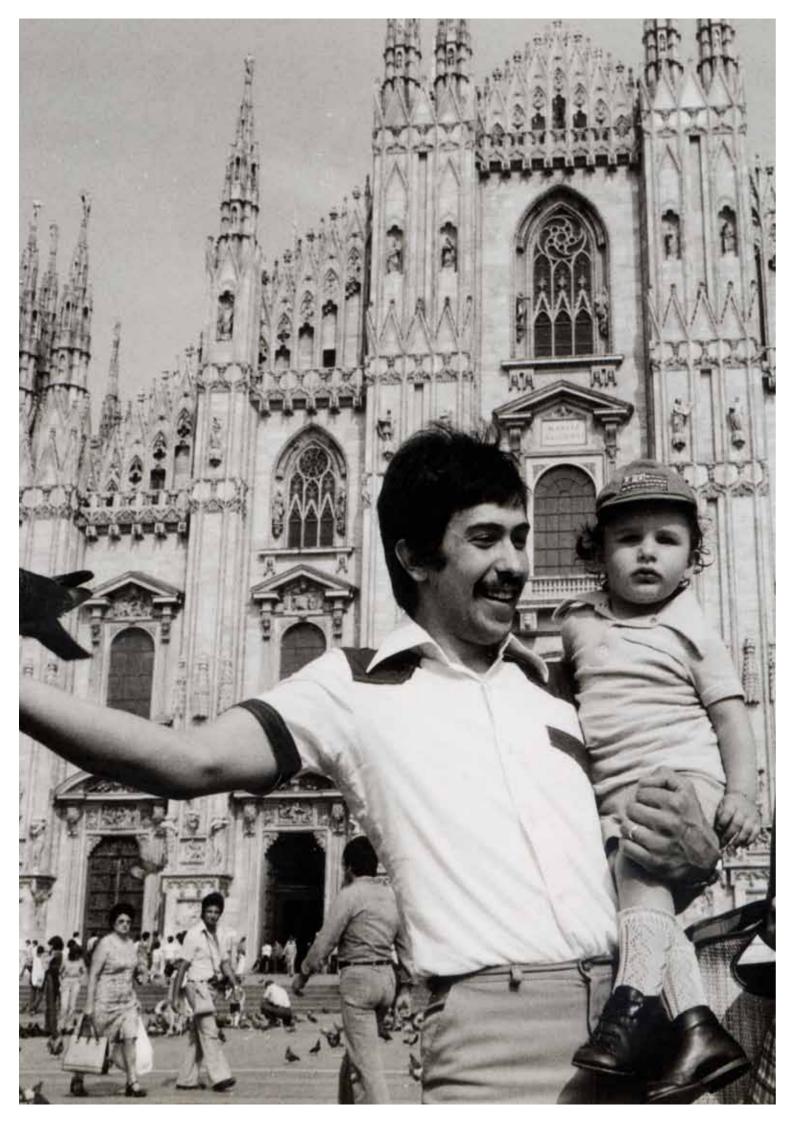








 $\label{eq:bigonbry} \textit{Impianti di essiccazione e trattamento termico del legno} \ BigOnDry \ \textit{Timber drying and heat treatment plants}$





BigOnDry We have a dream.

Drying kinls.

We have come a long way...

pursuing a lifetime
dream... know-how and passion.

Bruno Bigon

Direct fieldworks to constantly upgrading our research and addressing the most appropriate solution, our dedication and commitment ... always being there and never leaving anything to chance.

A lifetime of achievement and experience all over the globe ... and then ... our choice to face a new great challenge. BIGonDRY srl was born.

Our acquired know-how leads to the birth of secure, efficient and reliable plants.

A continuous monitoring ensures stability and security.

This allows today BIGonDRY srl to be a reference point in the global market of wood treatment.

And I proudly express my greatest satisfaction ... now as before we have been committing ourselves to challenges on new areas such as clothing, agro-food etc., as well as the development of eco-friendly plants.

Recycling, low power consumption, efficiency and high quality products.

A fully trained and motivated professionals staff provides our customers with quality, safety and global assistance at any time.







1974_Bruno Bigon BigonDRY srl ...



Big<mark>On</mark>Dry We have a dream.

The People.

Mechanics

Michele Bigon

A look at the past with the enthusiasm and the desire to think about the future ... But the real challenge begins today; a rapidly changing and evolving present that every day we face with passion and the desire to improve and grow.

That is what Michele Bigon says. He is an enterprising young man who has chosen to carry on and develop the great teaching of his tireless father, who is above all never ready to surrender and to leave anything to chance. The real plus of BIGonDRY srl.

BIGonDRY srl:

Thanks to a worth synergy among our multiannual trained specialists supported by a creative, enthusiast, resourceful and highly knowledgeable young manpower, we have been able to create our productive and commercial reality. We successfully provide innovative and customized solutions starting from drying cells up to turnkey plants, equipped with a thermal and electrical energy generation system, flexible to any circumstance.

Technical Office

BIGonDRY srl is made up of a number of about 20 domestic employees and an Italian and worldwide network of agents and operators with on-the-spot representative offices. Calling upon our professional, technical and commercial skills, our turnkey plants and testing service can be run in different languages, such as:

- English
- French
- German
- Spanish
- Hungarian Romanian
- Serbian-Croatian
- Russian

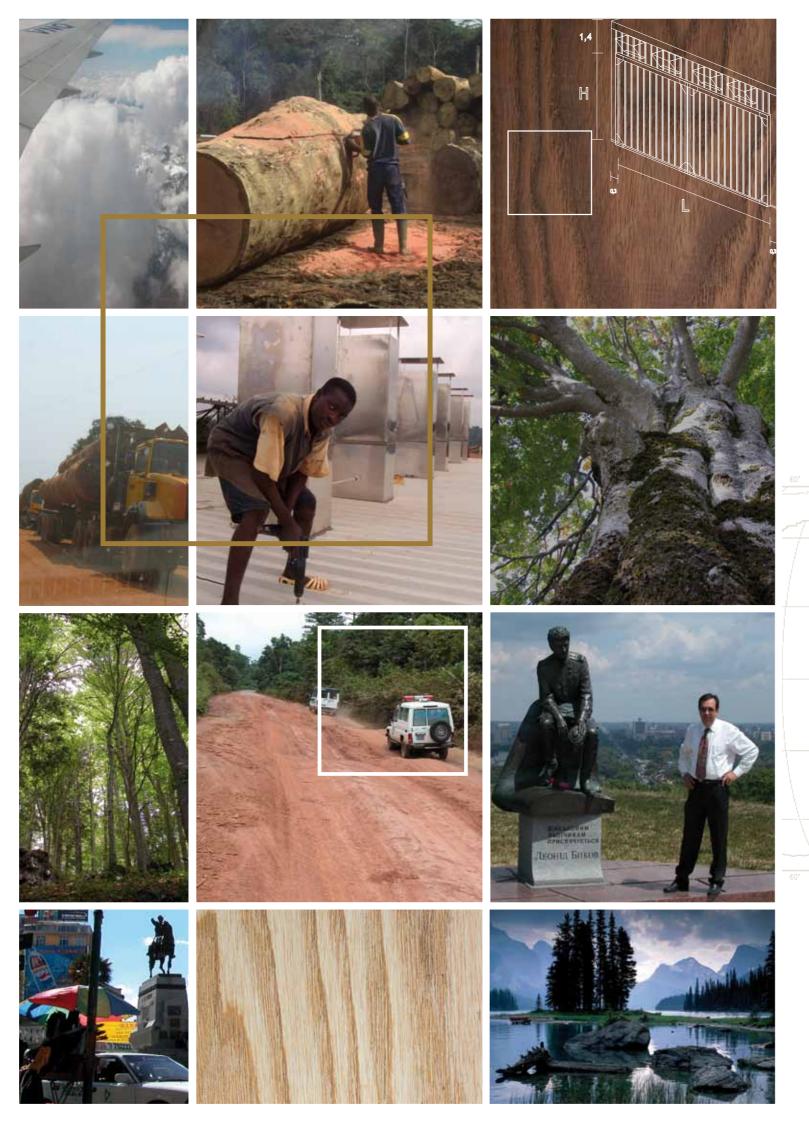
BIGonDRY The People



Export Department



Installers and Testers



Experience all over the globe

BigOnDry around the world since 2001. 860.650km on the road

We have come a long way...
Hundreds of plants in over 35
countries

... reliability and quality.

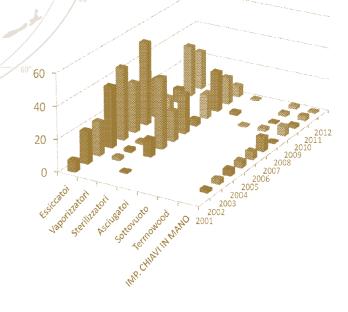
BIGonDRY srl was established in 2001, joining the passion and the experience of two generations, father and son. The Company is state-of-the-art focused on design, engineering and production of dry kilns, wood vaporization and heat treatment systems.

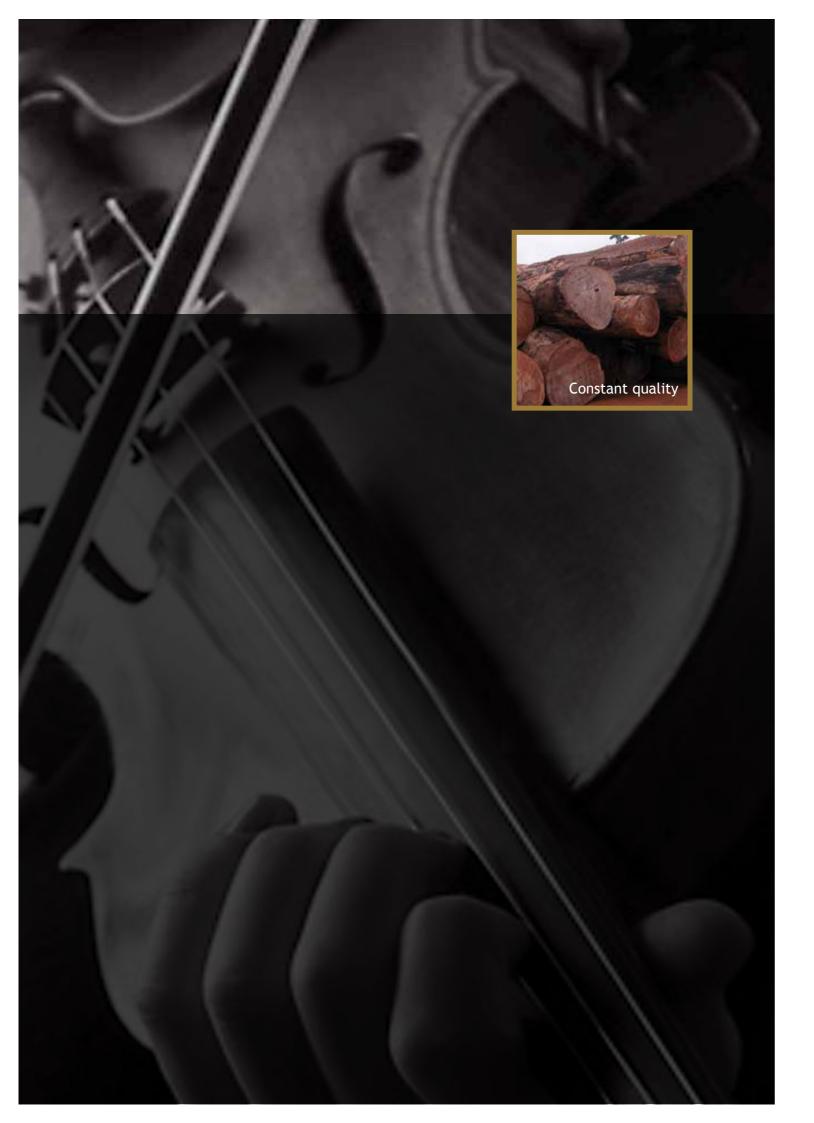
Its "Made in Italy" technology and fully automatic control system ensure significant energy savings in the operating costs..

BIGonDRY srl., thanks to its dedicated body of fully trained technicians and sales professionals, meets customers' needs with success all over the world.

Working in a specialized sector, we keep on improving our research projects and developing innovative systems and solutions in order to face competitive market challenges.

Wood, ancient and essential raw material in today's global economy, makes to most of our goals.







BigOnDry Quality lives here.

A treated product needs quality, ... always

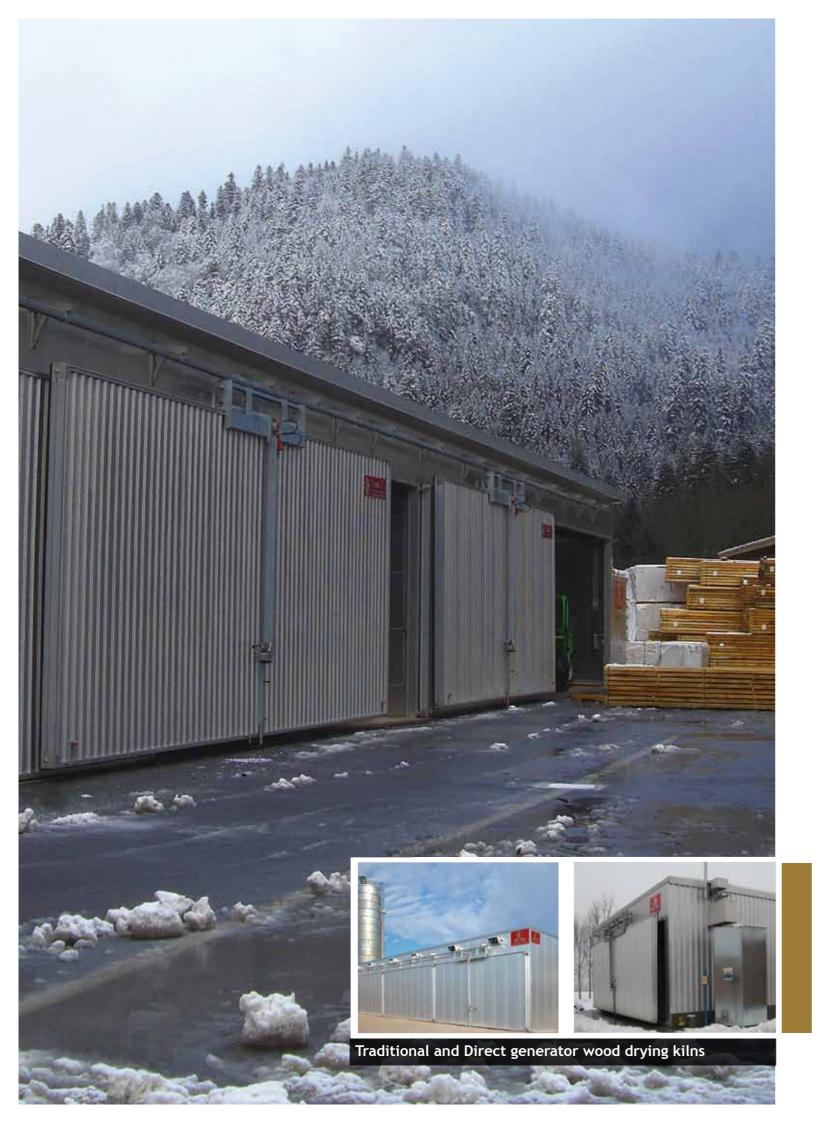
BigOnDry's plants, high quality standards.

BIGonDRY srl is your careful and meticulous partner. You will get excellence through a first-class use of components and high construction standards even in the simplest product.

We provide firewood processing as well as hard wood drying for any use and special treatment of Thermowood and Phytosanitary for the packaging industry and, last but not least, ad-hoc wood treatment plants for clothing and agri-food industry.

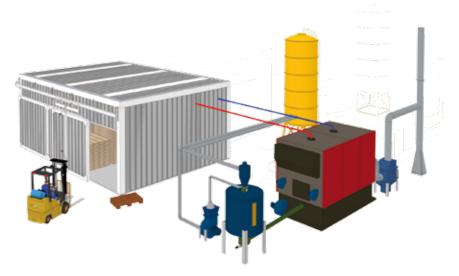
BIGonDRY srl is always cutting edge and point of reference.

, ... and you always get a good product from excellent raw materials.



Custom Plants

BigOnDry Fitting your size. "Turnkey" plants.



Turnkey custom plants

Our knowledge of drying wood processing is combined with the latest technology, in order to achieve "Turnkey" custom plants, taking care of mechanics as well as installation, electromechanical and electronic management through on-site or remote control software programs.

And thanks to thirty years of experience in the field of drying, together with the expertise of our group of specialized engineers, BIGonDRY srl supplies turnkey custom plants, taking advantage of its customers' resources and firstly their remains from woodworking.

Our experience contributes to improve the safety, the efficiency and the soundness of our plants and our constant monitoring ensures stability and security: this identifies today BIGonDRY srl. as point of reference in the global wood treatment.

"Security and worldwide assistance at all times".





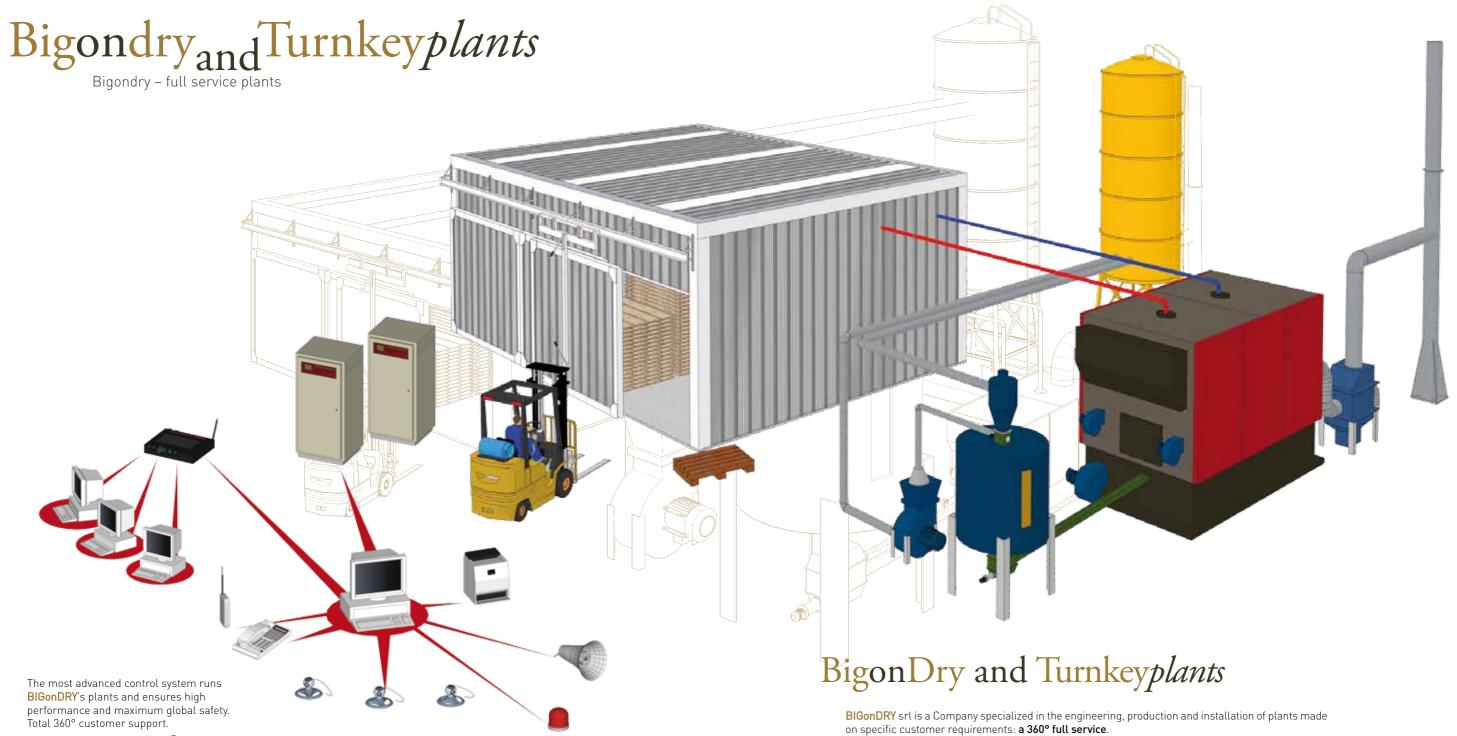


Phytosanitary treatment plants Thermal treatment Plants





Special Plants



Total 360° control

Storage Systems





Thermal power station with matching silo





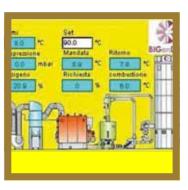
Heating system

Electronic System

BIGonDRY srl has been able to enter the global market through a constant technical quality research, providing a cumulative value to the mere supply of the product. Moreover it gives the customer the opportunity to enjoy the benefit of a single responsible contact point for the implementation of a complex and articulated system.

BIGonDRY srl is therefore able to design and manufacture:

- Traditional type wood drying kilns, with 90°C hot water, overheated water, steaming, dia-thermal oil heating system.
- Direct generator wood drying kilns with gas burner and direct battery heating system.
- Wood steaming plants, with direct or rising steam distribution.
- HT heat treatment systems in accordance with FAO ISPM-15 standards.
- Ultra-High Temperature Thermo- treatment plants (up to 230°C).
- Wood pre-drying installations.
- Complete turnkey plants equipped with heating system, hydraulic and electrical circuit



Boiler Control Systems





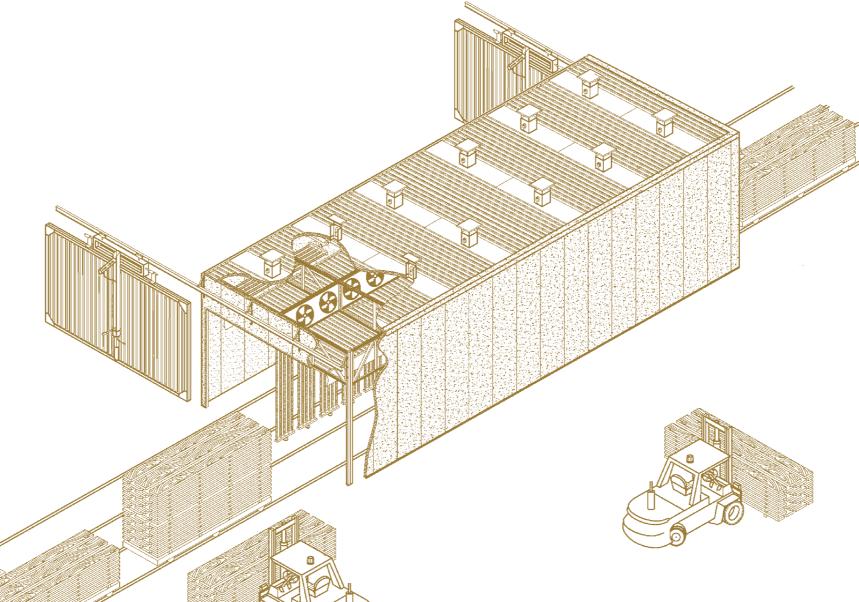
BigOnDry



High-speed drying.

TUN-LEM _ Tunnel plants

Kilns provided with under-side loading rail car. It fits particularly fast drying cycles, providing in the low processing cost advantage through track loading and unloading time optimization.









Drying upon nature.

capacity from 400 to 2000m³ of wood or more

PRE-LEM _ Wood pre-drying plants

Storage facilities and pre-drying plants are a true alternative to wood natural drying, mostly in case of damaged wood quality by sudden weather changes or for companies requiring plenty production volume.

These logistics solutions for storage in air-conditioned warehouses allow the wood to gradually release the first part of moisture and then be subjected to final drying processes. Fresh cut wood moisture can thus be lowered to 20-25% through a constant monitoring of environmental parameters such as temperature, humidity, etc.. Advantages can be briefly outlined, as follows:

- Best quality thanks to reduced defects from collapsing (splits) of wood fibers;
- Versatile and custom solutions based on
- customer's size and requirements;
 Operating cost reduction of any large quantity of stored materials;













BigOnDry Full Steam Ahead.

Let's treat wood at best, ...

STEAMING and COMBINED DRY-KILNS (Steaming and Drying)

VAP-LEM

Wood steamers

Wood steaming treatment chambers have the purpose to homogenize and slightly modify the coloring of wood, remove any presence and effect of parasites, in order to make wood more workable. Plants are featured by insulation from air tightness and corrosion resistance typical of saturated steam environments with high concentration of tannic acid and internal temperatures that can also exceed 100° c.

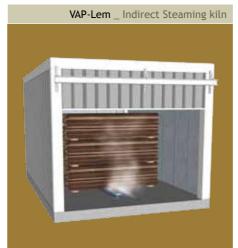
Plants can be equipped with direct or indirect steam distribution. With the option of indirect distribution to create steam we can use, high pressure steam, overheated water (110°C) or diathermic oil. Direct system needs low pressure steam to be sent to the steamer.

COMBI-LEM

Combined Steaming and Drying Kilns

The Combi-LEM system performs both the vaporization and drying function in a single chamber. This solution is recommended for certain products, operating conditions and production lines. It significantly reduces the handling costs and optimizes consumption of the wood treatment process.

Plants can be equipped with direct or indirect steam distribution. With the option of indirect distribution to create steam we can use, high pressure steam, overheated water (110°C) or diathermic oil. Direct system needs low pressure steam to be sent to the steamer.







Our know-how moving into new markets

BigOnDry for a Creative drying. SpecialSystem.

Innovation to maintain and enhance one of the most important natural sources in the global economy:

Wood...



BIGonDRY srl provides Special and technologically very advanced Multifunctional systems.

They are suitable for combined treatments, such as drying, steaming, heat-treatment in accordance with standards of ISPM-15 as well as up to 250° C HIGH TEMPERATURE treatments.

Huge advantages result thereby in terms of energy consumption and environmental impact, with reduced emissions into the atmosphere.

A highly sophisticated electronic control system ensures excellent results on dark shaded wood with dark shades and homogeneous throughout its thickness.

Our innovative high temperature heat treatment plant gives the wood characteristics of durability and stability, avoiding chemical additives on the wood.

The thermally modified wood reduces shrinkage and swelling and improves its resistance against the parasites infestation.

"BIGonDRY srl is synonymous of reliability, customer service and support."



Thermo treatment Plant

Natural Wood





Thermally-Treated Wood



BigOnDry
For a beautiful word.

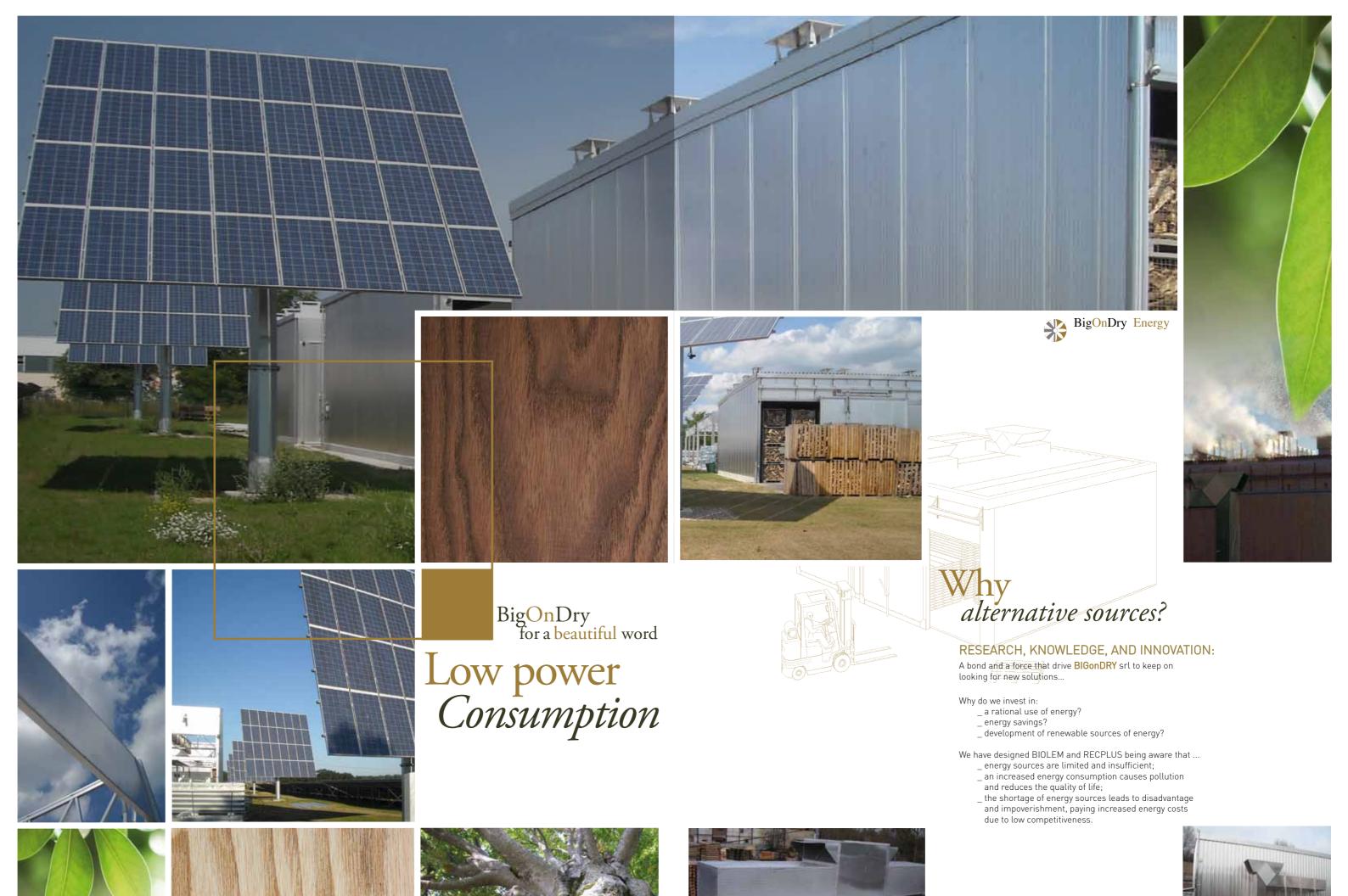
Eco-friendly plants.
With respect to a common good... in line with the environment.

ECO-FRIENDLY PLANTS

The highest regard for the environment. **BIGonDRY** srl takes up a new challenge investing in research and the development of eco-friendly plants with low energy consumption and CO² emissions. A special attention is paid to consumption and recycling for the protection and maintenance of a common good... the environment and its forests. Thanks to its research into new eco-friendly systems and products, recycling, low power consumption and high efficiency **BIGonDRY** srl has always been synonymous of competence and reliability.

A fully trained and motivated professionals staff provides our customers with quality, safety and global assistance.







BigOnDry & RecPlus

Rec-Plus Heat-recovery Systems

Due to the rising cost of conventional fuels and the ever extended use of biomass cogeneration systems, increasing their demand and therefore their market value, a dryer manufacturer must focus on solutions that optimize consumption. After product quality and service support, energy saving is the second **BIGonDRY**'s objective, providing increasingly effective heat recovery solutions.

It is possible to save up to 20 - 30 % on the costs. The development of drying systems runs in the same direction. They recover heat from renewable energy sources, providing plants operating at low temperatures.

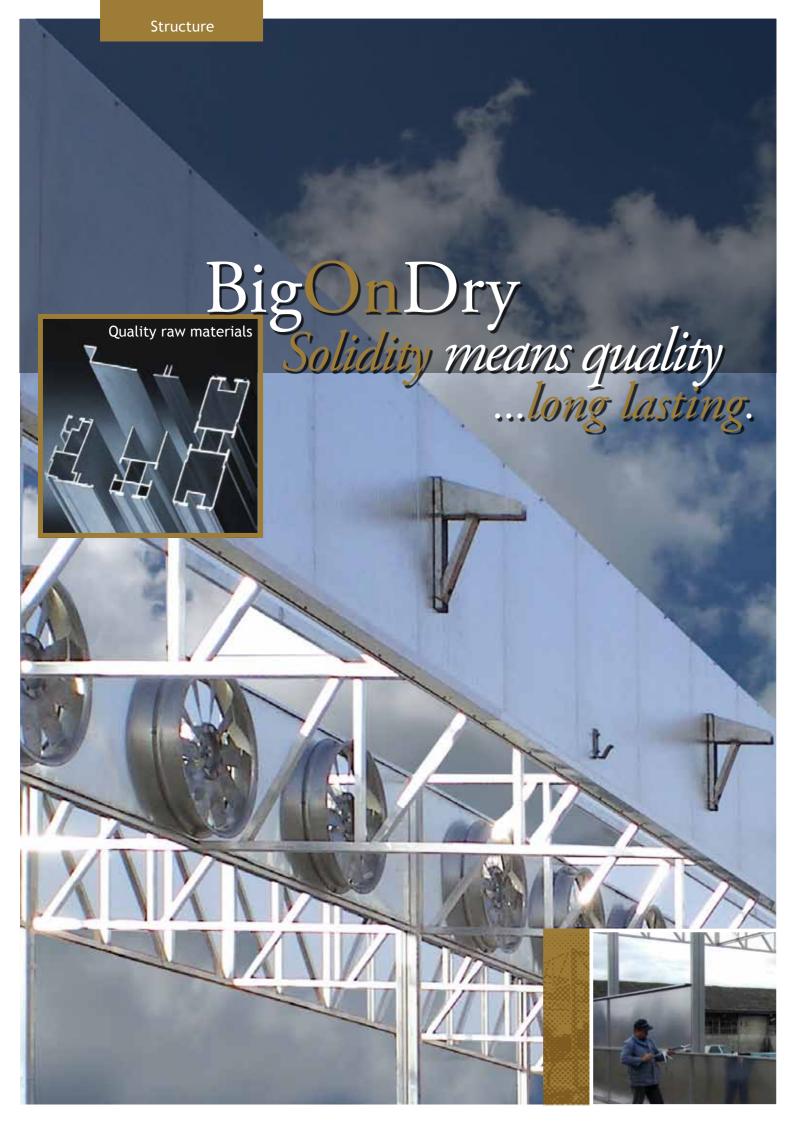
RecPlus- Eco-friendly plants - maximum efficiency and lower consumption

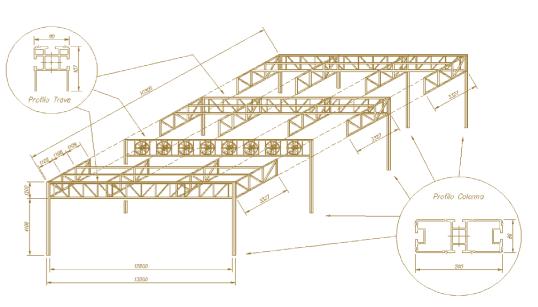
BigOnDry & BiOlem

Bio-Lem Biomass drying systems

BIGonDRY srl has developed specific solutions for the firewood and wood chips drying, which fit to any customer's sort of packaging and production line or logistics. Focusing on the proposed systems, the Company spares no effort to minimize investment cost and optimize consumption process. Those conditions are essential to enable a competitive biomass drying.

BiOlem - Eco-friendly plants - full recycling





Load-bearing structure









Raw-materials

When quality is an habit

, ... every day.

On the strength of its professionalism and great experience gained over time and its deep attention to details, BIGonDRY srt has established itself on the engineering and implementation of customized solutions according to different environmental context and end uses, choosing raw materials of the highest quality.

BIGonDRY srt has a highly skilled technical department able to support customer demand since the design phase by identifying the best technical and constructive solutions according to specific customer requirements. Its continuous search for quality and innovation of trusses allowed BIGonDRY srt to develop new production technologies much to the advantage of implementation timing, installation and costs.

BIGonDRY srl has always used quality raw materials, synonymous of safety.

Insulation







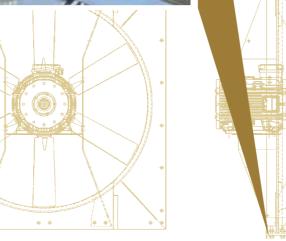


Ventilation system

Ventilation system equipped with special reversible axial impellers providing the maximum efficiency at the lowest energy consumption and noise level.







BigOnDry
Care to Details.







Moistening system

- Conventional moistening system (3 BAR). High pressure moistening system (80 BAR).

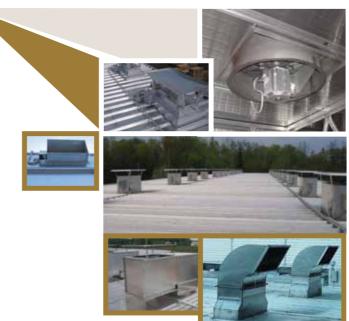




Mobile intermediate celling and Baffles



Customized air exchange systems applied on wide-ranging environmental and operating areas, with special solutions to reduce noise and efficiency.





Technical rooms











Monobloc Sliding Door



Lift ahead Door



Three or more sheets Door Hinged Door



Guillotine Door



Sliding Door 90° opening on one side



BigOnDry & Openings

Our know-how upon new markets

BigOnDry Opening Systems





Our know-how upon new markets

BigOnDry Creative Solutions. Innovative Solutions...

Thanks to our experience in wood drying we can develop and adapt our systems to the processing and drying of other materials, such as paper and textiles, and we can provide to our customers other special solutions.

"BIGonDRY srl is synonymous with reliability, engineering consulting and customer service".





Special Mobile Heat Treatment Units





Advanced microprocessors for a *total control* of drying processes.

Plant under Control...

Our Automatic Control Device embodies the beating heart of our wood drying kilns. The effectiveness of the automatism is the most accountable quality factor in wood processing.

A full control of the air and wood parameters will later shape the best results expressed in terms of:

- quality achievement
- flawless
- time-saving
- lower energy consumption

BIGonDRY srl affords a wide range of microprocessor control mechanisms. All automatisms, only manufactured in Italy, represent the engineering excellence in the wood sector.

These devices provide a progressive drying setting, employing technologically advanced probes, for a significant energy saving.

Our control units are equipped with an easy to use interface, particularly

important in case of non-computerized systems.

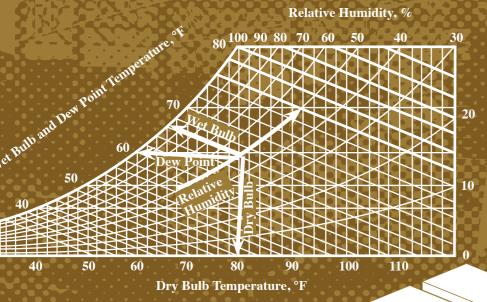


BigOnDry & ControlSystem

Collecting and Managing Data... a correct reading is utmost importance.

Moisture e Temperature under Control... always.

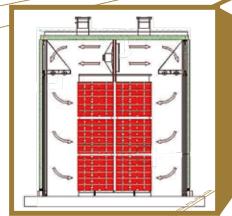
First-class detectors are located in the plant and into the wood in order to fully and constantly monitor moisture and temperature. While processing the detected data, Bigondry's Control System manages and customize properly any treatment cycle





Air temperature detected in the plant





Forced Airflow into the plant



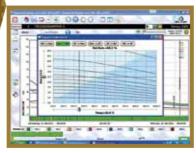
Control Sensor

Wood humidity sensor Wood Moisture detector.

Speed indicator

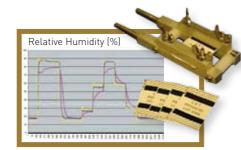
USAN" ultrasound anemometer

Air-speed and climate indicator in the wood stack Different airflow by variable humidity level



ControlReport

Moisture and Temperature in the building detected by several level sensors.



CET-PST032-S2 Temperature

BigOnDry & ControlSystem Treatment full management and Conrol

Artificial Drying

Artificial drying is used to reduce the wood moisture content to set values properly monitoring the climatic parameters in the plant such as:

- temperature
- humidity
- pressure
- ventilation.

Basically the artificial drying leads to:

- a rapid and low-cost removal of water from wood, in order to prevent any moisture gradients uprise or surplus.

A good drying process offers the following advantages:

- it is possible to obtain any humidity values regardless of climate and atmospheric conditions.
- the drying is more homogenous
- drying times are reduced
- lower investment and operating costs
- lower risk of alterations caused by fungi or other serious damages of wood
- the wood is sterilized against insects, eggs and larvae
- improvement in the added value of the finished product.

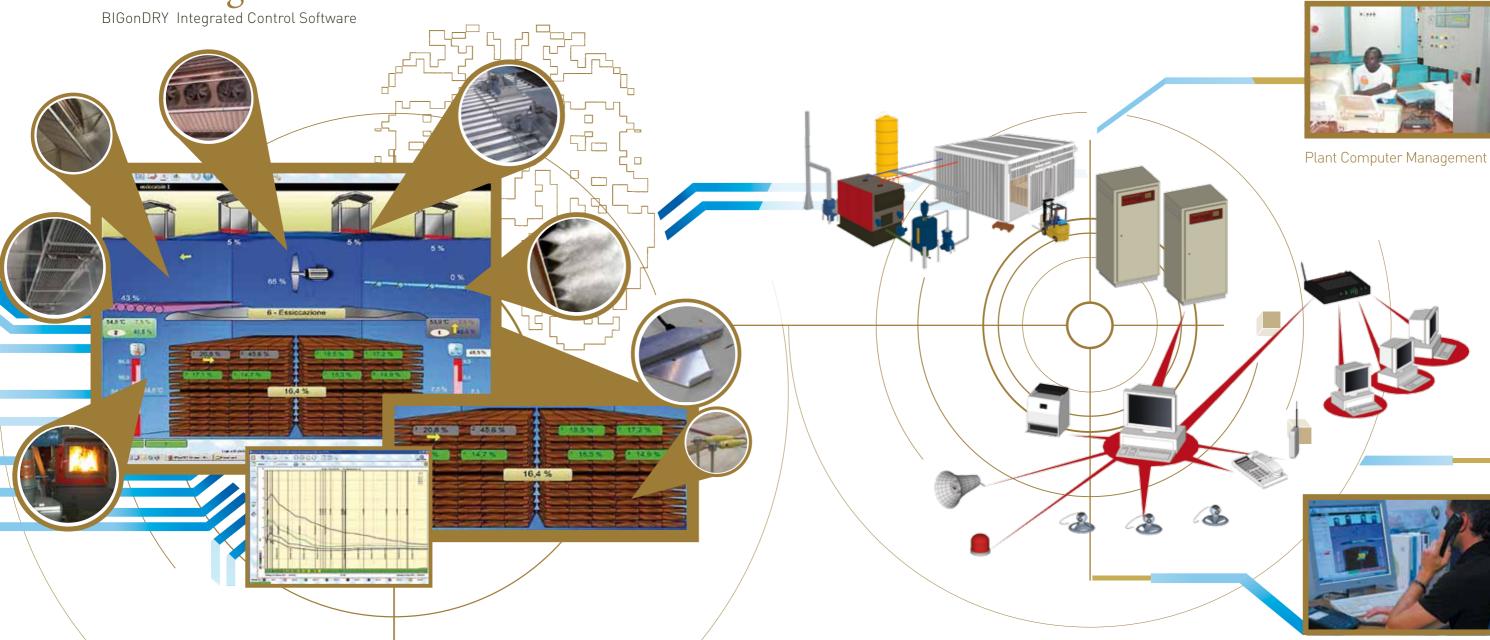
Disadvantages of a bad drying process:

An improper control of the drying process involves shrinkage and swelling of wood, such as:

- gradients
- residual internal stresses
- cracks, collapses ..
- irregular humidity distribution
- wood unsuitable for quality manufacturing purposes



Plant Management Software



Drying cycle

The drying cycle is fully controlled. Every single cycle is customized during the drying process and each step can be adjusted upon individual needs.

Plant Computer Management

Main features:

- -easy-to-use keypad/display interface
- -RX System PC-based connection
- -up to 30 phases per cycle
- -parameter proportional control
- -advanced drying function ("Advanced Drying")
- -multiple input value control sensors
- -multiple actuator and output device control
- -energy saving applications through active control of fan speed drive based on actual air circulation and turbulence measuring
- -adjustable fan speed within a time band planning
- -PDF Reports on energy consumption per drying cycle
- -VENUS 2500GR multi-language support including Cyrillic script
- alphanumeric display
- -sterilization management/control function according to FAO ISPM-15 standards.

Optional System

The system can be improved by a series of custom optional packages.

- AIR SPEED CONTROL:
- _ENERGY FUNCTION:
 Operating cost control for every single cycle.
- _FEED BACK FUNCTION: Breakdown total control.
- DRYING RATE FUNCTION: Control of moisture loss.
- _MESSAGE FUNCTION: Alarm control via SMS

Direct treatment cycle diagnostics and troubleshooting by Bigondry's technical staff, providing on line remote customer support.

Remote customer support

Technical Support Service

Bigondry on-site assist service.







