

BioBosco

POWERED BY BIOSYNTEX



BioSyntex

IN COLLABORATION WITH



StilliSolutions
visionary events





Why BIOBOSCO Urbano ®

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Climate Change

- Over the past **40 years**, the **average temperature** has **risen** beyond **critical thresholds**.
- **Extreme events, heatwaves, flash floods, hydrogeological instability.**
- **Cities** are becoming **warm** and **unlivable**.

Territory

- **Regions** are launching **urban reforestation policies** to **capture CO₂**, **release oxygen** into the **environment**, and **build shaded areas**.
- But **over 10% of the soil is consumed** — meaning it cannot be recovered for planting new trees due to pavements, underground utilities and infrastructure.
- Today, there are on average **24 trees per 100 inhabitants**, and in some cities fewer than 10.
- It is necessary to find **smart solutions that support reforestation where planting is limited**.

BIOBOSCO Urbano ®

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The BIOBOSCO Urbano®, powered by BioSyntex, occupies **8.5 SQM** and **captures CO₂** from the atmosphere while **releasing oxygen** in quantities comparable to a small grove of **approx. 5 to 25 trees**, depending on size of the module.

Improve Environmental Conditions

- Captures CO₂ within a minimal footprint.
- Produces and releases O₂.
- Removes airborne particulate matter (PM10, PM5, PM2.5).
- Reduces oxides (NO_x, SO_x).
- Supports circular economy processes: horticultural products, anaerobic biodigesters.
- Optimises land use: from **500 SQM** down to **100 SQM**.

Circular Economy

- The microalga biomass produced is used in agriculture, horticulture, and anaerobic biodigesters.



BIOBOSCO Urbano ® – What it is



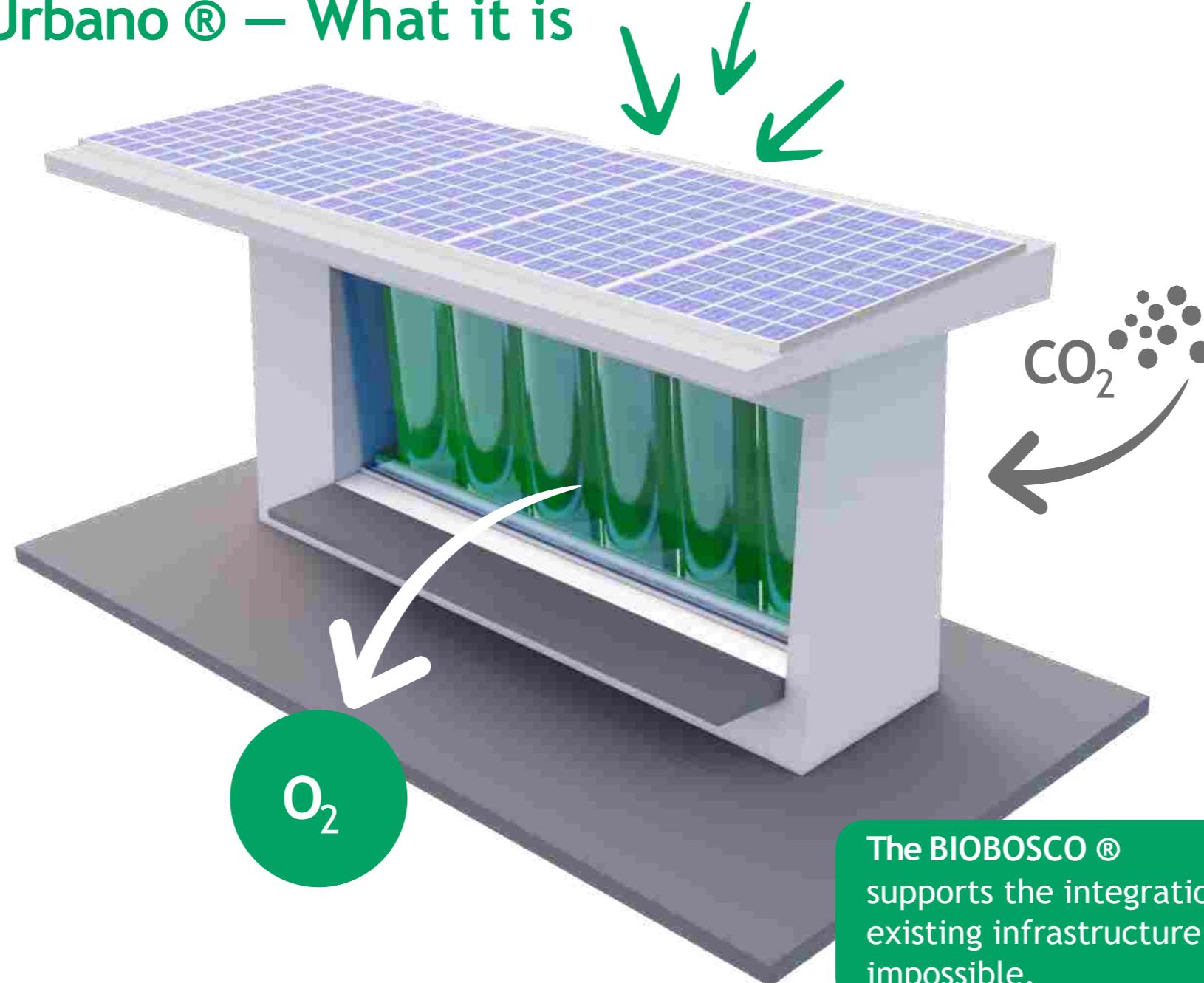
Photovoltaic panels



Customizable architectural structure



Biomass



The BIOBOSCO ® supports the integration of green areas where existing infrastructure makes tree planting impossible.

Environmental data

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1 KG
of BIOMASS
=
2 KG of CO₂
absorbed

2 KG/Y
Average CO₂
absorbed
per tree

20 SQM
Required
surface per
tree

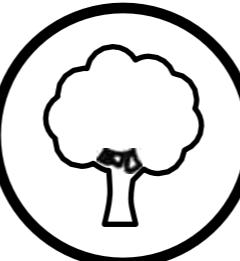
COMPARISON WITH TREES IN FORESTED SETTINGS

1 BIOBOSCO absorbs ~50 kg/year of CO₂
(produces ~25 kg/year of biomass)



COMPARISON WITH TREES IN URBAN SETTINGS

1 BIOBOSCO absorbs ~50 kg/year of CO₂
(produces ~25 kg/year of biomass)



25 trees absorb ~50 kg of CO₂ per year
(2 kg/tree/year).

5 trees absorb ~50 kg of CO₂ per year
(10 kg/tree/year).

Required surface for 25 trees: ~500 SQM
Required surface for 1 BIOBOSCO: ~8.5 SQM

Required surface for 5 trees: ~100 SQM
Required surface for 1 BIOBOSCO: ~8.5 SQM

Data from experimental projects according to environmental conditions

Stakeholder

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Local
Authorities



Multiutility
utilities



ESG
firms



Private and Public
sectors

Completed project - ENI S.p.A.

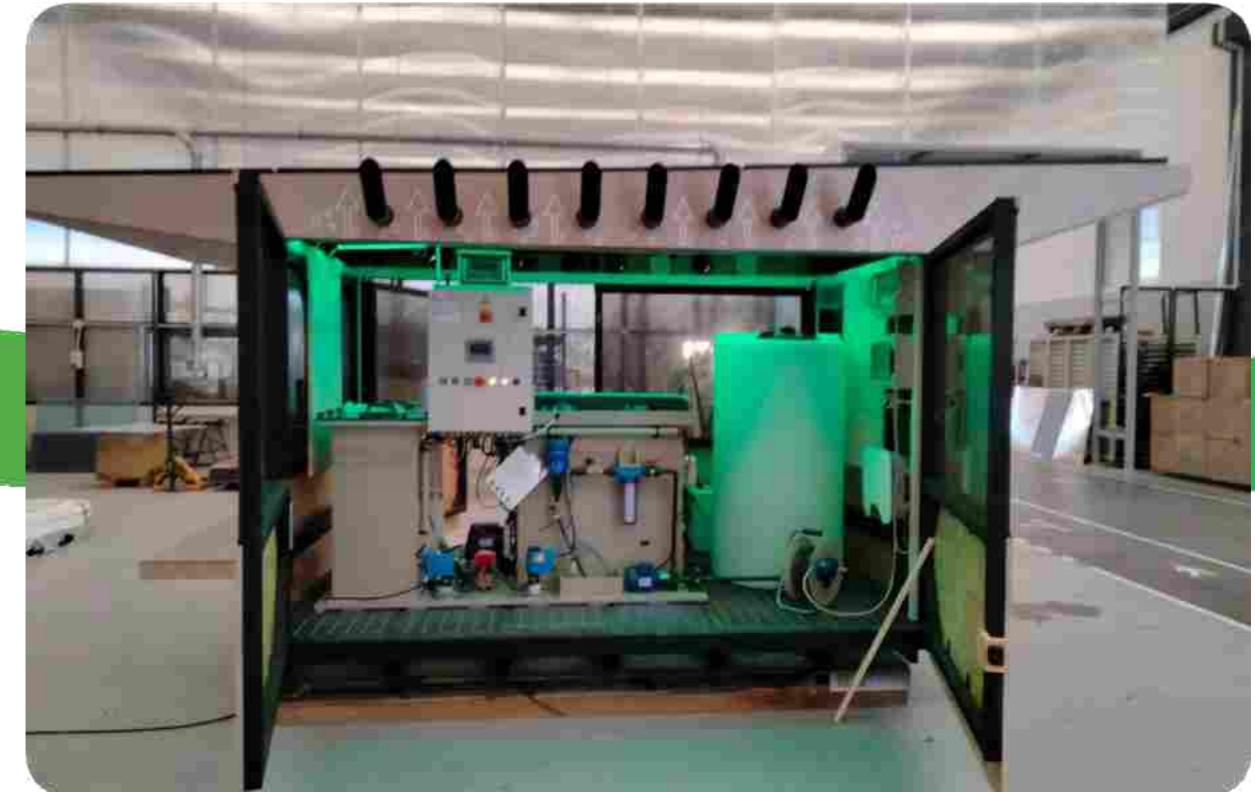
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BioBosco Urbano® - Indoor version

- Designed for low solar radiation environments.
- Uses LED lighting, powered by certified green electricity + PV panels.



Architectural structure

- Technology and architectural structure integrated into a single functional unit.

Completed project - ENI S.p.A.

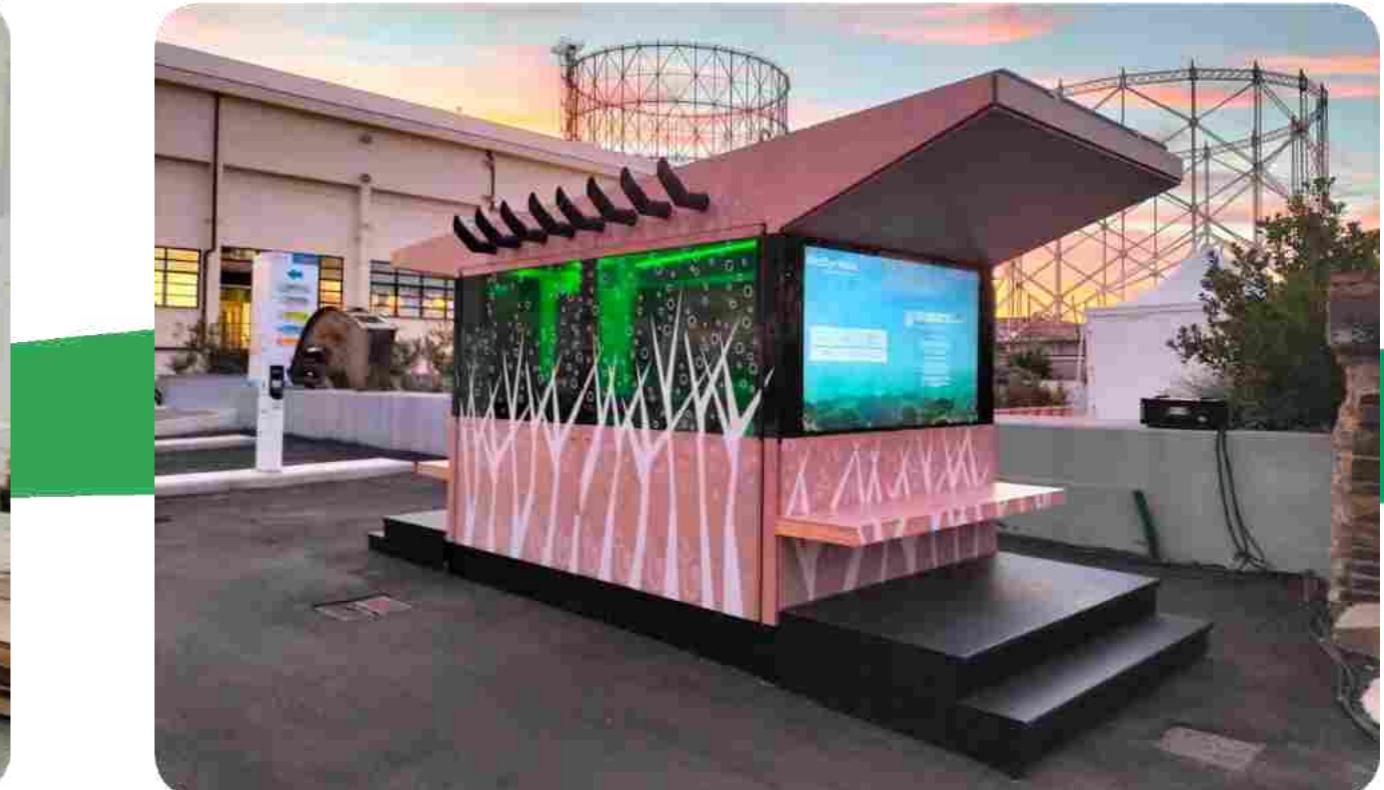
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Assembled BioBosco

- Ready for start-up.
- Operational at the ENI site in Rome.

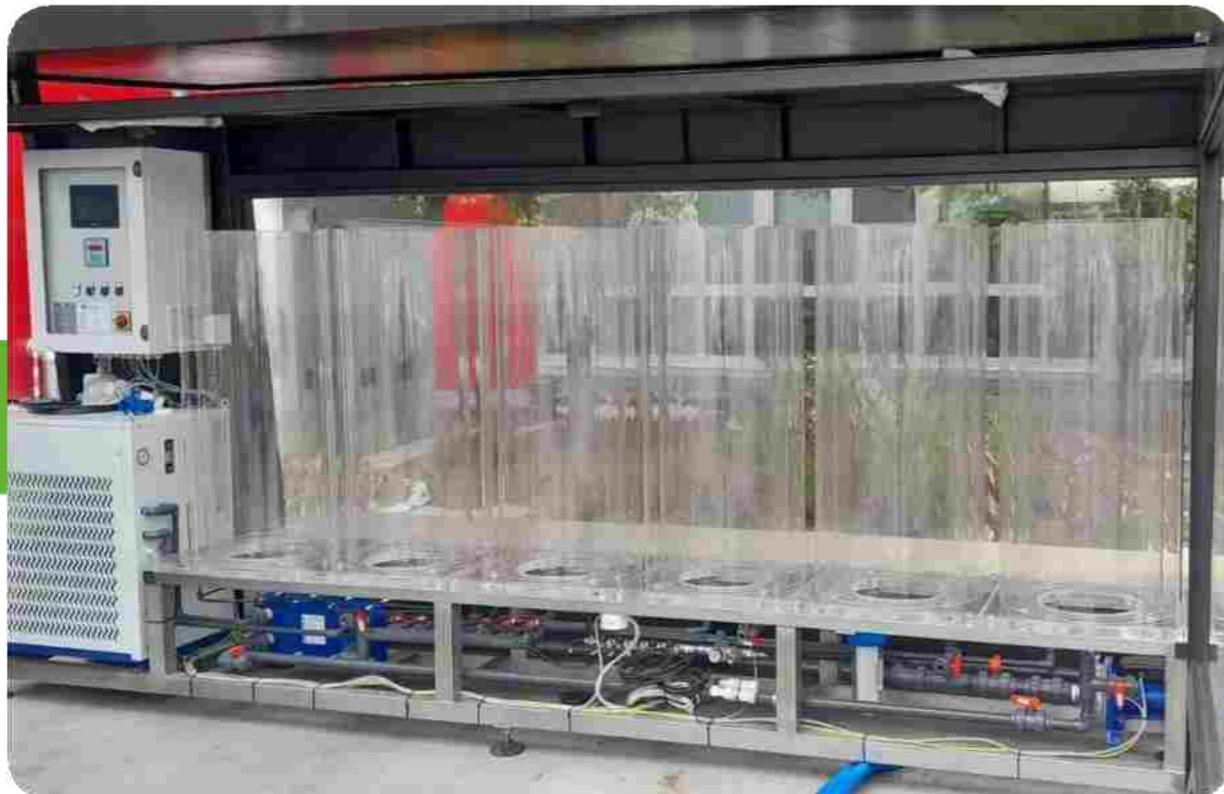


BioBosco operational

Completed project - IMA S.p.A.

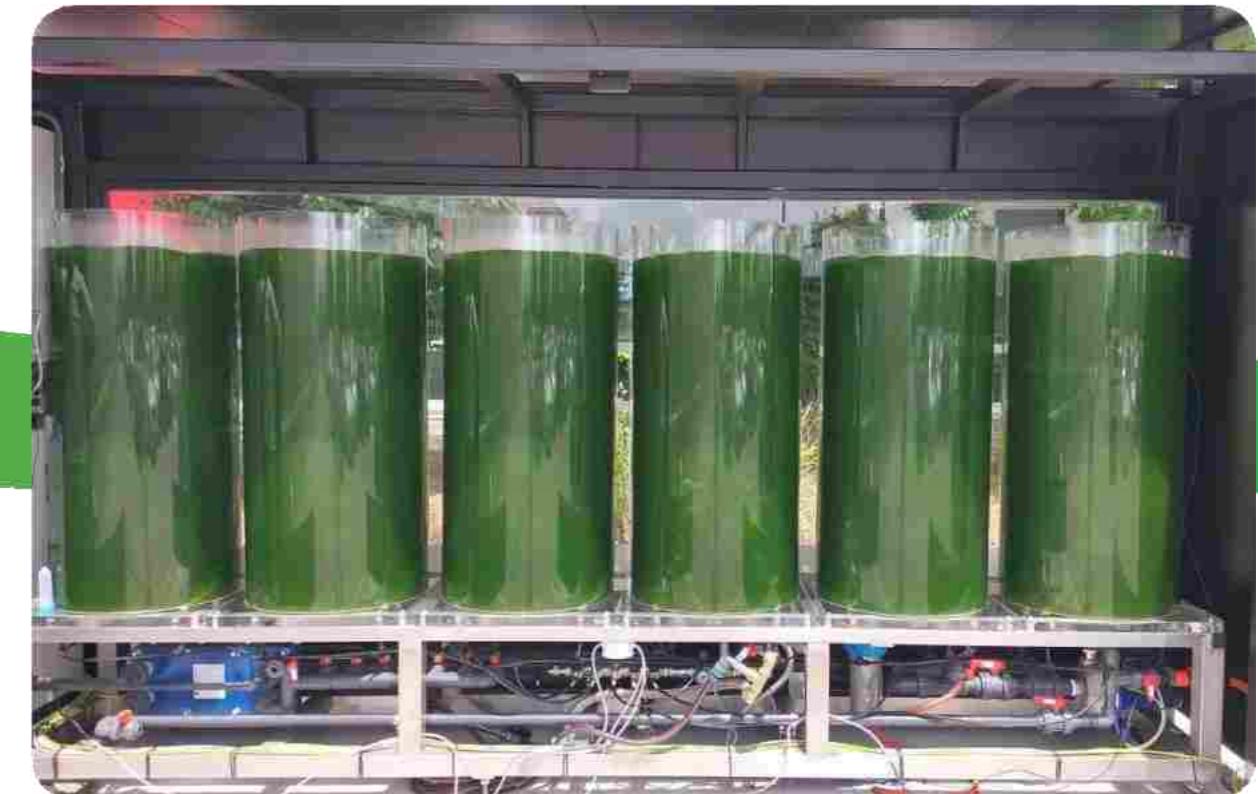
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BioBosco Urbano® Outdoor

- Designed for medium-high solar exposure.
- Uses natural solar radiation.
- Energetically self-sufficient thanks to PV panels



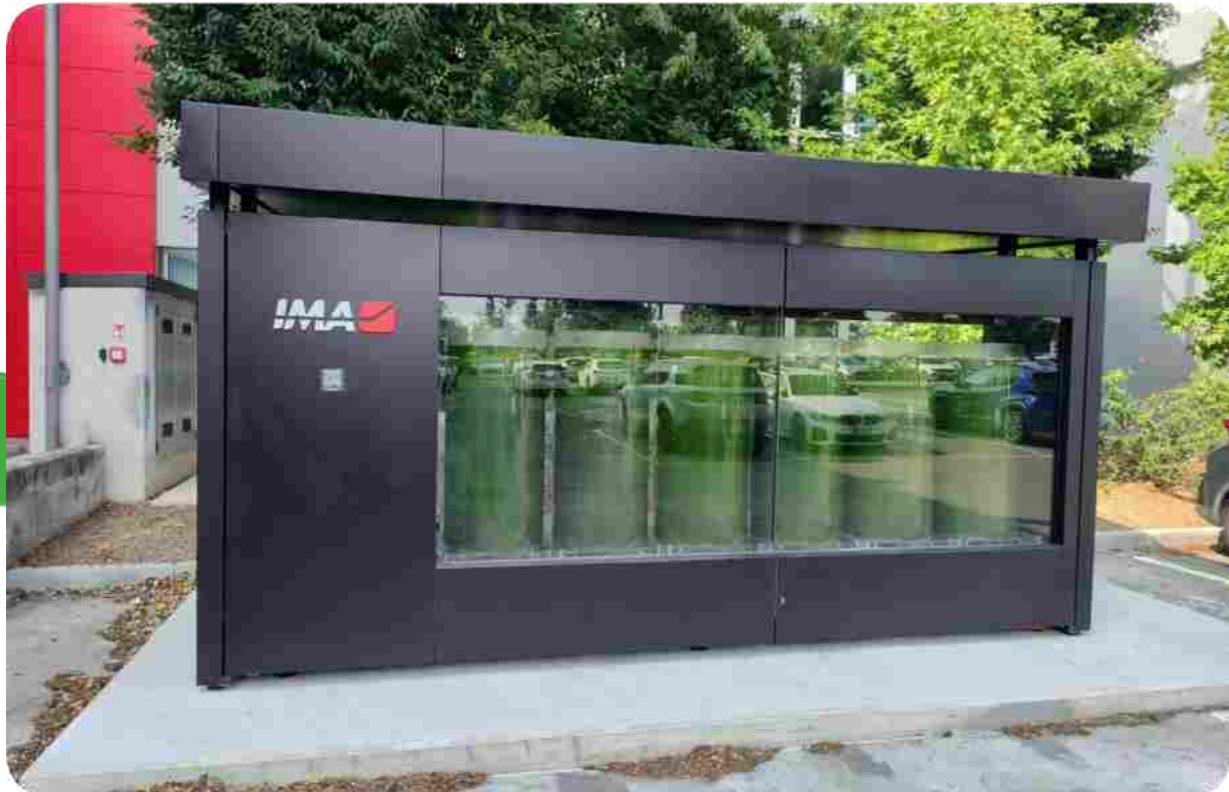
Architectura structure

- Technology and architectural structure integrated in one functional unit.

Completed project - IMA S.p.A.

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Assembled BioBosco

- Operational at the IMA site in Bologna (back view).



BioBosco operational

- Operational at the IMA site in Bologna (front view).

The evolution: from BIOBOSCO to Green Hub

Green future and social integration

The Green Hub shows how multifunctional spaces improve urban livability by offering:

- Access to clean drinking water
- Sustainable mobility and education
- Powered entirely by renewable energy
- Inclusive social and community spaces

Towards shared sustainability

BIOBOSCO brings together technological innovation and urban greenery, creating ecological, accessible and interactive spaces.

Together with institutions, associations and companies, Green Hubs take shape as:

- Open-air laboratories for environmental education
- Development centers for greener and more inclusive cities



Optional integrated services

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Drinking water
dispensers



Digital
Information displays



Charging stations
e-mobility and devices



Public Wi-Fi
connectivity



Shaded
Structure



Social interaction
Remote working



Children's play
areas and fitness



Event
area

*non direttamente alimentati dall'impianto fotovoltaico del BioBosco



Rendering

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Rendering



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