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High Quality European GaN-Wafer on SiC Substrates for Space Applications

Fact Sheet

Project Information

EUSIC

Grant agreement ID: 242360

[Project website](#) 

Project closed

Start date

1 November 2010

End date

31 October 2013

Funded under

Specific Programme "Cooperation": Space

Total cost

€ 3 282 694,02

EU contribution

€ 1 989 426,00

Coordinated by
SiCrystal AG

 Germany

This project is featured in...

RESEARCH*EU MAGAZINE


**Water of life:
desertification, access to
clean water**

Objective

The project „ High Quality European GaN-Wafer on SiC Substrates for Space Applications” (EuSiC) is aiming at establishing an independent, purely European sustainable supply chain for Gallium Nitride (GaN) based space technologies. The project will significantly reduce the dependence on critical technologies and capabilities from outside Europe for future space applications. An independent supply chain has to include countries of the European Community (EC): a supplier of high-quality semi-insulating Silicon Carbide (SiC) substrates, qualified sources to perform GaN epitaxial layers and as well manufacturers with leading knowledge in GaN device technology required e.g. for Monolithic Microwave Integrated Circuits (MMIC's). At present, the missing link in this chain is a reliable source for high-quality 3 inch semi-insulating SiC substrates in Europe. The intention of this project is to improve the quality of semi-insulating SiC-substrates at SiCrystal AG, the leading manufacturer of SiC substrates in Europe. The provided substrates shall be analyzed and evaluated by epi-growth specialists IAF, III-V-Lab, and QinetiQ. Finally devices shall be built and verified on the created GaN epi-wafers by UMS. Continuous monitoring and several feedback loops to the quality of the substrates will enable an accelerated development at SiCrystal AG. Also impacts to improvement of the performance of GaN devices are expected. The project will complement activities already undertaken by European Space Agency ESA, who has assembled a consortium of competent partners under the: GaN Reliability Enhancement and Technology Transfer Initiative (GREAT2).

Fields of science (EuroSciVoc)

[natural sciences](#) > [chemical sciences](#) > [inorganic chemistry](#) > [inorganic compounds](#)

[natural sciences](#) > [chemical sciences](#) > [inorganic chemistry](#) > [post-transition metals](#)

[natural sciences](#) > [chemical sciences](#) > [inorganic chemistry](#) > [metalloids](#)



Programme(s)

[FP7-SPACE - Specific Programme "Cooperation": Space](#)

Topic(s)

[SPA.2009.2.2.01 - Space technologies](#)

Call for proposal

FP7-SPACE-2009-1

[See other projects for this call](#)

Funding Scheme

[CP - Collaborative project \(generic\)](#)

Coordinator



SiCrystal AG

EU contribution

€ 852 781,80

Total cost

No data

Address

THURN UND TAXIS STRASSE 20

90411 NURNBERG

 **Germany** 

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)



III-V LAB

 **France**

EU contribution

€ 295 412,00

Address

1 AVENUE AUGUSTIN FRESNEL CAMPUS POLYTECHNIQUE
91767 Palaiseau Cedex 

Region

Ile-de-France > Ile-de-France > Essonne

Activity type

Other

Links

- [Contact the organisation](#) 
- [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data



FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN
FORSCHUNG EV

 Germany

EU contribution

€ 297 691,00

Address

HANSASTRASSE 27C
80686 Munchen 

Region

Bayern > Oberbayern > München, Kreisfreie Stadt

Activity type

Research Organisations

Links

- [Contact the organisation](#) 
- [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data



LINKOPINGS UNIVERSITET

 Sweden

EU contribution

€ 318 850,00

Address

CAMPUS VALLA

581 83 Linköping 

Region

Östra Sverige > Östra Mellansverige > Östergötlands län

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

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

[HORIZON collaboration network](#) 

Total cost

No data



UNITED MONOLITHIC SEMICONDUCTORS GMBH

 Germany

EU contribution

€ 224 691,20

Address

WILHELM-RUNGE-STRASSE 11

89081 Ulm 

Region

Baden-Württemberg > Tübingen > Ulm, Stadtkreis

Activity type

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

Links

[Contact the organisation](#)  [Website](#) 

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

[HORIZON collaboration network](#) 

Total cost

No data

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European Union, 2025

