Rotary Distretto 2072

Governatore 2025 - 2026
Guido Giuseppe Abbate

UNITI PER FARE DEL BENE

Rotary

FEDERMANAGER
BOLOGNA - FERRARA - RAVENNA

Bologna 10 novembre 2025

Professionalità rotariane a supporto di neo imprenditori

Giancarlo Buccarella

Avvocato in Diritto d'impresa e innovazione tecnologica

Rotary Club Parma Est

Deep Tech Startups as Growth Engines: from Space Windows to Antiviral Materials

SIPAL USA

SPACEGLASS

Spaceglass SrL
A spin-off of the University of Parma

INNOVATIVE SOLUTIONS OF TRANSPARENT STRUCTURES

Soluzioni innovative di strutture trasparenti per l'aerospazio e applicazioni speciali

Spin-off italiano dell'Università di Parma, fondato nell'aprile 2023 che unisce competenze del mondo accademico e del settore privato.

Space Glass ha sviluppato e brevettato celle trasparenti composite unitarie multiuso destinate a:

- **Settore aerospaziale, infrastrutture spaziali e sistemi di trasporto;**
- **Applicazioni speciali**
- **Navi e sottomarini**
- **Sistemi di difesa, con superfici trasparenti resistenti a esplosioni, proiettili e con proprietà fonoisolanti.**

Importanza delle strutture trasparenti

Photo taken by the web

Spaceglass

Gianni Royer Carfagni
Founder, CEO
Structural mechanics

Giancarlo Buccarella
Legal advice, strategy

Kelvin273 - Alessio Grasso
CEO of Kelvin273,
Strategy, consulting

Alessandro Tasora
Mechanical design, simulation software

Laura Galuppi
Structural mechanics, thermal problems

Giovanni Garcea
Structural mechanics, shell theory, finite elements

Leonardo Leonetti
Structural mechanics, shell theory, finite elements

Domenico Magisano
Structural mechanics, shell theory, finite elements

Partnership industriale e commer ciale - Spaceglass – Sipal (Gruppo Fininc)

Dicembre 2024

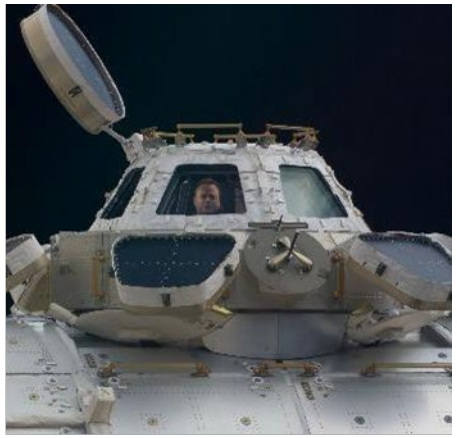
Head of Economic and Business Development for the project Spaceglass Observatory

La prima Stazione commerciale e’ in costruzione e noi vogliamo farne parte

Photo taken by the web

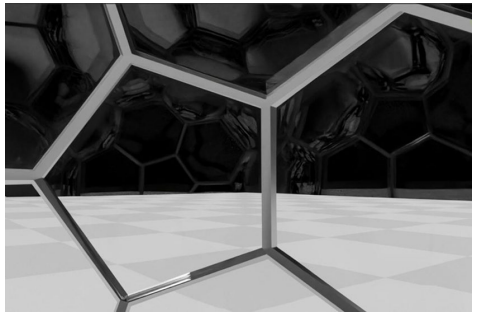
Vecchia vs. nuova tecnologia

ISS Cupola

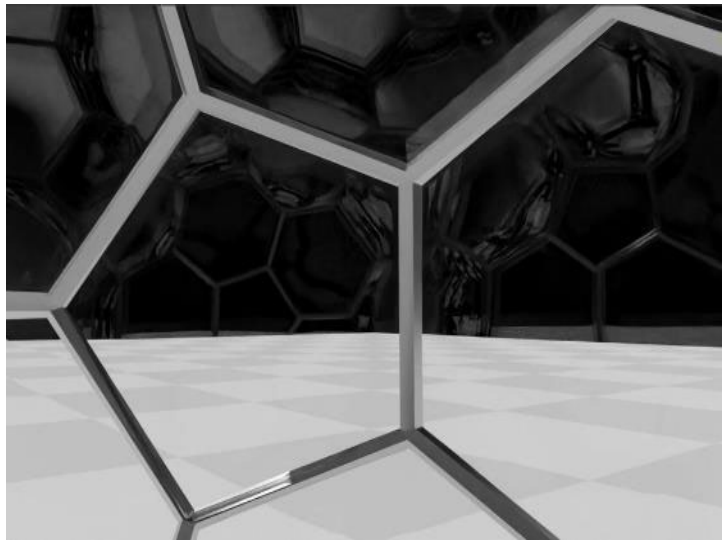


Tecnologia attuale – reale rendering

Spaceglass observatory



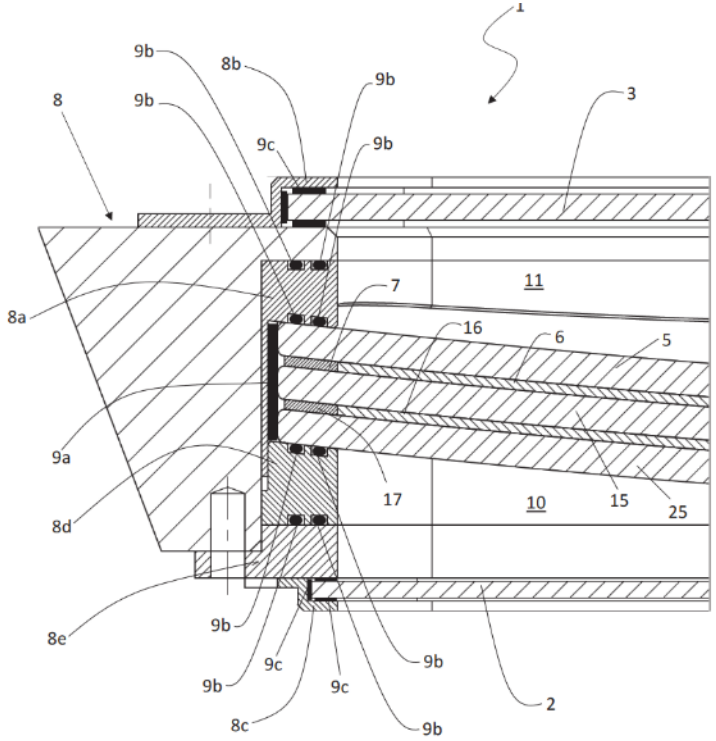
Nuovo concetto “composito trasparente”



La tecnologia Spaceglass si basa su un processo ingegneristico avanzato che integra più strati di vetro sottile curvato con estrema precisione, uniti da interlayer innovativi. Il risultato è una combinazione unica di resistenza, trasparenza e leggerezza, impossibile da ottenere con il vetro tradizionale

Riepilogo dei Principali Vantaggi

- **−75% di peso rispetto alle tecnologie precedenti**
- **−80% di costo a parità di prestazioni**
- **Diametro trasparente fino a 2 m**
- **Alta resistenza termica e meccanica**
- **Facilità di manutenzione e sostituzione**



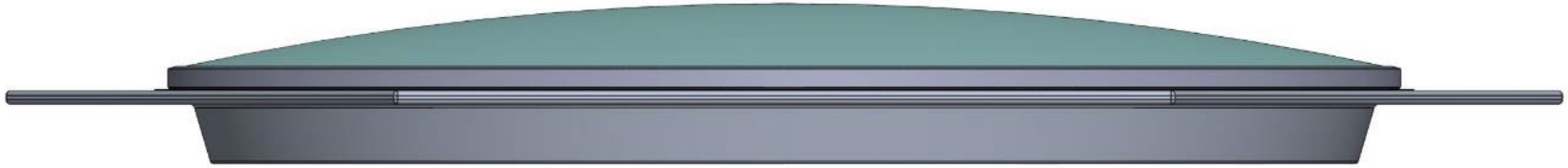
Unità trasparente multistrato e relativo processo di produzione

SPACEGLASS S.R.L., Via Veroni 37/A, 43122
PARMA PR

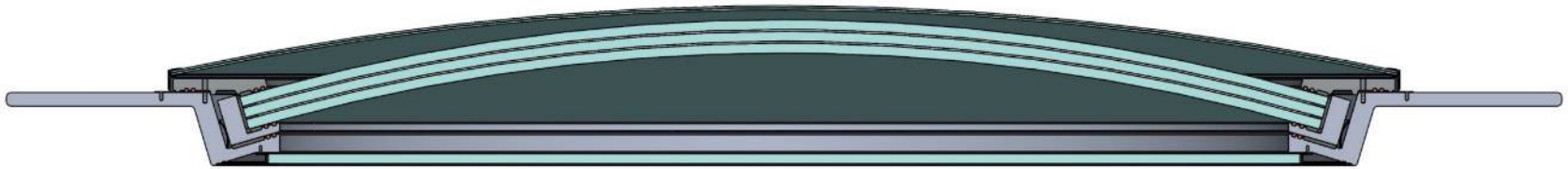
Data: 21Luglio 2023
Applicazione #: 102023000015375

Progettazione di una “Finestra” Circolare

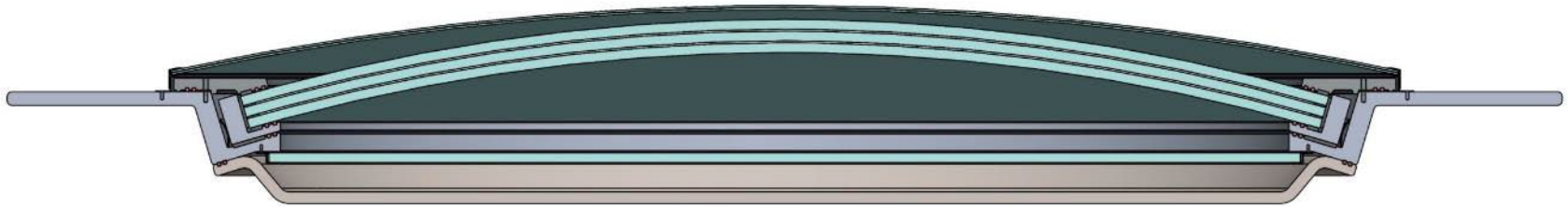
Vista Laterale



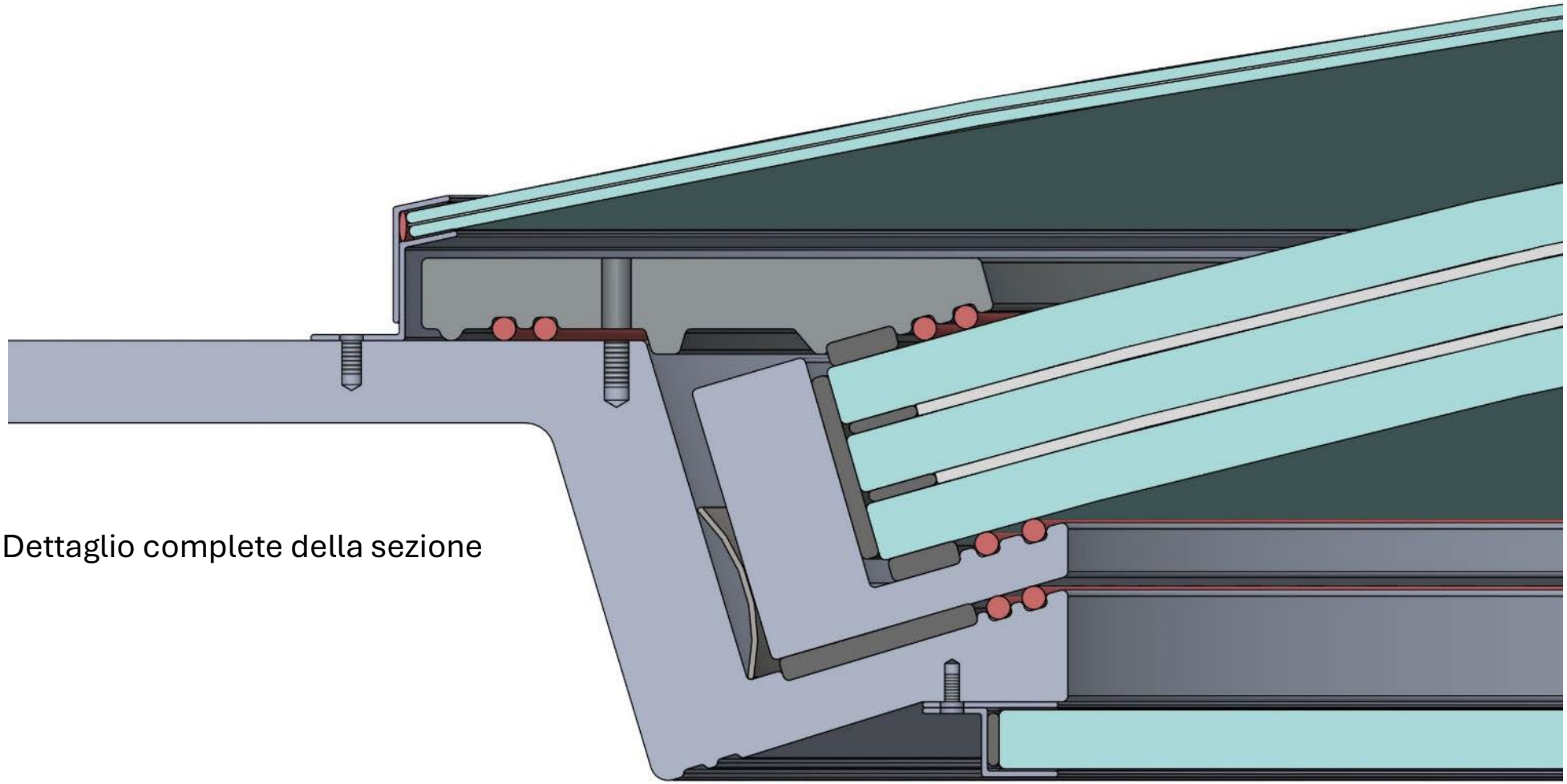
Sezione



Sezione con pannello di pressione



Progettazione di una “Finestra” Circolare



Dettaglio complete della sezione

Highlights

L'idea delle 'vetrate spaziali' nasce nel 2021, durante un incontro rotariano dedicato alla Space Economy.

Nel 2023 prende forma Spaceglass, spin-off dell'Università di Parma.

Nell'ottobre 2023 deposito del Brevetto

Nel Dicembre 2023, - Rice University, Houston , TX Gianni Royer Carfagni speaker al Space Day – Presidenza Italiana del Consiglio

Nel 2024 viene avviata la partnership industriale con Sipal (Gruppo Fininc) e nel 2025 è prevista la concessione del brevetto italiano.

o

Nel Settembre 2025
Concessione del Brevetto Italiano

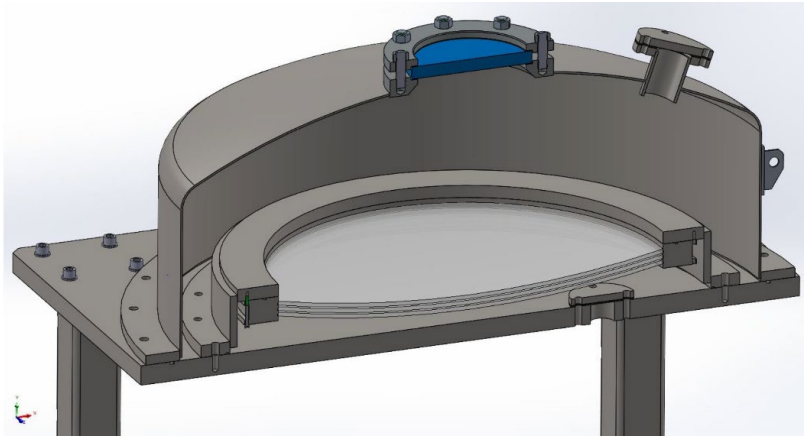
OGGI - Prototipo in Scala Reale– Ø400 mm

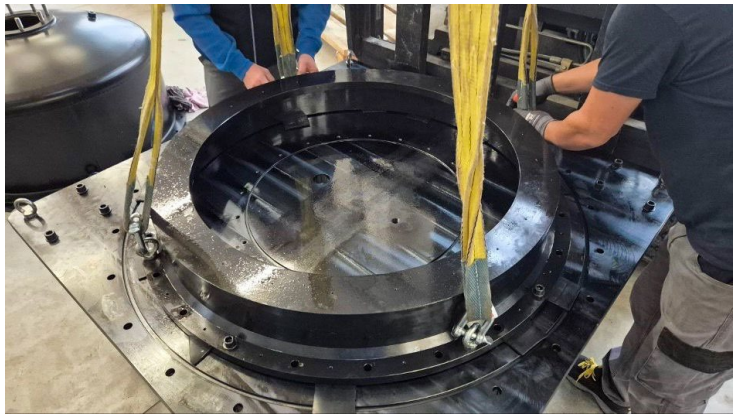
Prototipo in scala reale rappresenta un passo fondamentale nella validazione della tecnologia SpaceGlass per ambienti aerospaziali estremi.

Con una struttura di 400 mm di diametro, consente test avanzati su trasparenza, resistenza meccanica e durabilità ambientale, aprendo la strada alla qualifica TRL 6 entro la metà del 2026.

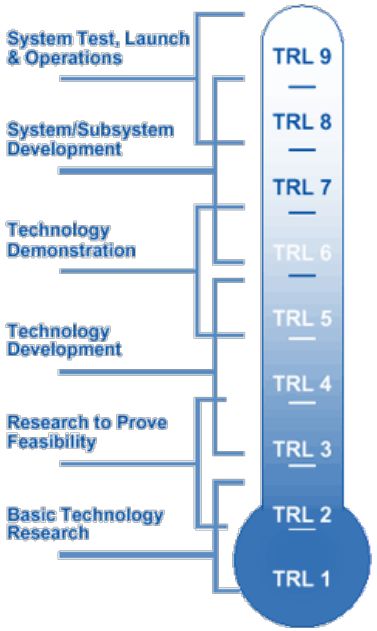
Progettazione e produzione della camera già in uso

- Sottovuoto(10mbar) + 1-2 bar
- Oblò
- Pressacavo
- Dimensioni ridotte
- Camera di Riscaldamento





Roadmap



Concept
Pre Phase A

Theoretical models and numerical experiments

Tech Development
Phase A

Material testing
Scaled prototypes

Preliminary Design & Technology Completion
Phase B

Full-scale prototype
testing in relevant environment

Final Design
Phase C

Full System development
Qualification
Testing in real operating condition

TRL 3-4
(6 months)

TRL 5
(December 2025)

TRL 6
(18 months, June 2026)

TRL 7-8
(24 months)

Mercati Target e Ambiti di Applicazione

Applicazioni Spaziali

- Oblò strutturali e moduli trasparenti per habitat orbitali e lunari
- Protezione ottica per camere e sensori in ambienti ad alta radiazione
- Schermature trasparenti per sistemi pressurizzati e strutture abitate

Applicazioni Nautiche e Sottomarine

- Oblò resistenti alla pressione per osservazione subacquea
- Cupole trasparenti per navigazione e sistemi di monitoraggio
- Alloggiamenti ottici per sensori esposti ad alta salinità e pressione

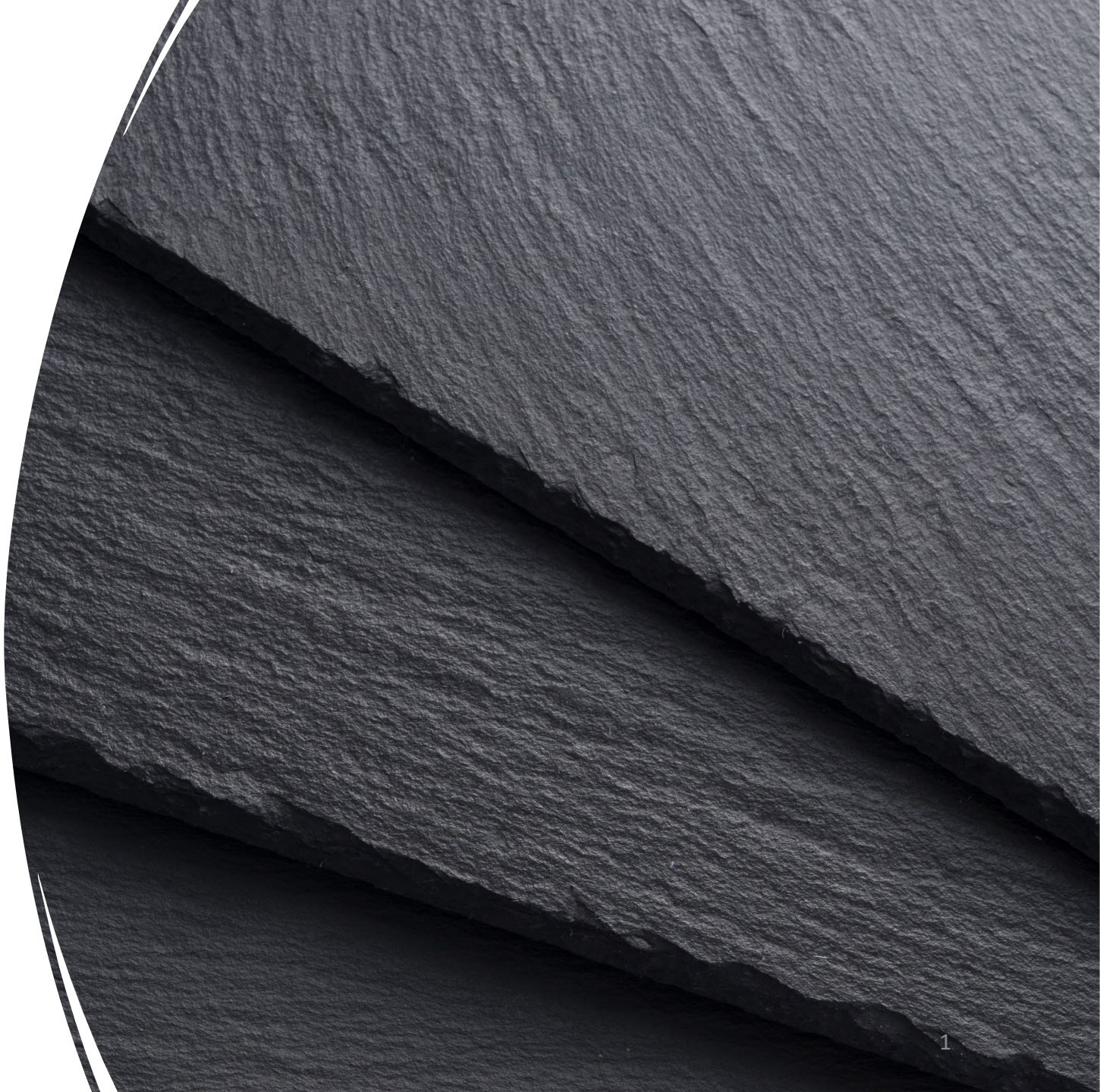
Applicazioni Aeronautiche (Civili e Militari)

- Vetrature avanzate per cockpit e pannelli blindati trasparenti
- Cupole ad alta resistenza per aerei da addestramento e da combattimento
- Vetrature multistrato leggere per visibilità e sicurezza della cabina

Protezione di Sensori Elettro-Ottici

- Coperture e cupole per sensori EO/IR e sistemi laser
- Rivestimenti anti-riflesso, anti-impatto e schermanti alle radiazioni

Safe Space



EcoAida – Science for Safer Environments

EcoAida does not produce disinfectants – it develops technologies

It acquires or develops innovative patents, validates them in high-security laboratories (BSL-3), and licenses them (B2B) to industrial partners who apply them on a large scale to create healthier, safer, and more sustainable environments

The starting point: the BSL-3 patent

An "armored" laboratory to test the future

- Patent on aerosolization system in a protected environment
- BSL-3 Laboratories: Maximum Biological Safety
- Realistic verification of the antiviral efficacy of devices and materials.

When research meets industry

Safe Space

E4 Life: joint venture between Lendlease and ELT

Innovative device that "sends viruses into fibrillation" in the air.

No laboratory had been able to test it... until the arrival of EcoAida.

Tests conducted today by Virostatic (Sardinia)

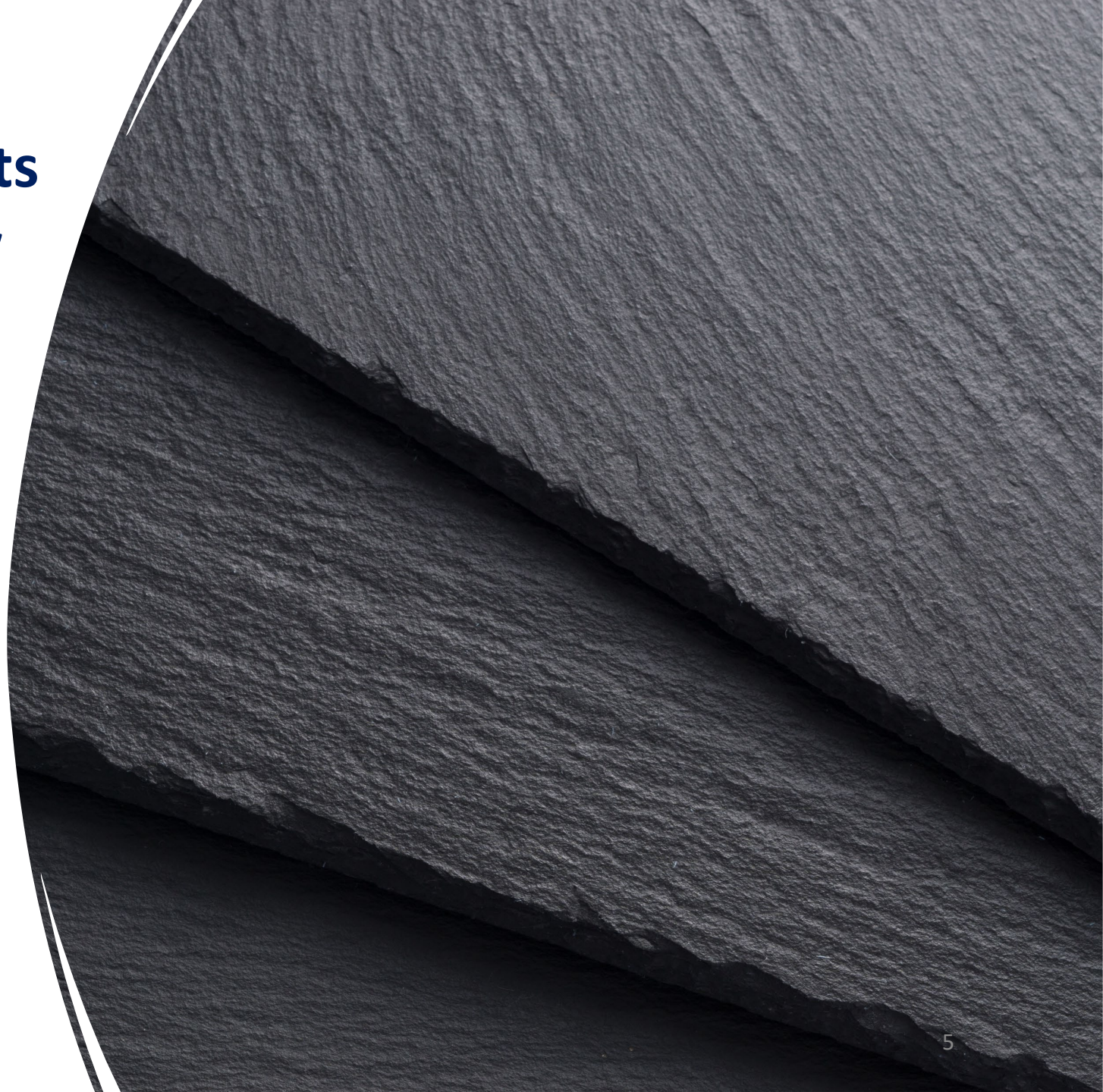
Offer to purchase C-dots patents and know-how

Carbon dots (C-dots)

"Green" solution to create pathogen-free surfaces

EcoAida: cleaning without polluting

Safe Space



Management Team

Sjlva Petrocchi
Chief Executive Officer

20+ years of administrative/managerial experience in biotech/pharma industries
Board of Directors, RIGHT, USA
Secured over $1.6 billion in deals

Plinio Innocenzi
Chief Development Officer

Full Professor of materials science and technology, University of Sassari, Italy
Member of the European Academy of Sciences
Former Science Attaché, Italian Embassy in China

Franco Lori
Chief Business Officer

25+ years of Biotech management in EU, USA
35+ years of research and Life Sciences development
Hero in Medicine in 2000 by IAPAC

Davide De Forni
Chief Scientific Officer

20+ years of Biotech research
15+ years development experience, including biocides
Extensive expertise in evaluating virucidal activity of nanomaterials, drugs, and devices

Luca Mercaldo
Chief Financial Officer

Founder Studio Tributario Societario (STSMI)
Certified Public Accountant and Tax Advisor with decades of experience at prestigious national and international tax firms

Giancarlo Buccarella
Chief Legal Officer

Business lawyer, corporate manager, strategic advisor and entrepreneur
Vice-president and co-founder of Spaceglass, a technology company in the aerospace sector

John Hautman
Chief Regulatory Officer

20+ years experience in the software and technology Industry. Serial entrepreneur, having founded, successfully managed and sold several companies

Valerie Looper
Chief Intellectual Property Officer

35+ years experience in patent research and practice in the biotech/pharma fields
Member of the State Bar of California

Corrado Songini
Chief Commercial Officer

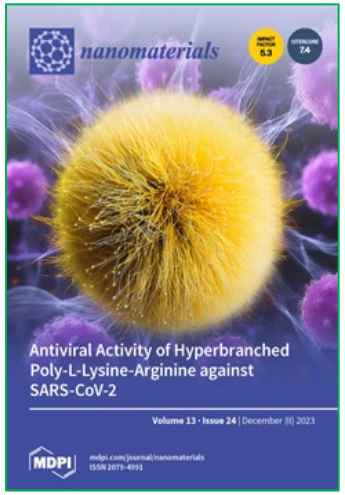
20+ years experience in the software and technology Industry. Serial entrepreneur, having founded, successfully managed and sold several companies

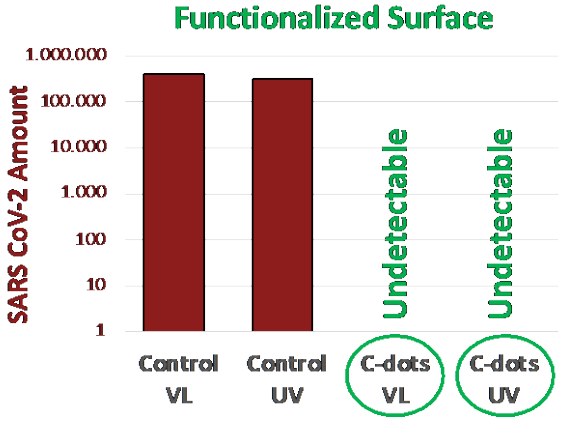
EcoAida's C-dots Science is rigorous, peer-reviewed

Safe Space

EcoAida's C-dots kill bacteria

Several publications
Prominent magazines

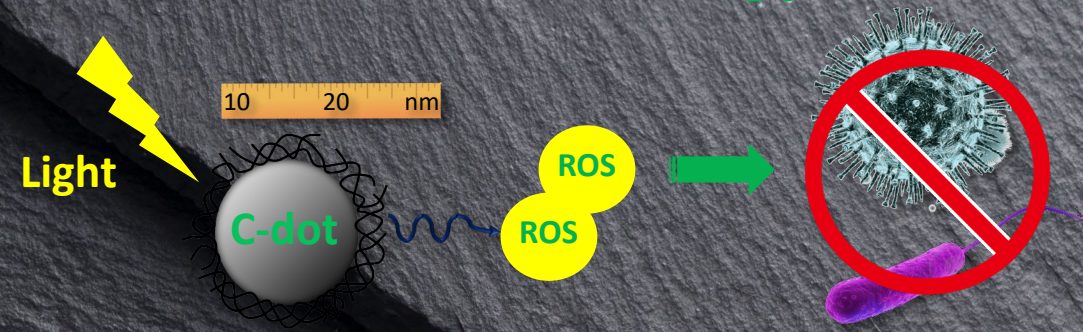




EcoAida's C-dots kill viruses

EcoAida's C-dots kill molds

Novel Technology



Mechanism of Action

C-dots exposed to Visible Light (VL) and UV Light (UV) will emit oxygen species (ROS) - including singlet oxygen - most effective in disrupting the integrity of the virus

C-dots for Enduring Virus-Free Surfaces

*

**

C-dots inactivate viruses
both in liquids and coated surfaces

C-dots incorporated in paint
rapidly inactivate vaccinia virus

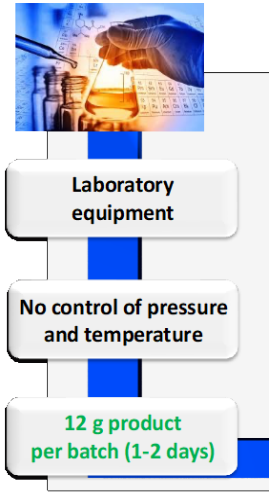
EcoAida's C-dots CMC

1. Mixing

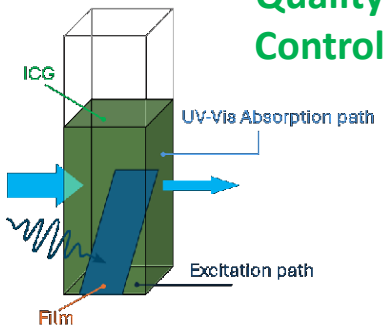
2. Heating

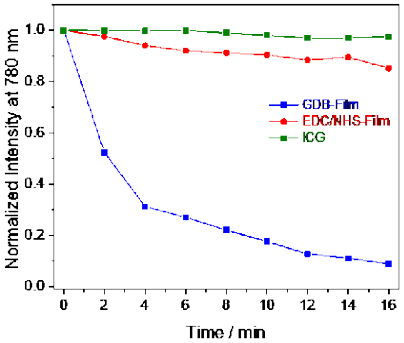
Synthesis

3. Purification



Quality Control



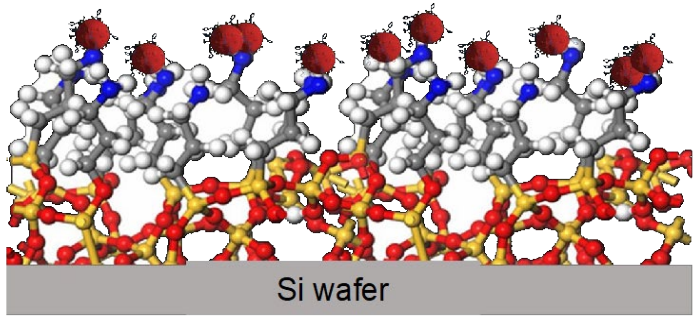


Routine colorimetric assay

All steps validated experimentally

Functionalized surface

C-dots are luminescents
Erosion, scratching etc. can be monitored



C-dots for Enduring Virus-Free Surfaces

Old Millenium

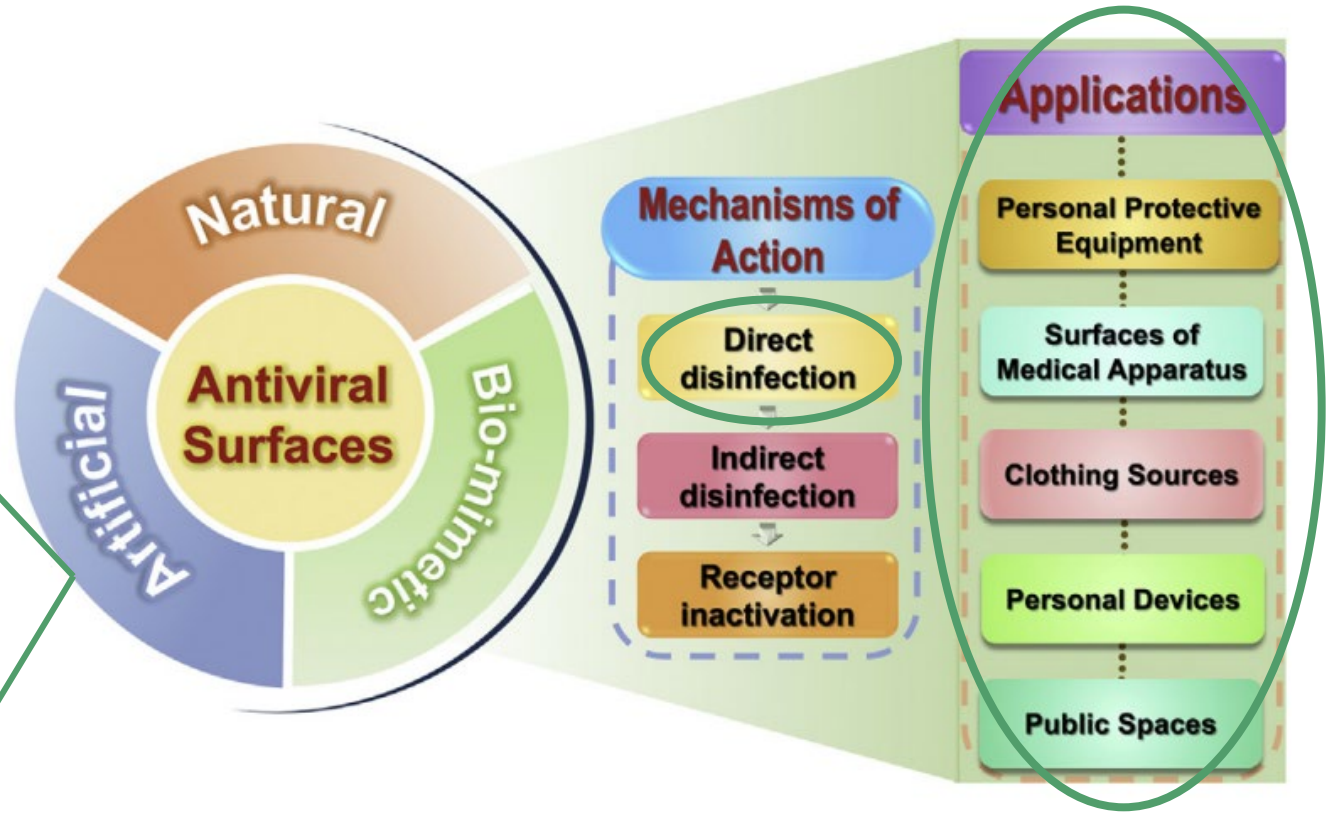
New Millenium

EcoAida's C-dots are Unique

Competitors	EcoAida
Unlike commonly used disinfectants C-dots are	**Active** **Harmless** **Odorless** **Not corrosive** **Durable** **Green**
Unlike other antiviral surfaces C-dots are	**Less expensive** **Not based on metal or plastic** **Sustainable**
Unlike other nanoparticles C-dots are	**Activated not only by UV** **but also by VL (Visible Light)**

EcoAida's C-dots versatile surface technology

EcoAida's C-dots



EcoAida's C-dots are direct antivirals lending themselves to highly flexible processing for incorporating into paints or polymers suitable to functionalize a surface for antiviral activity

Beyond "Antiviral Surfaces" C-dots offer endless applications

EcoAida's C-dots are protected by robust intellectual properties

Carbon-based Antiviral Nanoparticles IT202100009410A1, filed April 14, 2021 By Plinio Innocenzi *et al* Co-owned by EcoAida, Innocenzi, Malfatti, Fondazione Centro Servizi alla Persona Exclusively licensed to EcoAida https://patents.google.com/patent/IT202100009410A1/en?oq=IT202100009410A1	**Granted in record time**
Carbon-based Antiviral Nanoparticles WO2022219521 A1, filed April 14, 2022 By Plinio Innocenzi *et al* Co-owned by EcoAida, Innocenzi, Malfatti, Fondazione Centro Servizi alla Persona Exclusively licensed to EcoAida PCT deposited in Australia, Canada, China, EU, India, Japan, South Korea and USA https://patents.google.com/patent/EP4323426A1/en?oq=IT202100009410A1	**Favorable PCT examiner review on all claims** **Granted in Europe**

A robust patent protection enables the owner (licensor) to prevent competitors from developing similar technology

A strong team with extensive expertise and deep know-how enables to swiftly advance C-dots disruptive technology

Licensing / Sale / M&A

With Whom

Solid Science

Pioneers

Entrepreneurs

Patent protection

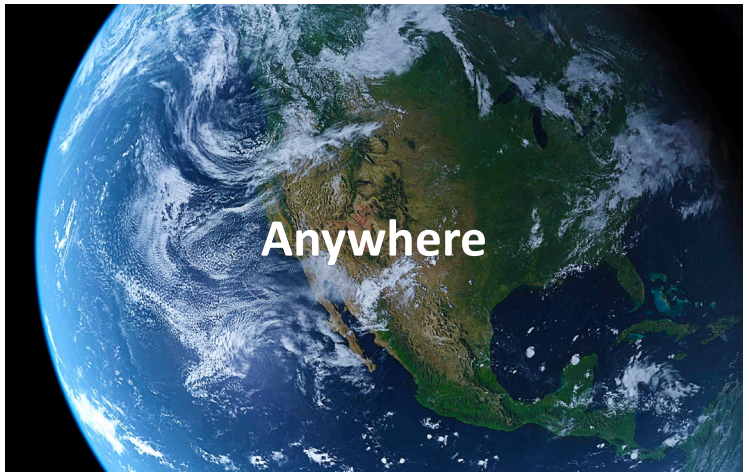
A Shared Vision

New products

Disruptive

First in class

Where



Why

Integrating unique surface sanitization systems into constructions

Sanitizing indoor spaces

Including confined environments

www.ecoaida.com

Thank you for your attention