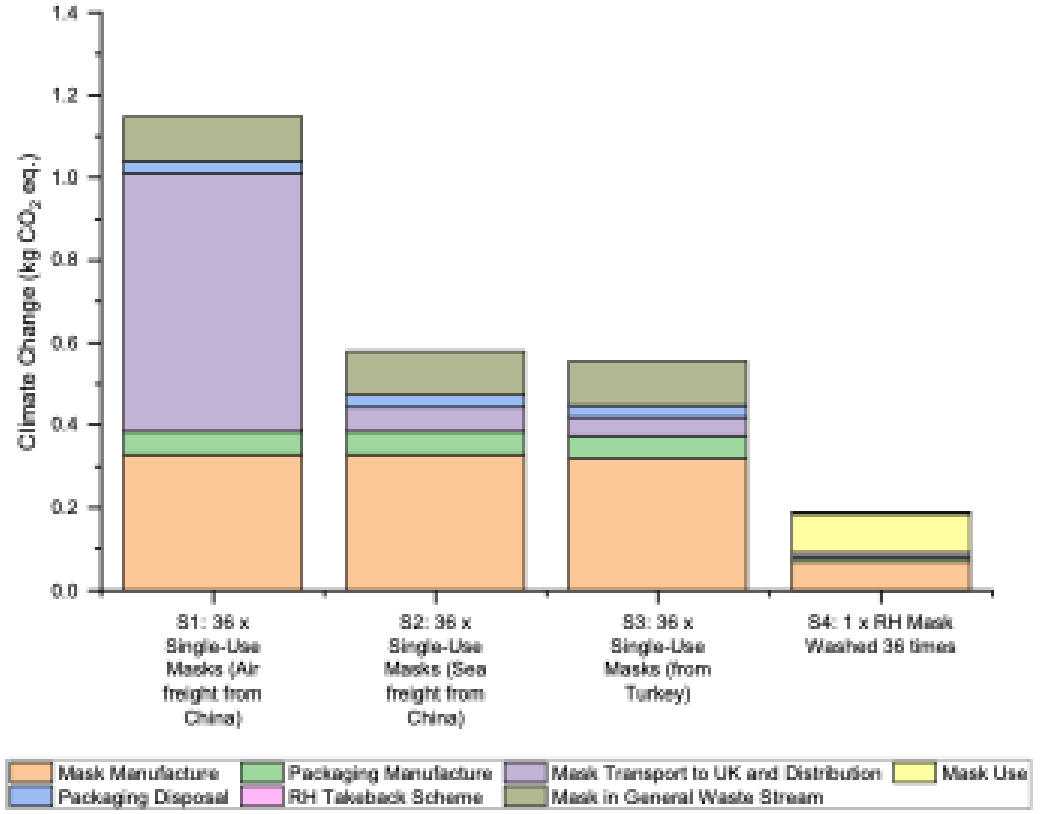
Retail from £0.18/use

CO_2e saving 10 grams/use

Revolution-ZERO
More effective, more economic, more sustainable

Reusable mask co-development with the NHS

An LCA comparison between single-use and Revolution-ZERO reusable face masks
UCL Bioengineering Team
Charnett et al., 2021



Climate change results generated for each scenario of facemask use.

Clothing

Revolution-ZERO
More effective, more economic, more sustainable

Warm up Jackets

Revolution-ZERO
More effective, more economic, more sustainable

Scrubs




Theatre Hats

Revolution-ZERO
More effective, more economic, more sustainable

Hats

Detergent

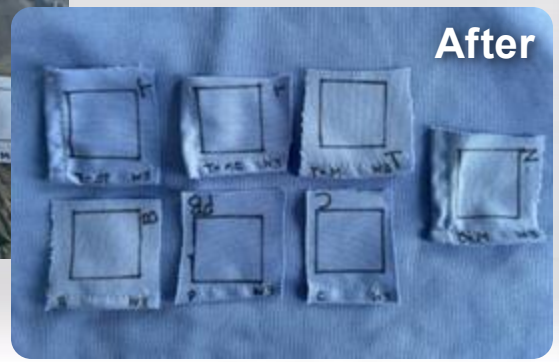

Revolution-ZERO
More effective, more economic, more sustainable
ZERO-DECON Bio
Biodegradable low temperature detergent
Biodegradable concentrated mainwash bio detergent liquid.
Suitable for low or high temperature washing.
Mild detergent suitable for all fabric types.
No added fragrance.
Non Hazardous
Low Temperature
Low Dose
Medium Dose
High Dose

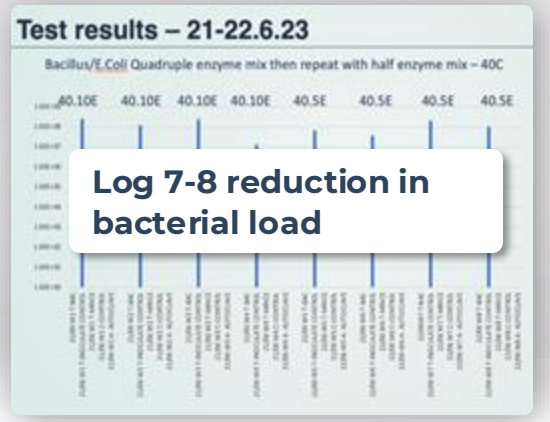
ZERO-DECON Cleaning System

Retail from **£0.02/kg washed**

ZERO-DECON®
A NHS SBRI funded co-development programme

Developed in laboratory and real-world environments



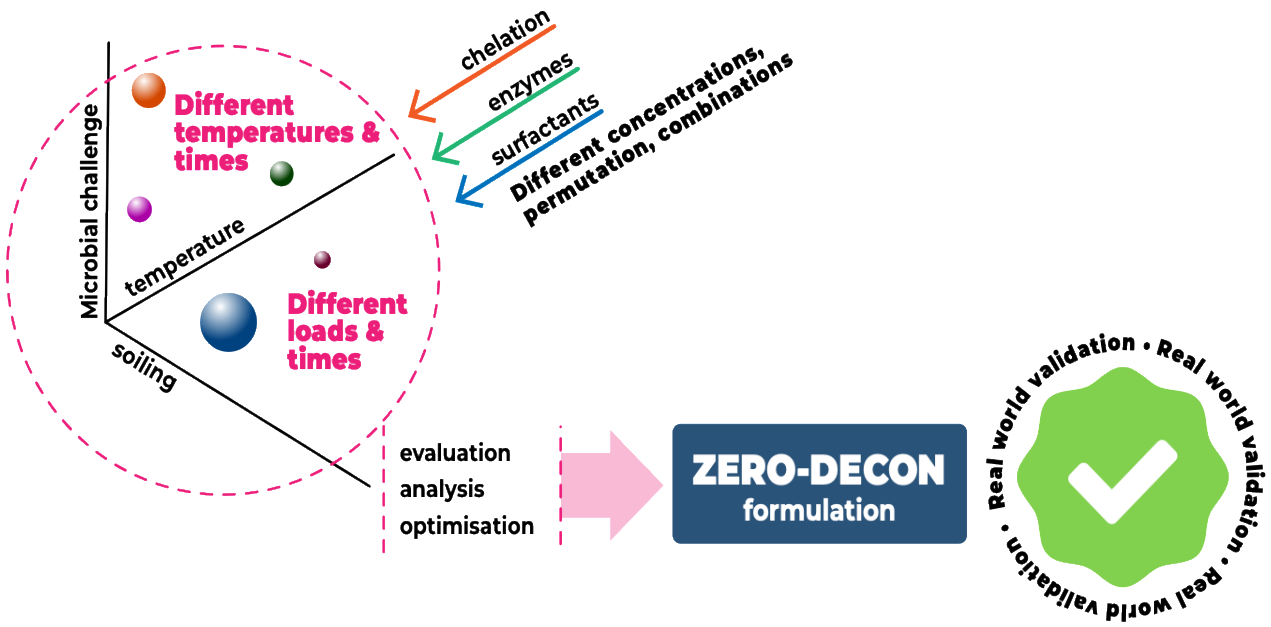


- ZERO-DECON was developed as part of a £580,000 NHS Net Zero programme to lower the costs and environmental impacts of healthcare laundry
- With sustainable chemistry at its core ZERO-DECON has a unique biodegradable, minimal impact formulation
- Originally developed in the laboratory by carefully titrating laundry chemicals against a range of stains and microbes
- Optimised in real world environments utilising standard machines
- Cost competitive and utilising a closed loop system where all containers are picked up for refill – avoiding container/plastic waste

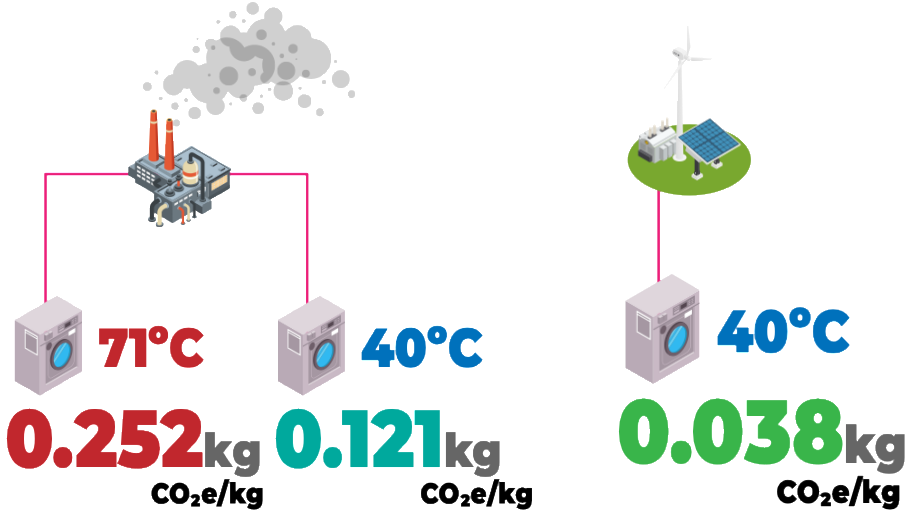
Revolution-ZERO
More effective, more economic, more sustainable

ZERO-DECON®
Science-led healthcare laundry chemistry

Development methodology



Modelled carbon savings for gowns and drape processing at 40C* across the UK NHS



17,000t CO_2e

emissions reduction across the UK NHS annually

*ZERO-DECON® bio and non-bio has been tested and validated to the EN14065 healthcare decontamination standards by an independent registered laboratory with 30C washing followed by 88C tumble drying

Revolution-ZERO

More effective, more economic, more sustainable

revolution-zero.com

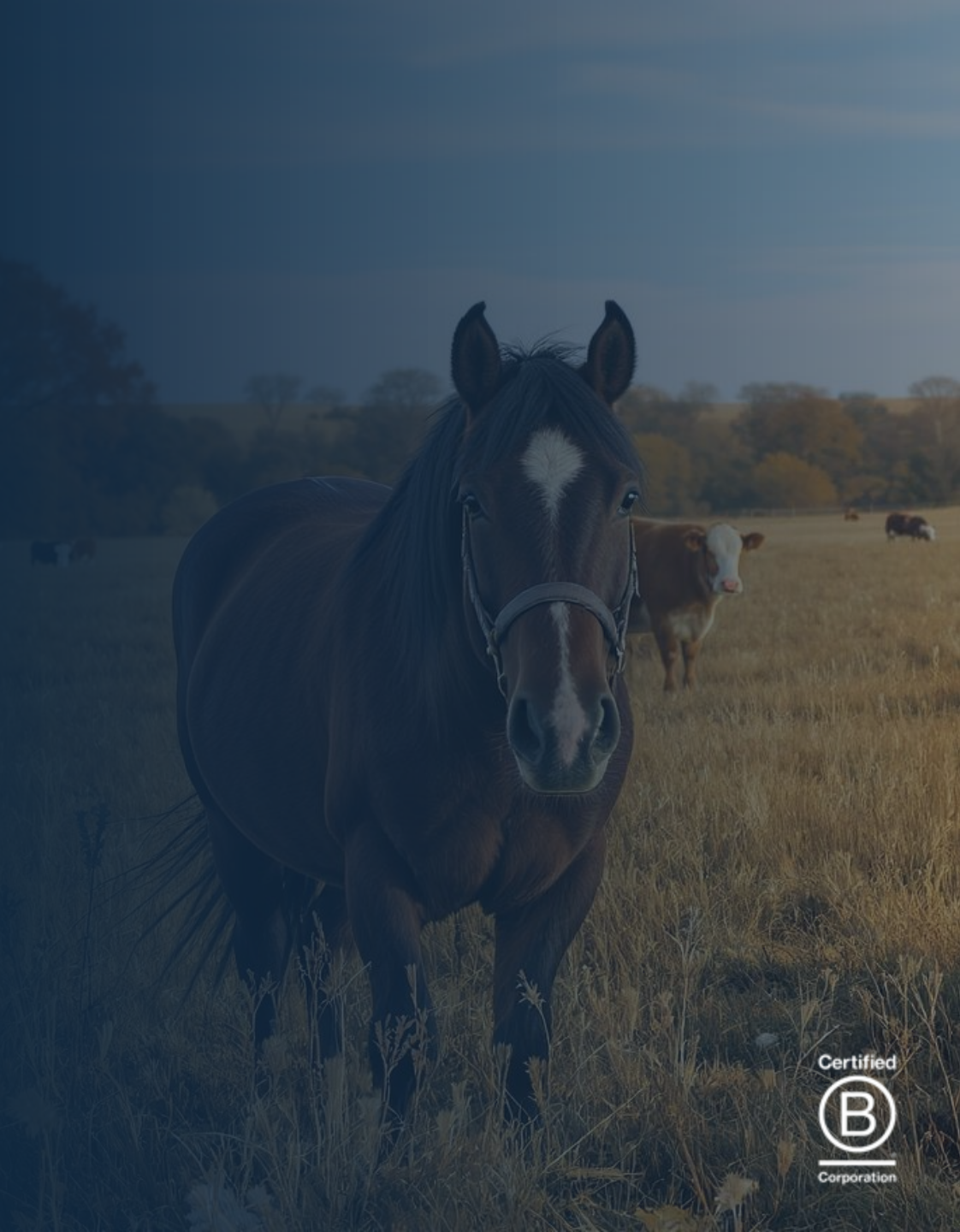
Veterinary Sales and Support:

Prof. Tom Dawson

Founder, Revolution-ZERO

Phone: +44 (0) 7540 164 555

E-mail: tom.dawson@revolution-zero.com



Certified B Corporation