Funded under: **FP6-SME**

**MINIREF**

**Project ID**: 12452

**New refrigeration concept for the reduction of greenhouse gas emissions by minimising refrigerant charge**

**From** 2005-08-01 to 2009-01-31

**Total cost:** EUR 2 285 816

**EU contribution:** EUR 1 305 378

**Coordinated in:** Netherlands

### Project details

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**Objective**

MINIREF addresses the following strategic objectives:

1) Offering a solution for the problems faced by SME's and IAG's in the refrigeration sector related with use of the HFC greenhouse gasses and their natural alternatives;

2) Giving SME's, manufacturing and installing refrigeration equipment, a leading position in a worldwide market expanding rapidly in the upcoming markets;

3) Contribution to the European objectives of substantial reduction of the use and emissions of the HFC greenhouse gasses;

The European refrigeration sector (end-users, manufacturers and installers, mainly SME's) is confronted with the consequences of various international obligations such as:

- Obligations of the EU to reduce the emissions of HFC green house gasses (Kyoto);
- Safety aspects for the HFC-alternatives: natural refrigerants like ammonia (EU directives 96/82/EC (SEVESO II) and 97/23/EC (PED)).

The refrigeration sector recognises minimisation of refrigerant charge as a major solution to the problems faced. However, due to fragmentation of the sector, the required technological innovations do not take place. Therefore a collective approach on an European scale is a necessity.

MINIREF addresses the faced problems by minimisation of refrigerant charge on an integral system level, this in contradiction to currently performed research focusing on minimization on component level. By removing refrigerant buffers, traditionally accounting for the stability of the system, and by increasing the frequency of refrigerant circulation MINIREF can achieve an estimated decrease of 95 % in refrigerant charge.

MINIREF dissemination and training is carried out mainly by the IAG's. For a successful exploitation of the concept in a fragmented market early involvement, after but also during the research phase, of the sector by means of the IAG’s is a prerequisite.
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