

What is a Nanofluid

Nanofluids (NFs) are advanced **Heat Transfer** and/or **Thermal Storage Fluids** (HTF/TES) with **enhanced thermal properties** by the addition of **nanoparticles** (NPs).

What is a COST Action

The European **Cooperation in Science and Technology** (COST) is an intergovernmental organisation **supporting** the scientific/ technological **collaboration** through **networks** (COST Actions) and supported by H2020.

Participants

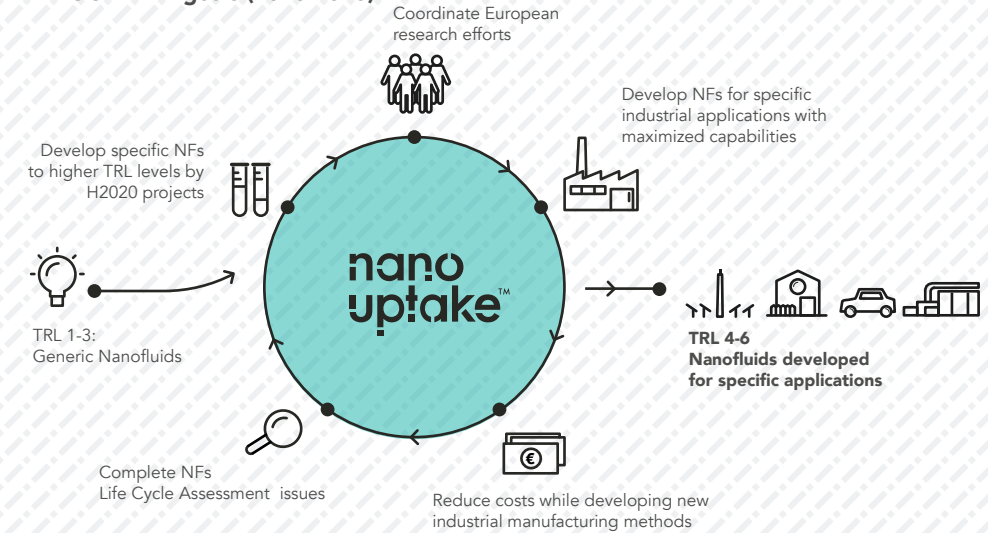


37 INSTITUTIONS
21 COST COUNTRIES

General Objective

The objective of NANOUP TAKE is to create a Europe-wide **network** of **leading R+D+i centres**, and of **key industries**, to develop and foster the use of **nanofluids** as **advanced HTF/TES** to increase the **efficiency** of **heat exchange** and **storage systems**.

NANOUP TAKE goals (2016-2020)



Activities and participants

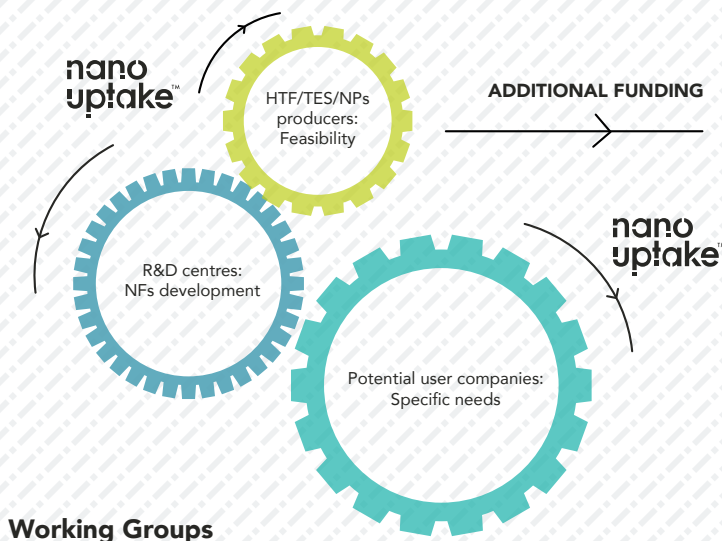
1 Training Schools
Once per year

2 Short Term Scientific Missions
Participants staff exchange between 2 weeks and 3 months

3 Working Groups Activities
Nanofluid development for specific applications
Research centers and companies involved

4 Participants

- Research Centres (R&D)
- HTF/TES/NPs producer companies
- NFs potential user companies



Working Groups

Working Groups defined by applications

- WG1. Heating**
NFs based on water, ionic liquids and thermal oils for medium and high temperature transfer processes
- WG2. Cooling**
NFs based on water, ethylene-glycol and refrigerant for cooling in power electronic, thermal engines, refrigeration systems etc.
- WG3. Storage**
NFs based on molten salts and Phase Change Materials for thermal energy storage in Concentrated Solar Power, waste heat, etc.
- WG4. Boiling and Solar**
NFs based on water for boilers, heat pipes and volumetric solar absorbers