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Gallium arsenide material for microwave applications

Fact Sheet

Project Information

GAMMA

Grant agreement ID: 21315

Project closed

Start date

1 May 1996

End date

31 May 1998

Funded under

Specific research and technological development programme in the field of information technologies, 1994-1998

Total cost

€ 3 530 000,00

EU contribution

€ 1 800 000,00

Coordinated by

Laboratoires D'electronique Philips

 France

Objective

- Establishing a reliable European source for 4" semi-insulating GaAs substrate fabrication, optimised for ion implantation applications. Comparison of 3" and 4" state-of-the-art world market material.
- Epi-ready wafers directly usable for an MBE process. Attention will be paid to the requirements on geometry and surface conditions.
- Production and qualification of high performance 4" MBE-grown P-HEMT epiwafers. Tests will be performed by a device supplier (SIE) to evaluate the material

quality.

- Comparison of the P-HEMT structures grown by MOVPE and MBE processes. In addition, application and quality as factors in production will be addressed.
- Establishing a European commercial source of GaInP/GaAs HBT epitaxial wafers. Evaluation and characterisation of materials developed by EPI and IAF by the industrial users in their standard production lines.

GaAs technology for both discrete and IC components has proved to be indispensable for advanced telecommunication and automotive systems. The use of GaAs clearly starts where the silicon ends i.e. in meeting system requirements such as the RF front-end of mobile communication equipment, broadband radio links and anti-collision systems.

The main interest of this project is to develop and qualify semi-insulating bulk GaAs and epitaxial material for three major microwave applications: MESFETs, pseudomorphic HEMTs and GaInP-HBTs; and to establish competitive European production facilities in those domains.

Fields of science (EuroSciVoc)

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

[natural sciences](#) > [mathematics](#) > [pure mathematics](#) > [geometry](#)

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



Programme(s)

[FP4-ESPRIT 4 - Specific research and technological development programme in the field of information technologies, 1994-1998](#)

Topic(s)

[2.14 - Semiconductors-Enhancement of technology & manufacturing base](#)

Call for proposal

Data not available

Funding Scheme

[CSC - Cost-sharing contracts](#)

Coordinator



Laboratoires D'electronique Philips

EU contribution

No data

Total cost

No data

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Participants (13)



Daimler-Benz

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EU contribution

No data

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Total cost

No data



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EU contribution

No data

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Total cost

No data



Ferdinand-Braun-Institut fur Hochstfrequenztechnik Berlin (Fbh)

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EU contribution

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Total cost

No data



Foundation of Research and Technology - Hellas (Forth)

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EU contribution

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Total cost

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EU contribution
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No data



**Gec - Marconi Limited Acting Through Its Management Company Gec-Marconi
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United Monolithic Semiconductors Sas

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EU contribution

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Total cost

No data

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