



robota

one solution for sterilization

The **automated sterilization** for **clinics** and **hospitals**



The problem

Sterilization is the only activity providing clean instruments for medical structures.



Labor intensive



Safety for medical personnel and patients: PPE



Errors: 8,51 % of instruments repeat the process



Regolutary compliance: impossible for small clinics



Waste production: latex gloves x year



Unkown sterlization problems

+ **100.000** associated **deaths**/year in Europe

+ **80.000**/year operator hiv hbv hcv **infected**

7 B €/year HAI (Hospital acquired infection) Costs

Water/year 250M m³=12,5M family= **50M people**

CO₂/year 2,2M t (disposables excluded)= **7,5M cars**






Energy 9 GVh/year=3,2M family= **13M people**

(1) WHO. (2016). Hand Hygiene and the Surgical Patient Journey. http://www.who.int/gpsc/5may/EN_PSP_GPSC1_5May_2016/en/ (acc. 02/2017). (2) WHO. (2011). Report on the Burden of Endemic Health Care-Associated Infection Worldwide. WHO: Geneva. (3) Wiseman JT. Predictors of Surgical Site Infection after Hospital Discharge in Patients Undergoing Major Vascular Surgery. J Vasc Surg. 2015 Oct; 62(4): 1023–1031.e5. (4) CDC. (2009). Surgical Site Infection (SSI) Toolkit. <http://www.cdc.gov/HAI/ssi/ssi.html> (acc. 08/2016). (5) Centers for Disease Control and Prevention (CDC). April 2015. <http://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSIcurrent.pdf> (acc. 02/2017) (6) http://www.who.int/gpsc/5may/hh_infographic_A3_EN.pdf?ua=1 (acc. 02/2017) (7) Himmelreich, H., et al. The Management of Needlestick Injuries. Dtsch Arztebl Int. 2013 Feb; 110(5): 61–67. (8) Prüss-Ustün A, Rapiti E, Hutin Y. Estimation of the global burden of disease attributable to contaminated sharps injuries among health-care workers. Am J Ind Med. 2005 Dec;48(6):482-90.
NON EXHAUSTIVE LIST. FOR ANY FURTHER INFORMATION OR ARTICLE, PLEASE DON'T HESITATE TO CONTACT ME.

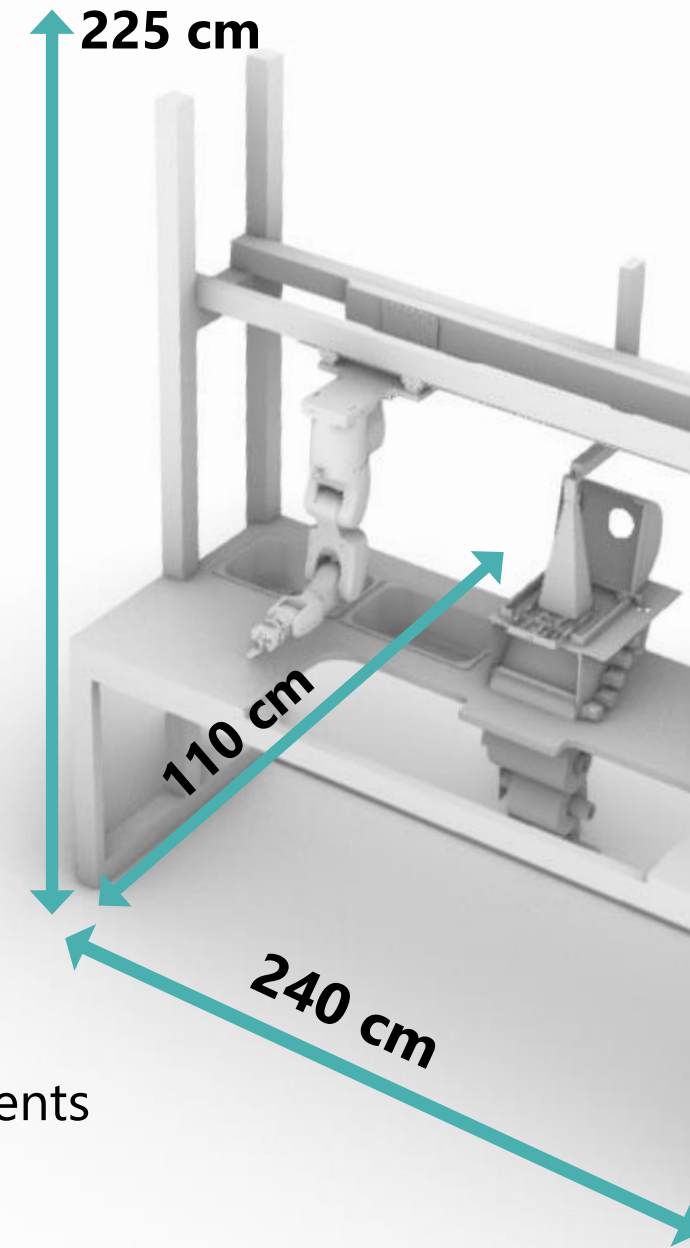


The solution

We developed a complete sterilization system:

-  **Ultrasounds w/ variable power**
-  **IoT & RFID for traceability**
-  **Robotic arm and AGV**
-  **Automatic enveloper**
-  **Autoclaves**

For the first time, **data** of surgical instruments are generated, stored and analyzed



Demo video:



Process



Trays management



Gripper change



The first system is already patented, installed and tested

Robota overcomes the limits of current
sterilization standards



Medical personnel substitution



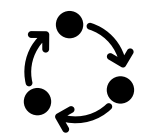
Errors & Risks minimization



No disposables



Regolutory compliance



Traceability



Metrics

40% cost reduction
17% faster
50% space saving
H24 working
1,5- 2y ROI

	Manual	Robota
Data		
Sterilization cycle time	121,1 min	101 min
Responsibilities (insurance)	↑↑↑	↓
Power requirements	7 kWh	9 kWh
Capacity	1'760 h x year	8'760 h x year
Space	6 m ²	2,64 m ²
Bottleneck	Autoclave	Autoclave
Useful life	10 years	10 years
Sterilization cost		
Sterilization lab: one time cost	35'000 €	100'000 €
FTE (year)	40'000 €	0 €
Consumables & Maintenance (year)	7'500 €	10'000 €
<i>Total cost (1 year)</i>	<i>82'500 €</i>	<i>110'000€</i>
<i>Total cost (5year)</i>	<i>272'500 €</i>	<i>150'000 €</i>

Market Size

Sterilization is required by different markets.



**25.000
Hospitals**

**350.000
Dentists**

**70.000
Veterinarians**

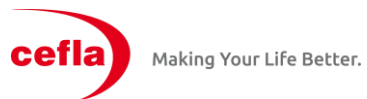
**TAM EUR 35 bn
Dental**

Private clinics
Day Hospitals
Veterinarians
Hospitals

**SOM EUR 90 mn
900 units
in 5 years**

**SAM EUR 700 mn
7'000 associated
practices
& dental chains
in ITA**

Competitors



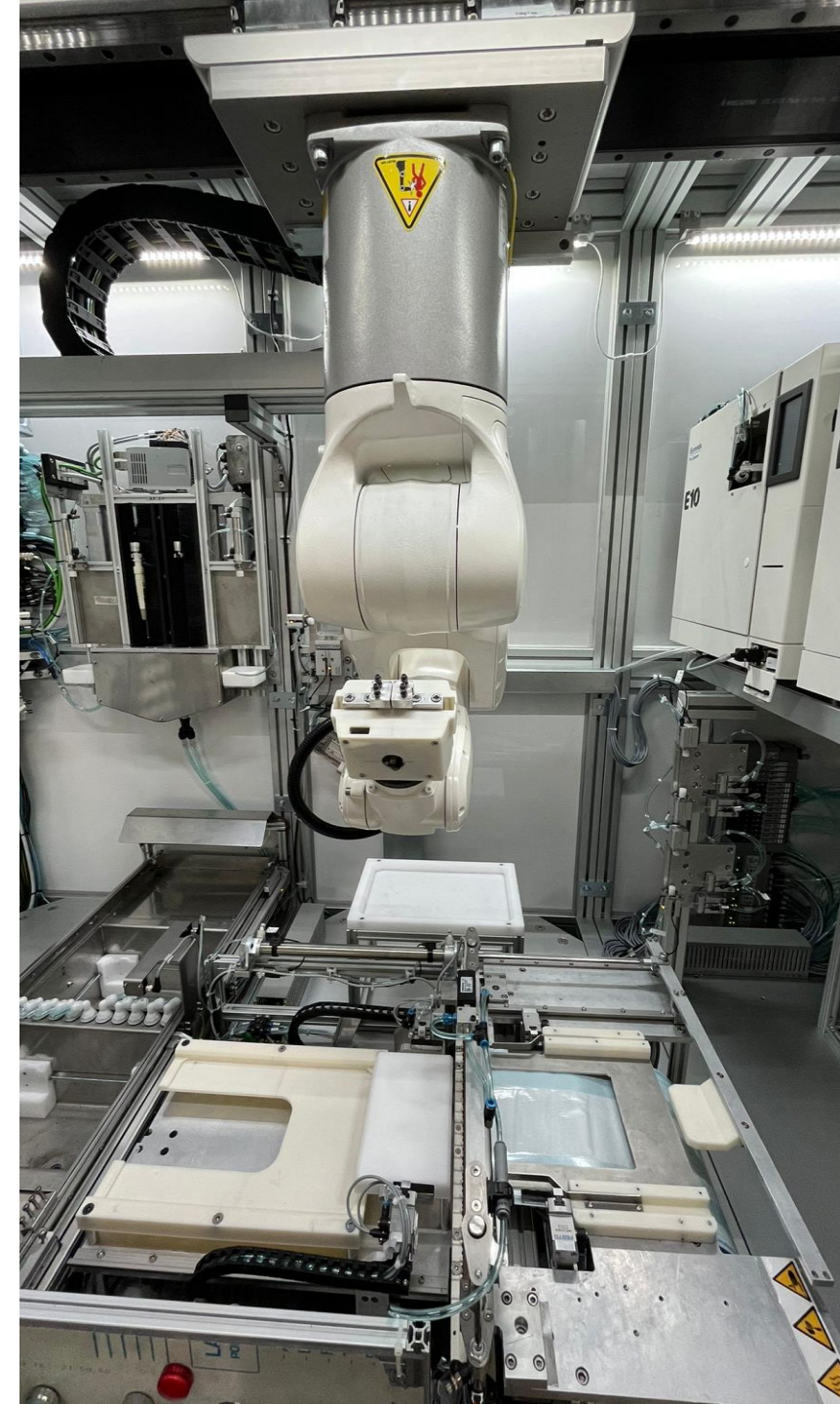
First mover in the
robotic sterilization
market

Business Model

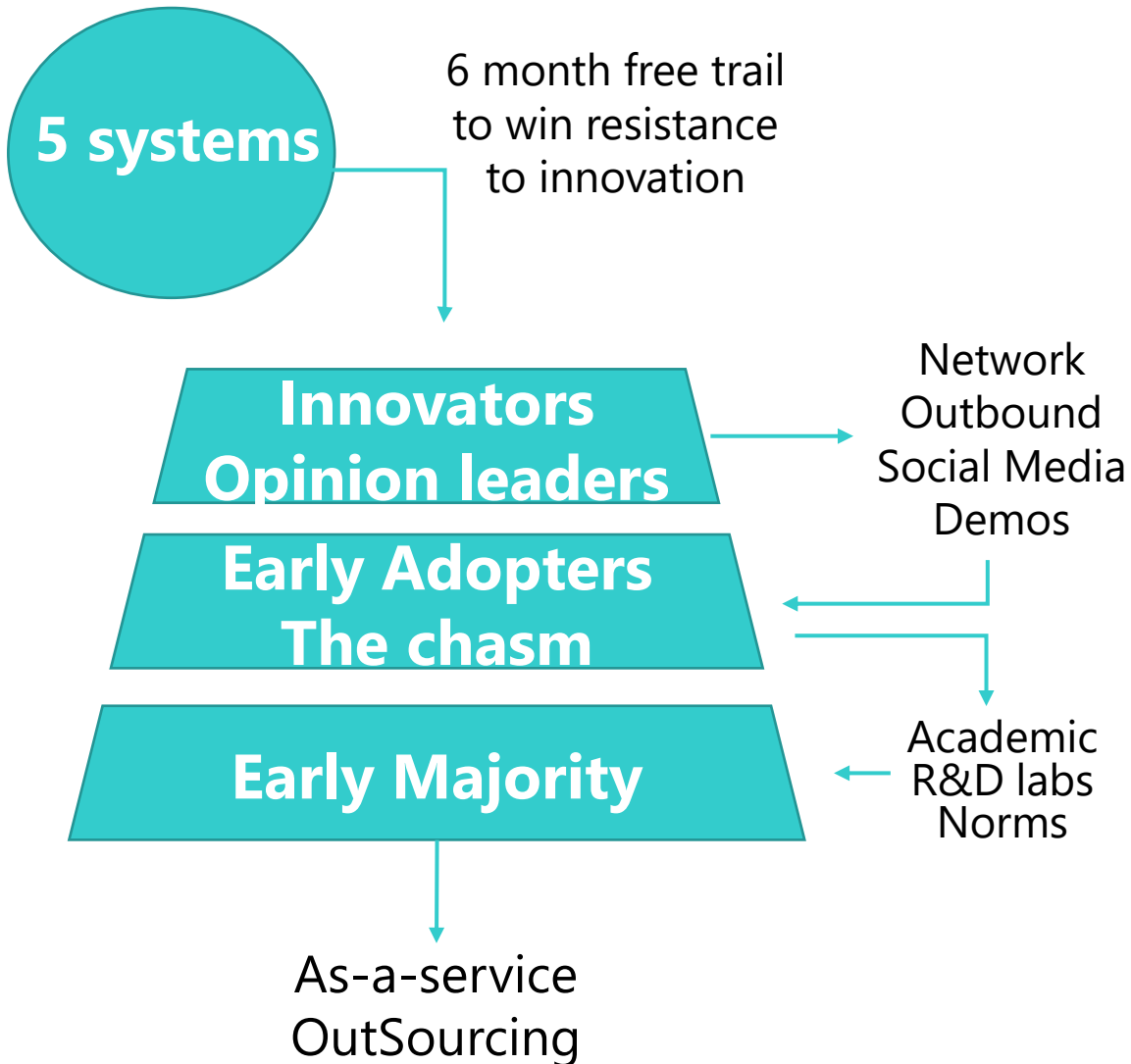
B2B Sales
B2B As-a-service

Other revenue streams
Consumables
Customer care
AI & Analytics

Pay-per-use sterilization



Go to Market → Heading to Hospital



Now that we've understood the problem and difficulties of outpatient sterilization we are ready to develop the Hospital version, and we can do that by:

Scaling the project x50 to x200

Improve vision system

Thousands of different instruments

Design new sterilization boxes

Surgical instruments maintenance

Creating new business model (B2G)

Developing new connections and partnerships

Team



Vittorio Boggio
Customer Care



Business
economics
Analyst

Margherita Genestrone
CAO



Administration

Giorgio Castagno
CEO & Founder



13 years dentist
5 Masters
Owner dental clinic

Marco Galvan
CTO & Co-Founder



Ex CEO w/ 200
employees & EUR
30mn turnover

Laurent Stoffel
Advisor



Bank expert
Financial advisor

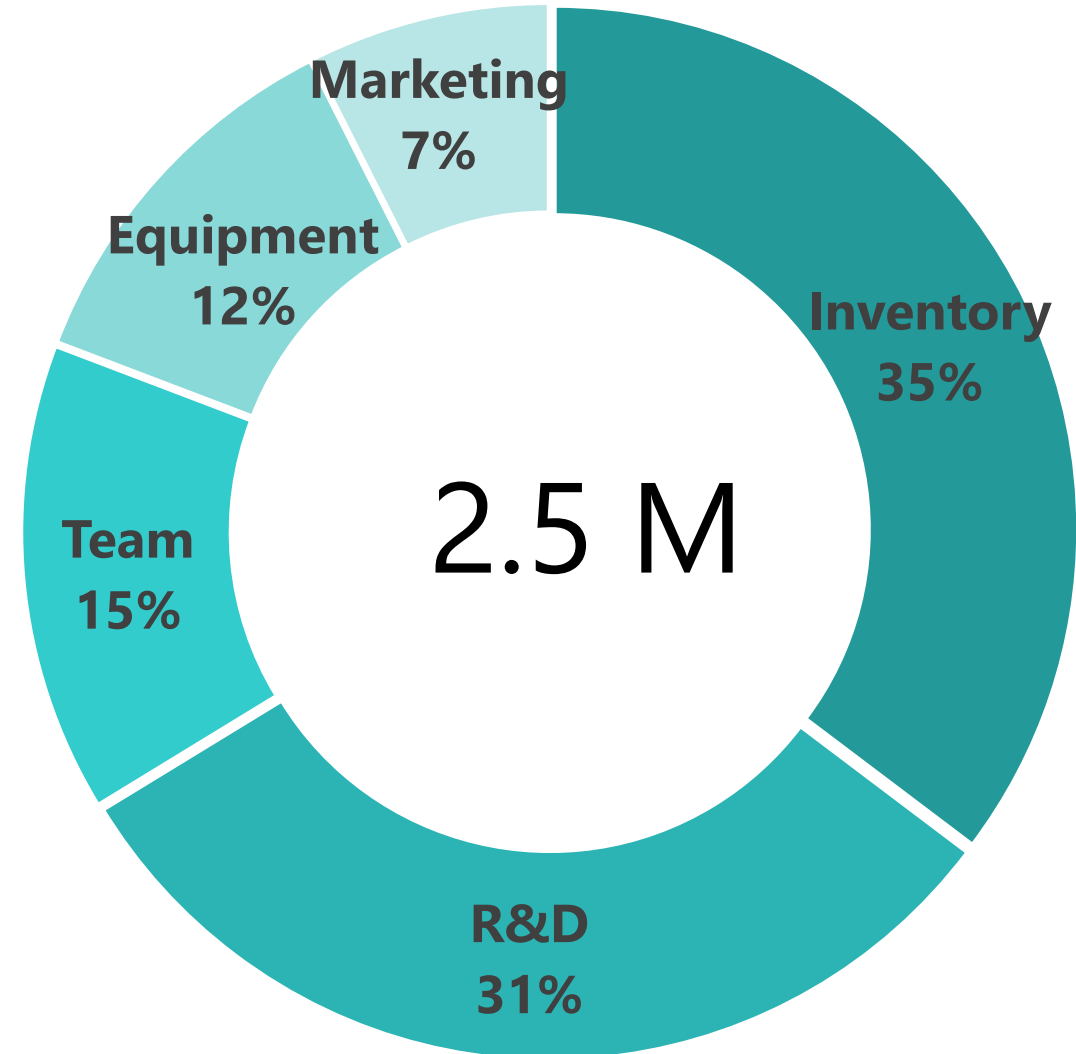
Ruggero Castagno
Advisor



Entrepreneur
Commercial
advisor

Fundings

- **Inventory:** economies of scale production
- **R&D:**
 - Starting the Hospital version
 - Product consolidation
 - AI & Analytics
- **Team** (already identified)
 - Automation experts
 - Analyst
 - Customer care
 - Administration
- **Equipment:** assembly & manufacturing
- **Marketing**
 - Web platform
 - Trade fairs



Pre-evaluation: 12M

(GELLIFY)



Thank you

Giorgio Castagno – CEO & Founder

+39 3939330983

giorgio.castagno@robota.run

Robota

www.robota.run

info@robota.run