



Pulsating Heat Pipes for Hybrid Propulsion systems

Fact Sheet

Project Information

PHP2

Grant agreement ID: 821375

[Project website](#)

DOI

[10.3030/821375](https://doi.org/10.3030/821375)

Project closed

EC signature date

10 October 2018

Start date

1 November 2018

End date

31 October 2022

Funded under

SOCIETAL CHALLENGES - Smart, Green And Integrated Transport

Total cost

€ 1 486 755,00

EU contribution

€ 1 486 755,00

Coordinated by

ALTRAN TECHNOLOGY & ENGINEERING CENTER

 France

Project description

Better heat management is on the horizon for new hybrid aircraft propulsion systems

Mechanical and electrical devices generate heat. Because the heat can impair the functioning of the systems over time, most systems have thermal management built in. Pulsating heat pipes (PHP) are an emerging technology with many advantages. They can rapidly transfer heat between source and sink, accommodate materials, shapes and sizes not accessible with conventional heat pipes, and they are very stable and low-weight. However, in-depth understanding of their functioning to

support rational design is limited. The EU-funded PHP2 project is developing a detailed simulation code to support new PHP designs. A prototype will enable data collection and model refinement leading to a simplified model for widespread application.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [mechanical engineering](#) > **[thermodynamic engineering](#)**

[engineering and technology](#) > [mechanical engineering](#) > [vehicle engineering](#) > [aerospace engineering](#) > **[aircraft](#)**

[natural sciences](#) > [computer and information sciences](#) > **[computational science](#)**

[natural sciences](#) > [computer and information sciences](#) > [software](#) > [software applications](#) > **[simulation software](#)**



Keywords

[Thermal exchanges](#)

[Heat exchanger](#)

[Pulsating Heat Pipe](#)

[Reduced modelling](#)

[Detailed modelling](#)

[Experiment](#)

[Two phases flow](#)

[nucleation-bowling](#)

[condensation](#)

[evaporation](#)

[micro-channels](#)

Programme(s)

[H2020-EU.3.4. - SOCIETAL CHALLENGES - Smart, Green And Integrated Transport](#)

MAIN PROGRAMME

[H2020-EU.3.4.5.1. - IADP Large Passenger Aircraft](#)

Topic(s)

[JTI-CS2-2017-CfP07-LPA-01-43 - Pulsating Heat Pipe \(PHP\) modelisation & characterisation](#)

Call for proposal

[H2020-CS2-CFP07-2017-02](#)

[See other projects for this call](#)

Funding Scheme

[RIA - Research and Innovation action](#)

Coordinator



ALTRAN TECHNOLOGY & ENGINEERING CENTER

Net EU contribution

€ 273 634,00

Total cost

€ 273 634,00

Address

4 AVENUE DIDIER DAURAT

31700 Blagnac

 **France** 

Region

Occitanie > Midi-Pyrénées > Haute-Garonne

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Participants (4)



THIRD-PARTY 

CAPGEMINI TECHNOLOGY SERVICES

 **France**

Net EU contribution

€ 0,00

Address

145-151, QUAI DU PRESIDENT ROOSEVELT

92130 Issy-Les-Moulineaux 

Region

Ile-de-France > Ile-de-France > Hauts-de-Seine

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data



JJ COOLING INNOVATION SARL

 Switzerland

Net EU contribution

€ 474 525,00

Address

CHEMIN DES SAUGES 9

1018 Lausanne 

SME 

Yes

Region

Schweiz/Suisse/Svizzera > Région lémanique > Vaud

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 474 525,00



WIELAND PROVIDES SRL

 Italy

Net EU contribution

€ 426 485,00

Address

VIA PIAVE 82

04100 Latina 

Region

Centro (IT) > Lazio > Latina

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 426 485,00



ALTRAN TECHNOLOGIES 

 France

Net EU contribution

€ 312 111,00

Address

76 AVENUE KLEBER

75016 Paris 

Region

Ile-de-France > Ile-de-France > Paris

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

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Total cost

€ 312 111,00

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European Union, 2025

