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## LEAP – living in nature on tip-toe

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This, the first alpine refuge of the latest generation, provides the optimal combination of comfort, safety and respect for the environment. It was installed in mid October on the Freboudze glacier, in front of the spectacular East face of the Grandes Jorasses of the Mont Blanc Range. It is now ready for use by mountaineers and climbers.

The Gervasutti refuge was commissioned by CAI Torino, the Italian Alpine Club. Under the guidance of SUCAI the subsection of CAI Torino and the Ski Mountaineering School, the project was realised thanks to the works team coordinated by the project managers Luca Gentilcore and Stefano Testa.

The refuge represents the pinnacle of achievement of LEAPfactory, (the acronym means Living, Ecological, Alpine Pod) an Italian Company that designs, creates and produces modular structures which have minimal impact on the environment.

The realisation of the refuge is a great achievement, in that the materials used are of a high standard and use sophisticated technology capable of handling the problems of extreme temperatures and the difficulties of installation, given the altitude and the position in the midst of a glacier.

The alpine refuge is only one of the LEAPfactory projects. There are a number of other modular products for “living at zero impact” in sensitive environments which need protection. The temporary nature and the recoverability of the modules mean that you can live in an environment and at the same time respect it.

The modules' particular design means that they can be planned and constructed based on the specific requirements of the client and can be customised depending on the location where they are to be positioned, in order to make them in keeping with the surrounding environment; which is fully consistent and coherent with the spirit of the adaptability and sustainability mission of LEAP.

Also in development at LEAP is a project studying disposal of human waste and other refuse, a problem which remains one of the greatest challenges for those who frequent the mountains and other places to be protected. The LEAP objective is focused on resolving those problems through the development of a module dedicated to the elimination of refuse for sensitive locations, like the high mountains and all such places, where it is difficult to dispose of it.

For further information see [www.leapfactory.it](http://www.leapfactory.it)

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## LEAP – technology and creativity at the service of the environment

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The activities of LEAPfactory are based on the research for design solutions directed at the resolution of the problems of structures positioned in the natural environment.

Four different families of products are now available, designed for specific uses and to resolve specific problems.

**LEAP/s1** – the family to which the Capanna Gervasutti belongs. A system of modular pods made from a composite laminate sandwich, which are energy independent. They have a high technical performance and a futurist look, they are able to solve the need for living space or the location of technical or scientific equipment in difficult and isolated environments, at any altitude.

LEAP/s1 has a very specific aesthetic character and provides a very fashionable and impactful look, which would also be efficient in less extreme conditions when a structure with a strong personality is required. For example, in eco-tourism locations (seasonal resorts, holiday villages, nature study centres, annexes); in sport locations, even for temporary facilities (medical assistance, check points, rest stops, press offices...). and in the commercial field (sales offices, ticket offices).

Easy to install, with a greatly reduced environmental impact, LEAP/s1 can be used to provide extensions of traditional buildings in natural environments (refuges and alpine hotels, resorts, motels...). One example is the requirement of providing mountain refuges with a permanently accessible winter room: LEAP s1 guarantees short lead times, predictable costs, and the possibility of maintaining the original structures and services of the main building without modification.

LEAP/s1 can be constructed from different types of composite sandwich and is also available in super ecological versions using vegetable or bamboo fibres.

**LEAP/s2** – The modular s2 system was born from the need to provide temporary seasonal accommodation for agricultural workers like shepherds and cow herds, who need to remain for periods in alpine pastures at different altitudes. It is a functional concept similar to s1, but it is constructed in a wood laminate. It represents within the entire LEAP family the most economical and spartan version, but it is still rich with personality. The versatility of design permits the positioning in various locations from a minimal shelter to small temporary villages for primary production workers.

**LEAP/eco** – (waste management) – The processing and disposal of biological waste provides one of the most serious problems to the natural environment. The current requirements mean we need to apply much more rigorous procedures than in the past. With the products in the Leap/eco family many of the problems in the most critical situations can be resolved. There are a variety of automatic digester systems transforming the waste into inert residues, each designed for specific contexts, they can be located within the s1 and s2 modules without the need for specific buildings or the use of existing or newly installed services. LEAP/eco resolves brilliantly the disposal of waste in high altitudes, in places where Imhof systems are not effective. Within the range there are a number of modules providing fully independent toilet facilities.

**LEAP/safety** – Designed for the specific needs of the emergency and rescue services, like the Alpine rescue and civil protection bodies, the LEAP/safety concept provides infrastructure solutions in a safety context. A unit capable of monitoring the environment and data analysis, accident and emergency and logistic centres, emergency communication centres, information points and mobile green electricity generation centres.

Always in the spirit of LEAP, the structures provide a completely reversible and an extremely low environmental impact in every phase of the life of the structure.

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## NUOVA CAPANNA GERVASUTTI

Ghiacciaio di Freboudze, Monte Bianco, Courmayeur, Aosta  
*Credits*

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### Architects

Luca Gentilcore / Gandolfi & Gentilcore, Stefano Testa / Cliostraat

### Design Team

Edoardo Boero, Marilena Cambuli, Massimo Teghille

### Structural engineering

Luca Olivari / Olivari Composite Engineering  
Andrea Bruzzone

### Electrical engineering

EDF-ENR spa, Carlo Sasso, Andrea Sasso, Giampaolo Pittatore, Enrico Pons

### Other consultants

Alberto Morino (geologia)  
Federico Valfrè di Bonzo (nivologia e valanghe)

### Brand Design

Undesign, Massimo Teghille

### Client

CAI Sezione di Torino / sottosezione SUCAI / Scuola di scialpinismo SUCAI

### Total floor area

29 mq

### Cost

250.000 euro (Total budget)

### Design phase

sett 2009 – dic 2010

### Construction phase

mag 2011 – ott 20100

### Realization

Poligamma, Biella (composite materials)  
GVM Arreda, Torino (interiors)  
Plat Andrea, Aosta (on site works)

### Nuova Capanna Gervasutti numbers

30 square metres of usable space  
6 contact points with the ground  
2500kg total weight  
12 bed spaces  
2.5Kwh of solar energy produced  
1 day to install unit

Owner Italian Alpine Club CAI Turin

Promoted to celebrate the 60th anniversary of the SUCAI Ski Mountaineering School

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## NUOVA CAPANNA GERVASUTTI

Ghiacciaio di Freboudze, Monte Bianco, Courmayeur, Aosta  
*Sponsors*

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### Project main sponsors

Fondazione CRT, Torino

W.L. Gore&Associati s.r.l.

EDF ENR Solare

Club Alpino Italiano

Regione Valle D'Aosta

### Technical sponsors

Actis

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Fiamm

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Gerflor

GPTecno

Solbian

GVM

LCM Mobili

Leap

Nord Compensati

Mark&Thing

Olivari Compositi Engineering

Poligamma

NDA

Salt

Tector

Sasso

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## NUOVA CAPANNA GERVASUTTI

Ghiacciaio di Freboudze, Monte Bianco, Courmayeur, Aosta  
*Photo credits*

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The photography of the presentation and installation have been realised by the following photographers:

Francesco Mattuzzi – cel. +39-328-4321307 – mail: [info@francescomattuzzi.com](mailto:info@francescomattuzzi.com)

Gughi Fassino – cel. +39-347-4765124 – mail: [gf@gughifassino.it](mailto:gf@gughifassino.it)

Marco Destefanis – cel. +39-339-7766462 – mail: [marcodestefanis@virgilio.it](mailto:marcodestefanis@virgilio.it)

Michelangelo Filippi – mail: [m.filippi@repnet.it](mailto:m.filippi@repnet.it)

For the low resolution pictures please see our web site [leapfactory.it](http://leapfactory.it)

Please contact us for the high resolution pictures: we will provide you with the rights-free ones and put you in contact directly with the photographers for the rights-managed ones.