

### REPORTING & TRACEABILITY

A major advantage of using robotic technology over manual disinfection systems is traceability.

The UVD Robot® will repeat the validated room disinfection precisely time and time again. If it does not, it will deliver a fail report. Other automated devices cannot reproduce the same level of accountability due to the human factor in positioning the device.

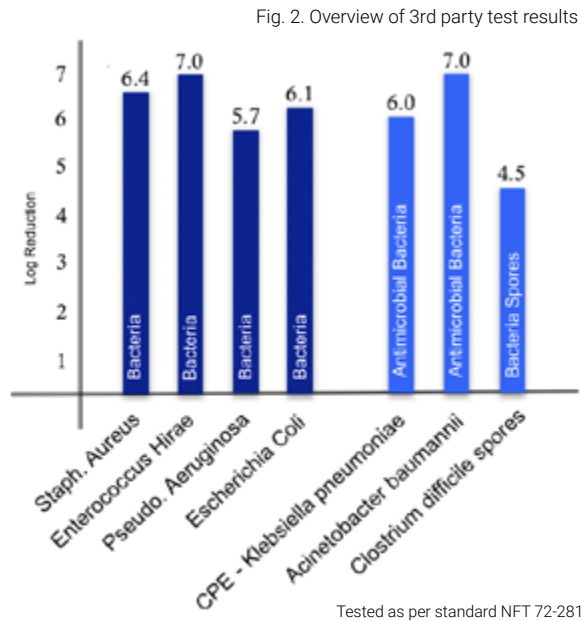
A disinfection report is created automatically after every cycle and emailed to the responsible recipient. These reports can be archived and accessed at any time in the future.

### CONCLUSIVE RESULTS

Independent accredited third party testing in both The UK and in Denmark proves the UVD Robot® reduces microorganisms by as much as 99.99999% (see Fig. 2). Yellow UV-C dosimeters used at the hospital to measure UV-C radiation levels confirm without any doubt, the UVD Robot's ability to autonomously reposition itself multiple times and to disinfect during repositioning are critical factors in achieving the highest possible level of disinfection.

The dosimeters react to the accumulated amount of UV-C they have been exposed to. The pink colour (right) indicates 2-3 times the dosage required to reduce CPE/CRE,VRE, E.Coli and MRSA etc. by 99.9999%.

Pictures right shows dosimeter results: A. Operating table head end, B. Floor, C. All surfaces of theatre lighting handgrip.

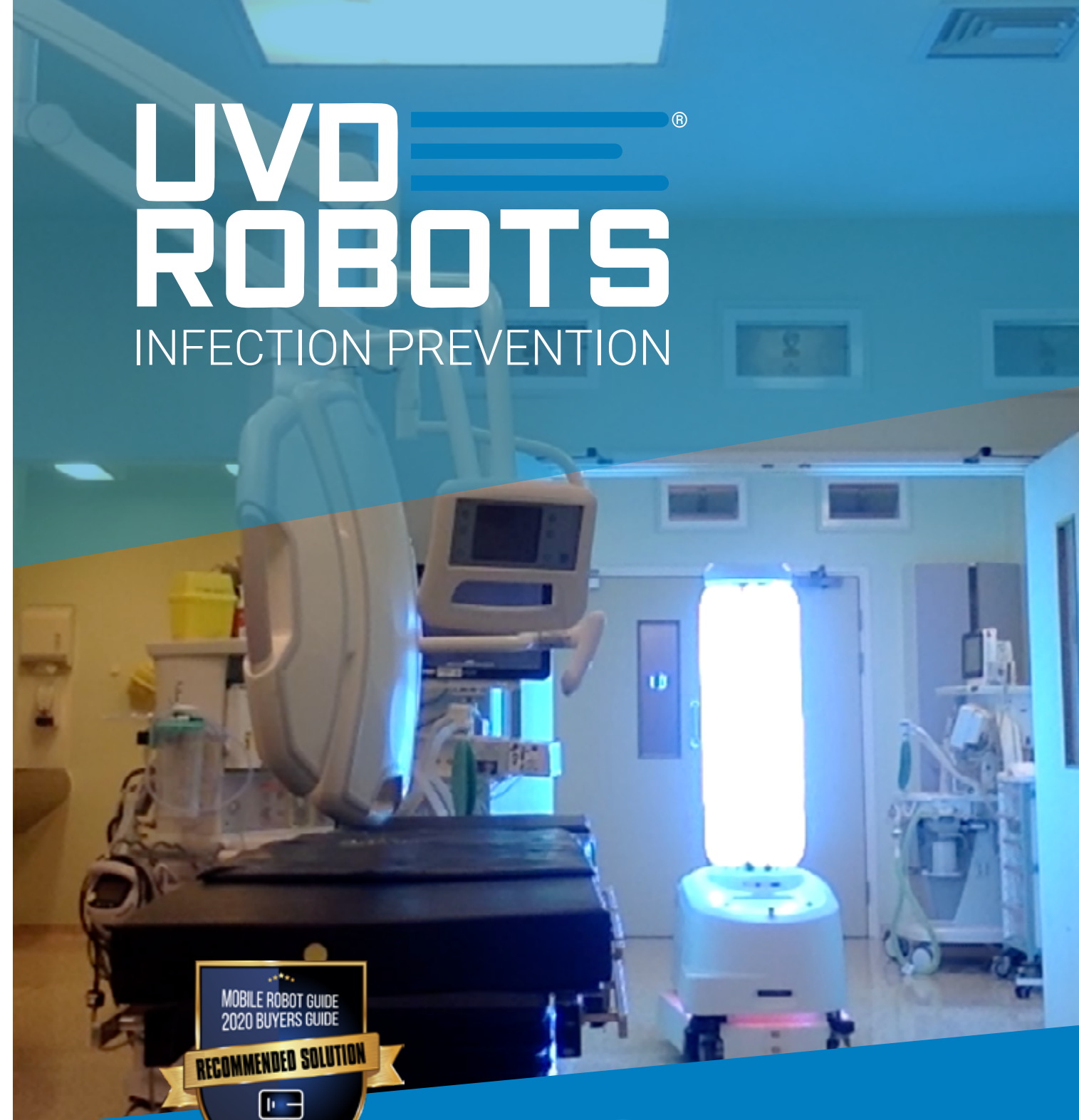


“For me, UVD Robots® are amazing and should be one of the seven cleaning wonders of the world. The UVD Robot will revolutionise preventative cleaning within a healthcare setting. We've just not had any similar piece of equipment that has so much flexibility to go and decontaminate such large areas.”

**PAUL CLARKE**  
Head of Facilities Management Services at a leading UK Hospital

# UVD ROBOTS®

## INFECTION PREVENTION



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**IERA AWARD.**  
Innovation and Entrepreneurship in Robotics and Automation

The UVD Robot is highly effective in the inactivation of harmful microorganisms and it is deployed by hospitals all over the world to protect vulnerable patients from hospital acquired infections. The clinical efficacy of the UVD Robot has been independently tested and validated at the following institutes:



UVD Robots v. 2020-01 GB

# REDUCE SURGICAL SITE INFECTION

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## THE ANNUAL STATISTICS OF SURGICAL SITE INFECTION IN THE USA ALONE:

- Average incidence ranges from **160,000 to 300,000 cases**
- Estimated cost ranges between **\$3.5 and \$10 billion**
- SSI is the most common and costly of all HAIs
- Prolongs hospitalisation by **9.7 days**

## Pushing back UV-C disinfection boundaries in the fight to reduce **Surgical Site Infection (SSI)**

On Sunday, December 15th 2019, something previously unimaginable in the world of infection prevention happened - the disinfection of an entire theatre suite of 17 rooms including corridors. The disinfection comprised of 60 separate disinfection positions (see disinfection map right). The entire disinfection was completed in under 2 hours and involved less than 10 minutes manual labour. The theatre suite in question is made up of a shared recovery area and 4 individual theatre units, each with its own anaesthetic room, scrub room, and prep room.

Depending on the situation and time available, theatre staff are able to select the type of disinfection on the robot's tablet (see Fig. 1).

Disinfection types available to the operator are as follows:

- **Theatre Suite A complete**  
(Robot disinfects entire suite, positions 1-60 in approx 2 hours)
- **Individual Theatre Routine** for example Theatre 1  
(Robot disinfects a single theatre unit, in this case positions 1-12 in less than 10 minutes, recommended for between procedures)
- **Individual Theatre Intense** for example Theatre 1  
(Robot disinfects a single theatre unit, in this case positions 1-12 in approx 60 minutes. Recommended after confirmed cases of infection)

To summarise, the introduction of UVD Robots® into this theatre suite has illustrated just how state-of-the-art robotic technology can drastically increase the coverage of automated infection prevention procedures within a theatre setting.

For the first time in history, theatre personnel are able to routinely disinfect between procedures, as well as carry out a daily yet thorough disinfection of the complete theatre suite. All this in less than 2 hours using minimal labour resources.

## Welcome to Theatre Suite A at a leading UK Hospital and next generation **robotic disinfection solutions**

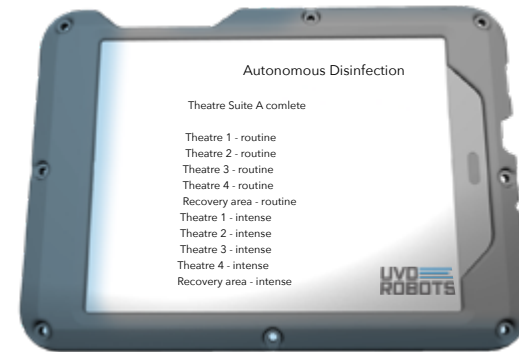
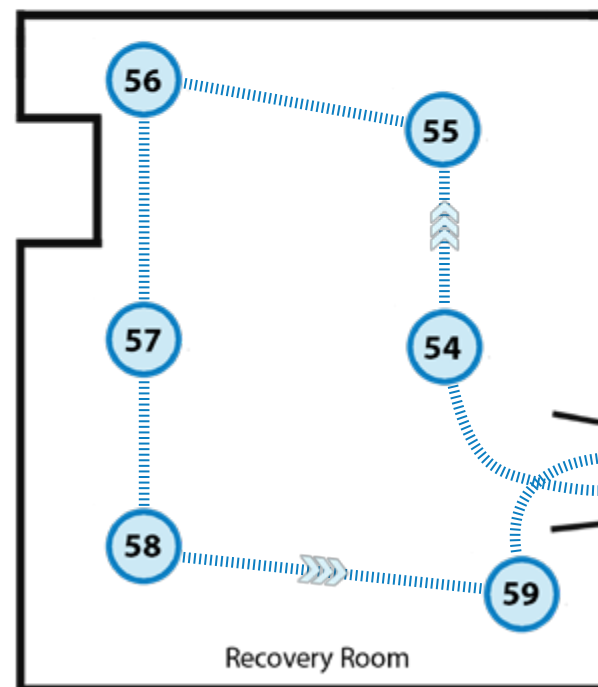
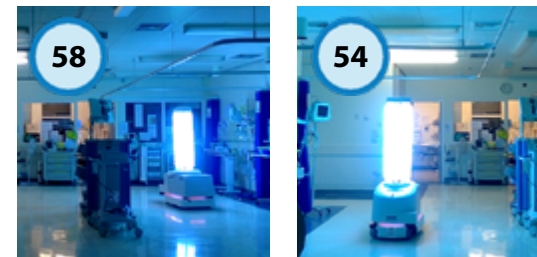
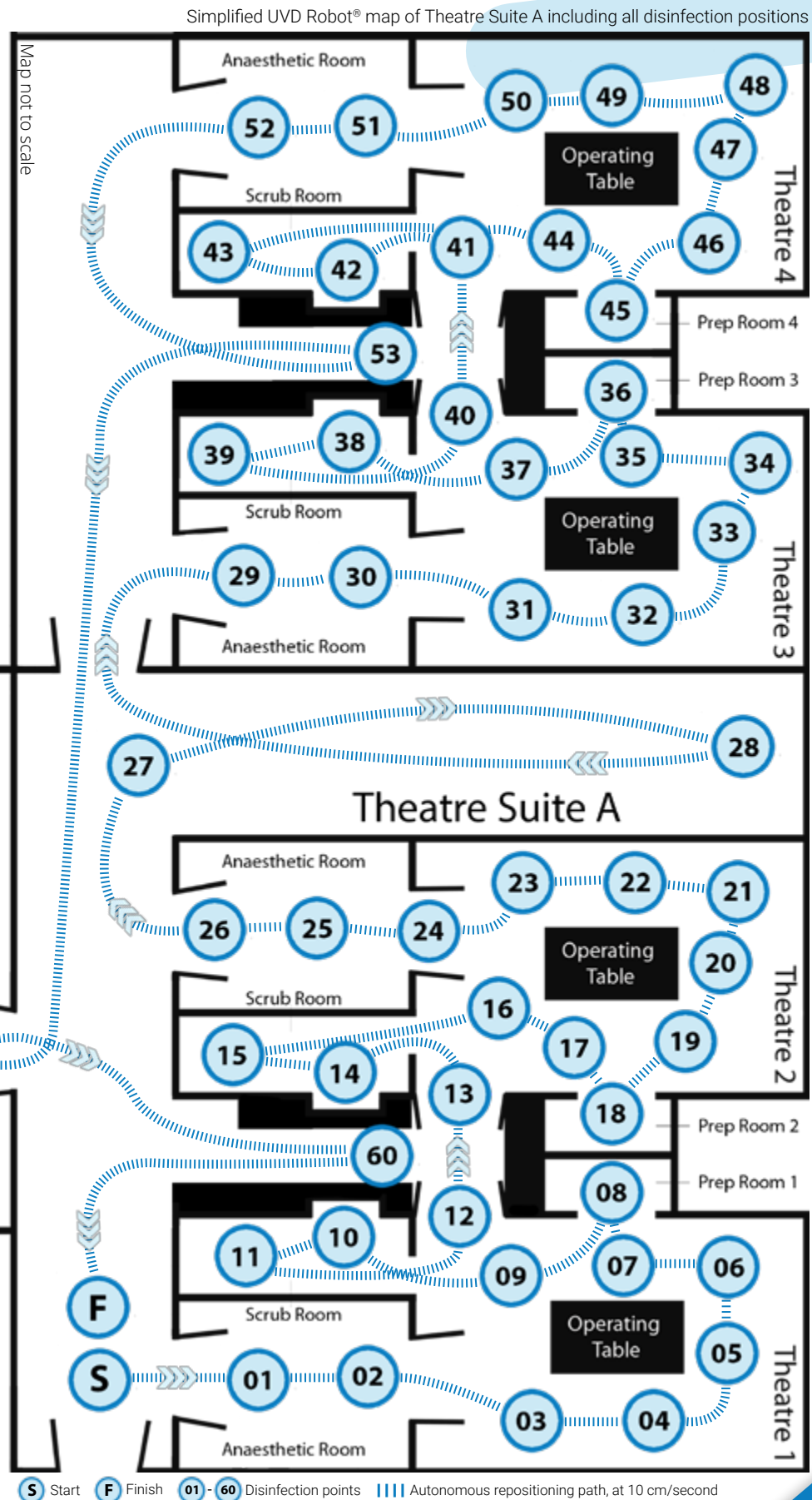


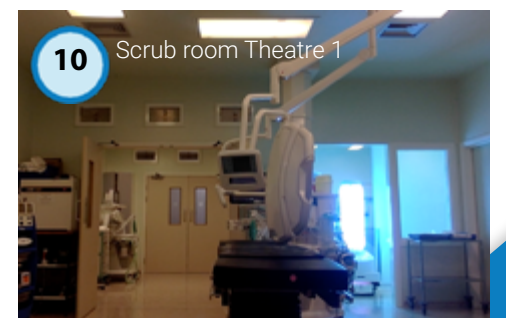
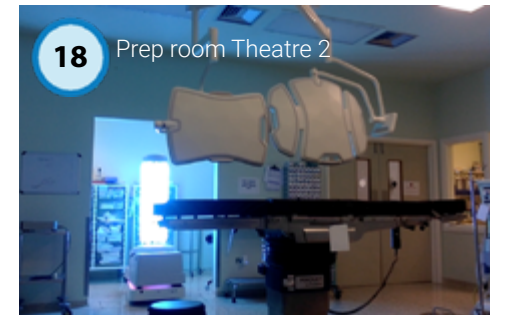
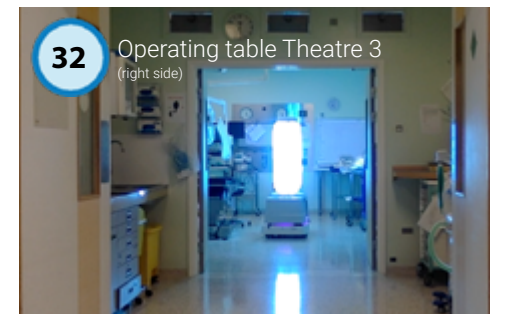
Fig. 1 - Theatre staff select disinfection type



Click on play to watch film  
[vimeo.com/384013239](https://vimeo.com/384013239)



Images taken during live disinfection



S Start F Finish 01-60 Disinfection points Autonomous repositioning path, at 10 cm/second