

STARTUPS' INNOVATION SESSION

JEC Forum ITALY 2025

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING



Benjamin DEBUSSCHERE
Head of Events' Programs

JEC
CONNECTING THE WORLD
WITH COMPOSITES

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING

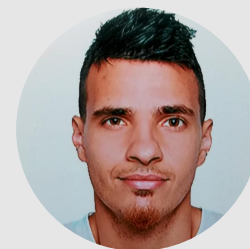
SPEAKERS



Riccardo BERGAMIN
CEO & Co-Founder



Elias HIRSCHBICHLER
Founder - Financial lead



Alessandro MATTIOLI
CEO



Marino QUARESIMIN
President



Marco DIANI
CTO



Benjamin DEBUSSCHERE
Head of Events' Programs



MODERATOR

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING



**Innovative tooling solutions for next-generation
composite manufacturing.**

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING



Riccardo BERGAMIN
CEO & Co-Founder



Smart solution for composites manufacturing

Riccardo Bergamin
CEO & Co-Founder



Trend
Industrialization
Sustainability



Time

4-5 weeks

Costs

10x final part

Labor

A CNC machine is shown in the process of machining a large, white, rectangular block of material, likely foam or plastic. The machine's head, which is white and red, is positioned over the block, and a small, dark, cylindrical tool bit is visible at the point of contact. A bright red spray of coolant or lubricant is being applied to the cutting area. The background shows the industrial setting of a factory or workshop, with various metal structures and equipment visible. The machine's frame is white, and there are some markings on it, including a '+Y-' label. The overall scene depicts a precision manufacturing process.

Machining

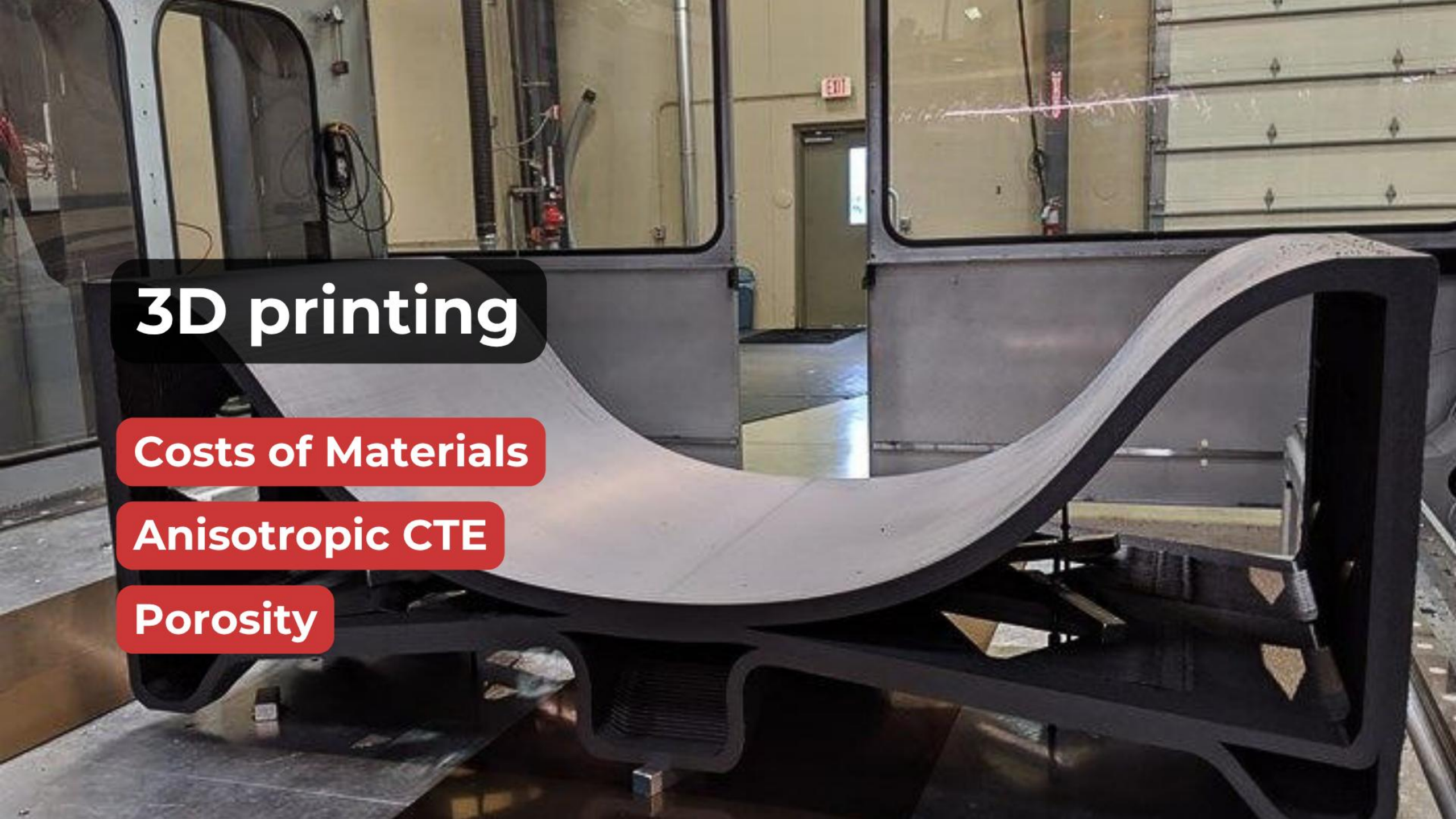
Long lead-times

Material wastage

Glue lines

Skilled employee

3D printing

A large, curved, 3D printed metal part is shown in a factory setting. The part is dark grey and has a complex, curved shape. It is supported by a metal frame. In the background, there is a yellow wall with a door and an 'EXIT' sign. A red laser line is visible in the upper right corner.

Costs of Materials

Anisotropic CTE

Porosity

Concept

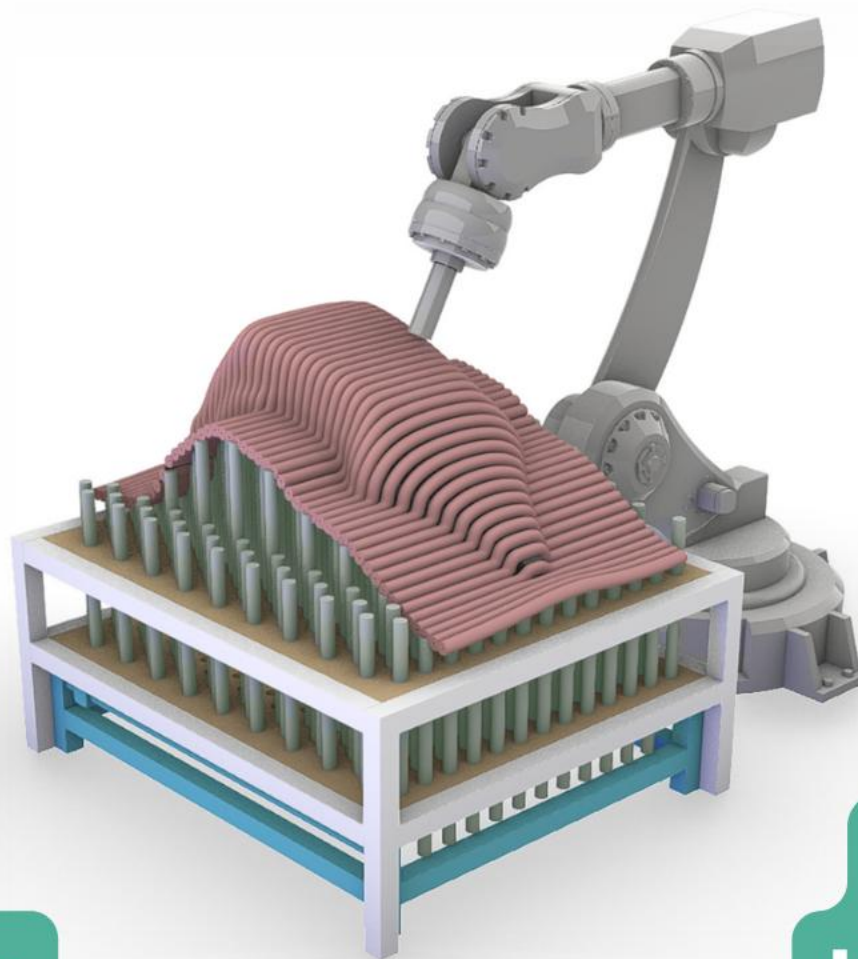


Solution

Efficient

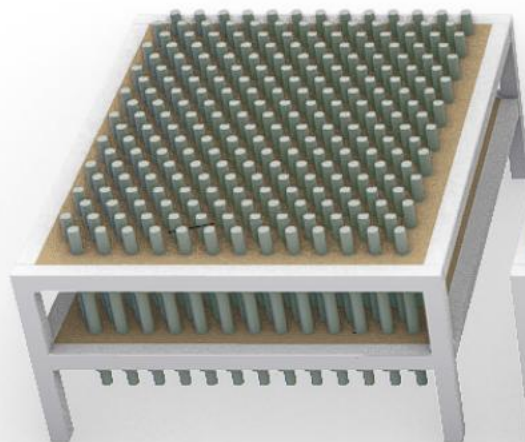
Reusable

Cost effective



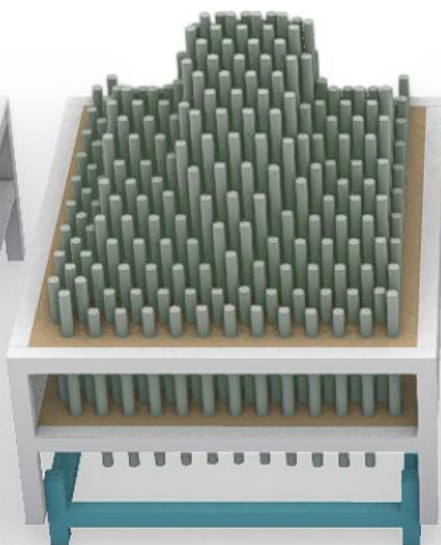
No glue line
Isotropic CTE

1



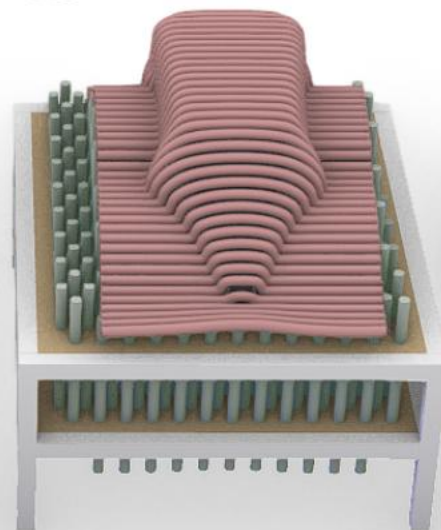
**Reusable
structure**

2



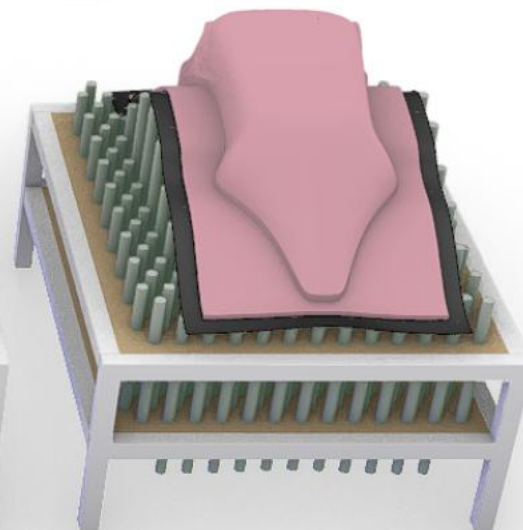
**Automatic
configuration**

3



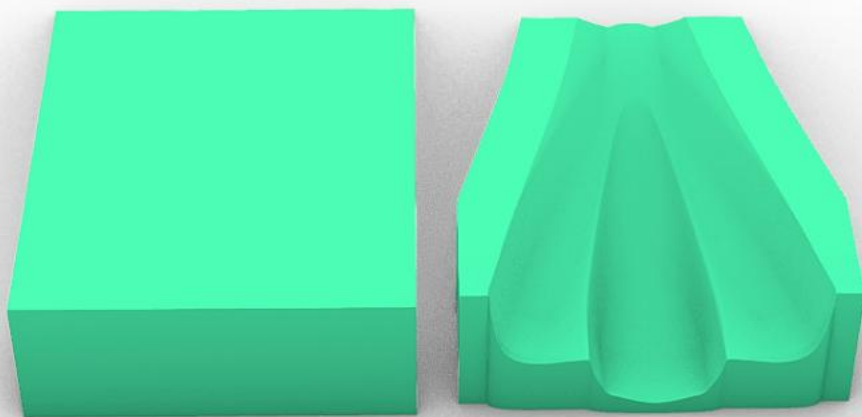
**3D printed
surface**

4



Machining

TRADITIONAL



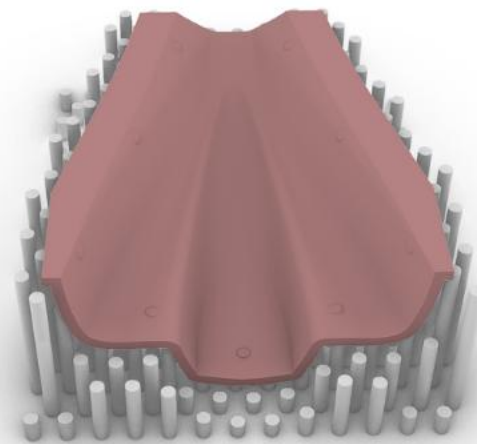
Raw block

236kg

Finished

125 kg

ACUS



Near net shape

28 Kg



-85%

Materials



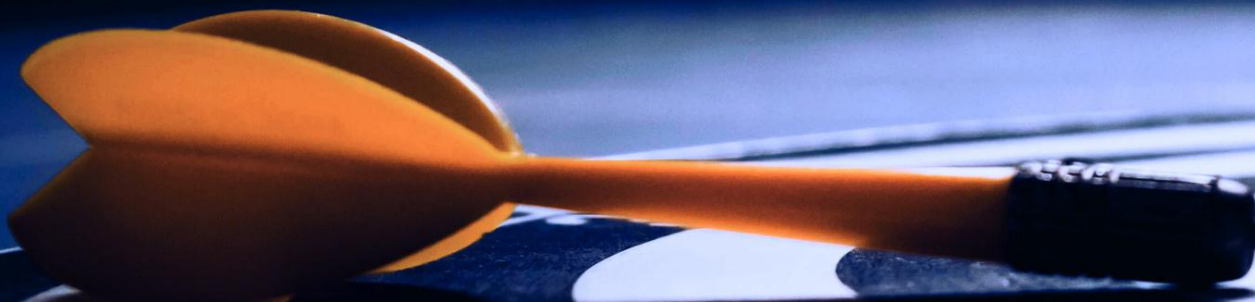
-30%

Time

dallara



CARACOL





Riccardo Bergamin

CEO
Co-Founder

PERSICO
CARACOL



Sebastiano Picco

CTO-COO
Co-Founder

 **novation** TECH
Composite Technology

CNH  **SPRING**
INDUSTRIAL ENGINEERING & PROTOTYPING



Fabrizio Righetti

Strategy


MARELLI



Composites
engineer



Software
engineer



Sales
specialist



Automation
engineer

2025

Tooling as a Service

On-demand
toolings

2026

Tooling Machine

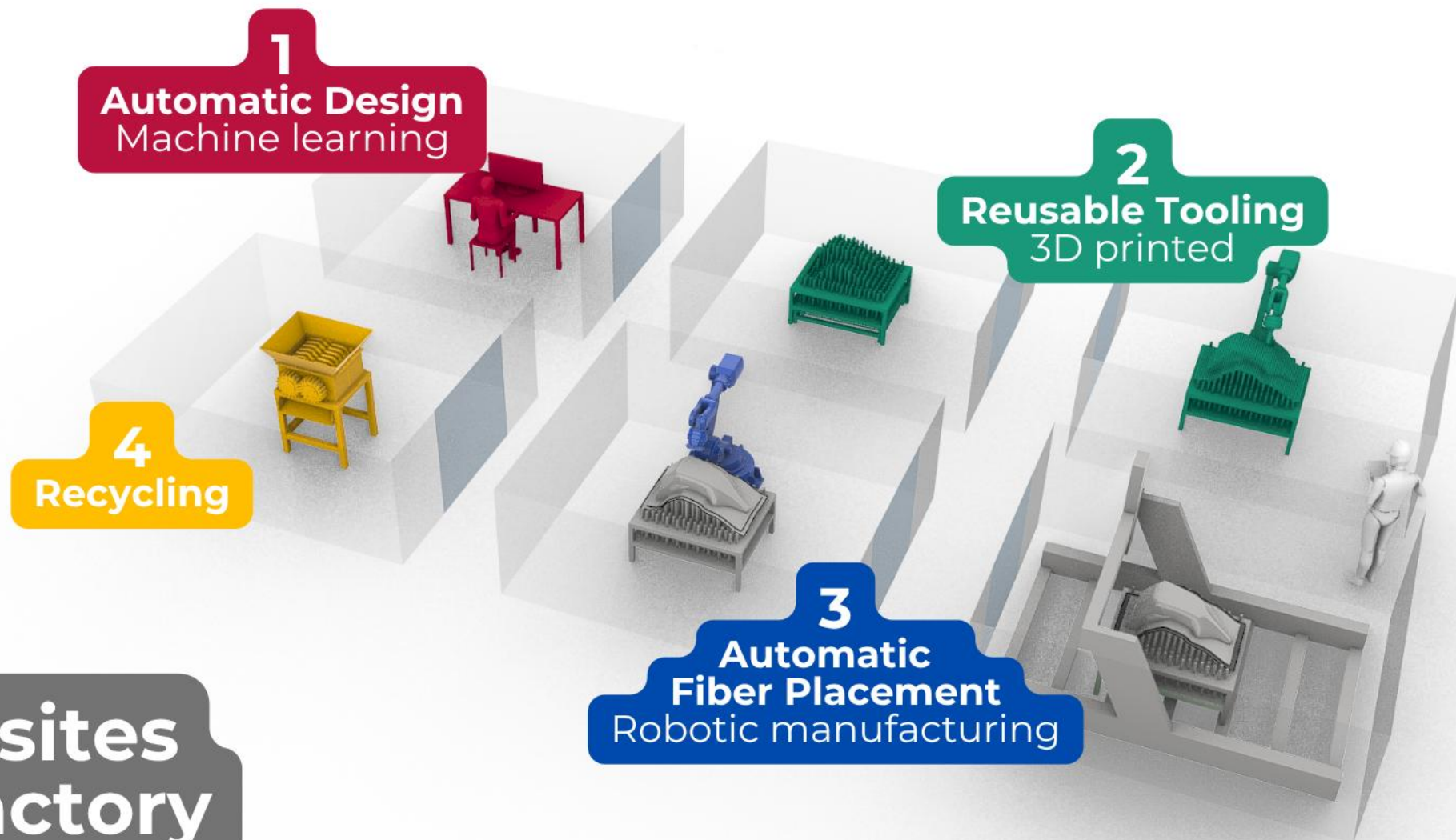
Technology resale

2030

Composite Microfactory

All in one solution
for composite
manufacturing

Composites Microfactory



A close-up photograph of two individuals in dark business suits shaking hands. The focus is on the hands and the lower arms, with the background being a bright, out-of-focus light source. The image conveys a sense of agreement, partnership, and professional success.

looking for

Industrial partners
Investitors



Thank you

RICCARDO BERGAMIN

CEO & CO-FOUNDER

riccardo.bergamin@acuscomposites.com

+39 3481380681

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING



fibionics

**Fibionics' FFP technology revolutionizes thermoplastic
composite mass production**

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING



Elias HIRSCHBICHLER
Founder - Financial lead

fibionic®

lightweight products
inspired by nature

Confidentiality Notice: This presentation contains confidential and proprietary information intended solely for the recipient.
By accepting this document, you agree not to disclose, distribute or reproduce its contents without prior written consent.

WE LEARN FROM NATURE

Nature shows us, where to
reinforce structures

We apply **bionic design** to technical parts



Load path aligned fiber skeleton
(carbon, glass, natural fibers)

Thermoplastic matrix system
(PP, PA12, PA6)

Fiber integration
(injection molding, gluing, foaming)

60% less fibers used

50% lighter products

100% recyclable materials

fibionic



COMBINE IT WITH THE WORLD'S FASTEST FIBER PLACEMENT TECHNOLOGY

fibionic's patented **FFP-technology** overcomes the **trade off between precision and speed!**



Precision

Competition Approach 1

robot based laying systems



Same precision but much slower



Speed

Competition Approach 2

stamping/ thermoforming



Same speed but a lot more waste and less precision



fibionic

FFP technology



high **speed** <1 min



high **precision** 0 waste

e.g.: output = fiber reinforced structure for a bicycle saddle

fibionic

makes lightweighting
affordable & sustainable
for the mass market

THE RESULT IS A FULLY AUTOMATED SERIES PRODUCTION



patented
process steps



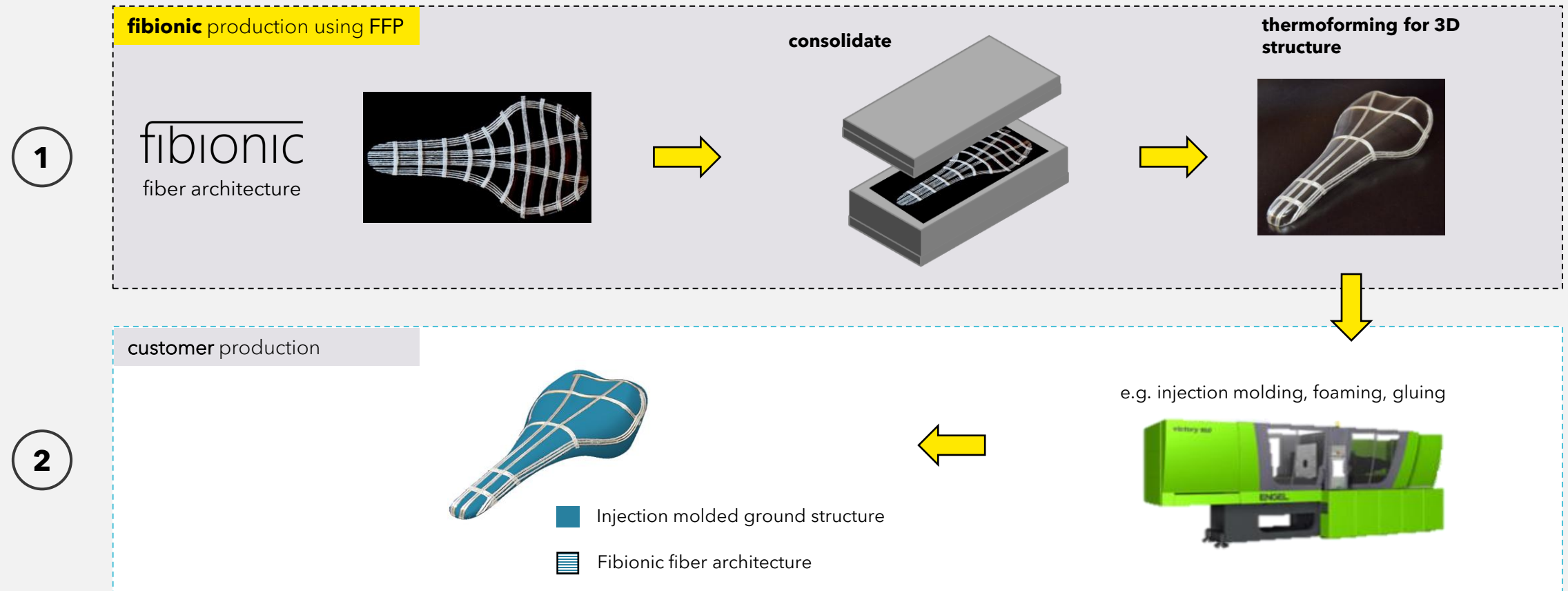
target output:
1 part per minute

0%  **waste material**

100%  **automated process**

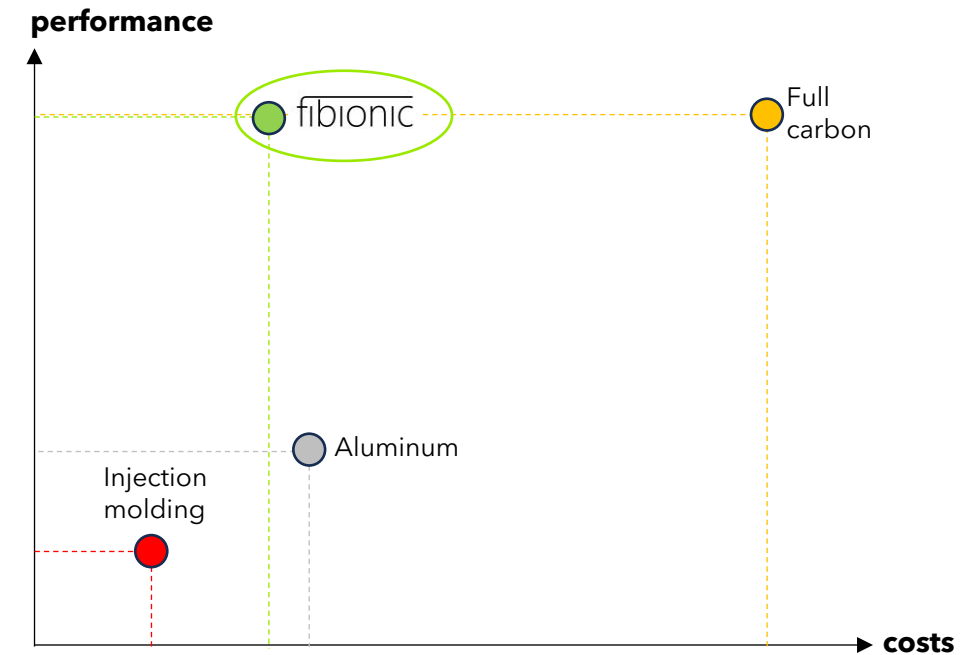
500k  **parts per year**

FROM FIBIONIC'S FIBER SKELETON TO FINAL PRODUCT

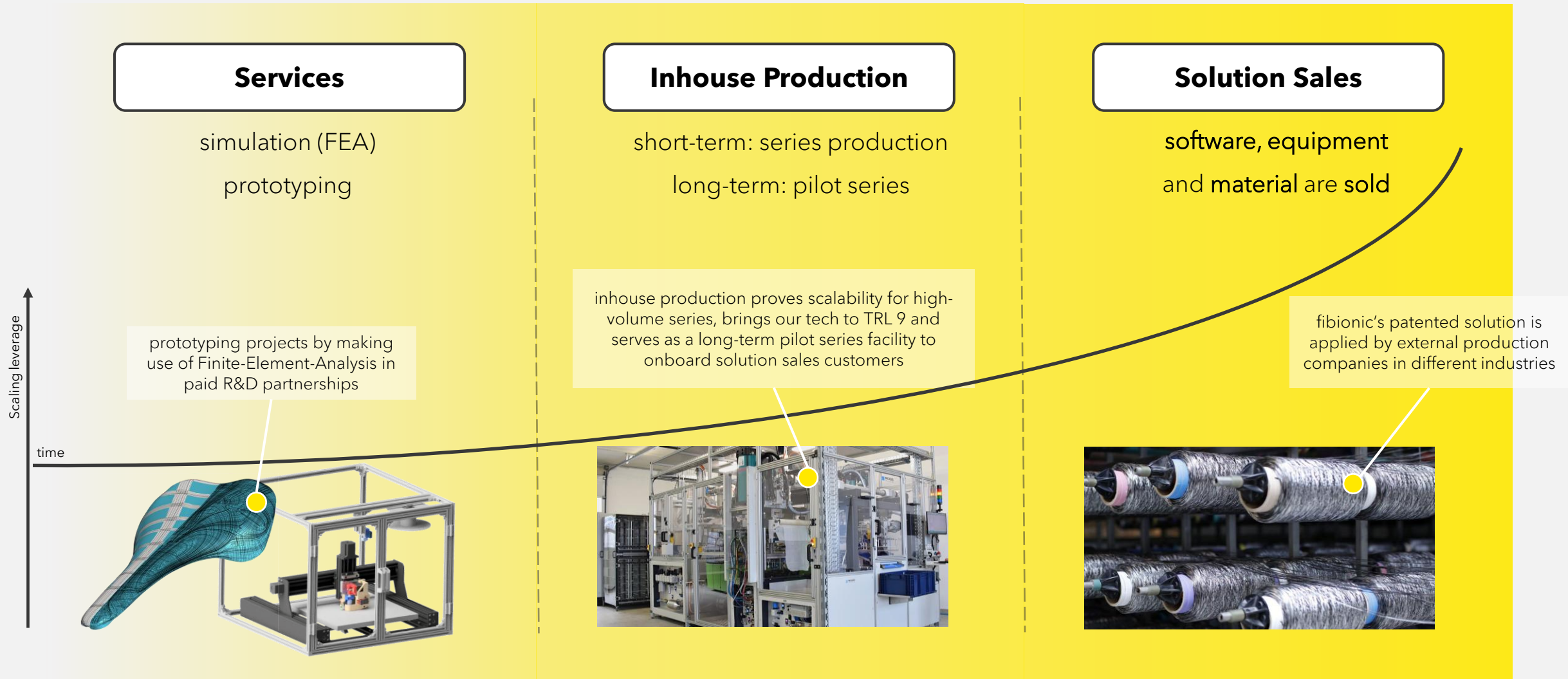


FIBIONIC'S FFP TECHNOLOGY ENABLES

1. **New areas of application** for injection molded components
2. **Cost savings** through material **substitution** and production speed
3. New **design possibilities** for **high volume** productions
4. **Performance boost** for existing parts

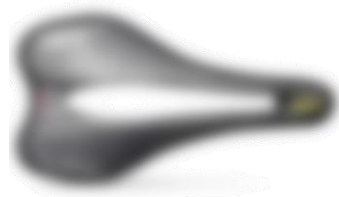


WE OFFER THE FULL ECOSYSTEM



THE RANGE OF APPLICATION IS NEARLY ENDLESS

conventional carbon saddle



sport shoe carbon sole

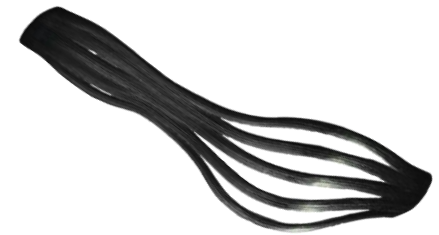


fibronic

- -60% costs
- same performance

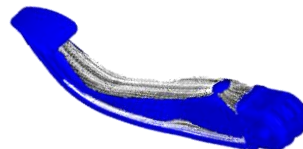


- -65% costs
- -50% weight - better performance

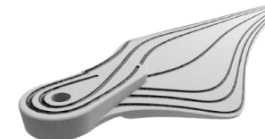


Further customer application examples:

Car brake pedal



Drone wing



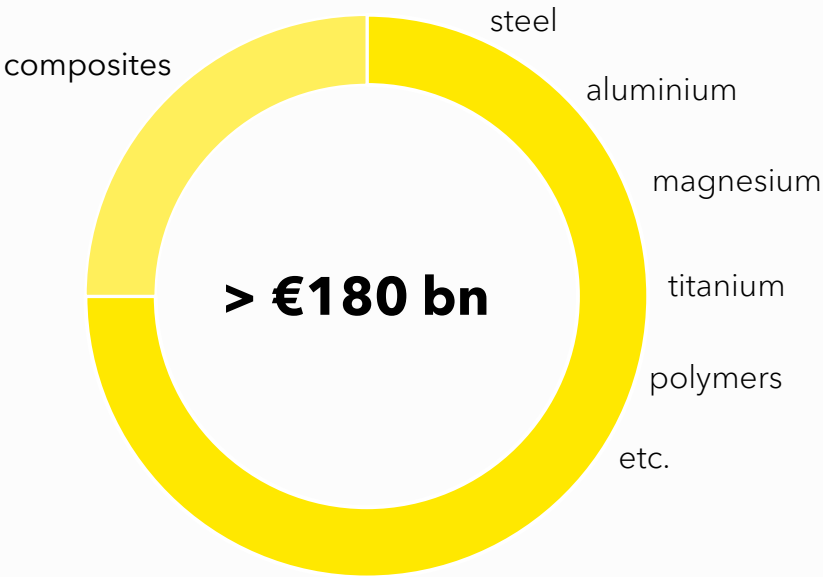
AR/VR glasses



THE FIBIONIC OPPORTUNITY

Our TAM

global **lightweight** materials **market**

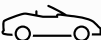


with a **CAGR of 7 - 9%**

lower costs and faster cycles outperform all established lightweight materials

Go-To-Market

Timeline

	market segment	traction	entrance barrier
	Sports and leisure	 	  
	Consumer electronics		  
	Industrial machinery	First customer interaction	 
	Automotive	First customer interaction	
	Aerospace		
	Medical devices	First customer interaction	
	Military and defence	First customer interaction	 

WHO WILL ACHIEVE THAT



founders = 3



employees = 5



investor = 1



Dr. Thomas Rettenwander
Co-Founder

Thermoplastic composites

Material science

Manufacturing



t.rettewander@fibionic.com



MSc. Johannes Mandler
Co-Founder

Sales

Automation

Industrialization



j.mandler@fibionic.com



MSc. Elias Hirschbichler
Co-Founder

Finance

Marketing

Digitalization



e.hirschbichler@fibionic.com

WHAT WE NEED

We are **looking** for...



Interested **C**ustomers



Business **P**artners



Motivated **E**mployees



Strategic **I**nvestors

fibionic®

the future is light

LET'S TALK



Thomas Rettenwander

+43.677.639.980.32

t.rettewander@fibionic.com

Johannes Mandler

+43.677.639.980.31

j.mandler@fibionic.com

Elias Hirschbichler

+43.699.111.399.81

e.hirschbichler@fibionic.com

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING



FUTURAI

Automated Data Traceability

AI & Blockchain for Composites

'Providing Digital Solution To Improve the Safety of Composite Material Structures'

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING



Alessandro MATTIOLI
CEO



FUTURAI

Automated Data Traceability



WHAT PROBLEM ARE WE SOLVING?

PROBLEM TO SOLVE

- Reliable Traceability
- Certified Digital Data
- Tamper-proof Data

Futur-AI aims to solve a critical problem in the
Space, Aerospace and Defense sectors:

**The lack of safe, automated and certifiable
traceability of complex components
throughout the supply chain.**

CONTEXT: WHY THIS PROBLEM EXISTS

- Highly **fragmented data into the supply chains**, With not Easy Access
- **Manual system** and Offline supports (PDFs, spreadsheets, paper)
- Not unified, secure standard for lifecycle **certification**
- Increasing pressure from regulations (ESA, NATO, EASA...)



CONTEXT

EXISTING SOLUTIONS

<i>Existing Tools</i>	<i>Weaknesses</i>
ERP Systems	Not built for full component traceability
Manual Audits	Costly, slow, error-prone
QR/barcode tracking	Easy to tamper, lacks lifecycle context
Isolated Blockchain pilots	Non-integrated, non-intelligent

WHY FUTUR-AI

IS DIFFERENT

We leverage Blockchain technology to ensure full data transparency, integrity, and immutability across the entire lifecycle of critical components — enabling trusted, real-time certification at every stage of the supply chain.

- **Data Integrity**
- **End-to-End Traceability**
- **Automatic Recording**
- **Real-Time Visibility**
- **Easy Integration**





HOW FUTUR-AI IS DISRUPTIVE TO THE MARKET

- **Automates Recording Process**, reducing cost and risk.
- **Introduces Blockchain** as a standard layer for trust
- **Secures the entire lifecycle** with transparent, tamper-proof records.
- **Digitizes a traditionally** analog and fragmented **process**
- **Enables predictive insights** + verifiable data in one system.
- **A scalable, certifiable solution** for Space, Aerospace & Defense.

Business Model

B2B SaaS

(Software-as-a-Service)

Clients **subscribe** to our platform to manage and certify the lifecycle of their components.

Revenue Streams

- **Platform Subscription:** tiered pricing based on volume of components, users, and features
- **Blockchain Transaction Fees:** micro-fees per certification or lifecycle event recorded
- **Custom Integrations:** paid setup for ERP/PLM/MES system integration
- **Data & Analytics Modules (optional):** premium insights and predictive tools

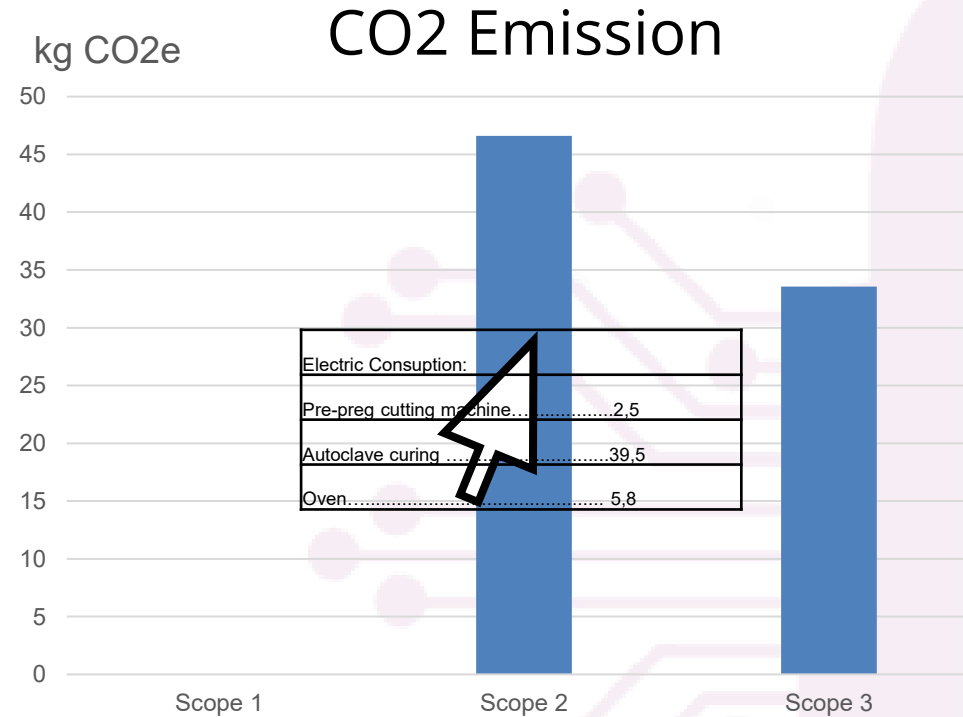
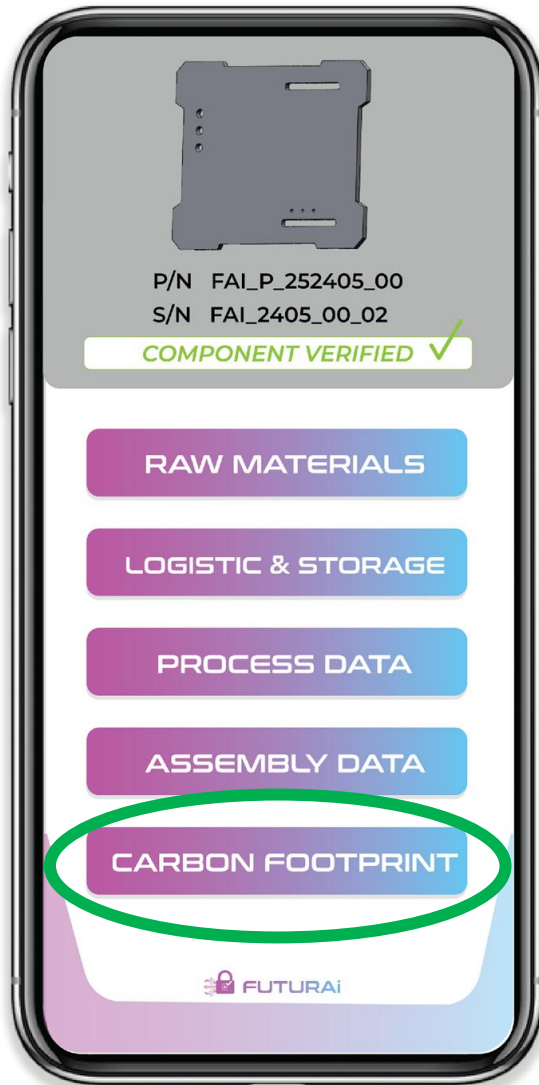
Futur-Ai Platform for Composites Industry

"Our mission: to simplify complexity"



Futur-Ai Platform for Composites Industry

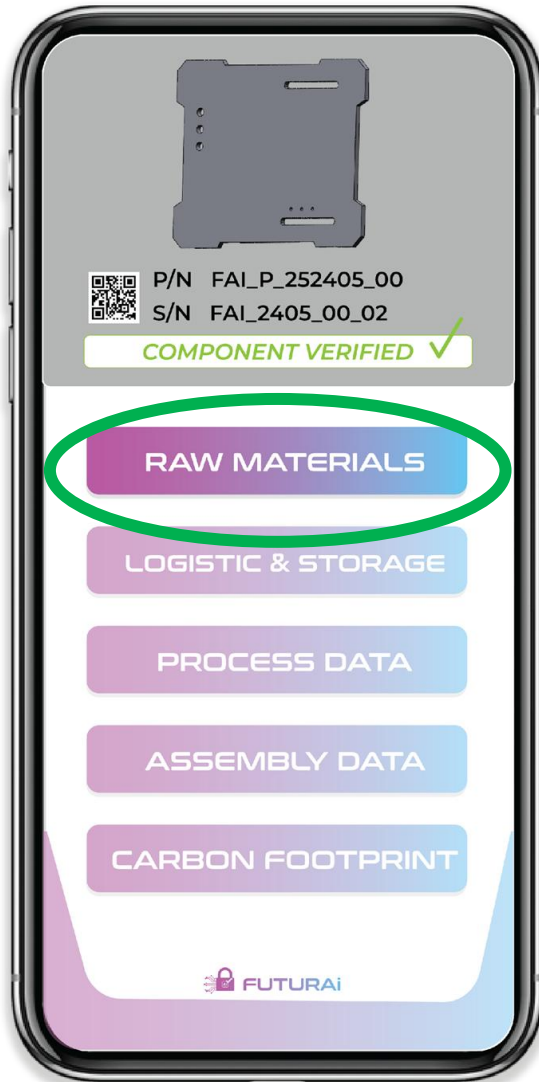
"Our mission: to promote the sustainability"



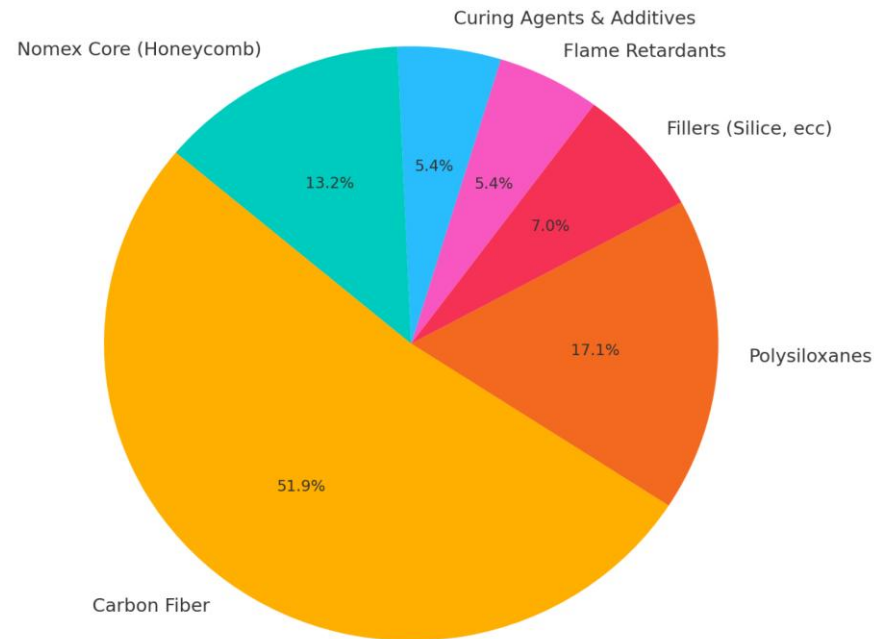
Total CO2 Emission 80,15 kg CO2e

Futur-Ai Platform for Composites Industry

"Our mission: to promote the sustainability"



Composition:



RECYCLING SUGGESTIONS:

- **Pyrolysis** (450–600 °C)
- **Solvolysis** (with supercritical solvents)
- **Mechanical recovery** (cutting/granulation)
- **Incorporation into hybrid materials**



MARKET ANALISYS

Our technology is designed to be ***cross-industry*** — scalable and seamlessly applicable across automotive, space, aerospace, defense, and the broader ***manufacturing*** landscape.

We have chosen to focus on the ***Space, Aerospace, and Defense Sectors*** because we deeply understand the critical role of process data in these fields.

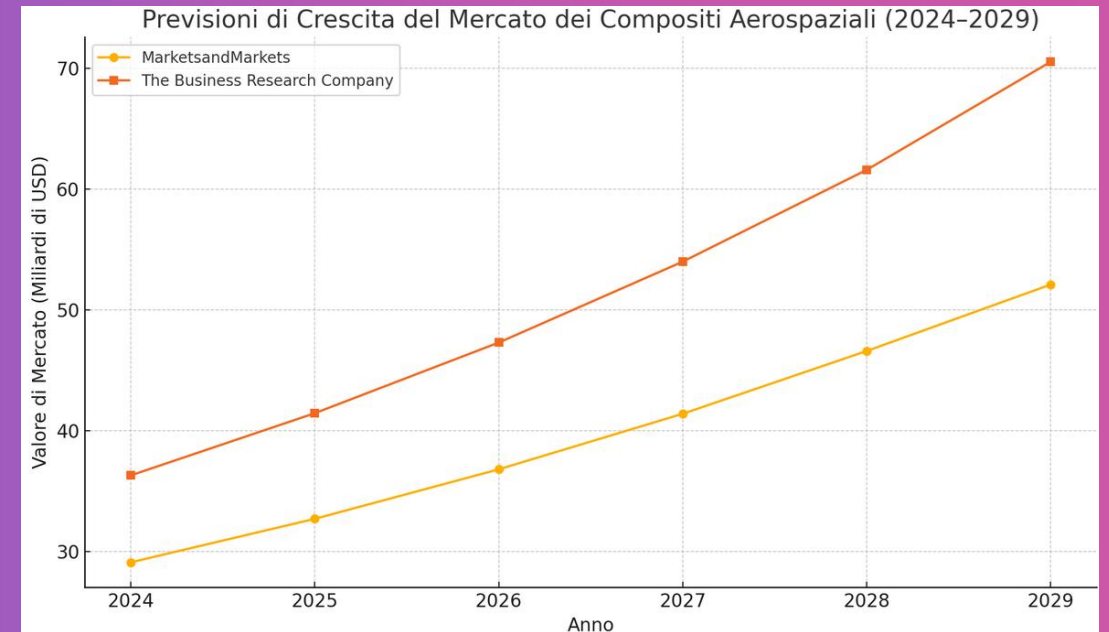
MARKET ANALYSIS

Composites in Aerospace

According to a report by The Business Research Company, the global aerospace composites market is expected to grow from \$41.45 billion in 2025 to \$70.55 billion by 2029, with a compound annual growth rate (CAGR) of 14.2%.

The Business Research Company

Similarly, MarketsandMarkets estimates that the market will reach **\$52.1 billion** by 2029, up from \$29.1 billion in 2024, with a CAGR of 12.3%.



Market Opportunities

Aerospace Market Growth:

The aerospace composites market is booming. The increasing demand for quality and safety solutions for manufacturing processes represents an opportunity for growth.

International Expansion:

Expanding into international markets such as the US and Europe can open up new opportunities, increasing your customer base and global visibility.

Blockchain Adoption in Industry:

The growing interest in blockchain, not only in aerospace but also in other industries, offers opportunities for diversification and broadening of the customer base (e.g. defense, automotive).

Strategic Partnerships:

Alliances with large Original Equipment Manufacturers (OEMs) and composite suppliers can accelerate platform adoption by creating networking opportunities and amplifying industry visibility.

NEXT STEP



FUTURAI

Automated Data Traceability

- **Expand** validation with existing Aerospace and Defense partners
- **Get in touch** with certifying Authority to make our distribution stronger
- **Collect** performance data to support full deployment
- **Enhance** platform features: analytics, sustainability metrics, AI-powered insights
- **Strengthen** interoperability with ERP, MES, PLM systems
- **Open** seed/Series A round to support growth, hiring, and go-to-market
- **Focus** on scaling operations and accelerating international rollout

THANK YOU

MEET US

JEC FORUM ITALY

Booth **G07**



+39

3401242101



info@futur-ai.it



www.futur-ai.it

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING



Software & tools for the reliability of composite parts

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING



Marino QUARESIMIN
President



RESCOMP

WE UNDERSTAND COMPOSITES

A



UNIVERSITÀ
DEGLI STUDI
DI PADOVA

spin-off



The team



M. Quaresimin
President



M. Zappalorto,
CEO, CFO



P.A. Carraro
CTO



L. Maragoni
CRO



N. De Rossi
CPO

Rescomp Engineering is a spinoff of University of Padova founded by the members of **Composite Materials Group**, leveraging more than 20 years of research and expertise in composite materials

with high international **visibility and integration**



The team is completed by a panel of consultants in business development and marketing



Composites' market



eVTOL

2023: 1.2 BN
2030: 23-35 BN
CAGR: 12-23%



Wind energy

2023: 7-11 BN
2032: 14-25 BN
CAGR: 7-8%



Hydrogen tanks

2023: 0,2-0,4 BN
2032: 1-2 BN
CAGR: 23-35%



Automotive

2023: 7-10 BN
2030: 14-21 BN
CAGR: 7.5-12.3%



Sporting goods

2023: 4.1 BN
2026: 5.1 BN
CAGR: 4.8%

Increasing needs of **sustainability, safety, reliability and performance**

RESCOMP tools attack these aspects enabling optimised, safe, reliable and cost-effective **design and maintainance**.



Description of the idea

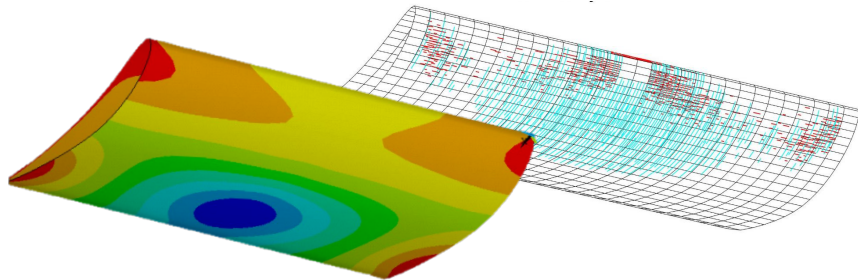
RESCOMP Engineering is a spin-off of the University of Padova aiming at delivering effective solutions for the **reliable and safe design of composite materials**, fostering **lightweight, sustainable** technologies.

OUR PRODUCTS

RESCOMP – FLA

Fatigue Life Analysis

Advanced software for fatigue design of composite parts



Patent pending

RESCOMP – SHM

Structural Health Monitoring

Smart solution for Structural Health Monitoring of composite parts



Patent 102021000016628 (24/6/2021)



Competitive scenario - FLA

- Capability to describe initiation and propagation of fatigue damage and associated stiffness loss (**UNIQUE on the market**)
- Discrete damage approach (each damage event is predicted as a well defined entity)
- **Computationally efficient** analytical approach
- Accounts for the **statistical distribution** of the fatigue strength
- Requires **linear-elastic FE analyses** only
- Does not require remeshing, node release, cohesive laws, etc...
- **High flexibility**: possibility of coupling with any commercial FE code

	Computational efficiency	Damage simulation	Stiffness loss prediction	Discrete damage	Flexibility	Cost
RESCOMP-FLA	V	V	V	V	V	++
FE Safe	V	X	X	X	V	+
Genoa	V	X	X	X	V	+++
Simcenter	V	V	V	X	X	++++
FEMFAT	V	V	X	X	V	++
nCode	V	X	X	X	X	++



Competitive scenario - SHM

- **Sensorless** technique: monitoring is based upon **electrical measurements** of the component and it does not require additional sensors
- Relatively **low-cost** and **non-invasive** technique
- Possibility of assessing the **damage location and severity**
- **Real-time** in-service monitoring
- Flexibility: possibility to develop personalised systems based on actual needs

No direct competitors: other companies propose SHM solution based on: acoustic emissions, ultrasounds, transducers (optical fibres, strain gauges...), multifunctional layers.

	Technical maturity	Initial costs	Operating costs	Flexibility and integrability	Real-time monitoring
RESCOMP SHM	medium	low	low	high	V
Transducers	high	Medium/high	Medium/low	medium	V
Ultrasounds	high	high	high	low	X
Multifunctional layers with FBG	low	high	Medium/low	medium	V



The business model

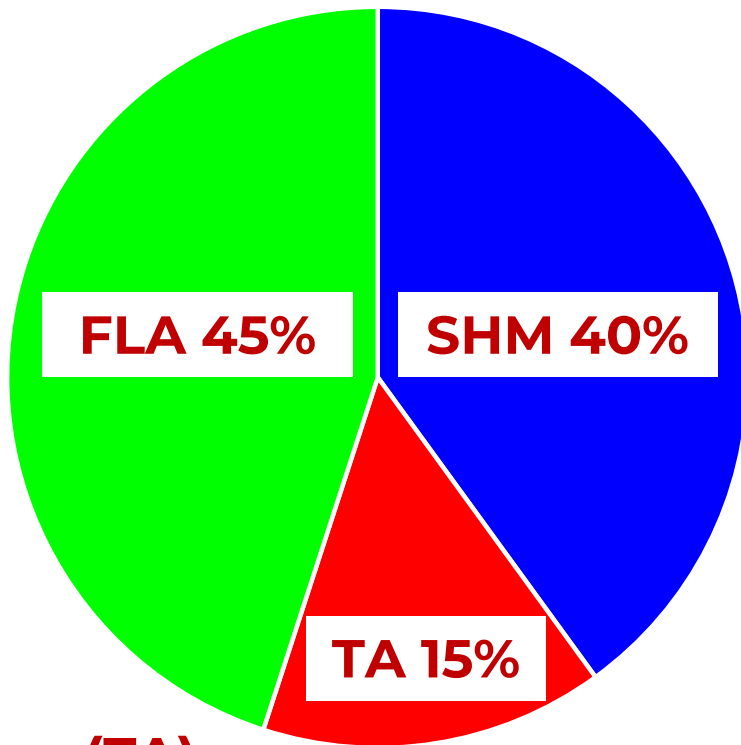
RESCOMP – FLA

- **General consumer** version (SaaS)
- **Custom** version (SaaS)

RESCOMP – SHM

- Portable systems for **consumer market**
- **Custom** solutions

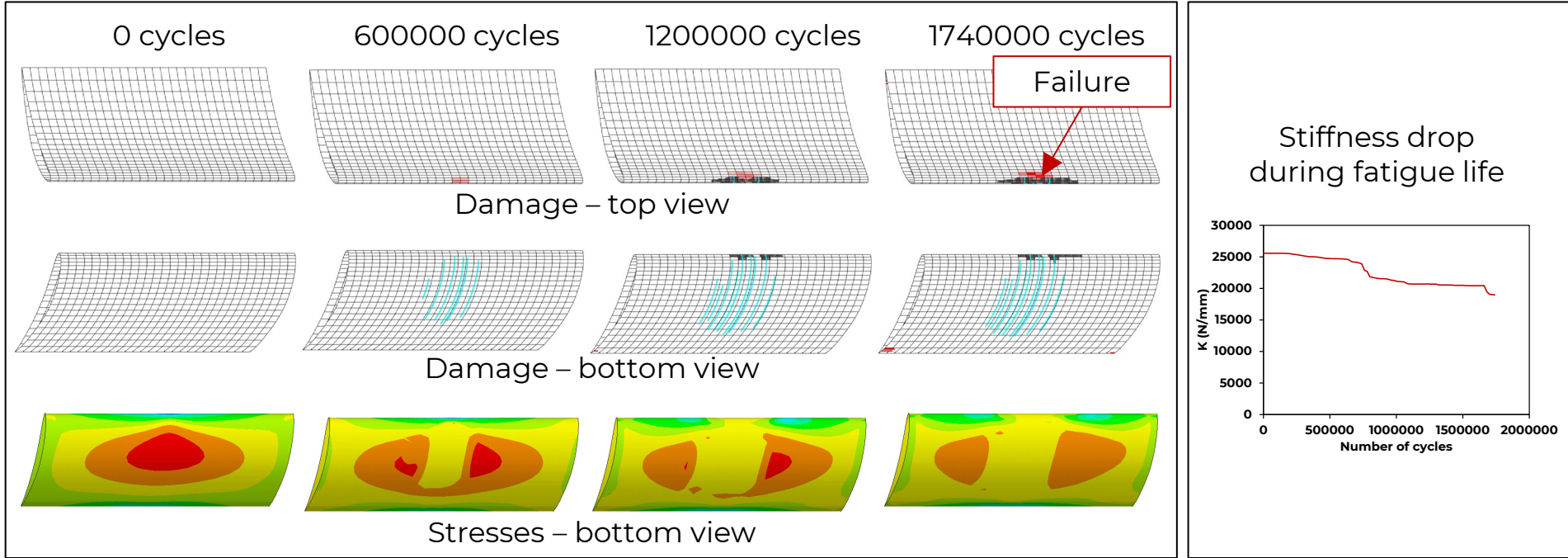
Technology assessment/Consultancy (TA)





Use case - FLA

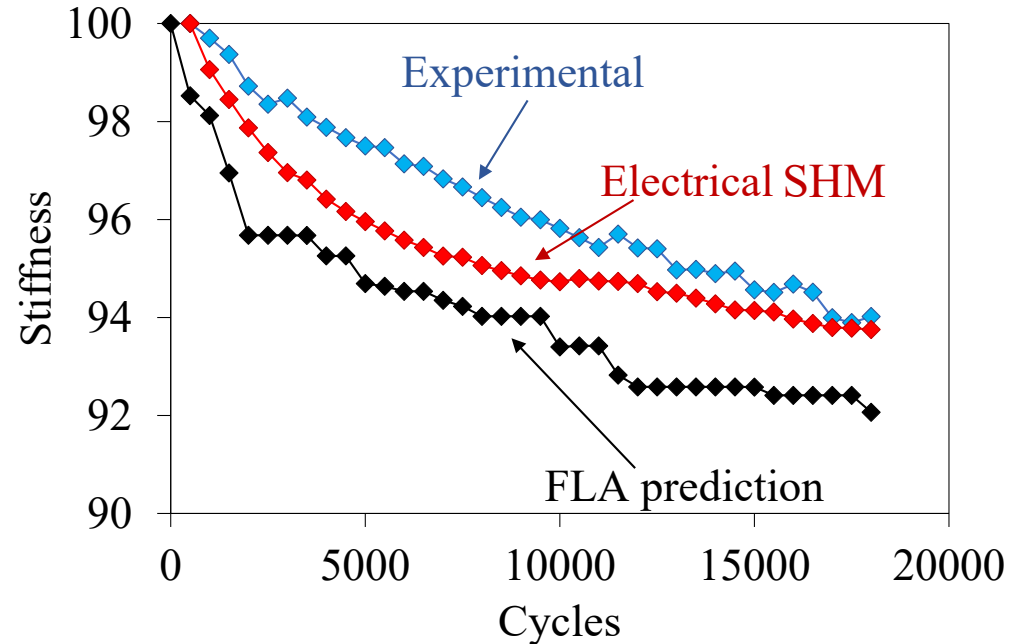
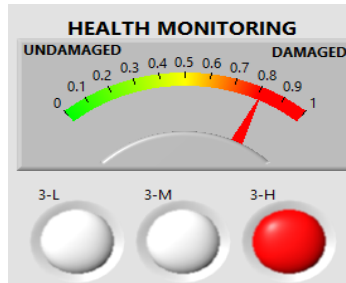
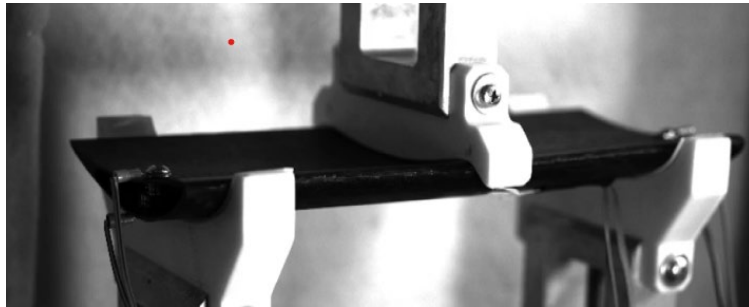
Prediction of the damage evolution (off-axis cracks, delamination), stiffness degradation and failure of a **composite material wing** under bending. Potential interest for automotive or aerospace industries. This represents just an example, **the proposed tool has very broad application**, as it can predict the fatigue behaviour of any composite structure in all the fields of mobility and not only.





Use case - SHM

Application of the SHM method to a **carbon/epoxy wing**. Validation through damage introduction by bending fatigue. The damage severity can be assessed and communicated to the user through an interface. Of potential direct interest for **automotive, aerospace, wind energy, hydrogen storage, and sport** industries.



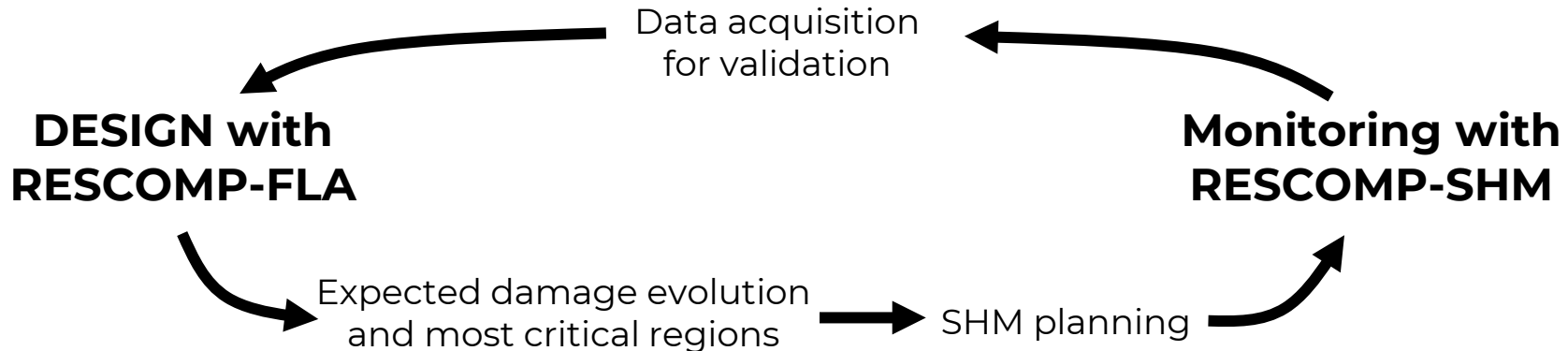


Synergistic application

The FLA software proposed by RESCOMP allows the cited companies to design composite parts that are more optimised, lighter, safer with respect to the industrial state of the art.

The SHM method enables an increased in-service reliability, allowing, on one side, the adoption of lower safety factors in the design, leading to lighter structures, on the other side a more efficient and effective maintenance, with the real-time management of unexpected events.

The combined use of the two tools could lead to an unrivalled capability for a company in designing optimized composite parts, fostering lightweight and sustainability, together with safety and reliability.



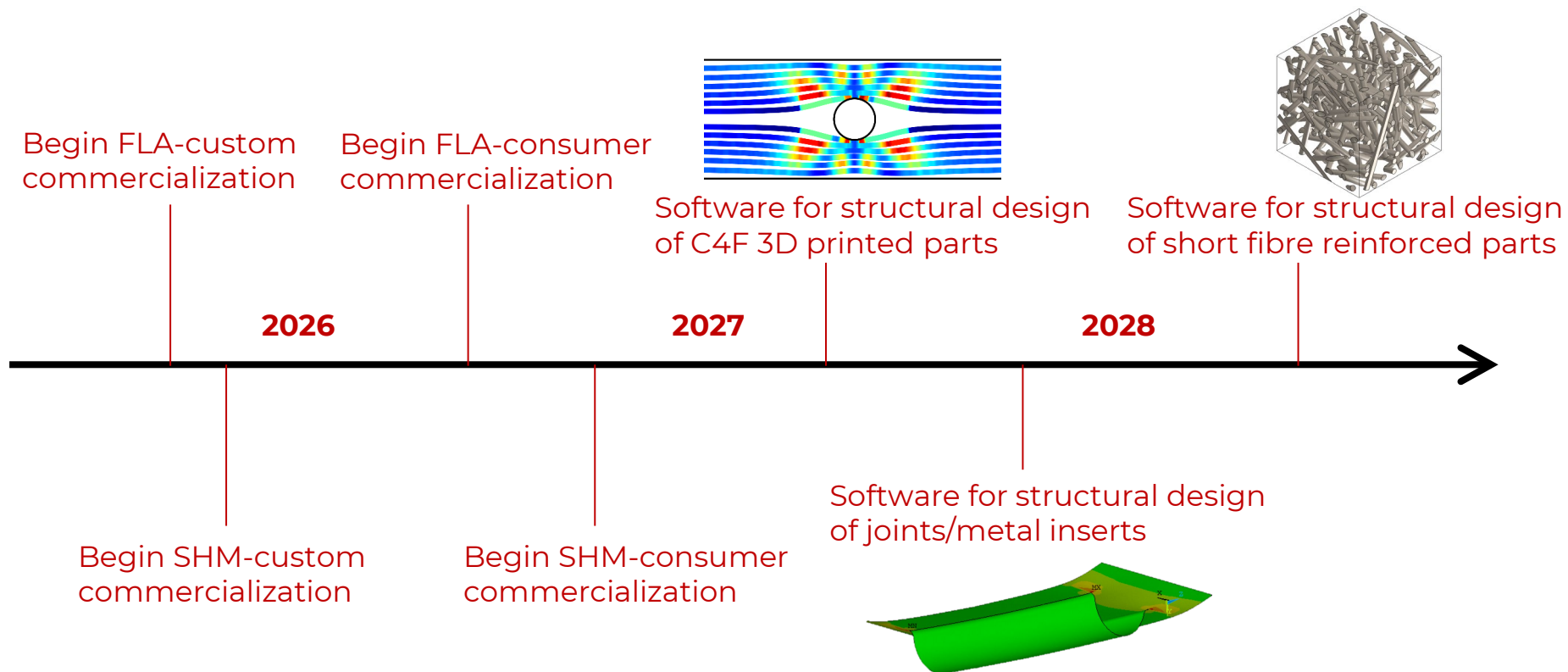


Where we are now...

- ✓ **Company was founded** (March 25, 2025)
- ✓ **A beta version of RESCOMP-FLA** is available, and test cases for validation are ongoing
- ✓ **Prototypes of RESCOMP-SHM** have been developed, proving their effectiveness
- ✓ **Interest of major industrial players** was drawn, including high level talks with Dallara Automobili, Leonardo, Stellantis, Versalis, Faber Industries, Flybertech Aerospace, GKN, F1 teams
- ✓ Discussions are ongoing with major **Finite Element software providers** to integrate RESCOMP-FLA as a plug-in tool, to expand the market reach



...and where we are going





Marino Quaresimin

marino.quaresimin@rescomp.it

+39-351-3415981

SEE YOU AT BOOTH G09 !!

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING

The background of the slide features a light blue silhouette of an audience seated in the foreground and a speaker standing at a podium on the right side, gesturing with their right hand. The Fibereuse Tech logo, consisting of a blue circular icon with two interlocking loops, is positioned to the left of the company name.

Fibereuse Tech

Circular Economy solutions for the Fiber Reinforced Plastic sector

STARTUPS' INNOVATION SESSION

PROCESS AND MANUFACTURING



Marco DIANI
CTO



Fibereuse Tech

FRP waste
to high-added value products

Glass Fiber Reinforced Plastics (GFRP) are used in many sectors:

- Construction
- Automotive
- Nautical
- Aerospace



2025, Europe
700.000 tons of
GFRP material
waste

Cost for
landfilling
of 300 €/ton



Why is GFRP
not Recycled?!



Recycling GFRP is not economically profitable



Recycling costs are higher than
virgin material price

Recycled material doesn't fit with
in use manufacturing technologies

Our solution to implement circular economy in GFRP sector

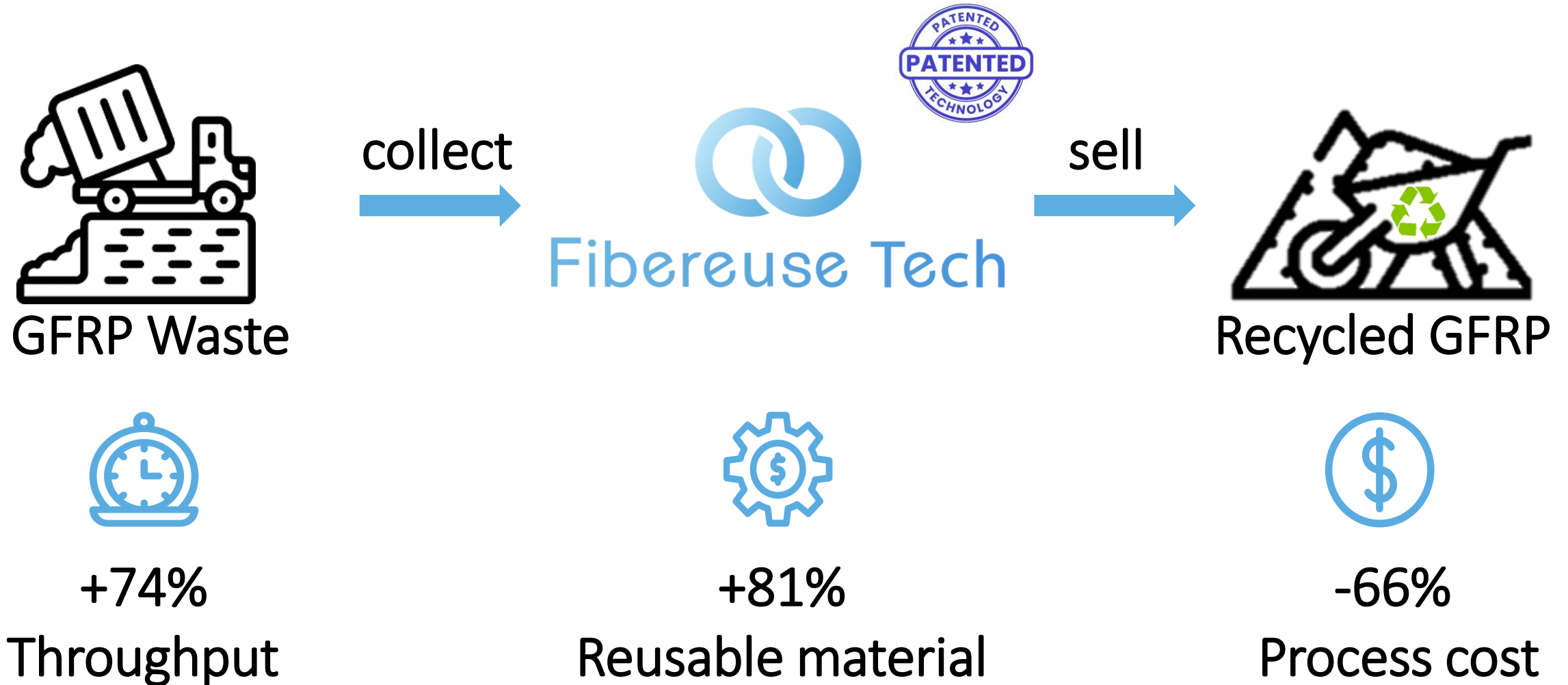
Cyber Physical System
to control and optimize
size-reduction process



Demand-driven
cross-sectorial approach



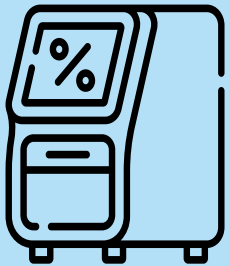
Demand-driven Cyber–Physical System to control and optimize mechanical shredding process



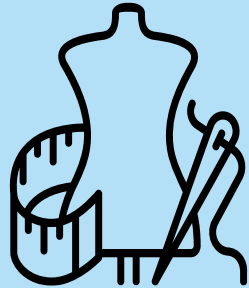
Business Model

Functional business (go to market)

Integrated service for enabling circular economy in the GFRP sector



Test of
recyclability



Design of new
product with rGFRP

Recycling Plant (after investments)

Collection



EoL GFRP product or
by-products

Sale



Recycled
GFRP

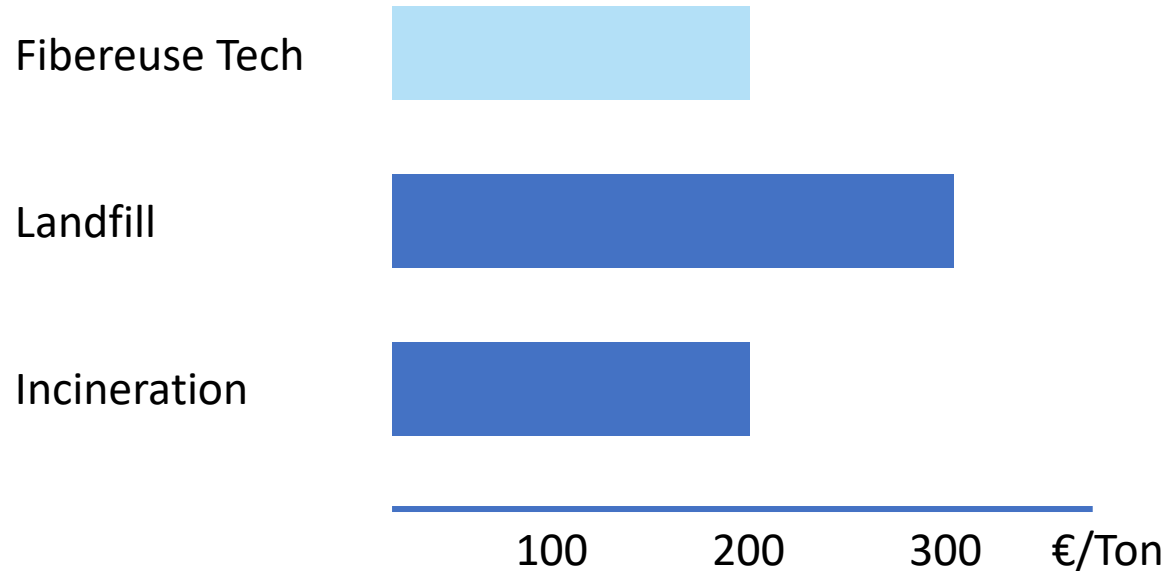
Customer Value Proposition



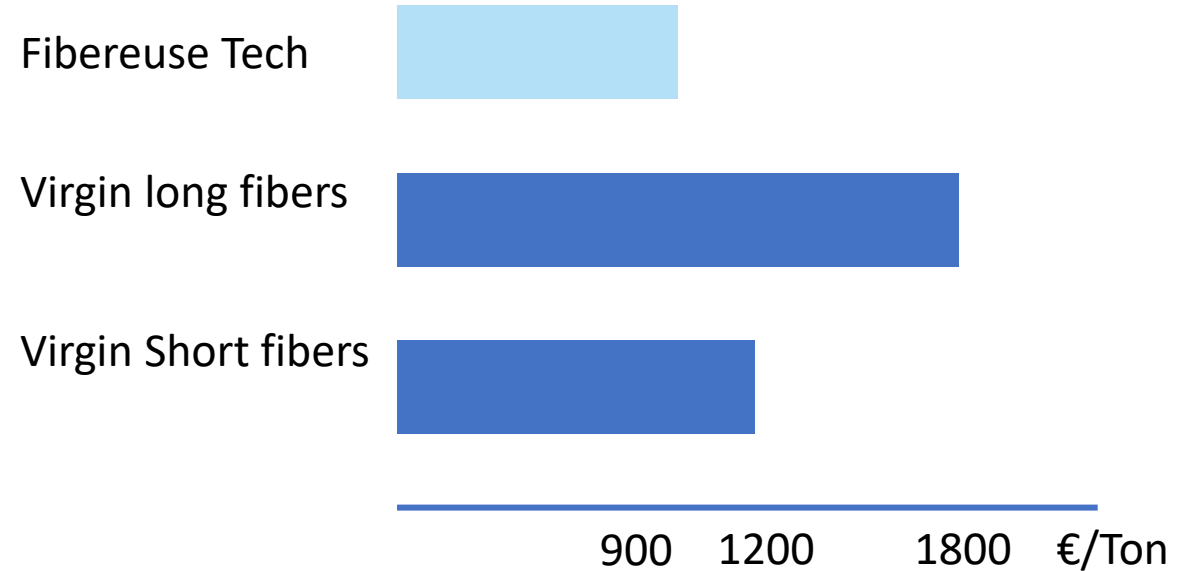
Save money and improve sustainability



Disposal costs



Material price

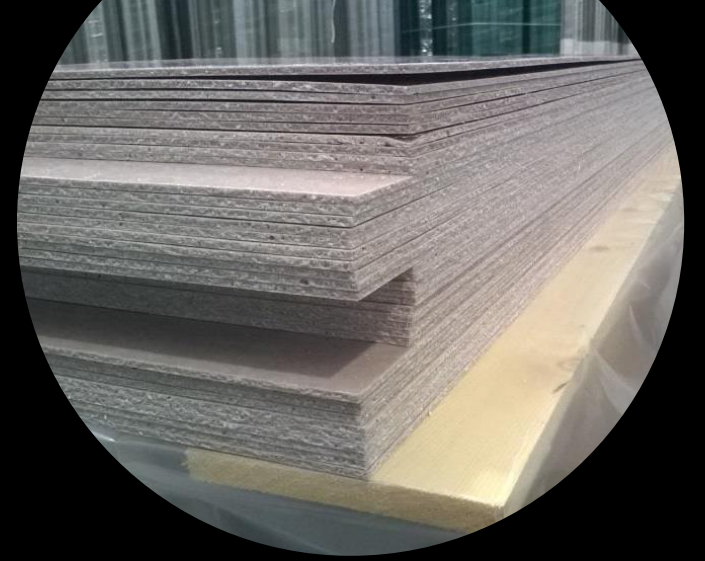


What can be made

From Design
to Construction



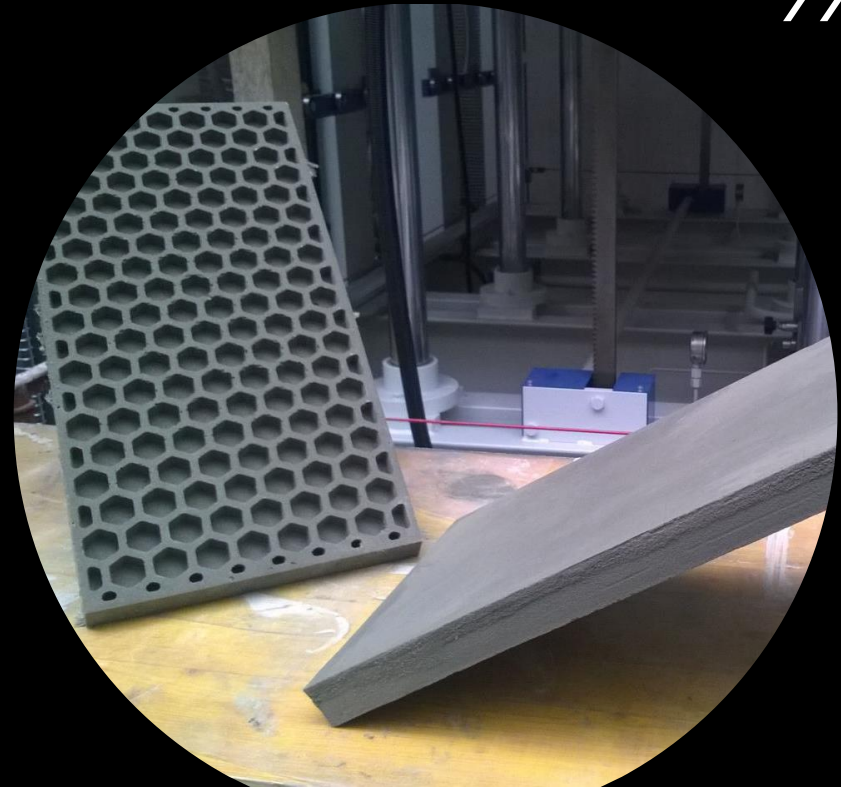
Continuous Lamination



Hybrid Poltrusion



Open Mold Casting



Closed Mold Pressing



Recycled Mat



The Team



Marco Diani, PhD
Co-founder, CRO
& Assistant Professor @ PoliMi



Prof. Marcello Colledani
Co-founder, CSO
& Full Professor @ PoliMi



Giacomo Bonaiti
Co-founder, CTO
& CTO and co-owner @ Rivasca Spa

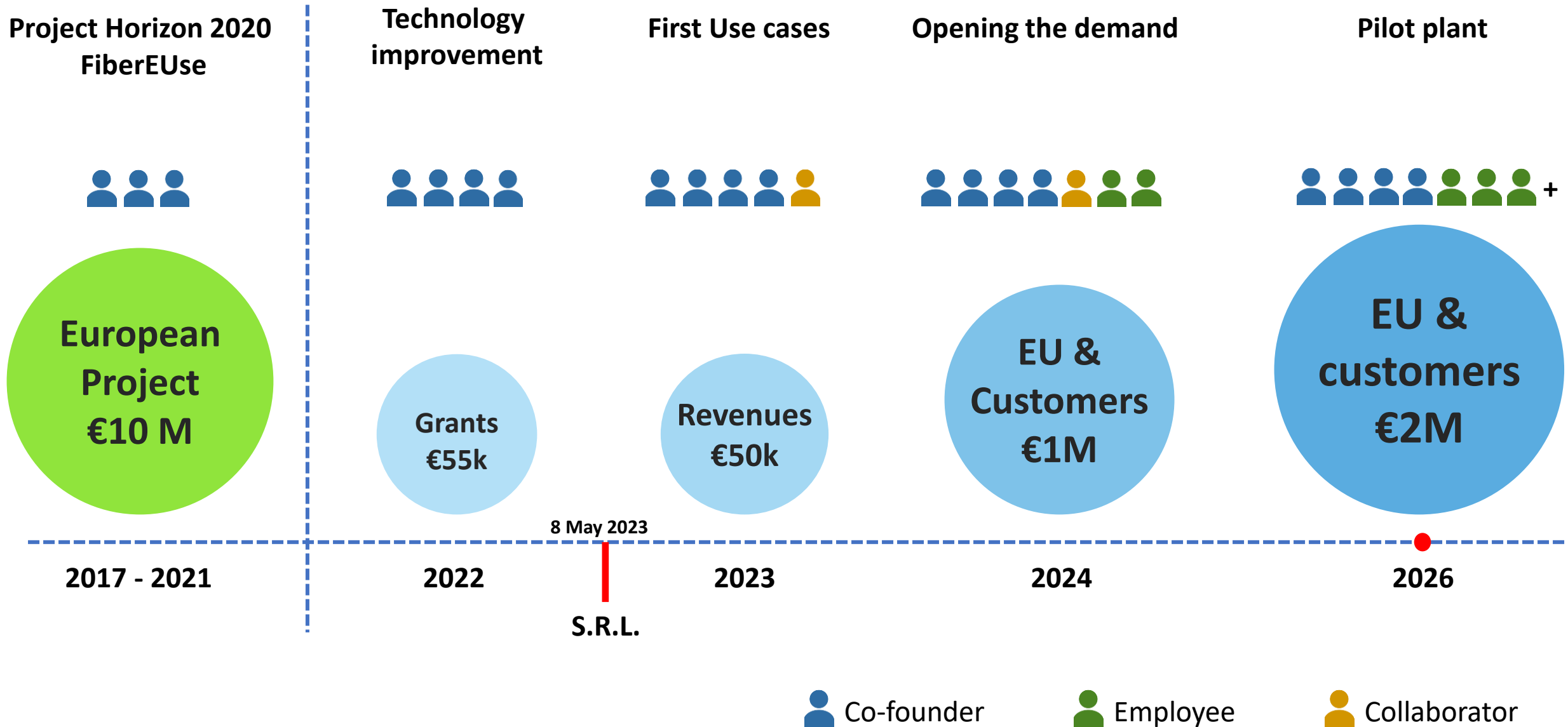


Daniele Tedoldi
Software developer &
System integrator



Massimo Bottiglieri
Technology Developer

Roadmap of the project



Thank you for the attention

Marco Diani

marco.diani@fibereusetech.it
+39 340 921 2460

Marcello Colledani

marcello.colledani@ fibereusetech.it
+39 320 839 3672

Giacomo Bonaiti

Giacomo.bonaiti@ fibereusetech.it +39
335 574 4186

www.fibereusetech.it

info@fibereusetech.it

STARTUPS' INNOVATION SESSION

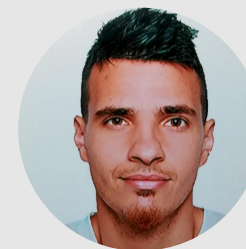
ROUNDTABLE DISCUSSION



Riccardo BERGAMIN
CEO & Co-Founder



Elias HIRSCHBICHLER
Founder - Financial lead



Alessandro MATTIOLI
CEO



Marino QUARESIMIN
President



Marco DIANI
CTO



Benjamin DEBUSSCHERE
Head of Events' Programs



The background of the slide is a photograph of a large, ornate historic building, possibly a palace or museum, situated on a hillside. The building has multiple stories, arched windows, and a prominent central tower. The hillside is covered in dense green trees and vegetation. In the foreground, there is a body of water, likely a lake or river, with a stone wall and some greenery along the shore. The entire image is overlaid with a semi-transparent orange-red filter.

THANK YOU !

MEET THE STARTUPS ON THEIR BOOTH

ACUS – G01

FIBEREUSE TECH – G03

FIBIONIC – G05

FUTUR - AI – G07

RESCOMP – G09