Pietro Fiorentini

Project

BIOMETANO CELLA DATI

Plant for
upgrading biogas and
biomethane injection
into the natural gas
distribution grid

The Path of | Operation | Results | Benefits

BIOMETANO CELLA DATI

Scope of supply	Biogas upgrading plant and the injection of biomethane into the grid
Location	Cella Dati (CR)
Industrial partner	EGEA Group
Agricultural partner	Santini Agricoltura Rinnovabile
Plant installation	Pietro Fiorentini SPA
Production capability	4,000,000 m^3/year

The **project**

The **Biomethane Cella Dati** project stems from the desire of **Egea Group** (industrial partner) and **Santini Agricoltura Rinnovabile** (agricultural partner) to **give value to the biogas** derived from agricultural by-products of local farms, **by transforming it into biomethane** to be injected into the natural gas distribution grid.

Milestones

2020

NOVEMBER

Start of negotiations
Pietro Fiorentini met with project partners

2021

FEBRUARY

Launching the order
Construction work began

SEPTEMBER

Delivery of the plant
The plant was delivered to the Cella Dati site

DECEMBER

Commissioning and start-up
Commissioning of the plant with related operating tests begins

2022

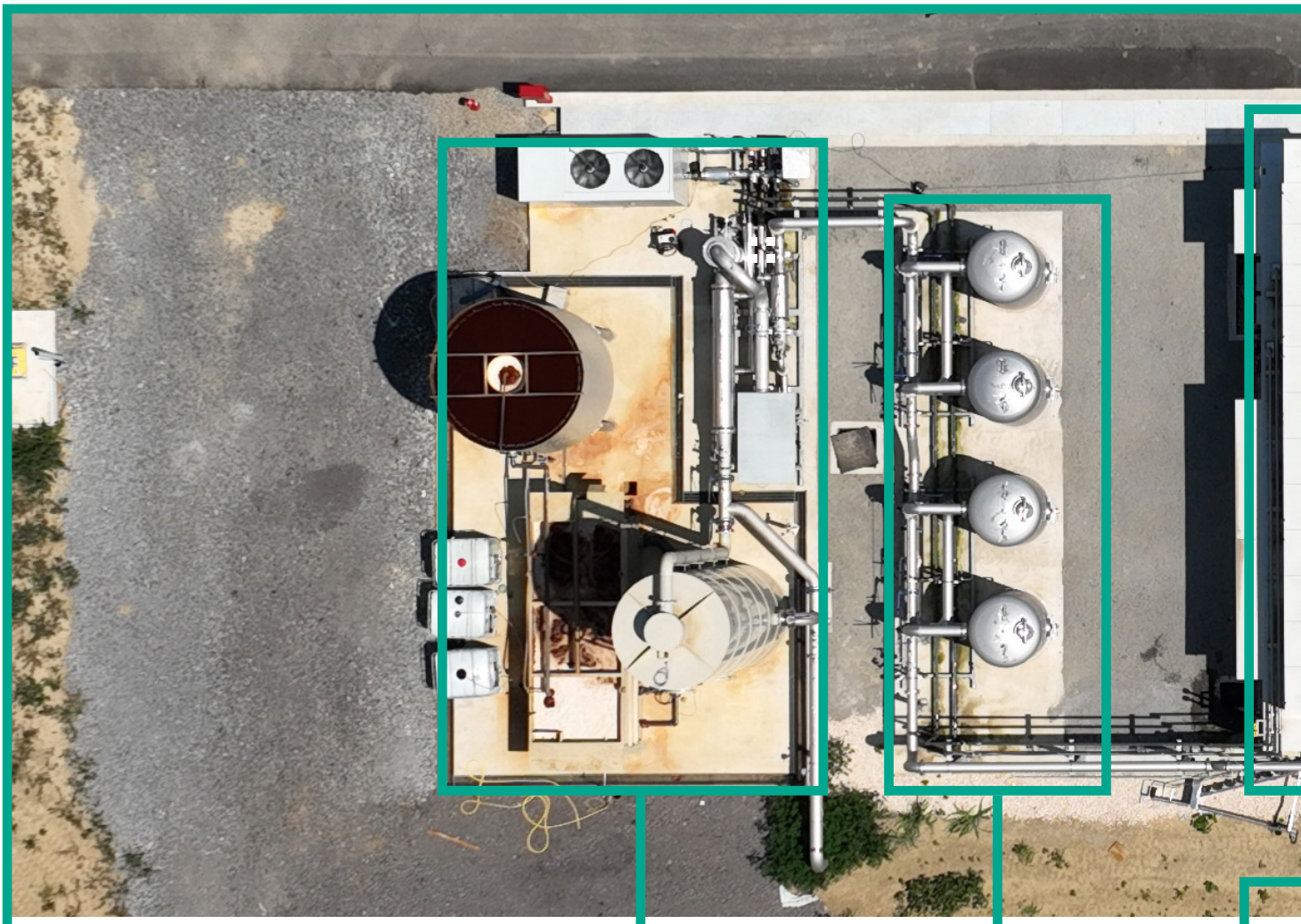
APRIL

Injection into the grid
The first feed-in to the grid

MAY

Inauguration
The plant was inaugurated in Cella Dati

How **the upgrading and injecti**



Pretreatment

The **H_2S content in the biogas coming from the digesters is reduced from 5,000 ppm to 100 ppm**, compressed and dehydrated in the dehydration section

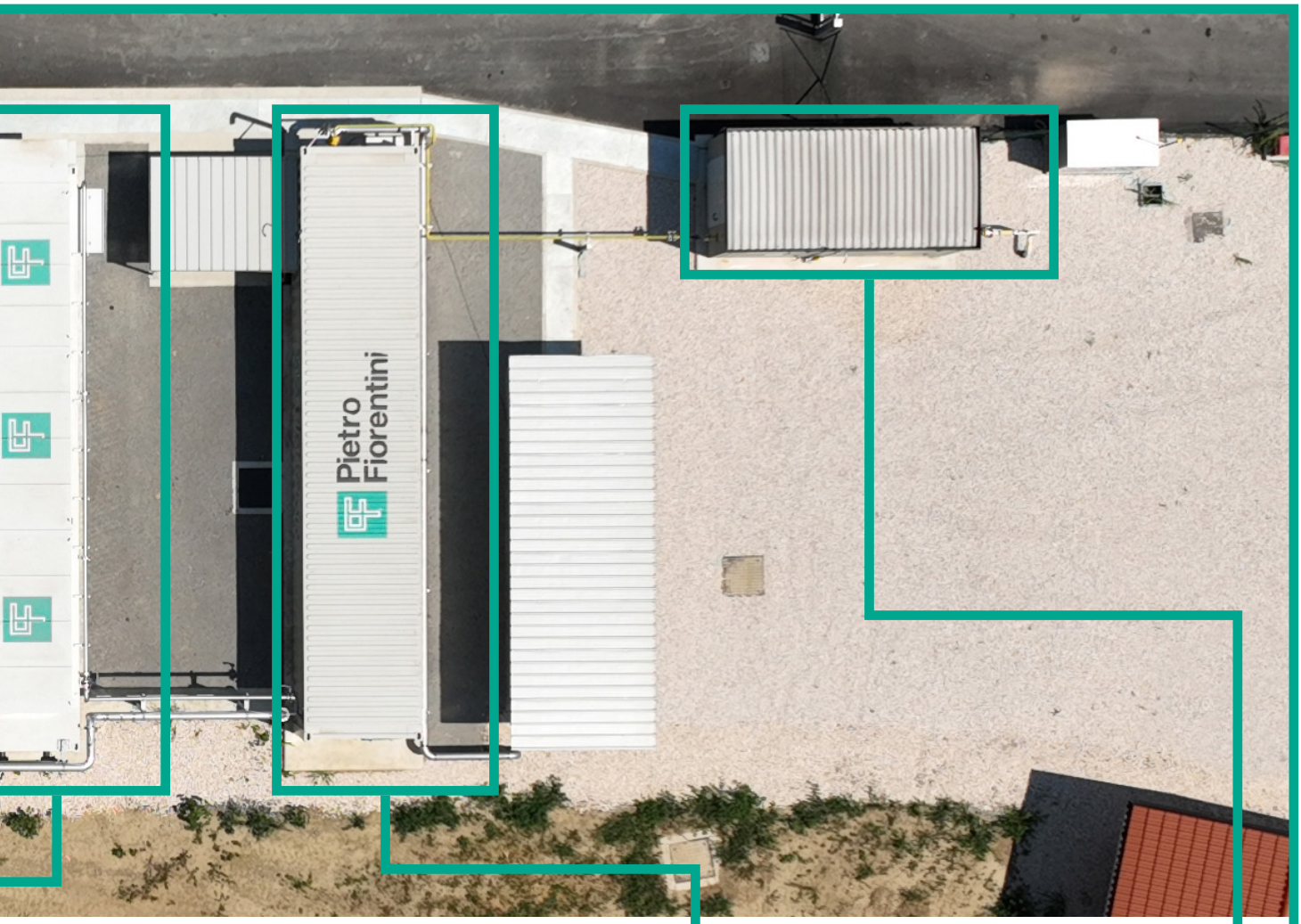
Pre-filtering

The biogas from the pre-treatment section is **stripped ofresidual H_2S** and volatile organic compounds.

Compression

The purified and dehydrated biogas enters the compression system to reach an **operating pressure of 12 bar**. In addition, heat can be recovered within the system and used again in the process.

on system works



Fiograde+ Upgrading

The **FioGrade** membrane system separates the biogas molecules to obtain biomethane with a **CH_4 content** of **more than 99%** and CO_2 for off-gas expulsion while complying with environmental benchmarks.

Fiogrid↘ Injection

The **FioGrid** system accurately analyses and measures biomethane in several stages.

If the composition of the biomethane produced **complies with the injection parameters laid down in UNI/TS 11537**, the biomethane is suitable for injection into the grid.

Otherwise, the biomethane returns to the upgrading plant to be treated again.

BIOMETANO CELLA DATI in numbers

1200
m³/h

The **biogas** production capacity of the plant

600
m³/h

Hourly biomethane production

4 Mln
m³/year

Annual biomethane production

corresponding to

Fuelling **methane cars and lorries** for

80 Mln
km

Heating homes of approximately 100 m2 for **one year for**

4000
homes

Economic and **environmental** benefits

In Italy, more than **75 billion m³ of gas** is consumed **per year**.
The plant built by Pietro Fiorentini produces **4,000,000 m³ of gas per year**, using agricultural by-products recovered directly by local companies.

The by-product of biomethane production, which is called **digestate**, can be used as **fertiliser** instead of chemical fertilisers.

Focus on **companies**

EGEA
LA CASA DELLE BUONE ENERGIE

A multi-service group based in Alba, **EGEA Group** has always been attentive to local needs and operates with a deliberately glocal model.

It is present throughout Italy with a **focus on local communities** and companies in the province where the majority of the economy comes from. Biomethane represents an important development lever for the Group, which intends to **increase the number of renewable plants at full capacity** (biogas, biomethane, photovoltaic and hydroelectric), as envisaged in the new business plan of the multiservice company. EGEA operates four other biogas plants located in the area between Cuneo and Turin.

S.A.R.
Santini Agricoltura Rinnovabile

The Santini family has been present in the area for more than 200 years and **manages 500 hectares in the province of Cremona** with more than 4,000 cattle and another 300 hectares divided between Emilia-Romagna and Tuscany. There are two activities on the farm: one is for biomethane, the other for animal husbandry. In this way, the land is always covered so as to **maximise the absorption of carbon dioxide**.

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www.fiorentini.com

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