



European Research & Innovation Project
Innovative climate-control system to extend range of electric vehicles and improve comfort

Interview with **Bernardo CERRAI**

Technical Manager at Frigomar Srl

Italy



I am from Lerici, a wonderful bay of the Ligurian Riviera named the town of poets. I graduated in mechanical engineering in 1995 at Genoa University. In the following years I worked in Italy and France for different companies (Olimpia Splendid, Brandt, Electrolux) dealing mainly with the research and development of household appliances such as air conditioners, washing machines. I joined Frigomar in 2004 specializing in marine refrigeration and air conditioning. ■■■

■■■ At Frigomar I have been mainly working at the research and development of new high efficiency air conditioners and special systems for cooling applications.

What does your daily job look like?

I work very closely with the research and development team therefore I spend most of my time at the labs and technical office. Sometimes I find myself abroad to meet suppliers and customers.

What objectives do you have to reach to contribute to the XERIC project? How challenging is it?

We have first to develop a very efficient air conditioning control system, then to design and manufacture a new air conditioning system composed by a traditional compressor vapor cycle coupled with a desiccant loop. The project is very challenging since the proposed technology is completely new and it requires studies and experiments on the system never carried out so far.

What excites you in XERIC?

To design, develop and operate a new refrigeration cycle that has been studied from a theoretical point of view and that is completely different from the ones available today and based on the existing technology.



From your perspective, what is innovative with XERIC?

The possibility to considerably increase the energy efficiency of the system by dehumidifying the air through desiccant membranes, so to reduce the compression ratio. If the experiments confirm the theoretical analysis, a great innovation in the air conditioning field will be achieved.

What are the major challenges to be overcome in XERIC, according to you?

All the XERIC activities are very intensive since theoretical, phenomenological and applied research are involved. In detail the challenges to overcome are mainly the manufacturing of the 3F-CMC vapor exchanger which controls the desiccant cycle, as well as the new refrigeration cycle that must ensure the correct XERIC operation.

Thanks for answering my questions
Bernardo and all the best for XERIC!

Frigomar, a partner in the XERIC project

Frigomar Srl is a company designing and manufacturing heating, ventilation, air-conditioning and refrigeration systems for marine/industrial applications. Frigomar manufactures chillers, fan coils, self-contained units, custom made fridges and freezers and cold rooms suitable for yachts and working boats as well as particular industrial applications (offshore cold water systems).

Over the past 5 years the company has been developing new products representing a great innovation in the marine market, from the very first introduction of R410A refrigerant fluid allowing a better energy efficiency, to the last inverter Brushless DC technology with great advantages in term of energy saving, quality and comfort of the inside environment.

The variable speed chiller 607NT Frigomar was nominated at DAME Amsterdam METS 2013 as an innovative product.

www.frigomar.com/en/

XERIC in brief

XERIC is a European Research & Innovation Project

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Coordinator:

Dr. Eng. S. GAETA

GVS spa

Italy

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