

Partnering Opportunity

Profile Status: Published

Technology Offer

Romanian SME providing an integrated eco-housing solution based on building technology is looking for partners on the European market to close commercial agreements with technical assistance.

Summary

A Romanian SME is providing a sustainable residential housing solution along with specific services related to conception, design, choice of materials and building handbook and monitoring of the building project. The SME is searching for partners on the European market – prescribers (engineering offices, architects) and project owners (real estate and social landlords, building companies) involved in sustainable construction projects to close commercial agreements with technical assistance

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Details

Description

The Romanian SME has developed an integrated solution for affordable, green, energy efficient housing. The solution along with related services ensuring the transfer of the technology are available for acquisition.

The solution includes innovations in several building design and construction stages such as

- the general shape and orientation of the house depending on the existing land
- pylon foundation
- structural engineering using laminated wooden arches
- poured earth interior walls for passive humidity and temperature control

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- finishes using natural materials
- optimized stratification of the building envelope
- synergic HVAC solutions

The end result is a short building time of 3 to 4 months and a highly resource-efficient approach.

The shapes, interior volumes and orientation of the houses are the product of a solar-driven approach to design which, together with the green roof, reduce energy consumption during the warmest and coldest months of the year.

Technologies at the core of the concept :

- Sustainable architecture is provided through shape and materials. Creating flexibility with rooms built out of light wooden frames, allowing owners to easily add or remove spaces over time.
- The houses are shaped like an artificial hill, which creates a continuum, both embracing and protecting the building.
- Glass facade on the south and an artificial hill 'blanket' on the north
- The interior walls are made out of poured earth, which passively regulates indoor humidity and act as a heat battery. The material is created in situ using a specific recipe of soil and aggregates.
- The utilization of cost-effective HVAC solutions such as electric underfloor heating and heat recovery ventilation that work in synergy with the passive effects of the natural materials.
- The hydro-thermal insulating layer of the roof as the core component of the stratification of the building envelope, guaranteed to work for the entire lifetime of the building.
- Clay-based plasters that work together with the earth concrete core of the interior walls and transfer its technical effects to the indoor environment in an esthetic manner.

The concept is being constantly improved with new innovative solutions, based on an ecosystem approach and driven by new market opportunities and the availability of new technologies.

The company has developed its own technology working together with a number of local and national partners such as the National Institute For Building Materials Testing And Certification, real estate developers, construction companies, chemical companies, experts in HVAC, plumbing, etc.

The end-to-end solution is a result of 4 years of R&D, repeated product iterations and customer feedback and has already been embraced by the local market. The SME has been working with early adopters and has received valuable feedback related to the increasing quality of living offered by the end product.

The proposed concept is highly versatile due to its modular design approach. As such, the concept can be adapted to individual and collective housing projects with different price points, different locations, climate, etc. The solution provided is compatible with both single and multi-family housing.

The packages offered are services going from design and conception (including calculation and choice of building materials), to assistance during the construction phase and follow up of the project.

Advantages and Innovations

The SME is providing an environmental friendly integrated housing solution, more precisely:

1. Unique design that stands out from the crowd – the houses form an artificial hill covered with

- vegetation and have big glazed surfaces facing the south
2. Efficient use of resources and the energy efficient features that are the result of using local natural materials and sustainable building technologies
 3. A mix of materials and technology that produce good energy efficiency through mostly passive effects. This translates to a high rate of return for an investor and the customer, which is not usually the case for expensive, energy efficient, technology (such as heat pumps, PV solar panels, energy storage solutions, etc)
 4. Permanent monitoring and management of the building's health and energy use, tracking the impact of inhabitants' behavior on running costs in a way that is intuitive and simple to understand for the end customer.

Stage of Development

Already on the market

IPR Status

Granted patent or patent application essential

Profile Origin

COSME

Keywords

Technology

02006001	Materials, components and systems for construction
02006006	Construction engineering (design, simulation)
02006007	Management of construction process & life

Market

009007001	Construction
09007004	Engineering and consulting services related to construction

Open for EOI : **Yes**

Client

Type and Size of Organisation Behind the Profile

Industry SME <= 10

Ref: TORO20190405001

Year Established

2015

Turnover

<1M

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

Romanian

English

German

Client Country

Romania

Partner Sought

Type and Role of Partner Sought

The SME is searching for partners on the European market – project owners (real estate and social landlords, building companies) and prescribers (engineering offices, architects) involved in sustainable construction projects to close commercial agreements with technical assistance.

The services provided include:

1. Localization of the concept

adapting the concept to local trends and regulations in terms of building design, materials and technology mix.

2. Technology manual

architectural and structural design details,

building work schedule, defining specific activities and description of specific activities within the building process with corresponding quality verification parameters and procedures,

technical assistance during the construction process.

3. Additional support - upon request

defining bills of quantities for innovative building elements

identifying suppliers for our novel technologies and materials

on-site technical assistance during critical building stages (Architects, Civil & structural engineer, etc.).

Type and Size of Partner Sought

SME 11-50,R&D Institution,SME <10,251-500,SME 51-250,>500

Type of Partnership Considered

Commercial agreement with technical assistance

Attachments



eco-housing



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