

LOCCIONI



**The living lab  
of ecological transition**  
Leaf Community



*"In our work community, the ecological transition is a journey that embraces all aspects of doing business and pursues the goal of restoring harmony between humanity and nature through technology.*

*After all, that's why we work: to leave things a little better than we found them."*

*Enrico Loccioni*



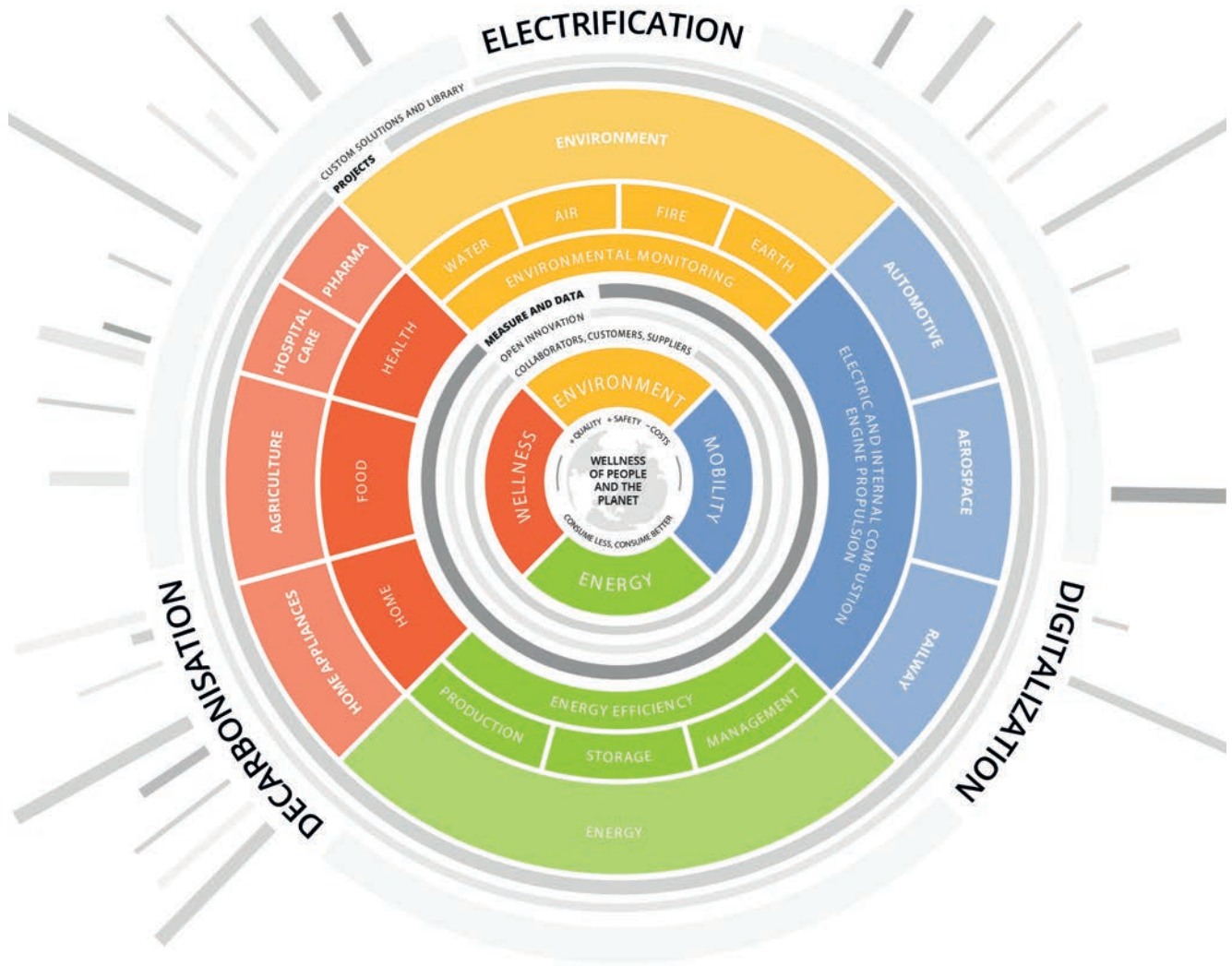
# From data to value.

## For the wellbeing of people and the planet.

Loccioni is a *family-company* based in le Marche hinterland, whose *cultural roots lie in the Benedictine and farmers tradition*, whose values the company preserves and foster.

The Loccioni mission, is to *improve the wellbeing of people and the planet*. It means contributing to consume less and better, to improve the quality, safety and sustainability of industrial products and processes.

From aerospace to medical, from agriculture to mobility, passing through the home, energy and environment, *each technological project, fueled by the thrust of electrification and digitalization, is a small step towards the ecological transition.*



# The European Green Deal

- Done in the Leaf Community
- Ongoing in the Leaf Community

Today the whole world is talking about the need for ecological transition. Europe is indicating a roadmap to drive this important evolution.

***Loccioni started to work on these drivers many years ago*** and can be a witness and open lab, having reached and measured many of these goals.

# Green Deal Europe

Transforming the EU economy for a sustainable future

Mobilizing research and developing innovation

“Zero Pollution” Goal for an Environment Free of Toxic Substances

Persevere and restore ecosystems and biodiversity

“From farm to fork”: a fair, healthy, and environmentally friendly food system

Accelerating the transition to sustainable and intelligent mobility

Leave no one behind (just transition)

The entire working and local community benefits from Loccioni's initiatives.

Transforming the EU's economy for a sustainable future

More ambitious EU climate targets for 2030 and 2050

Ensuring the supply of clean, affordable, and safe energy

Mobilizing industry for a clean and circular economy

Building and renovating in an energy and resource efficient manner

Financing the transition

Loccioni self-financed its own ecological transition, demonstrating that long-term thinking pays off.

# The European Green Deal



1985

## People's comfort at work

Installing the first refrigeration unit, but it's consuming a lot of energy. What should I do?



2000

## Buildings

Energy-saving solutions and consumption monitoring. Reduce waste, increase efficiency.



2007

## Water as a resource

Leaf Water, a micro-hydroelectric plant that powers the company. Water is also recovered, saving 75%.

## Comfort



1990

## Flooding of the Esino River

How can a threat be transformed into a resource?

## Safety



2005

## Marche Region

Energy efficiency and consumption measurement of the government building.

## Efficiency



2008

## LEAF COMMUNITY

The sustainability laboratory

Live, work, travel, study with zero impact.



2012

### **The river as a resource for the future**

Securing the river area and building micro-hydroelectric power plants. The river fuels business and the future.



2014

### **The smart Micro-grid**

Storage, digitalization, and intelligent management of energy flows.



2020

### **Nomadic Labs**

Mobile test rooms for energy-intensive testing of electrical components. Self-sufficient energy islands.

## **Sustainability — Biodiversity — Intelligence**



2013

### **LOV**

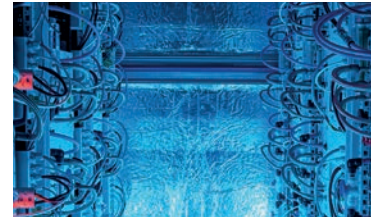
A laboratory for ecological transition in agriculture.



2018

### **Loccioni goes electric**

The entire Loccioni campus is powered by electricity from renewable sources. Natural gas is abolished. Zero gas!



2022

### **Green hydrogen**

Excess energy produced from renewable sources is used to generate green hydrogen and use it as seasonal storage.





# LEAF Community

The living lab of ecological transition





### Storage

Storage systems to have renewable energy always available



### Microgrid

An intelligent micro-grid thanks to EMS My Leaf and Internet of Energy.



### Water

With the micro hydro-electric power plants the Esino river provides clean energy to the Loccioni grid.



### Farm

Rural house for conviviality where tradition meets the pleasure of being together



### Wood

The pyrogassifier system gives thermal and electric energy while enhancing the wood chain and forest maintenance.



### Sun

In the Valle di San Clemente a sun field gives new energy to the earth and the people.



### Nature

Gardens, animals, cycling and pedestrian paths, the charm of the Esino river and of Valle di San Clemente are common goods to be preserved and powered.



### Agriculture

Regenerative agriculture to improve Co2 seizure, circular economy biodiversity and environmental monitoring.



### Mobility

Electric vehicles to grid become part of the microgrid as storage systems.



### Lab

Old and new working spaces are designed to be powered by renewable energy an interconnected in an energy autonomous grid.



### Hydrogen

Hydrogen is produced with clean energy excess and becomes an additional seasonal storage.



### Hospital

The regional hospital saves energy and measures its energy consumption.



### Education

A school powered by the energy of sun and children, educates to respect and to sustainable behaviour.



### Station

An integrated lab for safety, innovation, sustainability for a smart mobility.



### House

The first zero impact and zero bills house in Italy. Super comfort with zero emission.

# The numbers of Loccioni LEAF Community

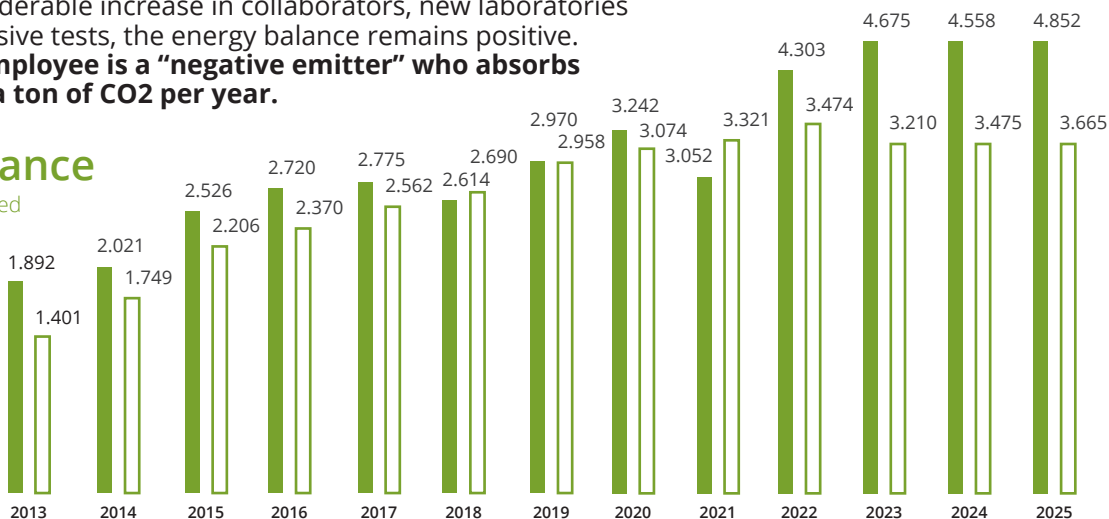
- 19 photovoltaic systems installed for a total of 3.158 kW
- 4 Hydroelectric power plants for a total of 205 kW
- 1 cogeneration power plant for 50kW
- 4.852 MWh of renewable energy produced in 2025
- 3.665 MWh of energy consumed in 2025
- 4 electric storage for a total of 1.750 kWh
- 1 thermal storage of 450 m<sup>3</sup>
- 1 Hydrogen production system 100kW
- 83% self-consumed and produced renewable energy
- 26 electric cars in the fleet and potential storage for the grid
- 1 Hydrogen car
- 36 charging stations 22 kW AC connected to the micro-grid
- 2 FAST charging stations 150 kW DC connected to the micro-grid
- 1 Bidirectional electric charging station (Vehicle 2 Grid)
- 1.138 tons of CO<sub>2</sub> avoided/year
- 54% self-sufficiency from renewable sources

Despite the considerable increase in collaborators, new laboratories and energy-intensive tests, the energy balance remains positive. **Each Loccioni employee is a “negative emitter” who absorbs more than half a ton of CO<sub>2</sub> per year.**

## Energy balance

Electric energy produced and consumed in Loccioni (MWh)

- Produced
- Consumed
- 100% Electric



The path of the ecological transition has allowed us to develop **knowledge** and **expertise** by following the drivers of **electrification** and **digitization**. Today this means creating jobs and being ready for **future challenges**.



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