

# OPAL-systems

## Comfort-Ecology-Dynamism-Modernity

OPAL-systems is a spin-off that has recently been created (15th of December 2009). It was founded by Olivier Cornil and Pierre-Yves Franck (Université de Liège ULg -Arlon). It consists of an efficient and well-thought water floor heating system allowing energy savings up to 35%. Being a real trendsetter within its field, this ULg spin-off is keen on exchanging its experience with external partners within the framework of SciConomy.

Introduction: (written here for warm water.)

- Among heat emitting systems (like radiators, air convectors, air handling units, local stoves,...) for buildings and dwellings, radiant water floor heaters are considered to be the most energy efficient and to provide the best comfort conditions for occupants.
- Standard warm water floor heating systems usually consist of serpentine or double spiral pipes that are drowned in a screed mortar on which final floor covering (like tiling, parquet floor,...) is laid.
- Attempts have been made to reduce (1) the thermal resistance between the pipes and the final floor surface and (2) the thermal inertia of the whole heat emitter. These efforts have been made in order (1) to reduce water temperature and (2) to increase heat emitter reactivity. Ultimately, these improvements will allow both an increase in global heating system efficiency and in ambient comfort conditions.
- Yet, resulting improved systems are often made of different environmental non friendly material, do not allow an easy cover of the wholeness of rooms of any sizes and geometries, are limited in power, do not distribute the heat evenly, are not very flexible or require the in-

stallation to be done by specialists.

- OPAL-systems can eliminate these drawbacks, improve even more the performances in terms of energy saving and ambient comfort and reduce installation time and cost.

OPAL-systems allows to efficiently heat any surfaces (like floor, wall or roof) in order to provide high ambient comfort conditions for occupants.

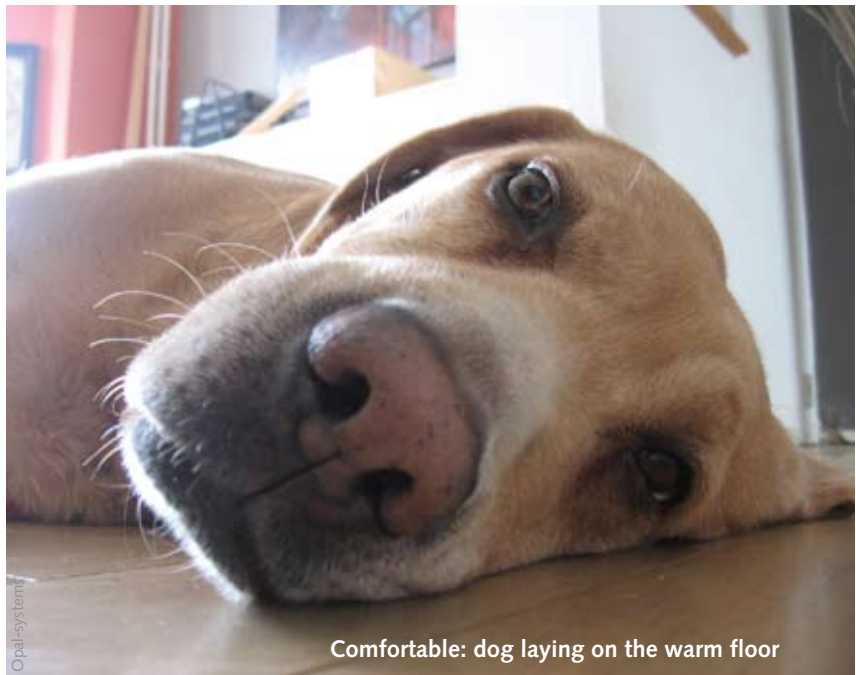
The founding partners enabling OPAL Systems are STALLBOIS, TEMEKA, MAPEI Benelux and Métal Déployé Belge. Scientific partners are Campus d'Arlon de l'ULg and CSTC. Financial partners are: INVESTSUD; commercial and industrial partners; the Walloon Region (F.I.R.S.T. spin-off); ULg (Gesval) & MeusInvest; and last but not least: WSL.

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Comfortable: dog laying on the warm floor

## workshop – innovation process: innovation phase

### Innovation in water floor heating systems

*In this workshop, participants will learn about the innovative character of OPAL-Systems. A presentation of the research outcomes that led to the foundation of the spin-off will be demonstrated following this general introduction.*

*Third, we will present an overview of the advantages OPAL-Systems water floor heaters have compared to classic floor heat systems.*

*Finally, a demonstration on how to successfully create a spin-off and the ways to go about will be presented.*