

PROJECT

## JOSPEL

### Low energy passenger comfort systems based on the joule and peltier effects.

**Funding:** European (Horizon 2020)

**Duration:** May 2015 - Nov 2018

**Status:** Complete

**Total project cost:** €6,668,288

**EU contribution:** €6,668,288



**Call for proposal:** H2020-GV-2014

[CORDIS RCN : 194902](#)

#### Objectives:

The aim of JOSPEL project is the development of a novel energy efficient climate system for the optimization of interior temperature control management in electrical vehicles through an integrated approach that combines the application of the thermoelectric Joule and Peltier effect, the development of an efficient insulation of the vehicle interior, the energy recovery from heat zones, battery life increase duration enhancement as a side effect of thermal management, battery consumption reduction by Peltier cooling integration, innovative automated and eco-driving strategies and the electronic control of power flows. Main objective is the reduction of at least 50% of energy used for passenger comfort (<1,250 W) and at least 30% for component cooling in extreme conditions with reference to electric vehicles currently on the market.

#### Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

**Institute type:** Public institution

**Institute name:** European Commission

**Funding type:** Public (EU)

#### Lead Organisation:

**Aimplas - Asociacion De Investigacion De Materiales Plasticos Y Conexas**

**Address:**

CALLE GUSTAVE EIFFEL 4 PARQUE TECNOLOGICO DE PATERNA  
46980 PATERNA VALENCIA  
Spain

**Organisation Website:**

<http://www.aimplas.es>

**EU Contribution:** €656,198

#### Partner Organisations:

**Alke Srl**

**Address:**

VIA CILE 3-5-7  
35127 PADOVA  
Italy

**Organisation Website:**

<http://www.alke.com>

**EU Contribution:** €876,263

**Simoldes Plasticos Sa****Address:**

RUA COMENDADOR ANTONIO DA SILVA RODRIGUES 165  
3721-902 OLIVEIRA DE AZEMEIS  
Portugal

**EU Contribution:** €261,294

**Amv Design Srl****Address:**

VIA REGIA 71  
35010 VIGONZA  
Italy

**EU Contribution:** €299,688

**Fraunhofer Gesellschaft Zur Foerderung Der Angewandten Forschung E.v.****Address:**

Carl-Zeiss-Str. 18-20  
55129 Mainz  
Germany

**EU Contribution:** €466,163

**Insero As****Address:**

Chr M Ostergaards Vej 4  
8700 Horsens  
Denmark

**EU Contribution:** €344,488

**Durplastics Sa****Address:**

Z.I. LES MOLINES SIN NUMERO  
03450 BANYERES DE MARIOLA  
Spain

**EU Contribution:** €205,551

**Fundacion Para La Promocion De La Innovacion, Investigacion Y Desarrollo Tecnologico En La Industria De La Automocion De Galicia****Address:**

Poligono Industrial A Granxa 249  
36400 PORRINO PONTEVEDRA  
Spain

**Organisation Website:**

<http://www.ctag.com>

**EU Contribution:** €529,740

**Cidete Ingenieros Sociedad Limitada****Address:**

Calle Anselmo Clave 98  
8800 Vilanova Y La Geltru  
Spain

**EU Contribution:** €692,750

**Atos Origin Sociedad Anonima Espanola****Address:**

CALLE ALBARRACIN 25  
28037 MADRID  
Spain

**EU Contribution:** €643,125

**Cleancarb Sarl****Address:**

Rue Schmitz 2a  
8190 Kopstal  
Luxembourg

**Organisation Website:**

<http://www.cleancarb.com>

**EU Contribution:** €484,253

**Arkema France****Address:**

Rue Estienne D Orves 420  
92700 Colombes  
France

**Organisation Website:**

<http://www.arkema.com>

**EU Contribution:** €439,459

**Dok-Ing Društvo S Ogranicenom Odgovornoscu Za Inzenjering I Unutarnju I Vanjsku Trgovinu****Address:**

KANALSKI PUT 1  
10000 ZAGREB  
Croatia

**Organisation Website:**

<http://www.dok-ing.hr>

**EU Contribution:** €324,688

**European Thermodynamics Limited****Address:**

PRIORY BUSINESS PARK, WISTON ROAD 8  
KIBWORTH HARCOURT  
LE8 0RX  
United Kingdom

**Organisation Website:**

<http://www.etedyn.com>

**EU Contribution:** €444,631

## Technologies:

HVAC  
Cooling unit with low weight materials and lead free

**Development phase:** Research/Invention

HVAC  
Interior surface heating system

**Development phase:** Research/Invention

Road vehicle propulsion  
Cooling system using Bi<sub>2</sub>Te<sub>3</sub>-based alloy materials

**Development phase:** Research/Invention

Cabin and cockpit design  
Innovative vehicle heating (fabrics with a heating coating in a thermoplastic matrix)

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Innovative vehicle heating (fabrics with a heating coating in a thermoset resin)

**Development phase:** Research/Invention

Transport

**STRIA Roadmaps:** electrification

**Transport mode:** Road transport

**Transport sectors:** Passenger transport

**Transport policies:** Decarbonisation

**Geo-spatial type:** Other