

99Technologies

Advanced and Innovative Technology for Tangible Progress In Disinfection

99T High-Level No-Touch Disinfection Technologies: Moving into Food & Agriculture Business

Tel Aviv, 30 November 2016

99Technologies SA

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99Technologies in a nutshell



Presentation contents



Company profile



Our technology in a nutshell



1. Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008 - http://www.cdc.gov/hicpac/Disinfection_Sterilization/1_summaryIntroMethTerms.html

Components of an effective environmental disinfection system



Efficacy

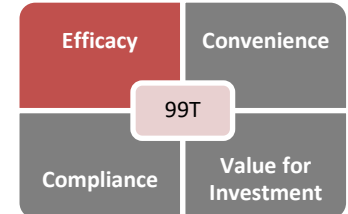
Convenience

Compliance

Value for Investment



The road to validation



Regulatory Compliance: Tests in Vitro



Organisms tested

Aspergillus aeruginosa, Staphylococcus aureus

Aspergillus aeruginosa, Staphylococcus aureus
Escherichia coli, Enterococcus hirae

Mycobacterium pneumophila

Aspergillus aeruginosa, Staphylococcus aureus
Escherichia coli, Enterococcus hirae, Acinetobacter
Staphylococcus aureus, Enterococcus
Klebsiella pneumoniae, Salmonella
Listeria monocytogenes

Candida, Aspergillus niger

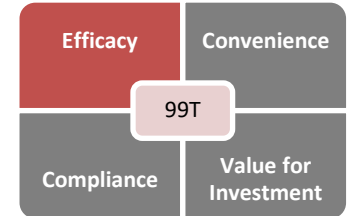
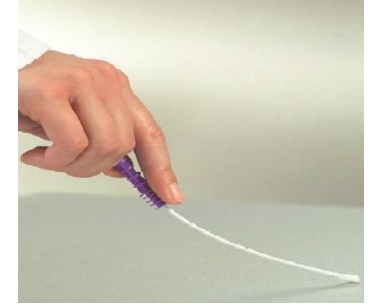
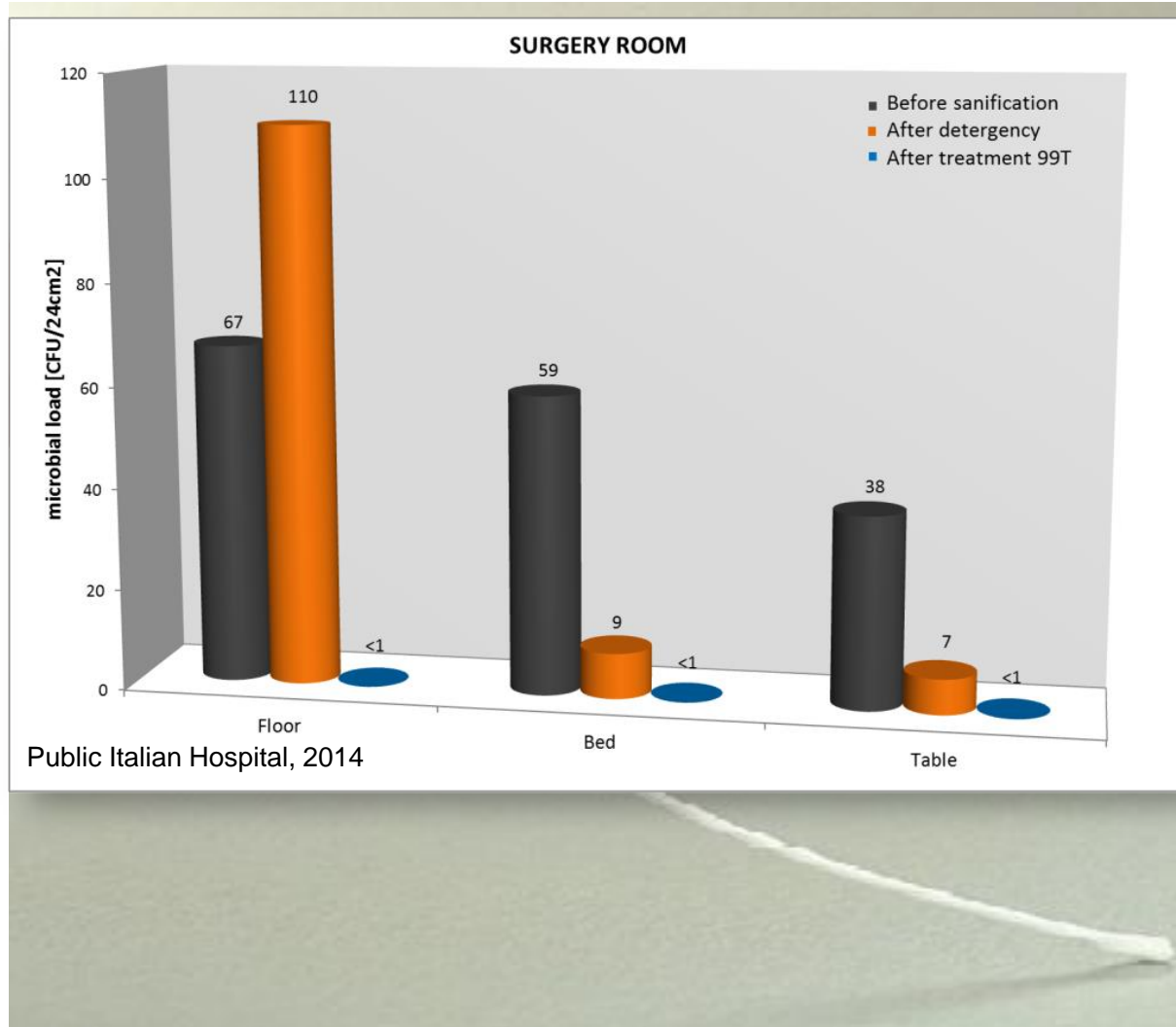
Mycobacterium Avium, Mycobacterium Terraе

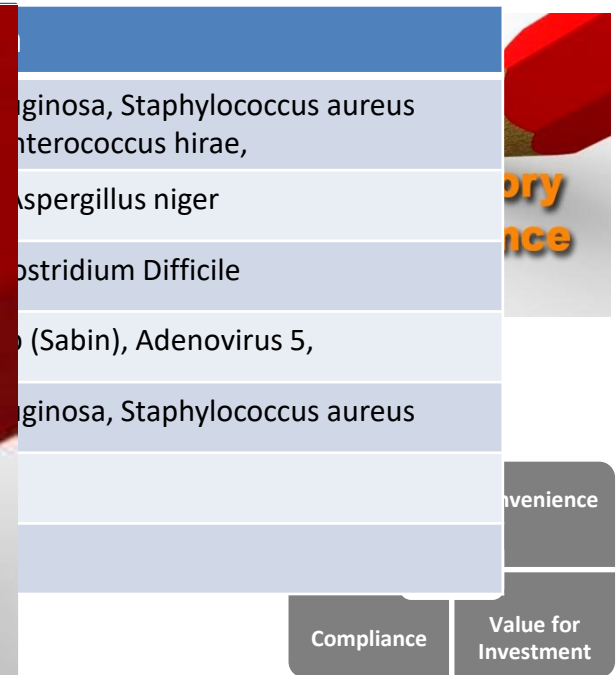
Candida, Aspergillus niger

Shigella, Clostridium Difficile

Sc-2ab (Sabin), Adenovirus 5,

Technology's application: Test in Vivo





Actual testing for aerosol disinfection: the Spiez lab

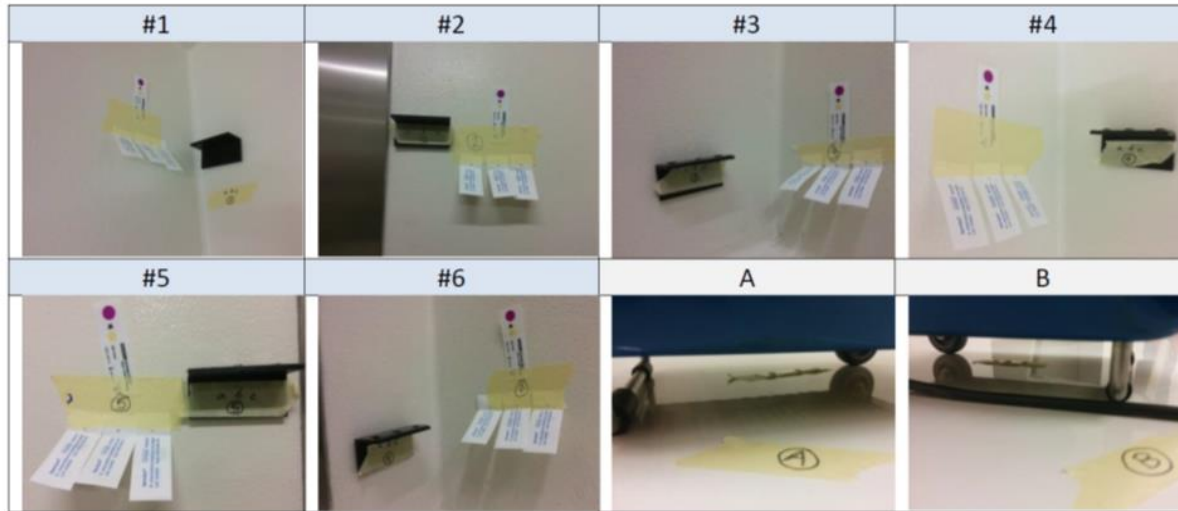
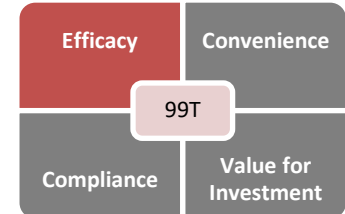


Table 1

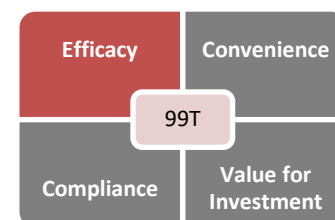


Positive (3 left vials) and negative (3 right vials) controls

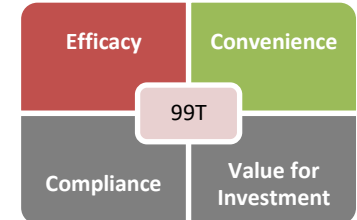
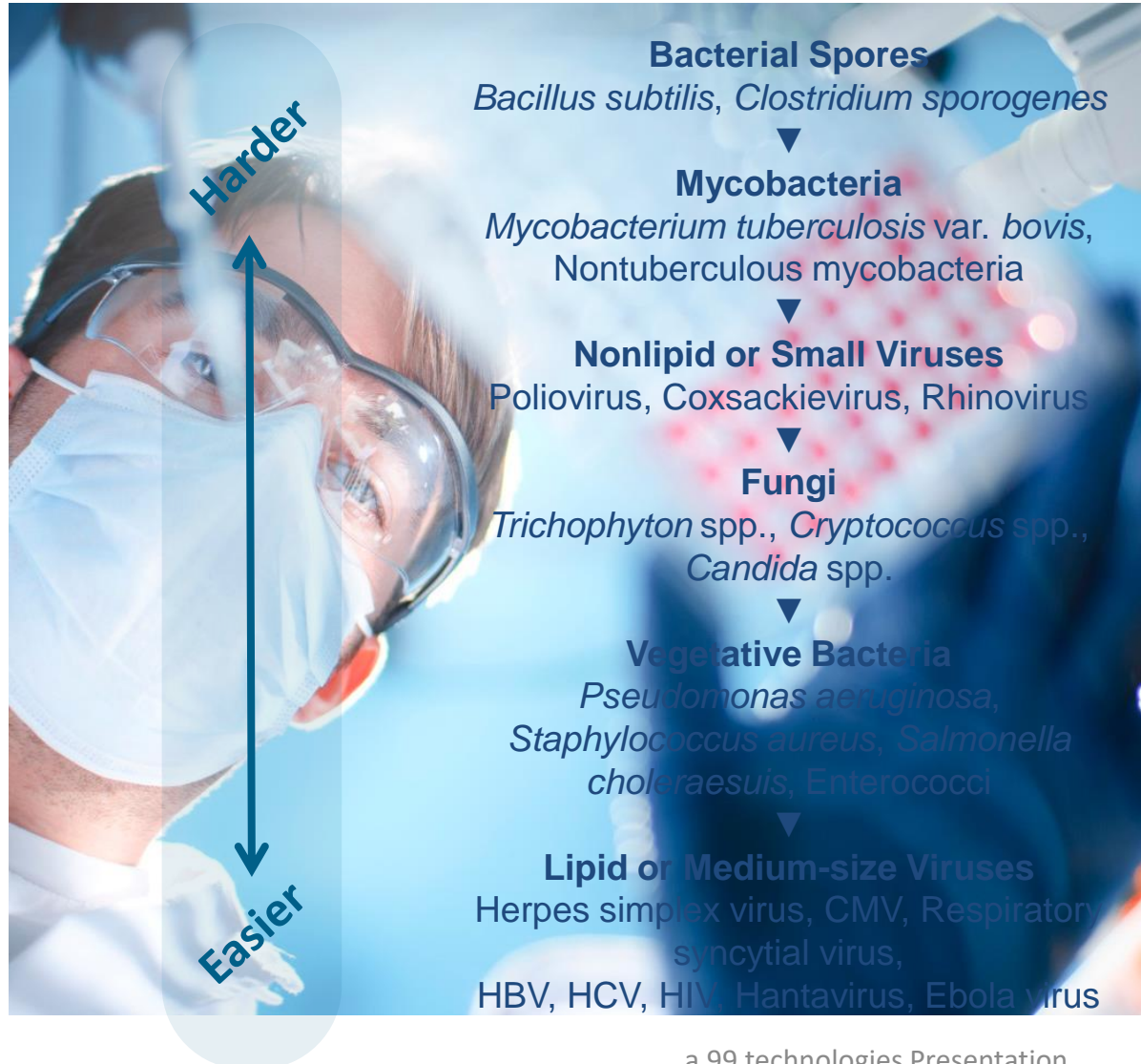
Table 3



Test in various clinical settings



The CDC scale of germicidal resistance¹



Biosafety in Microbiological and
Biomedical Laboratories
http://www.cdc.gov/biosafety/publications/bmbl5/bmbl5_appendix.pdf

How does it work



Put the machine into
a rooms' corner

How does it work



**Disinfectant solution
transformed
into a gas like
Hyper DRY Mist**

**Hundreds of millions of
sub-micron droplets
($<1 \mu$ and about
 $75\% < 0.5 \mu$)
loaded with hydrogen
peroxide molecules and
positive silver ions
uniformly distributed all
over the environment**

**Sub-micron coating with
a great biocidal
efficiency generated**

How does it work



Instantly, the hydrogen peroxide attacks all organic substances which it comes in contact with

Positive silver ions complete the biocidal action

Inactivation of viruses, bacteria, spores, fungi and bio-film present on surfaces ensuring a prolonged biocidal effect

How does it work

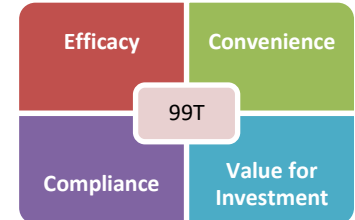


**Free radicals formed
by the hydrogen
peroxide quickly
transform into oxygen**

**No harmful residue left
in the air**

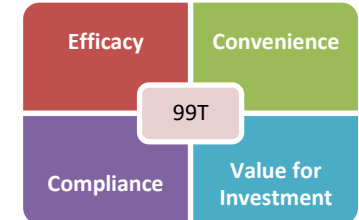
**After a shortened
period of time, it is
possible to set up for
reuse the treated areas**

Quantitative Microbial Risk Assessment¹



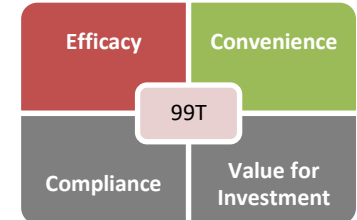
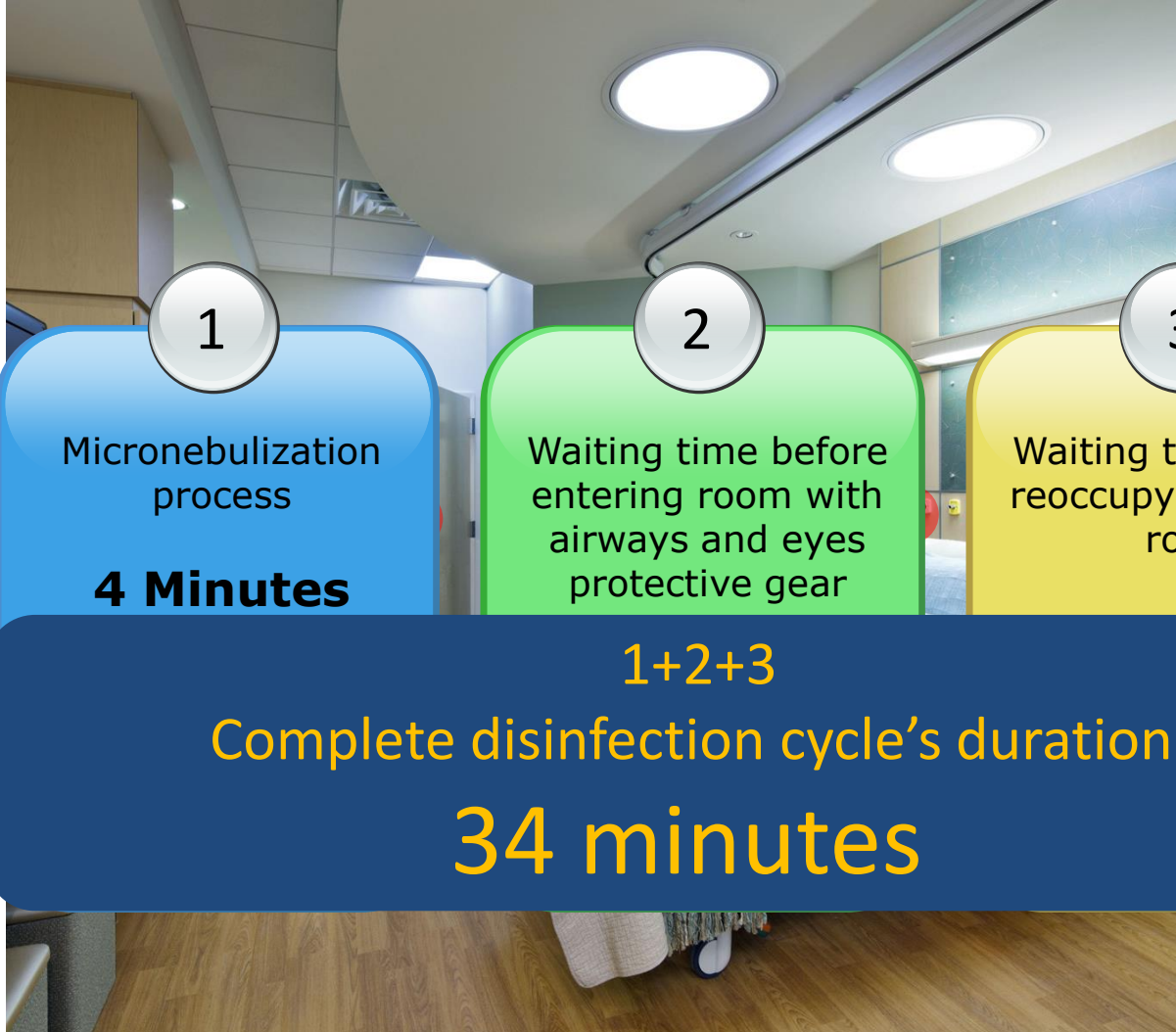
1,0Ryan et al., Application of quantitative microbial risk assessment for selection of microbial reduction targets for hard surface disinfectants, American Journal of Infection Control

Quantitative Microbial Risk Assessment¹

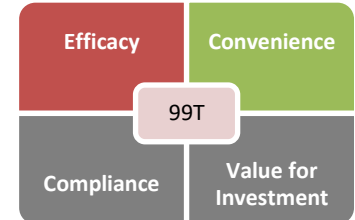


1,0Ryan et al., Application of quantitative microbial risk assessment for selection of microbial reduction targets for hard surface disinfectants, American Journal of Infection Control

Protocols



Protocols



Elevated degree of flexibility, from preventive to sterilization
Healthcare facility's infection control determines on the basis of QMRA



1

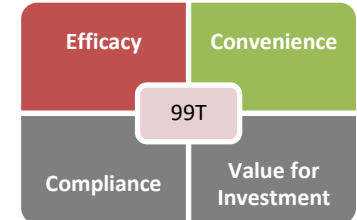
**Microbial load
levels
assessment**

2

**Take into
consideration
role of air
conditioning or
ventilation**

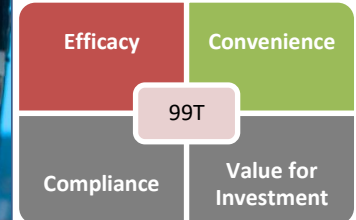
3

**Adjust intensity
of treatment up
to sterilization**



Disinfectant solution characteristics

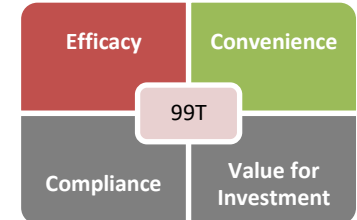
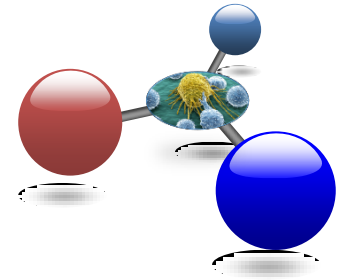
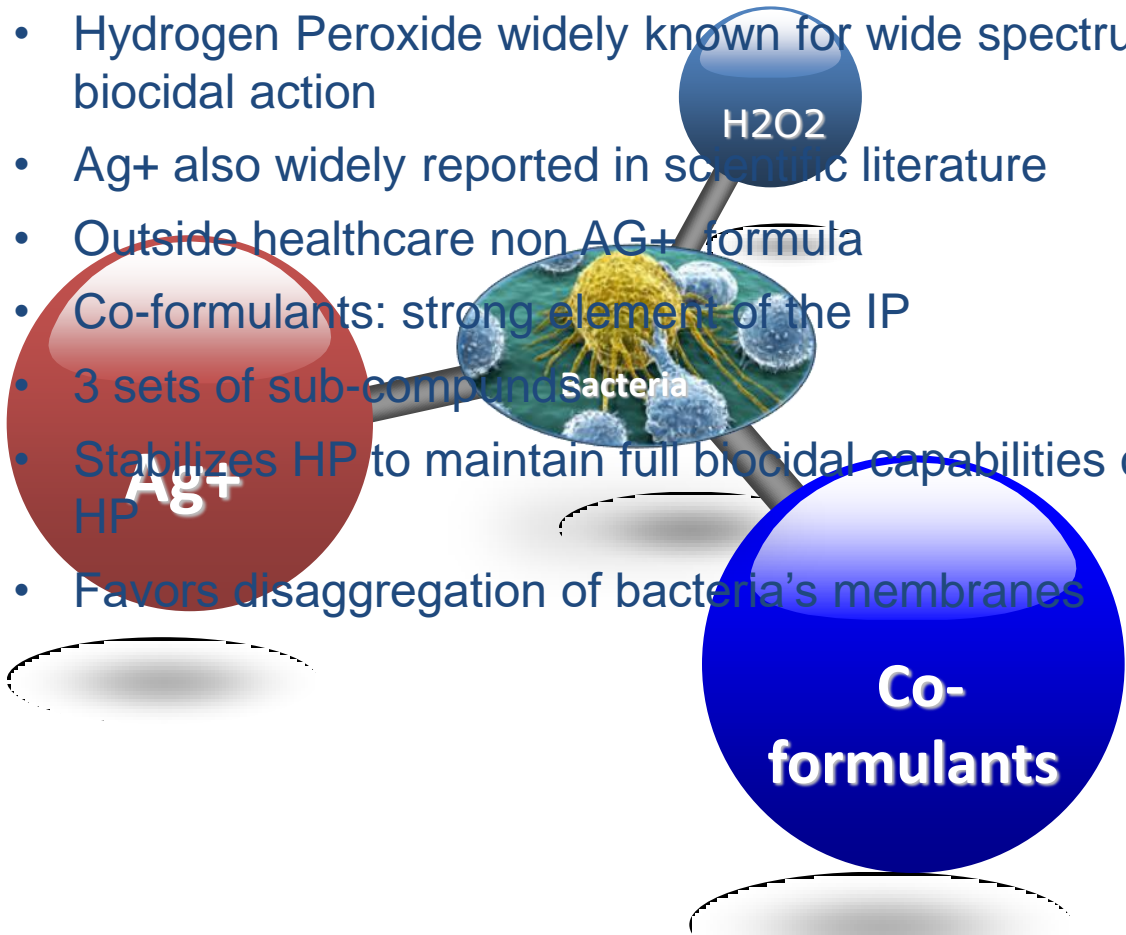
What we set out to achieve



Disinfectant solution characteristics

A three-pronged disinfectant action

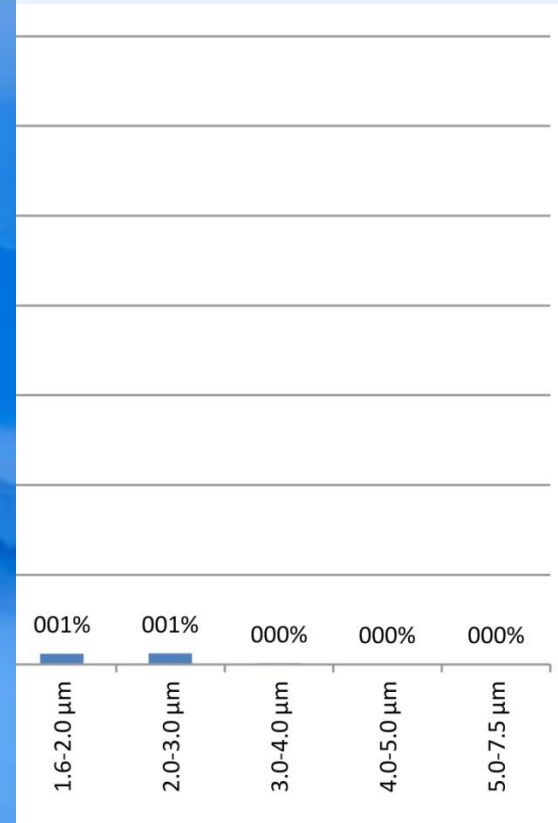
- Hydrogen Peroxide widely known for wide spectrum biocidal action
- Ag⁺ also widely reported in scientific literature
- Outside healthcare non AG⁺ formula
- Co-formulants: strong element of the IP
- 3 sets of sub-compounds
- Stabilizes HP to maintain full biocidal capabilities of HP
- Favors disaggregation of bacteria's membranes



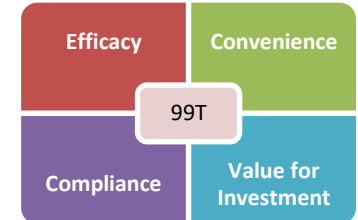
HyperDRYMist® characteristics



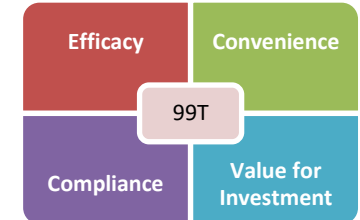
0.50µm



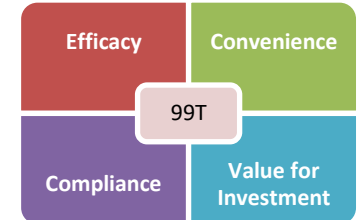
Technology's strong points



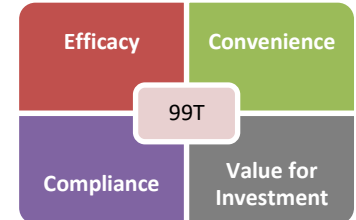
What's transferrable to F&A



Possible applications for F&A

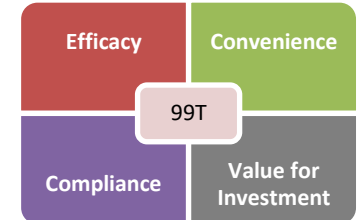


Modulators Micro-Nebulizers

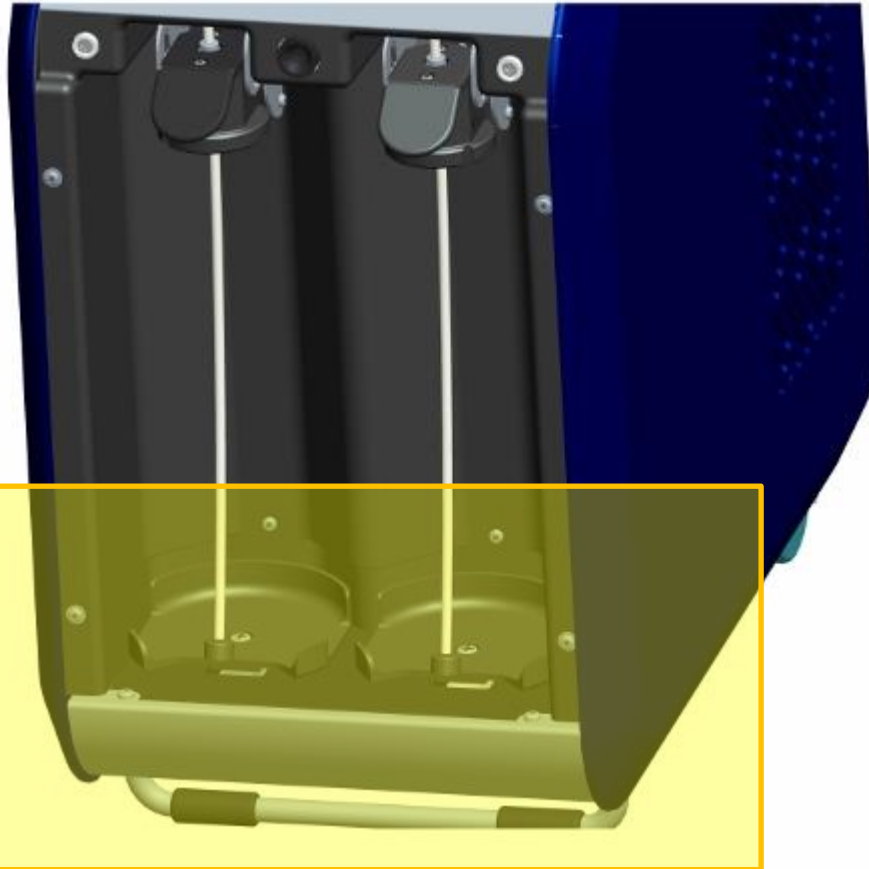


Solution's Bottle RFID RW tag

- Rewritable RFID tag on each bottle
- Modulator for individual bottle
- Type of disinfection contained
- Bottle's "life" recorded
- No tampering
- Guaranteed disinfection

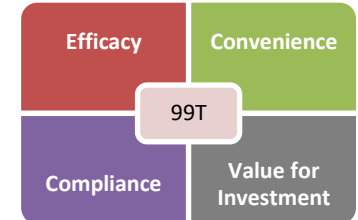


High quality micro-nebulization



Modulator can
host 2 1-liter
bottles

Gauges to the
gram
consumption



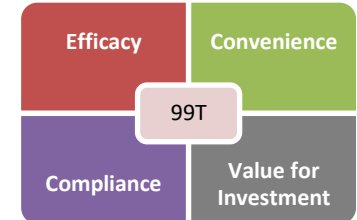
High quality micro-nebulization



No tank

Virtually no waste

Automatic bottle
switch when
bottle empty

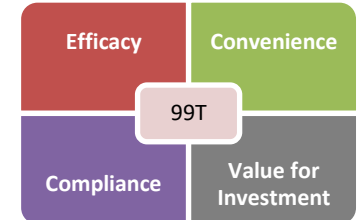


High quality micro-nebulization

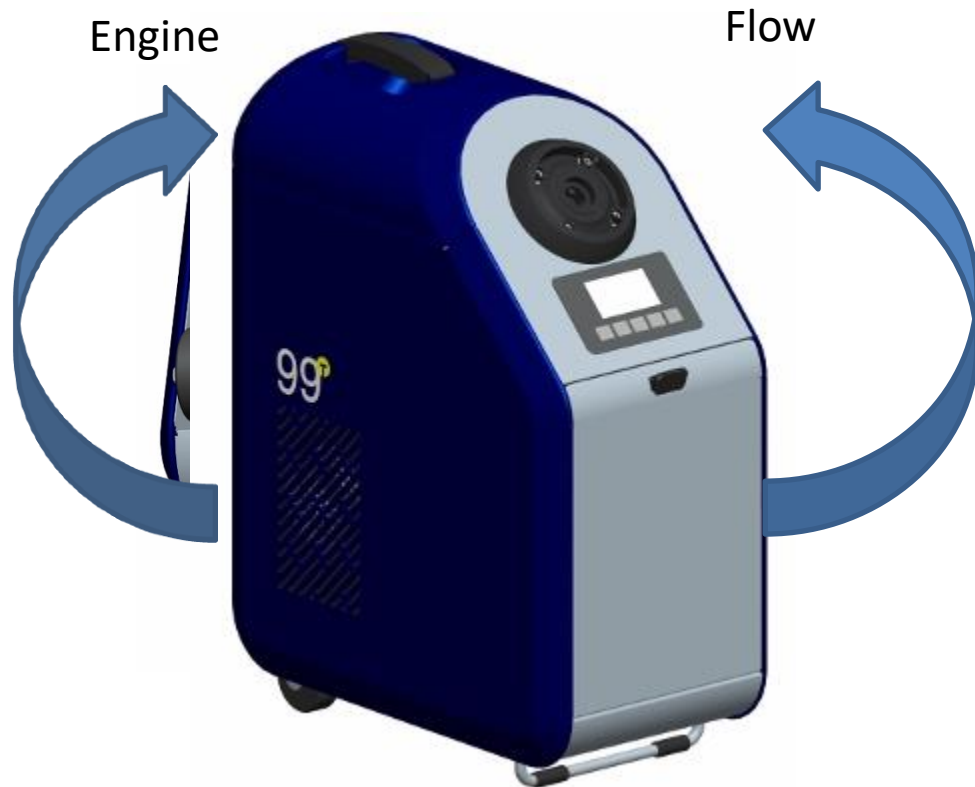


Easy bottle
replacement

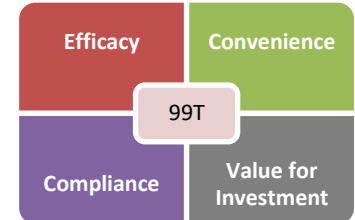
Seamless
disinfection
operations



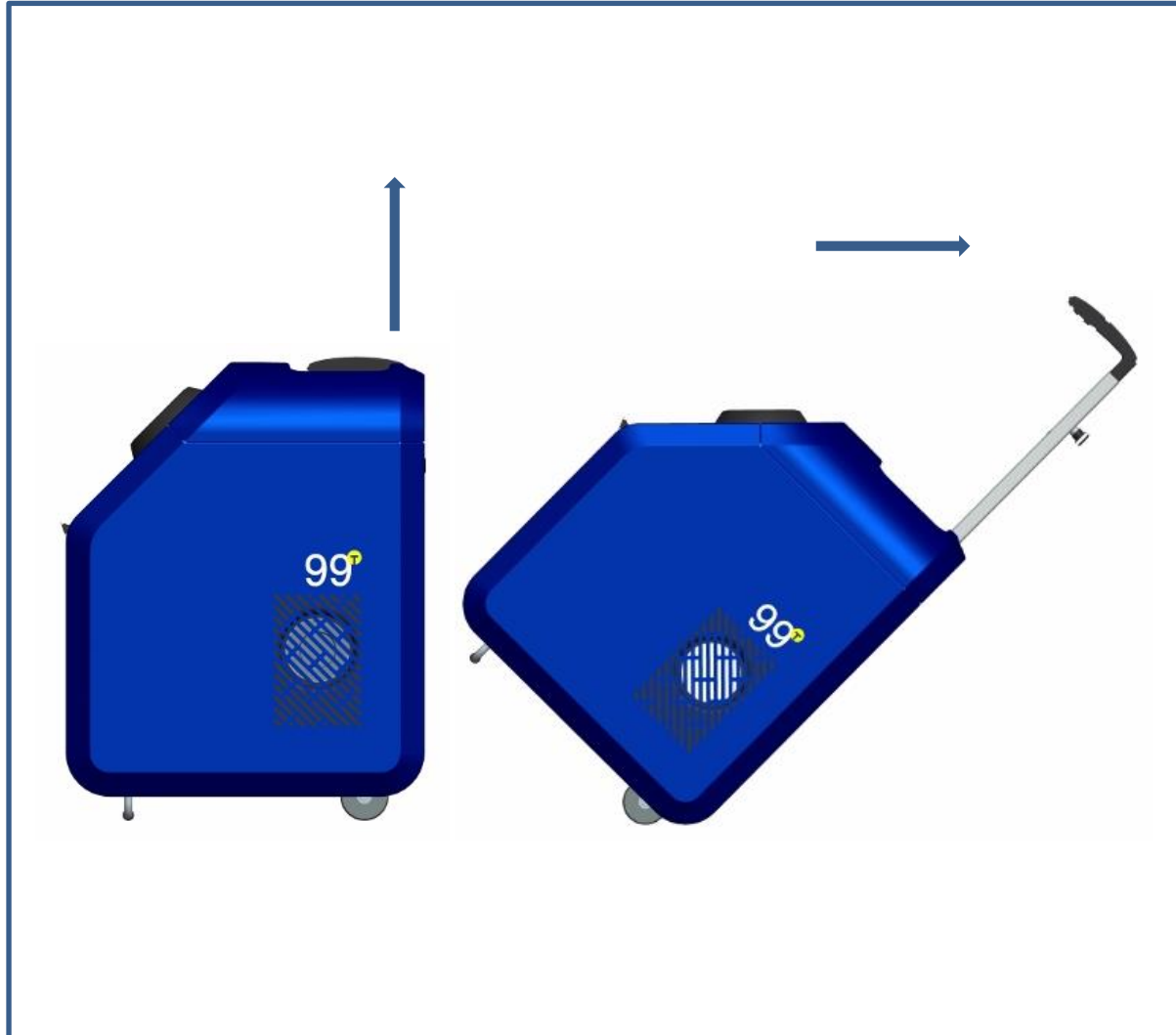
Clean, powerful, and... hearable flow



Air intake separation
HEPA level filtering of
engine's cooling air
No harmful particles
emitted by machine



Portability for agility and speed of use

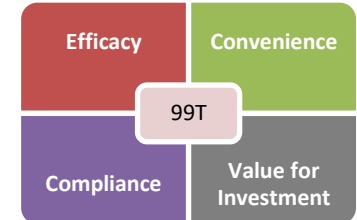


Actual Size:

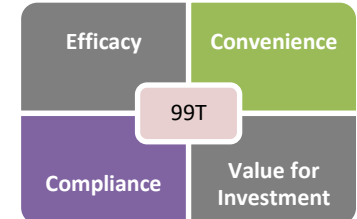
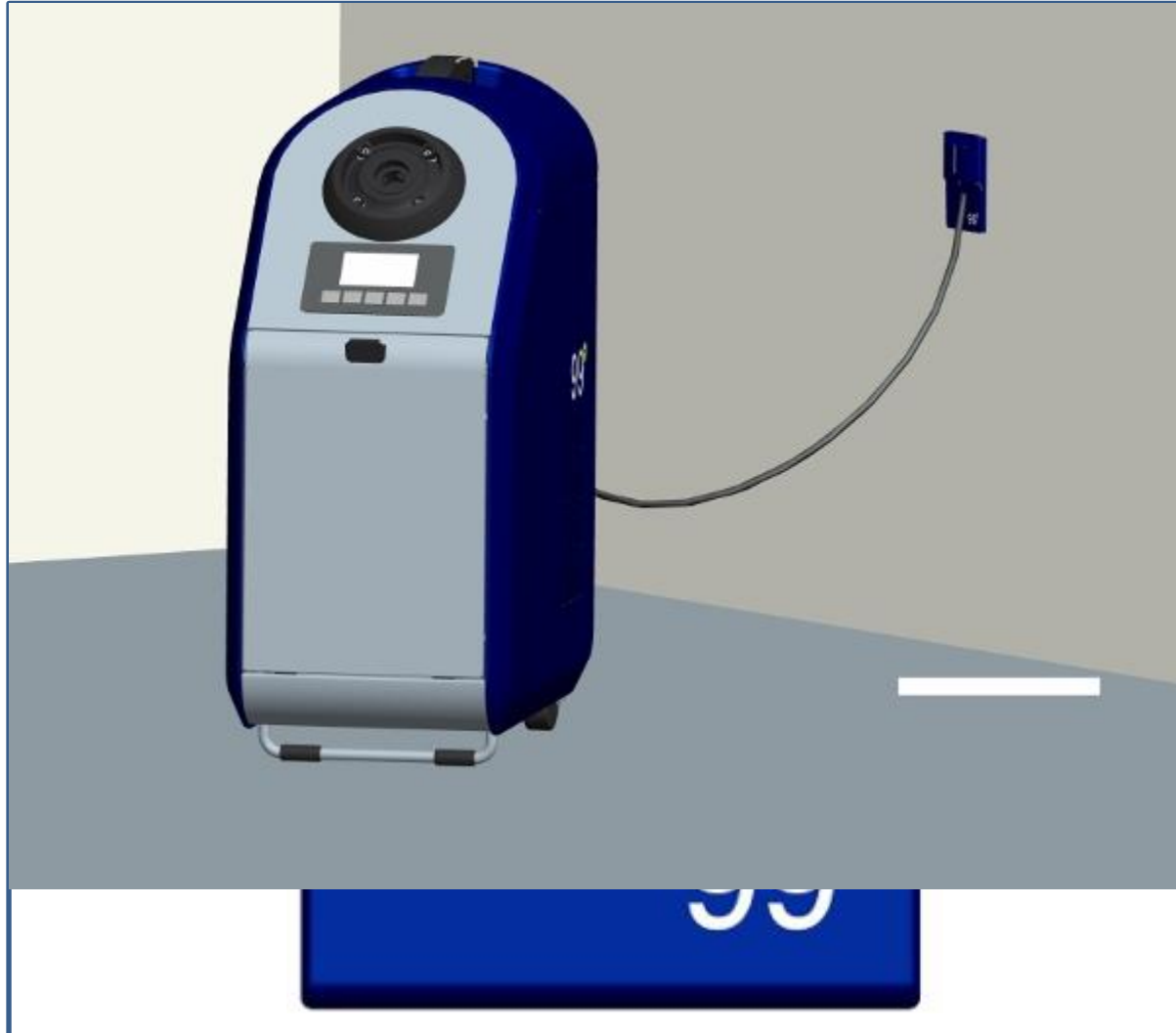
H 58 cm

D 45 cm

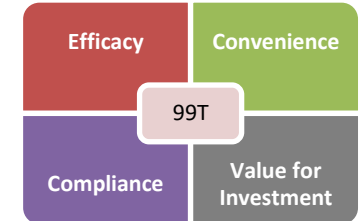
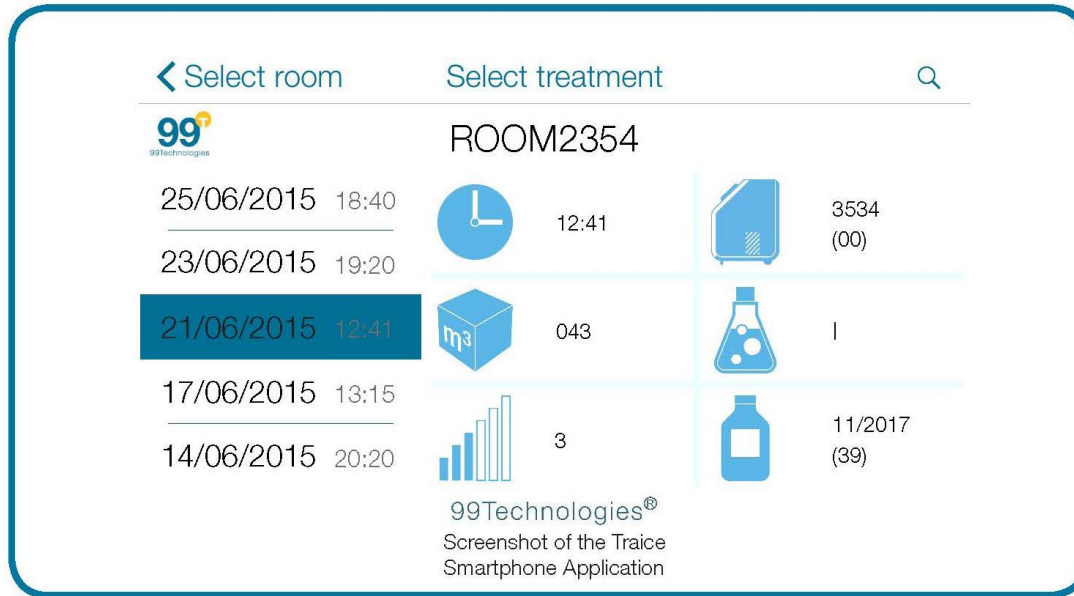
W 25 cm



Interactive Room ID Tag



- Two sides of compliance
 - A) Correct process execution



Coming to full circle

Efficacy

Convenience

99^T

99Technologies

Compliance

**Value for
Investment**

**Thank You for
Your Kind Attention**