



Environmental Decontamination Issues and potential solutions

IPC Guidance and local Interpretation Influences

Adoption of Evidence Based Technology

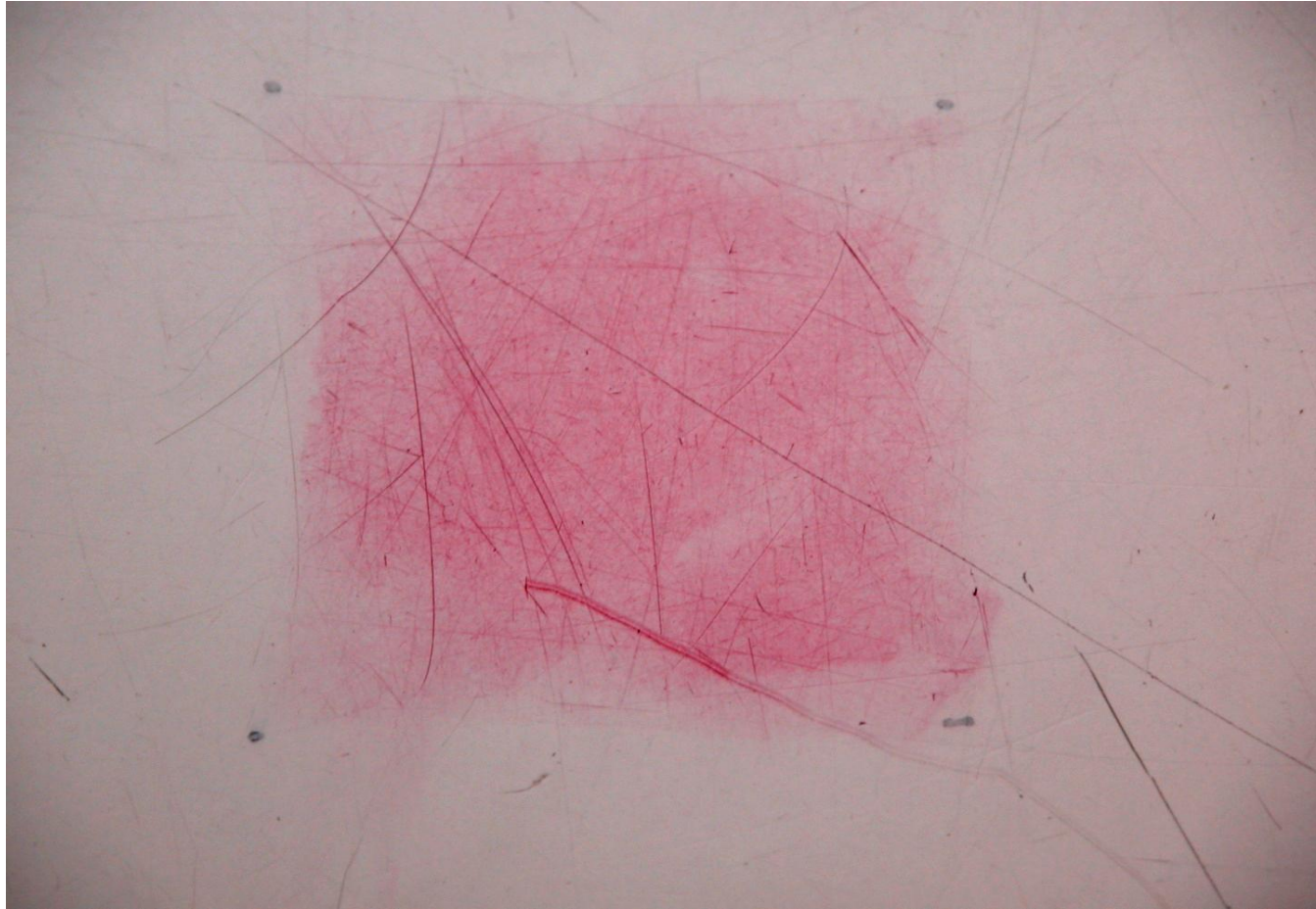
Barriers to Implementation

How Clean is Clean?



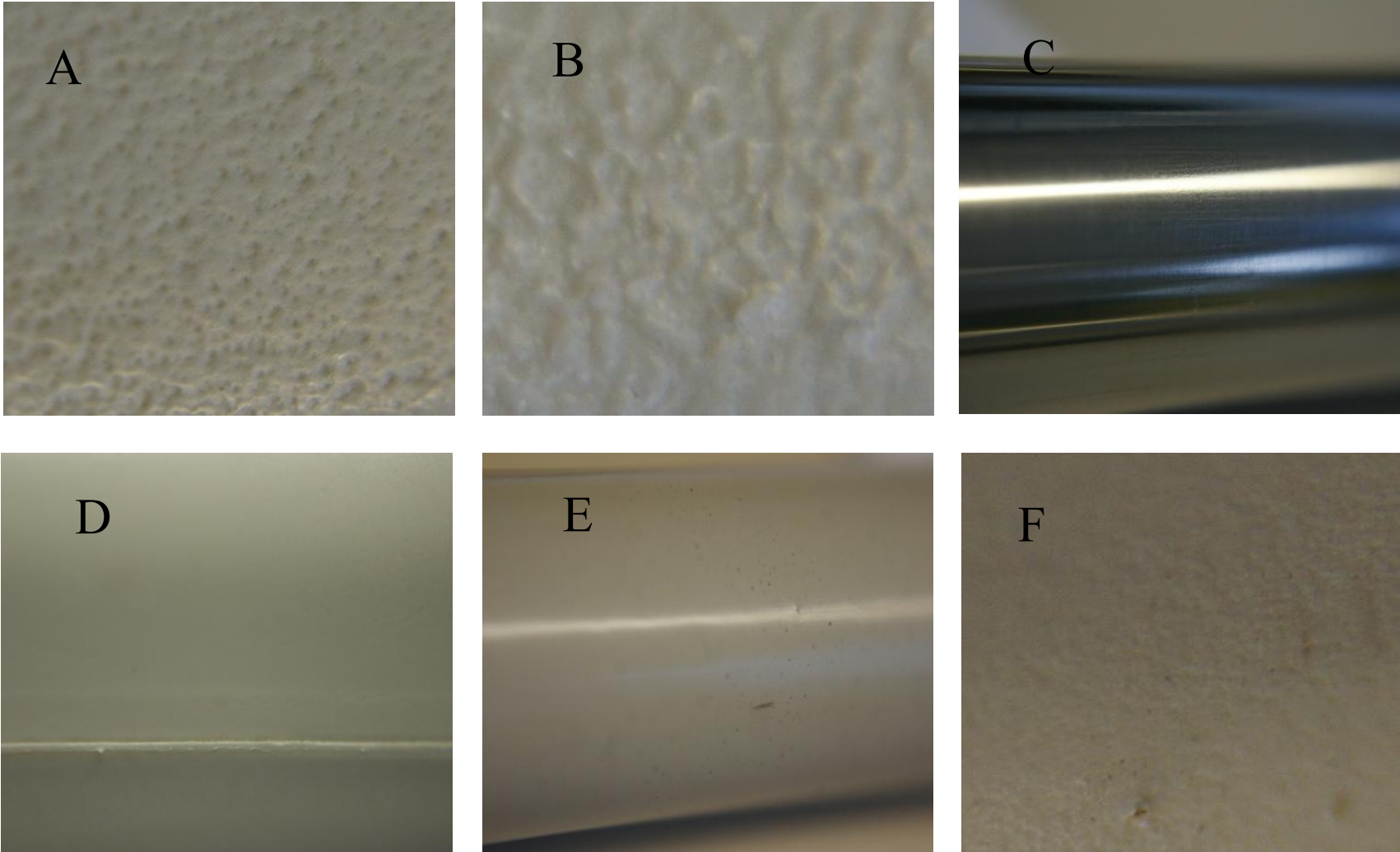
Problematic Healthcare Surfaces

HPL plastic laminate



ICU Isolation Room worktop surface. Abrasion and disinfectant chemical damage revealed by staining

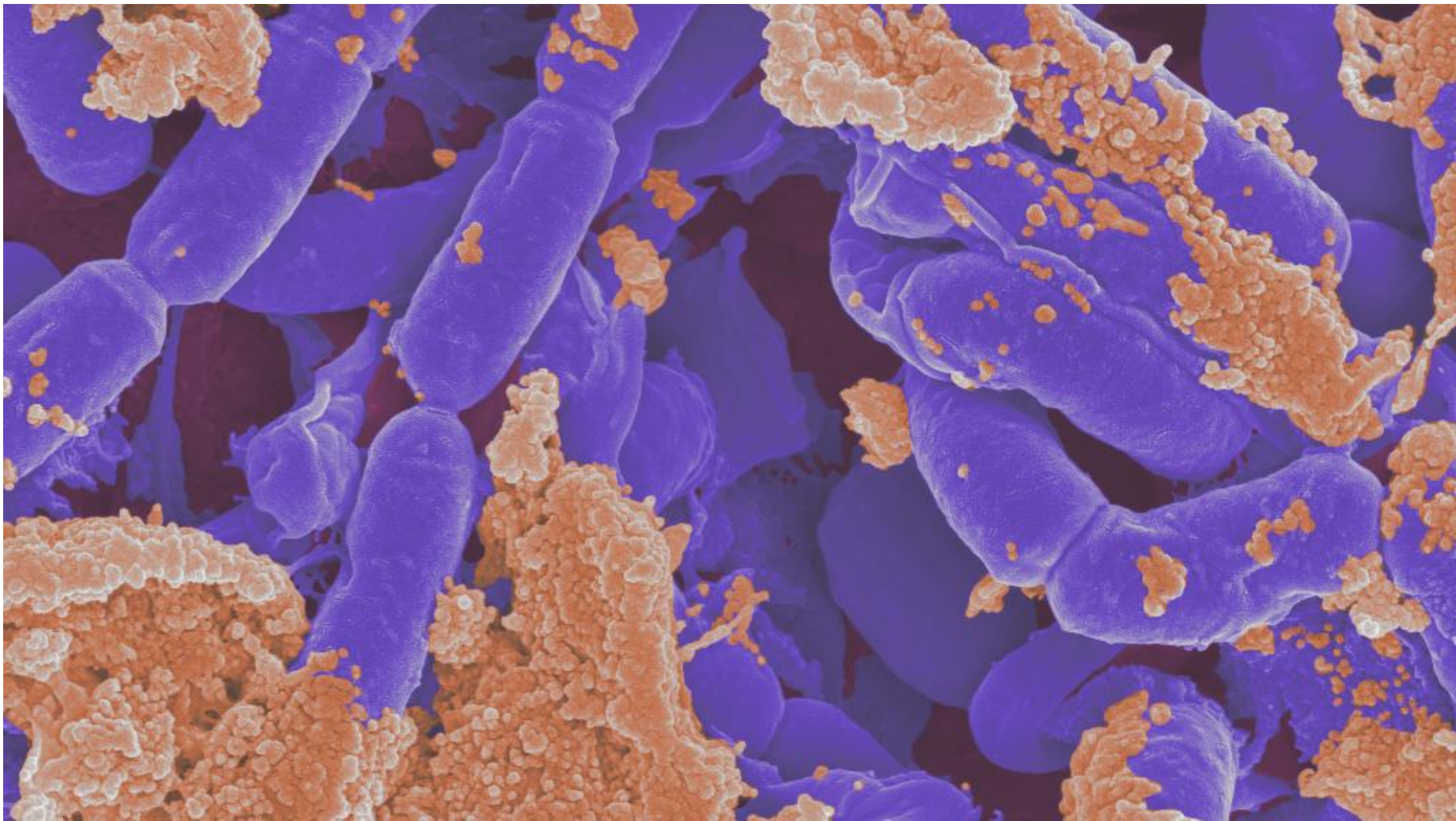
The Transfer of *Staphylococcus aureus* from Contaminated Hospital Bedrails to Hands



Fifth Decennial
International
Conference on Health-
Care Related Infections
2010

[Shanom Ali](#)
[Ginny Moore](#)
[Peter Wilson](#)

Figure 1. Surface images of six bedrails. (**A**: Foot rail, **B**: Rough upper-surface of a footrail*, **C**: Stainless Steel side rail, **D**: Smooth underside-surface of a footrail*, **E**: Smooth Nylon Painted Mild Steel side rail, **F**: Polyurethane side rail). *Note: both bedrails B and D are different surface-types of the same moulded bedrail.



SEM image of DSB containing mixed hospital culture grown on stainless steel disc

Assessing the effectiveness of hospital cleaning using fluorescence: a proof-of-concept study and comparison with ATP testing S Fieldhouse et al Journal of Hospital Infection 166 (2025) 38-45



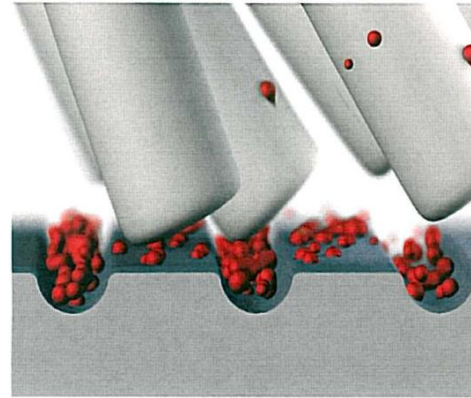
Assessing the effectiveness of hospital cleaning using fluorescence: a proof-of-concept study and comparison with ATP testing S Fieldhouse et al *Journal of Hospital Infection* 166 (2025) 38-45



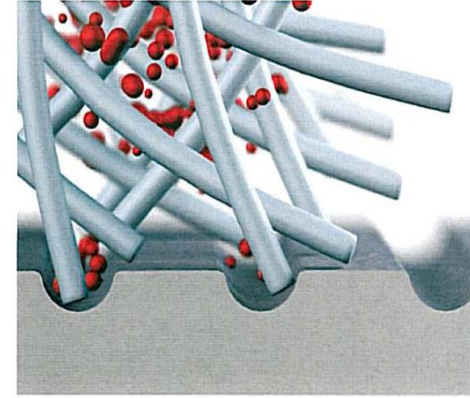
MECHANICAL & CAPILLARY ACTION

Non MicroFibre

MicroFibre



Coton fiber



Microfibre

- Thinner fibre = penetration of microscopic surface irregularities
- Thinner fibre = more aggressive fibre ends to agitate surface soil
- Thinner fibre = many more fibres available to agitate and clean



SMART TEXTILES

Surface

Floor

Equipment

SMART TEXTILES

FLOOR CLEANING TECHNOLOGIES

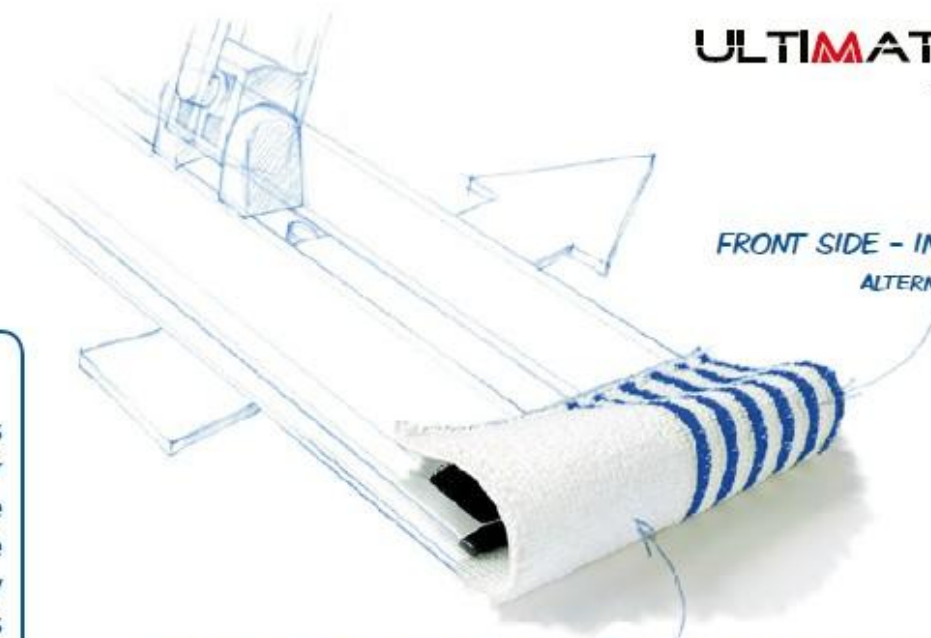
ULTIMATE TECHNOLOGY

PROTECTED BY PATENT



PATENTED TECHNOLOGY

The **ULTIMATE** technology represents technical advancement in microfiber engineering to simultaneously increase the proportion of pure microfiber to increase absorption capacity and cleaning efficiency while optimizing the ergonomic glide across the floor surface.



*FRONT SIDE - INCREASED MECHANICAL ACTION AND GLIDE
ALTERNATING WEAVE OF MICROFIBERS AND SCRUBBING FIBERS*

*BACK SIDE - OPTIMIZED ADSORPTION AND SOIL REMOVAL
100% MICROFIBER*



ULTIMATE Dispomop®



ULTIMATE 3D Infinite



ULTIMATE Dx1



ULTIMATE Duo - grey



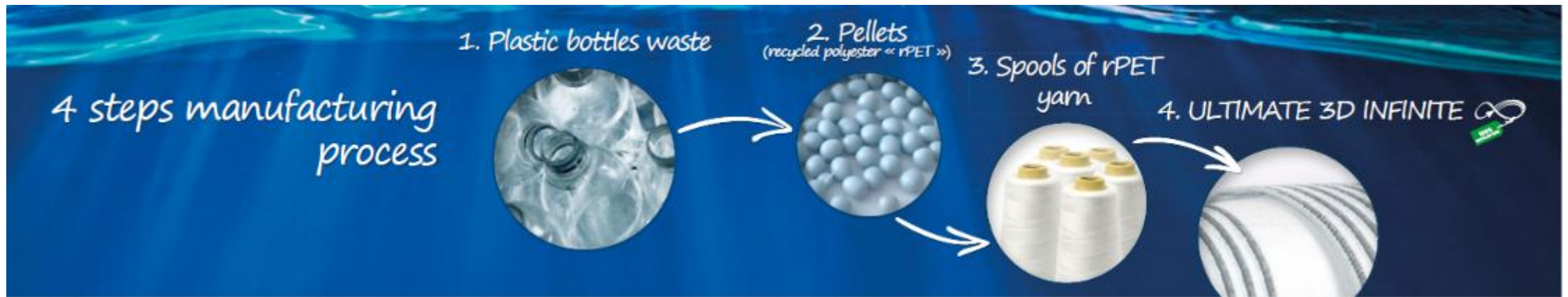
ULTIMATE Duo - white



ULTIMATE DeLux



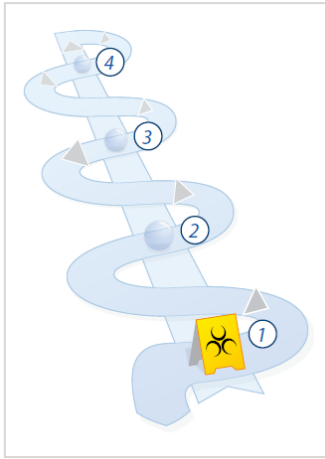
Challenging flooring : Three dimensional surfaces



- Made entirely of recycled polyester yarns
 - Developed for chemical-free floor cleaning
 - Nordic Swan Ecolabel
 - European manufacturing (short cycle)
 - Low microparticle loss rate (category A - Low)
 - The most sustainable short life 80 washes
 - Covers up to 25 m² floor space
 - Lightweight (26 g) Laundry efficient
 - Patented Ultimate technology
 - Adaptable to existing equipment
- End of life recycling, a material resource, not waste**

EN16615 STANDARD

Test carried out with distilled water on *Staphylococcus aureus* in the presence of interferential material.



Contamination zone



Cleaning pass



Direction of movement



Enumeration by dilution and inclusion of microorganisms



SAS DECITEX

has received the Nordic Ecolabel license No: 3083 0044
for the product group: 083 Supplies for microfibre based cleaning

SUSTAINABLE DEVELOPMENT GOALS



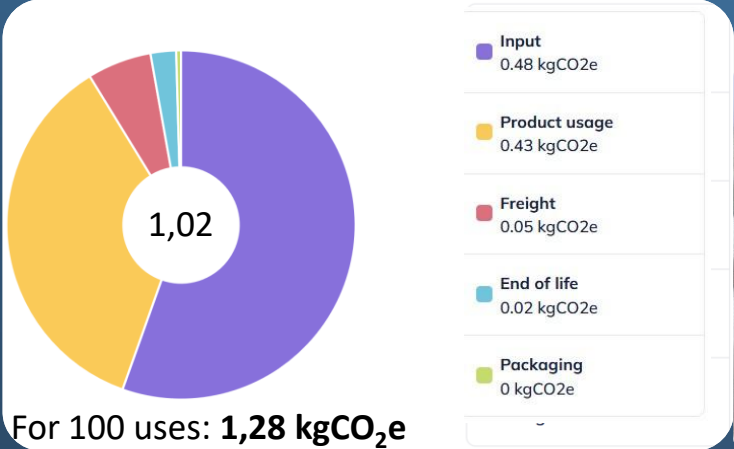
Management de la Qualité
ISO 9001:2015

Surveillance volontaire régulière

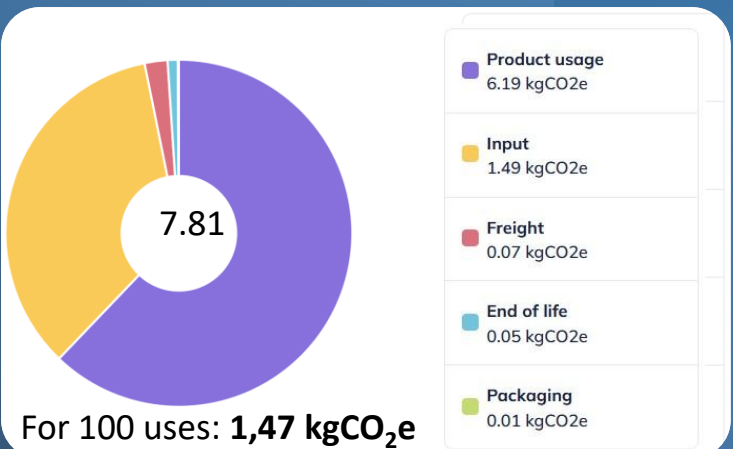


SCOPE 3 CARBON EMISSIONS PER PRODUCT

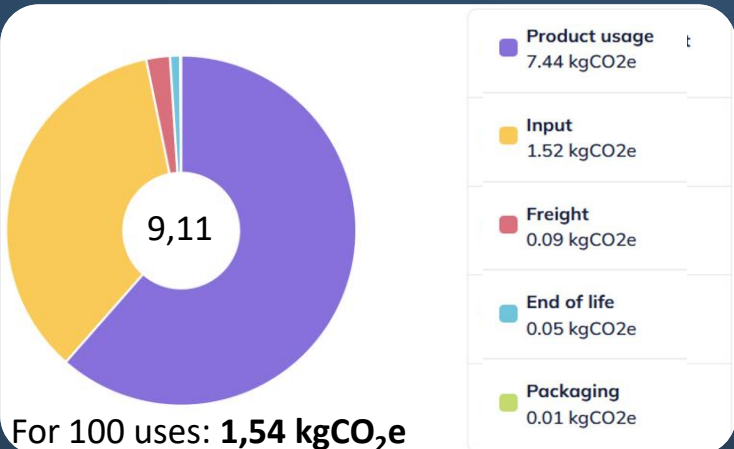
Ultimate 3D Infinite



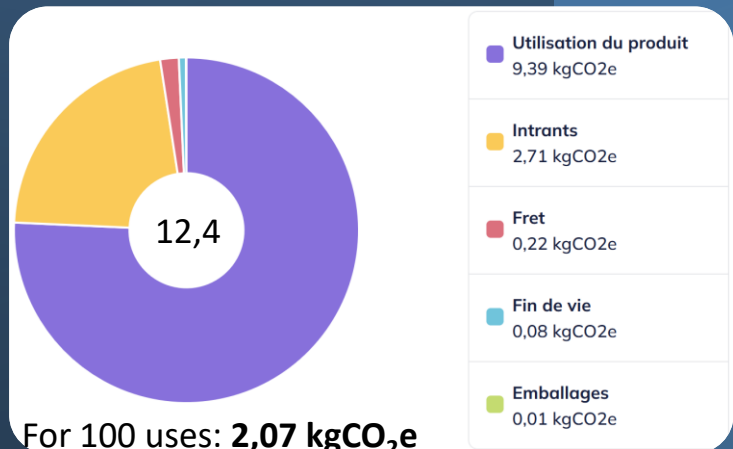
Ultimate Dx1 Velcro 44cm



Dx1 Velcro 44cm



Ultimate Duo Velcro 50cm



Study of Intensive Enhanced cleaning of the ICU Environment

Results conclude that the enhanced microfibre cleaning of high-contact areas around an ICU bed significantly reduced the number of MRSA isolates in the environment and on the hands of staff.

The effect on hand carriage suggested that MRSA was often picked up from the environment rather than directly from the patients.

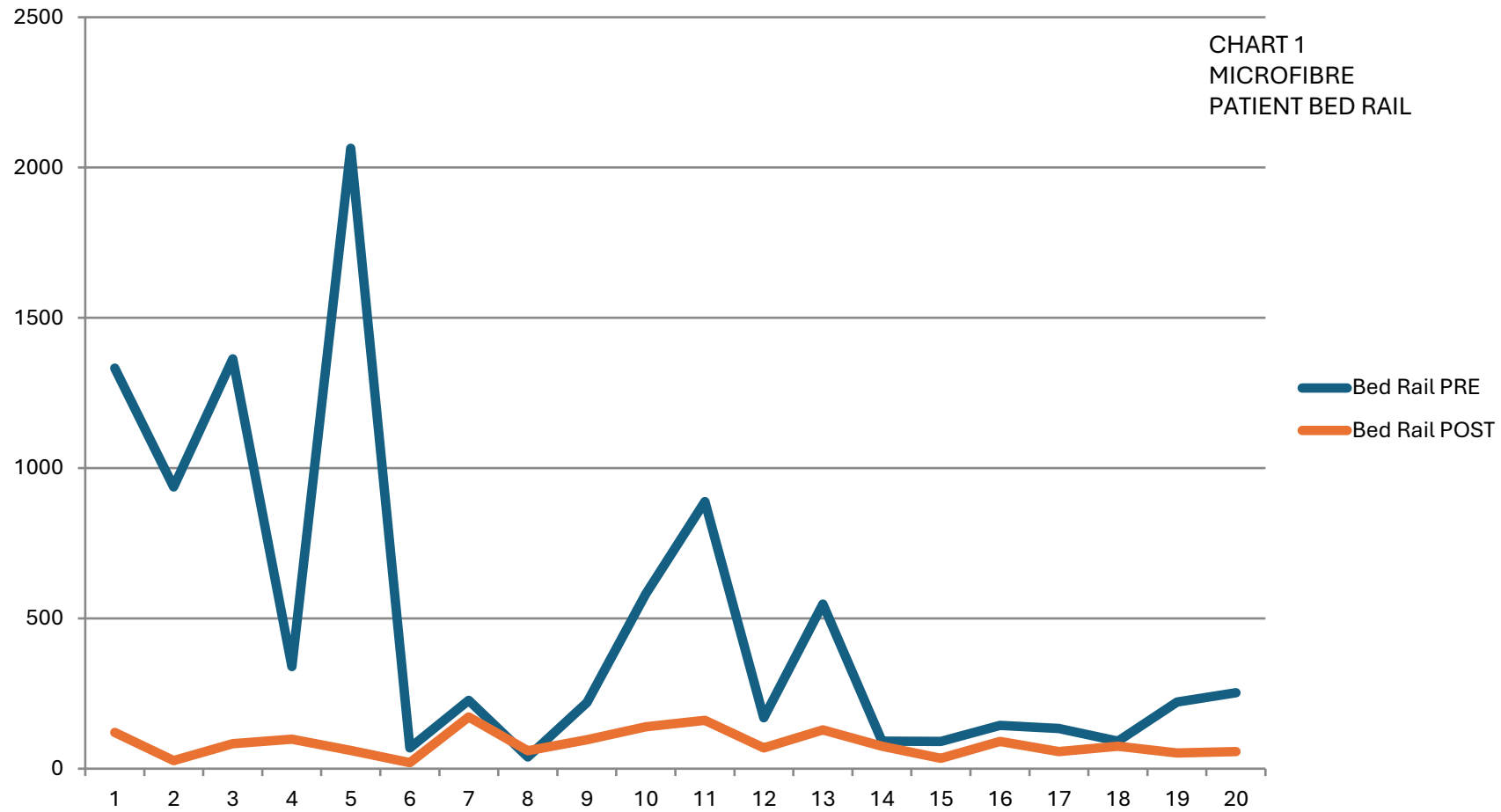
Overall bioburden in the patient environment and HCW hands reduced 40%

The impact of enhanced cleaning within the intensive care unit on contamination of the near-patient environment with hospital pathogens: A randomized crossover study in critical care units in two hospitals

APR Wilson et al, Crit Care Med 2011 Vol. 39, No. 4



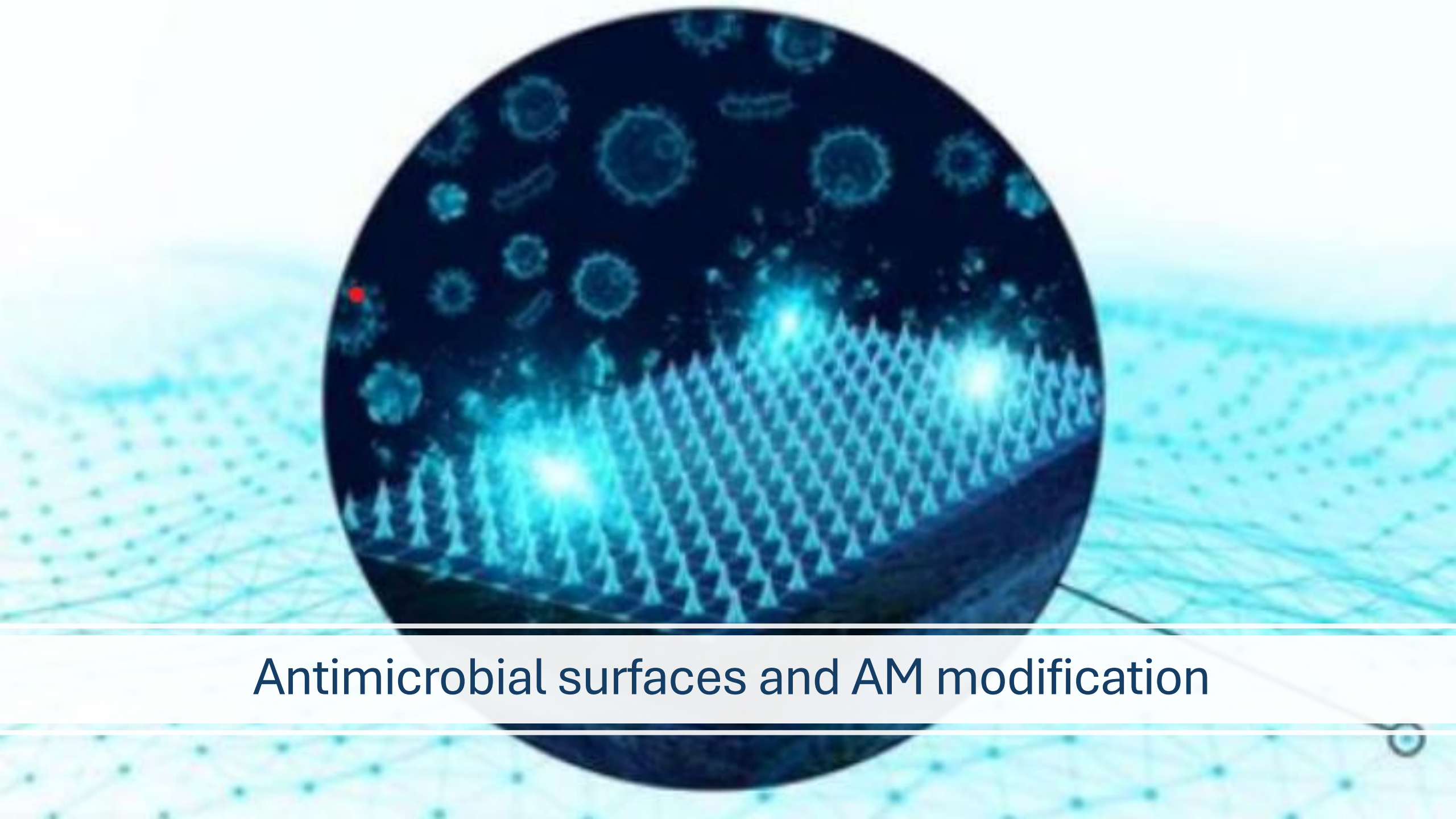
Patient Bed Rail PRE/POST Microfibre Cleaning (ATP Swab - RLU)



Mini Log5 UltraMicrofibre Cloth

- EN 16615 Test results
 - 99.9992% bacteriological reduction on *Staphylococcus aureus* (-5.11 log),
 - 99.999% on *Pseudomonas* (-5.02 log),
 - 99.992% on *Candida albicans* yeast (-4.10 log)
 - 99.987% on human Coronavirus 229E (-3.88 log).
-
- Test carried out with distilled water in the presence of interferential material.





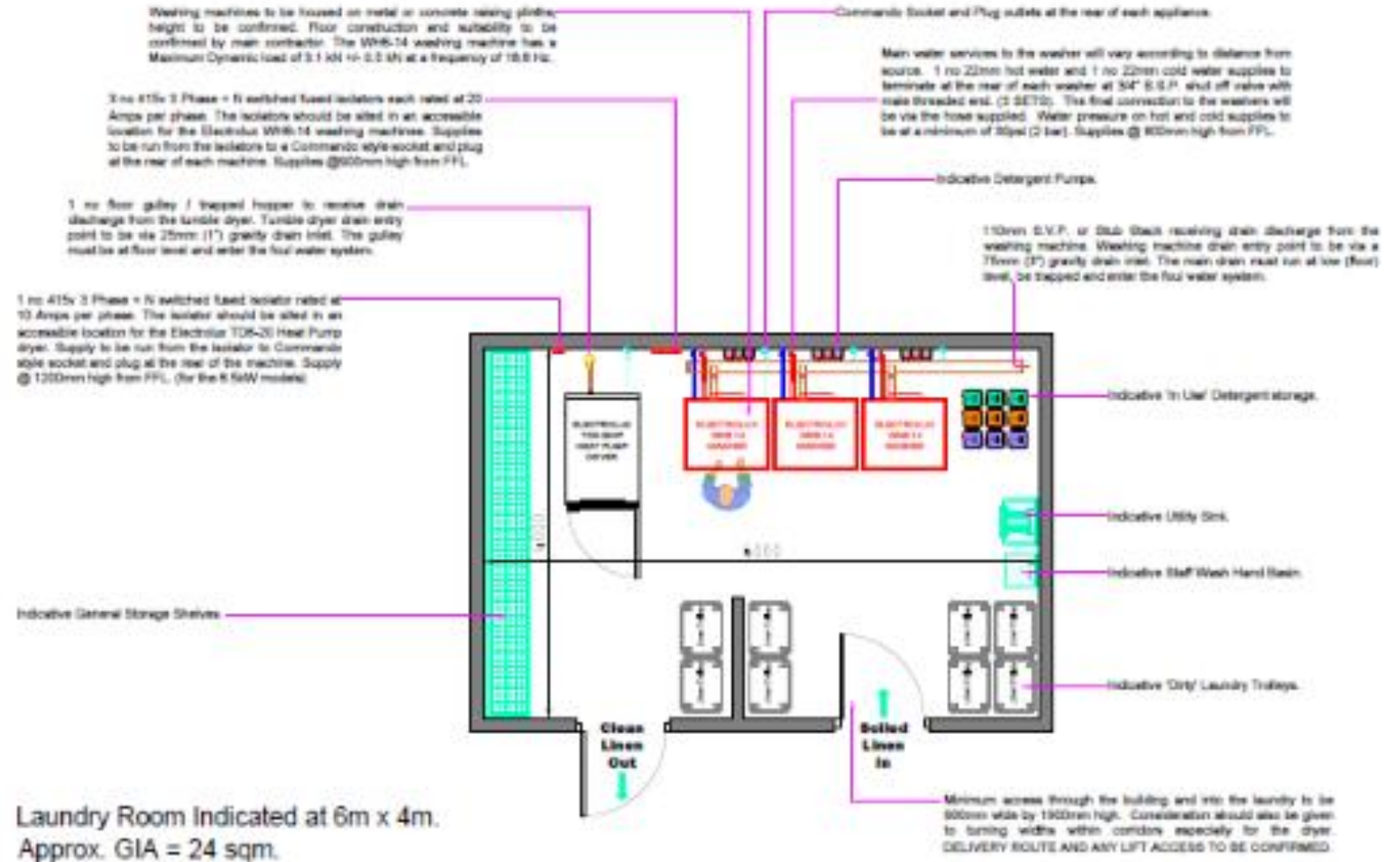
Antimicrobial surfaces and AM modification

Decontamination of medical devices of varied material surface materials and structure



Microfibre Laundry.

A limiting factor and critical control point



Environmental Cleaning Case Study 500 bed General Hospital

- **Single Use Cleaning cloth**

- Janitorial Cleaning cloths, 3500 cloths per day / 1.28 million cloths annually
- Waste disposal
- 105kg waste per day /38,325 kg annually
- Healthcare class waste (NI) disposal £23,000 + per annum

- **Microfibre launderable cloth**

- 3,500 Cloths x 3 logistics (10,500)
- 500 wash / TWO year stock
- Daily wash requirement based on 14kg washer – Seven wash cycles
- Life cycle CO2e 61,854kg
- Disposal – 273 kg / waste disposal £1,700 or textile recycled at end of year 2

Environmental Cleaning Case Study 500 bed General Hospital

Single Use socket mop

- 600 mops per day / 219,000 cloths annually
- Waste disposal 90kg waste per day /32, 850 kg annually
- Clinical waste disposal £19,700

Microfibre launderable mop

- **Short term** “Ultimate 3D” 100% recycled PET 26g flat mop 80 wash cycles
- 3600 mops annual requirement
- Daily wash requirement based on 14kg washer – TWO wash cycles
- Total Life cycle CO₂e 3,672kg
- Disposal – Nil. PET textile resource recycled

Environmental Cleaning Case Study 500 bed General Hospital

Single Use socket mop

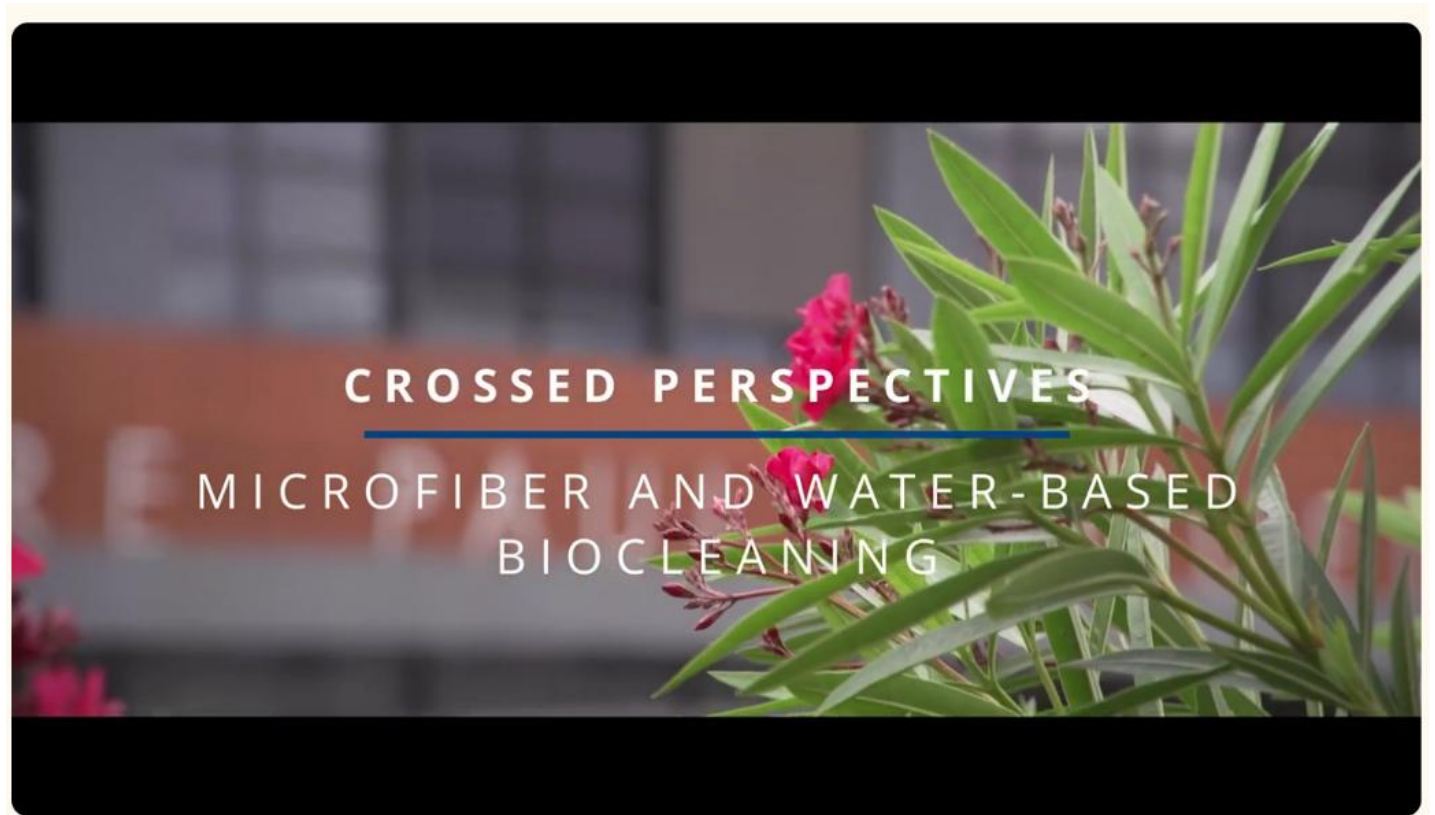
- 600 mops per day / 219,000 mops annually
- Waste disposal 90kg waste per day /32, 850 kg annually
- Clinical waste disposal £19,700

Microfibre launderable mop

- **Long term** “Ultimate DX1” 35% recycled PET 48g flat mop 350 wash cycles
- 1200 mops 2 year stock (logistics rotation)
- Daily wash requirement based on 14kg washer – Three wash cycles
- Total Life cycle CO₂e 9.372 kg
- Disposal – 57.6 kg / £100 or textile resource recycled

Microfiber BioCleaning
Implementation
documentary
Toulon, Dijon and Geneva
University Hospitals

[https://www.youtube.com/
watch?v=qxTEmkKmzyl](https://www.youtube.com/watch?v=qxTEmkKmzyl)



Crossed Perspectives - Microfiber and water-based biocleaning [English]



Environmental Decontamination Opportunities for Advancing Capability and Sustainability

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Envirosmart Applied Technologies