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CASE NOTE

## **Eco Housing**

Eco-friendly, sustainable and high-tech



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# Eco-friendly, sustainable and high-tech

Backed by a long-standing partnership with ABB, Brusa Building proposes prestigious, highly technological eco-friendly housing solutions.





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01 Eco Housing solutions proposed by Brusa Building.

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02 Use of solar panels and PV cells helps to boost energy efficiency in Eco Housing.

At a time when energy efficiency and sustainability issues involve increasingly different spheres of our daily lives (just think of the rapid developments in sustainable transport technologies and proposals, and the interest all this arouses among the public), green building is also experiencing a strong and constant growth trend.

Enhanced awareness of the need to protect the environment and to use clean, renewable energy sources are the main reasons for this increased interest from home owners, as well as the numerous benefits an eco-friendly home can offer.

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### A new perspective

After all, a modern wooden house is no longer a “simple mountain cabin” as one might imagine - a construction that hardly fits into an urban setting even though it may possess a romantic look - but an extremely advanced, technological construction, even futuristic in some respects. Substantially similar in appearance to concrete houses since the wooden parts are covered by materials that resemble those used for traditional buildings, in actual fact wooden houses offer remarkable benefits as to eco-sustainability, energy savings, comfort and construction rate thanks to the characteristics of the materials, technical solutions and plant engineering technology used.

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## The Eco Housing philosophy

01 Brusa Building only uses renewable, recyclable eco-friendly products.

02 03 ABB's innovative products are the perfect complement to the prestigious interior decor in Eco Housing homes.

Examples are the houses built by Brusa Building, a leading-edge enterprise in the green housing sector situated in Binago (CO), in the heart of Brianza. A family business managed by three resourceful brothers, Andrea, Marcello and Roberto Brusa, specialized in highly technological, eco-friendly low energy houses. "Our type of building – explains Andrea Brusa – is known as Eco Housing. It involves the use of renewable, recyclable natural materials, all

certified as to the absence of emissions of particulate material and substances that are toxic or harmful to man and the environment. The bearing structure, roof and roof covering are made of silver fir plywood from trees obtained solely from Austrian and German forests, treated and certified to European standards. Other eco-friendly products like gypsum fiber board and rock wool are used for the internal boarding and insulation".

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04 Each housing project is "tailor-made".

All materials that together provide the very highest performance as to thermal and acoustic insulation, plus tangible benefits when it comes to energy saving and livability. But that's not all. Specific and accurate engineering provides the structure with totally earthquake-resistant characteristics.

These are homes that emanate wellbeing. They are pleasant to live in and economical to run because they are self-sufficient energy-wise.

*"Solar thermal systems and PV panels or systems that make use of geothermal energy are the main "providers" of clean, renewable energy that costs almost nothing. In addition, the home automation applications we've developed with ABB enhance the level of comfort and security that characterizes day-to-day life. Last but not least, these houses are quick to assemble, a positive aspect that saves on construction costs".* Brusa Building's "tailor-made" housing proposals are an even more attractive and desirable type of construction, i.e. fully customized houses that can be made-to-measure to suit the customer's specific requirements.

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## Partnership with ABB

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01 The modern, technological rooms in Eco Housing homes.

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02 The control panel of ABB's Mylos free@home system.

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03 Mylos conventional wiring accessories by ABB.

Such technologically advanced, high quality homes need cutting-edge technical equipment for their service installations.

*"This, – explains Andrea Brusa – is why support from a qualified company is so important. Our partnership with ABB began over a decade ago and it's something we hold in high regard for the solutions proposed, the quality of the materials used and especially for the assistance that ABB is able to provide. For us, the ability to liaise with the ABB sales and technical staff is a key strength since, besides proposing the most innovative solutions, they provide support during the project development stage. In addition, their ability to propose solutions to problems 'on site' has always proved invaluable. A core added value, one that ensures the quality of our product and allows us to complete our work on schedule". Un valore aggiunto fondamentale per garantire la qualità del nostro prodotto e il rispetto delle tempistiche di realizzazione".* ABB technology is used for managing energy from renewable

sources and includes proven solutions with a broad portfolio in the solar inverter sector while, for home automation, the Mylos free@home system can turn the entire house into a "smart" home. Using Mylos free@home, all the functions inside and outside the house can be controlled in a very simple way. These functions can also be customized to suit personal preferences and achieve the utmost in comfort, every savings and security. Thus, the right degree of lighting can be obtained for different daily activities by programming lighting scenarios that automatically adjust window shutters and the intensity of the lights. Home dwellers can also choose from indoor climate options to suit their needs, depending on the time of day or the type of room. The comfort conditions continue even when you go out: with a single command you can turn off the lights, lower the temperature and activate the alarm. The ABB DomusTech Free security system is also perfectly integrated with Mylos free@home.

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*"Thanks to ABB technology, our houses are built around the needs of those who live in them, since we provide tailored solutions for enhanced comfort and optimized use of energy. What's more, all the functions are activated in a very intuitive way by merely touching a switch, giving a vocal command or even remotely, via smartphone.*

*The system is very easy to configure and allows the user to implement all the functions independently. This means that the home owner can customize his home automation system by simply using his PC, tablet or smartphone".*

Simplicity is actually a major "plus" of ABB's home automation system, for both home owners and installers. Use of bus technology saves time and costs if lighting points need to be changed or new functions implemented.

There's no need to route new cables or perform additional masonry work. Just re-program the previous system.

Mylos free@home is designed to allow for integration and innovation. ABB's goal for the future is to ensure constantly evolving and increasingly user-friendly, functional interfaces developed in cooperation with leading companies in this particular sector. Thanks to the latest updates, all you need is just a click to integrate the ABB DomusTech Free® security system and even the SONOS wireless home sound system, which can then be controlled via the free@home App.

There are now plans for integration with Amazon Alexa, for voice control of 65 free@home functions in English and German.

Eco-sustainability, energy savings, breakthrough technologies... wooden homes are a tangible, modern, forward-looking reality but Brusa Building is already considering the next developments, such as improved integration with the sustainable transport solutions and electric vehicle recharging products proposed by ABB, as housing becomes more and more "connected" to the needs of present-day living.

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01 The ABB Welcome M outdoor station.

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02 Mylos conventional wiring accessories by ABB.

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03 Mylos free@home also acts as an indoor station for the door entry system.

## Products

### Mylos free@home - Just a touch

Just the lightest touch of your finger on the control panels of Mylos free@home system and your home will come to life thanks to the rapid user-friendly interface.

#### Mylos free@home Touch 4.3"

The new 4.3" Mylos free@home Touch control panel handles up to 16 free@home functions centrally. A flush-mounted device with internal thermostat with Comfort, Eco and OFF functions can be also be expanded by adding an external temperature sensor (optional), useful in the case of modern floor heating systems.

#### Mylos free@home Touch 7"

Connecting link between the Mylos free@home automation system and ABB's Welcome M video door entry system, Touch 7" is a touch panel of simple, minimal design that allows up to 16 home automation functions to be controlled while acting as an indoor station of the video door entry system.

### Mylos conventional wiring accessories

Touching a control device, turning on the lights and activating a function are no longer banal, repetitive actions. All Mylos devices are designed according to ergonomic principles for maximum ease of use.

The finish on Mylos switches is velvety to the touch, an innovative feature that provides a delightful sensory experience. The special coating withstands chemicals and wear over time, while the extremely thin edge and perfectly recessed controls allow the switches to be flush-mounted and integrated into the wall. And thanks to LED technology, the controls can be illuminated so as to be clearly visible and immediately identified.

### Welcome M video door entry systems

The Welcome M system is the key that opens up new possibilities both outside and inside the home. Comfort, the highest level of security and design with minimum impact were the concepts adopted by ABB when this new video door entry system was created. Welcome M perfectly integrates the Mylos free@home automation system. In addition, the door entry system can be controlled remotely by a mobile app when an IP Gateway is added. Other distinctive features of Welcome M include: ultra-slim design - the flush-mounted 4.3" hands-free version is only 7 mm thick - the 16:9 screen with high quality images and backlit touch keys that light up at the slightest touch.

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# Eco-friendly, sustainable and high-tech

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01 The ABB "control center" installed in an Ecohome: UNO inverter, Mistral consumer units, circuit-breakers and residual current protection devices.

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02 The executive offices of Brusa Building at the Binago (CO) headquarters.

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03 Brothers Andrea, Marcello and Roberto Brusa, owners of Brusa Building.

## System pro E comfort MISTRAL® consumer units

Any type of energy distribution installation can be created in industrial, services-providing and residential locations using System pro E comfort MISTRAL® consumer units.

Ample internal space enables cables to be effortlessly routed while making the job easier for the installer, all to the advantage of orderly wiring. Consumer units in IP41 and IP65 protection classes are pre-engineered with dedicated optional terminal boxes available in two different colors for rapid wiring and easy identification in the case of different feeders. The System pro E comfort MISTRAL® range is a perfect match with ABB's modular and molded-case circuit-breakers, all of which can be easily installed since the DIN rails can be fitted in different positions in the units. The consumer units are made of fully recyclable, halogen-free thermoplastic material.

The range includes versions with transparent or blind doors that open through 180° and a wide selection from 2 to 72 modules conforming to the most recent regulatory requirements

and able to cater for a large number of different types of applications. The entire project has been designed to optimize the wiring, assembly and installation timescale.

The System pro E comfort MISTRAL® range is compatible with the rest of ABB's products: terminal boxes, circuit-breakers, residual current devices, surge arresters, fuse holders and so forth can be installed in the units to create any type of installation.

## Residual current devices - Maximum protection for people and equipment

As required by standards IEC/EN 61008 and IEC/EN 61009, residual current devices protect people from indirect contacts. ABB can provide all types of residual current device: residual current circuit-breakers with or without overcurrent protection, thermal magnetic residual current circuit-breakers, residual current locks and residual current relays to be assembled on DIN rail or switchgear front. The aim is to provide a solution for every type of residential, business and industrial application.

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### UNO family - Single-phase inverters

The UNO family includes inverters for residential applications and is the ideal solution for small-size installations. These single-phase string inverters perfectly complement the number of solar panels usually installed on rooftops and ensure extremely efficient energy production, depending on the size of the system. They are fully sealed and able to withstand the harshest ambient conditions. One of the key features of these inverters is the dual input section able to process two strings of independent MPPT algorithms. Very useful for rooftop installations with two different orientations (e.g. East and West). The high-speed MPPT algorithms maximize the power converted and improve energy production. The transformer-less type provides the highest efficiency of up to 96.8%. ABB can supply inverters with integrated REACT (Renewable Energy Accumulator and Conversion Technology) for enhanced photovoltaic energy generation and load management.

### General information

#### Sector:

Construction of earthquake-resistant wooden eco-housing

#### Building enterprise:

Brusa Building, situated in Binago (CO)  
ECO Housing Design

#### Electrical installation design:

Eng. Andrea Brusa, Brusa Building

#### ABB products used in the installation:

Mylos free@home  
Mylos conventional wiring accessories  
Welcome M video door entry systems  
System pro E comfort MISTRAL® consumer units UNO family inverters

#### ABB Sales Manager:

Antonio Buongallino



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[abb.com/lowvoltage](http://abb.com/lowvoltage)

