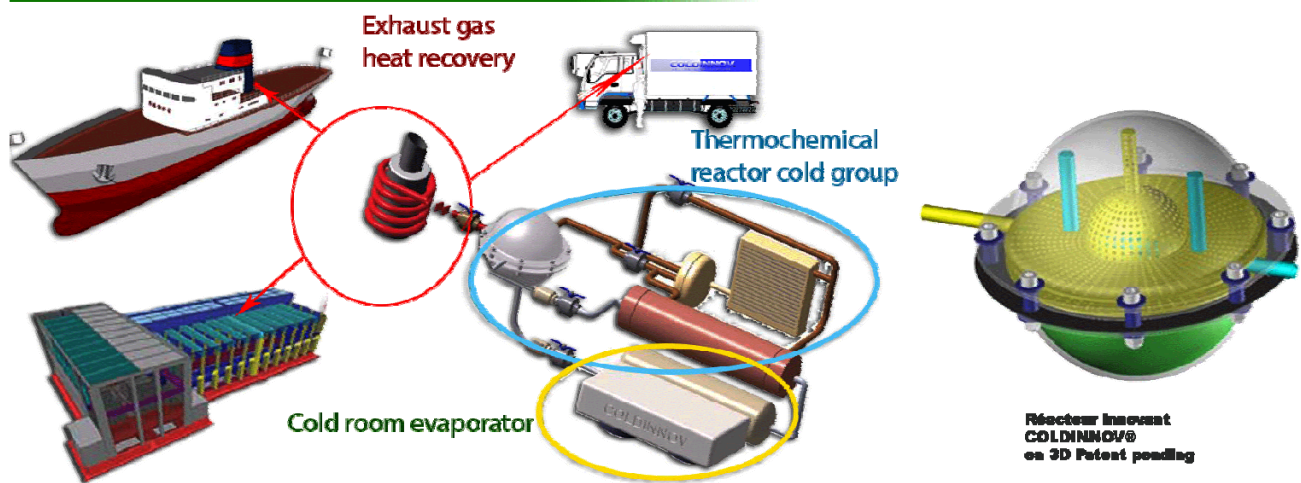


## A REAL NEW INDUSTRIAL INNOVATION

### Cold production by thermochemical solid-gas reaction powered by heat recovery from heat engine's exhausted gas

#### COLDINNOV process

The absorption of ammonia by a specific compound of graphite and salts in our **innovative reactor** produces heat; this reaction is used to create a depression in an **evaporator** and to produce cold. This discontinuous thermochemical reaction is totally **reversible** and **repeatable**: the input of the heat recovered from exhausted gas **inverts** the reaction, **desorbs** the ammonia and **launches** a new cycle. The discontinuous process becomes a continuous process when several reactors are associated and work in phase shift.



#### COLDINNOV 's advantages

- **No energy** consumption of fuel, electricity or gas.
- **Energy Saving Certificate**: partnership Certinergy
- **No compressor**, no alternator
- **Production of positive** or **negative** cold from the start
- **Natural refrigerant** with low environmental impact
- **Simplified** and optimized maintenance
- **Can be powered** with any fatal heat source at high temperature: engines, generators, furnaces, industrial process, heating of building...
- **Compactness and resistance** (20" diameter = 5 HP refrigeration)
- **High cold production capacity**: 10 HP heat engine = 5 HP refrigeration = 10 M3 cold room

## Applications

Production of **multi-purpose** sustainable cold for air conditioning, refrigeration and freezing.

## The Market

### Mobile cold:

- **Road transport** under controlled-temperature, from the light commercial vehicle to large vehicles and semi-trailers.

Passengers transport (air conditioning)

- **Maritime and fluvial sector:** heat engine vessels, fishing and yachting, cargo vessels, river barges, container ships.

### Stationary cold:

- **Tertiary sector**, waste heat recovery from furnaces

- **Industrial sector**, waste heat recovery from fumes of process and treatment, particularly in agri-food industry.

- **Domestic**, **COLDINNOV** recovery from heating systems fumes

- **Power units**, waste heat recovery from exhausted gas of generators, in the emerging countries and civil or military bases.

- **Energy storage**

- **Solar cold**

## **COLDINNOV** , the company

**COLDINNOV** *has been created in December 2013* by two founders partners **Lionel Bataille and Jean Louis Juillard**, co-owners of a patent application for cold production reactor by waste heat recovery and thermochemical reaction solid-gas.

**On November 9<sup>th</sup> 2014**, the share capital of the company has been **increased to 726 000 €**, with 10 partners. A fund-raising campaign of 2 to 3 M€ is in progress.

**The concept and the patent** are validated by **500 W** and **1000 W** models **COLDINNOV** gets the **JEI** status (Young Innovative Company).

**The COLDINNOV team** is credible and experienced. It is made of 9 people. 7 are employees, CEO, R&D manager, project manager, lab manager, trilingual assistant, two R&D technicians, and two others are active shareholders also members of the strategic committee.

## **COLDINNOV** , it is also

- **A research laboratory** with a fully equipped test bench

- **A manufacturing** and application workshop of **COLDINNOV** reactive

- **A co-contracting** partnership with a qualified boilermaker and his equipments: water-jet cutting system, TIG welding, press brake, press guillotine...

- **A production workshop for models**, prototypes and pre-series

- **A program for installation-demonstration** of 10 **COLDINNOV** units in various sectors: refrigerated road transport, tertiary sector, artisanal food production and industry

- **A structured** policy of industrial property

- **An ambitious plan** of distribution agreements and international development.

For any further information,  
Partner contact:

Jean Louis JUILLARD

[jeanlouis.juillard@coldinnov](mailto:jeanlouis.juillard@coldinnov)