BBioNets

Boosting the adoption of Bio-Based Technologies

Cross-Fertilisation Meetings

Bio-Based Practices on Farms & Forests

"Efficient Woody Biomass Utilisation"

Sustainable Biomass Use in the Magnifica Comunità di Fiemme

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Magnifica Comunità di Fiemme



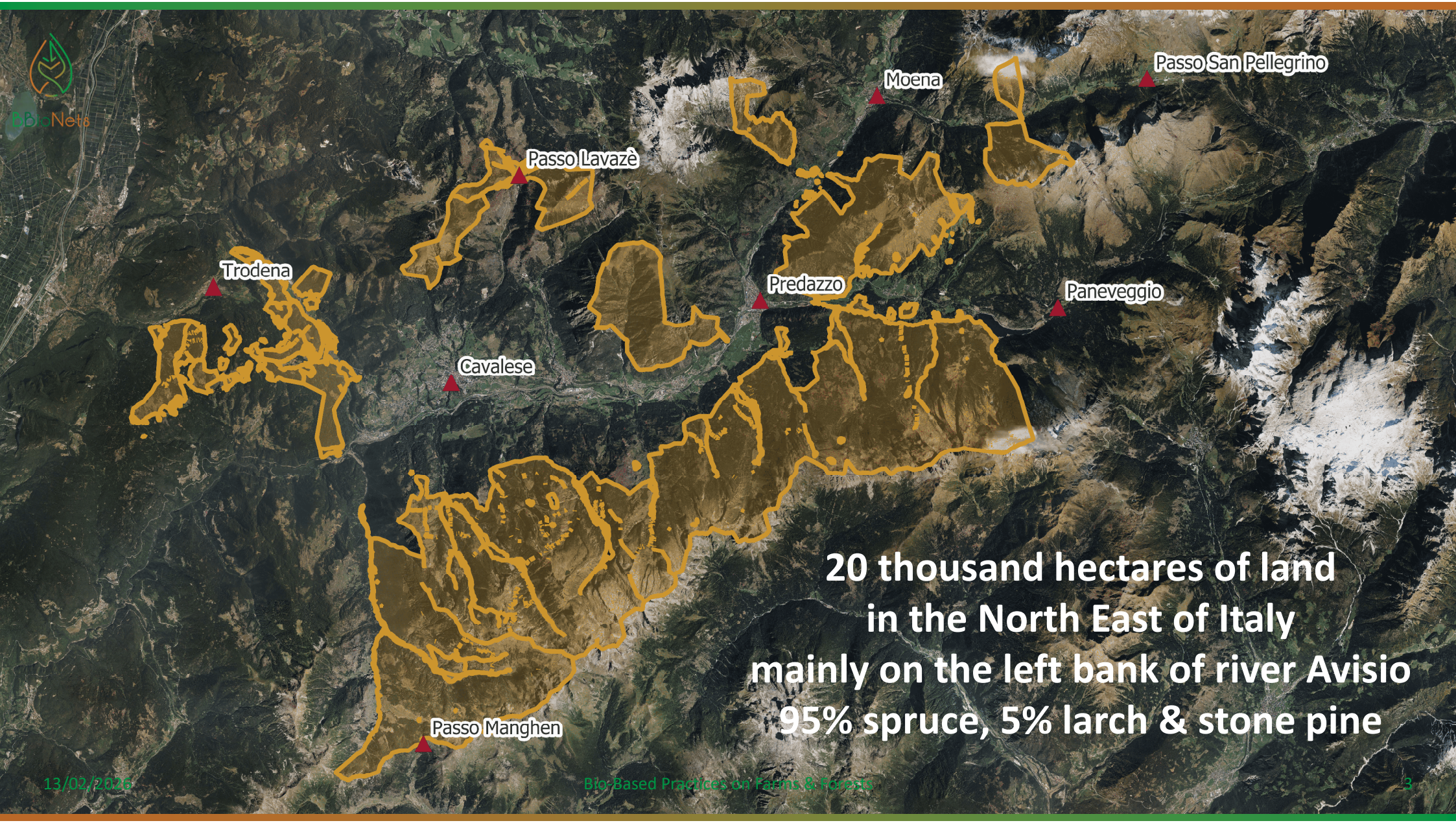
Magnifica Comunità di Fiemme is a spiritual, social and economic unit of very ancient origin.

Its existence was officially acknowledged in 1111 a.D.

Member are either descendants of original families or have been living within its boundaries for at least 25 years. As of December 2025 they were 17.400.

It manages an extensive estate: pastures and forests, a sawmill, art collections, historical documents, a Renaissance palace.

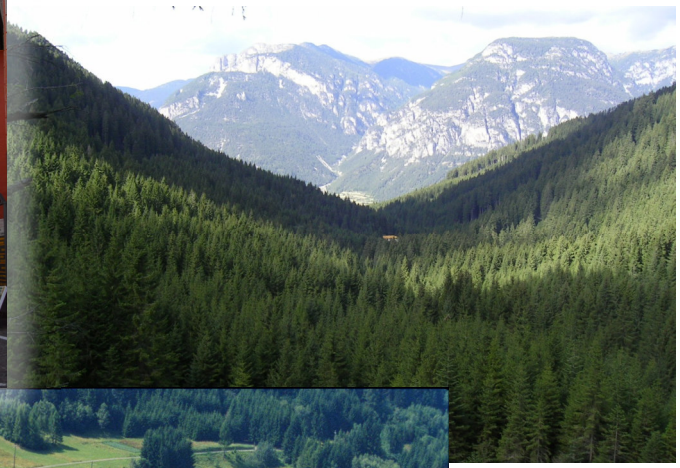
The property belongs to the people of the valley. It cannot be divided but everyone can benefit from it.


Passo San Pellegrino
Moena
Passo Lavazè
Trodena
Predazzo
Paneveggio
Cavalese
Passo Manghen
20 thousand hectares of land
in the North East of Italy
mainly on the left bank of river Avisio
95% spruce, 5% larch & stone pine

BBioNets











Sustainable forest management

The forest area is very extended, so for practical reasons it is divided into **10 districts**.

Each district is managed according to a specific **forest management plan** (legally binding - 20 years span). These plans set forest, wildlife or water protection regulations and are strictly enforced.

The approach is that of **naturalistic silviculture**.



All round cycle – from seed to log







Seeds harvested in our forests are planted and tended in the nurseries.
Magnifica Comunità owns two nurseries, their current potential is 100.000 seedlings per year.

It takes 3 to 5 years for the seedlings to be ready for planting in the forests.





Reforestation is generally left to natural dynamics. Artificial reforestation supports areas that are exposed to hydrogeological risks (i.e. avalanches, rockfalls, mudslides). Planting operations are carried out by local workers.







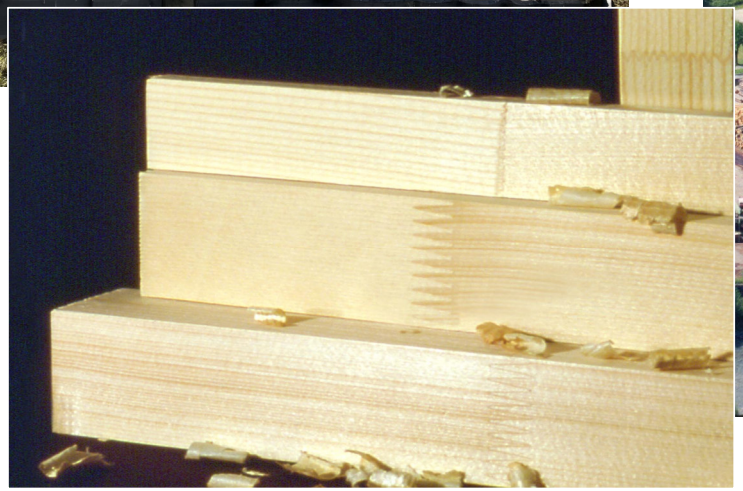


Forestry companies fell the trees and cut them into logs. Most of the companies are based locally.









Magnifica Comunità processes the logs in its own sawmill (approximately 30.000 m^3) that produces planks and fingerjoints. It also sells timber to local national and european sawmills



Vaia windstorm – October 2018

In 2018 Vaia windstorm hit the North East of Italy. In our area, winds reached a speed of 180/200 km per hour.

The damages on our territory were huge. In just few hours more than 500.000 cubic metres of wood crashed to the ground.



Bark beetle epidemic: 2021 → today



In 2021 the onset of a bark beetle epidemic caused further damages to the woods. The epidemic is still ongoing. Up to today it has already required the harvest of more than a million cubic metres of timber.

Wood residues

As a consequence of both Vaia windstorm and the bark beetle epidemic, there are large quantities of wood residues to be handled and processed.

Timber that is not suitable for industrial use can be turned into chips, sawdust, firewood.

There are lots of bark, needles and cones lying on the ground.

Use of wood residues

Wood residues can be used for purposes we could define as

TRADITIONAL

Residues can also be used for

ALTERNATIVE or

INNOVATIVE PRODUCTIONS



SAWDUST is usually sold to a local plant that produces pellets for domestic heating.





It can also be repurposed as litter for small animals.

Timber that is too cracked or damaged for industrial purposes is usually chipped. **WOOD CHIPS** are intended for district heating systems.



There are two public district heating plants in Val di Fiemme, and many smaller private ones.

BARK contains tannins which inhibit the growth of weed, therefore it is suitable for mulching and gardening.



Wood burning stoves are widely used in the alpine regions, so there is a high demand for **FIREWOOD**.



There is a long-standing tradition called **legnatico**. Members of Magnifica Comunità are allowed to collect firewood in the forests for free.

They can also buy production wastes such as branches, cracked parts or pieces of wood with knots or resin pockets at a reasonable price.



ALTERNATIVE USES

Small locally-based laboratories turn **needles, resins and cones** into aromas and perfumes.





Perfumes and essential oils with the scent of spruce, larch, silver fir and stone pine are sought after for cosmetics, air freshners and similar items.

Aromas are introduced into food such as chocolates, teas, ice creams.

INNOVATION



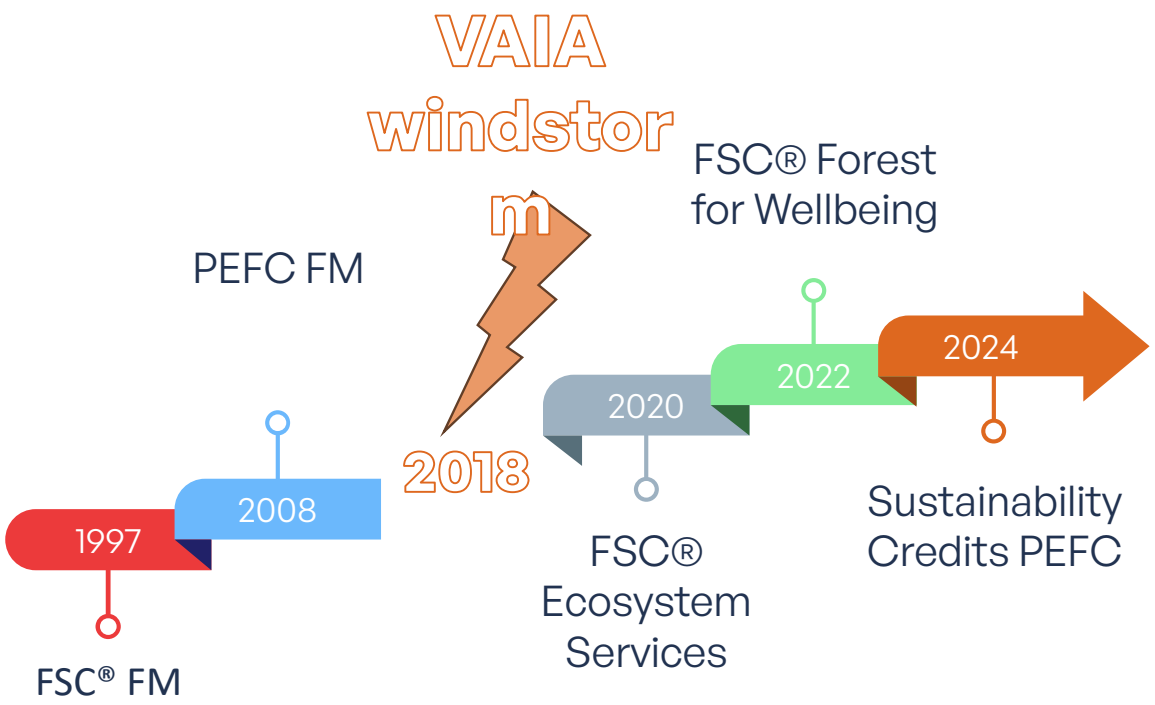
In 2025 Magnifica Comunità launched the project of a soil improver to be used in our nurseries and in reforestation activities. The University of Trento is our partner.



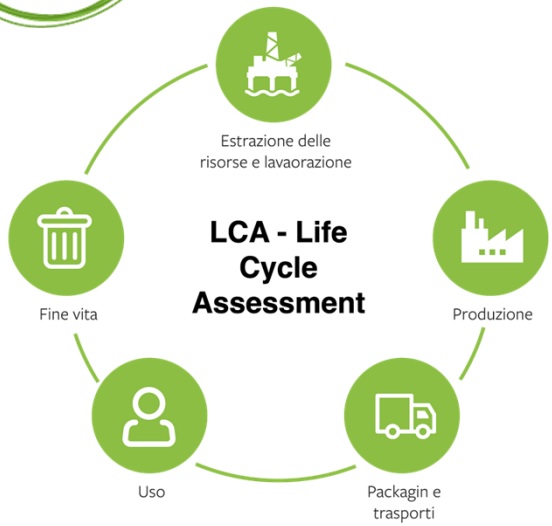
Climate changes have altered the natural succession of seasons, wreaking havoc on the growth of trees. Under conditions such as scorching heat and draught, trees suffer greatly. Stressful conditions expose trees to pest attacks and diseases.

We are studying the use of wood residues in the production of a **soil conditioner** that holds back moisture and releases it when needed by the plant.

29 years of Forest Certifications







Thank you!

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