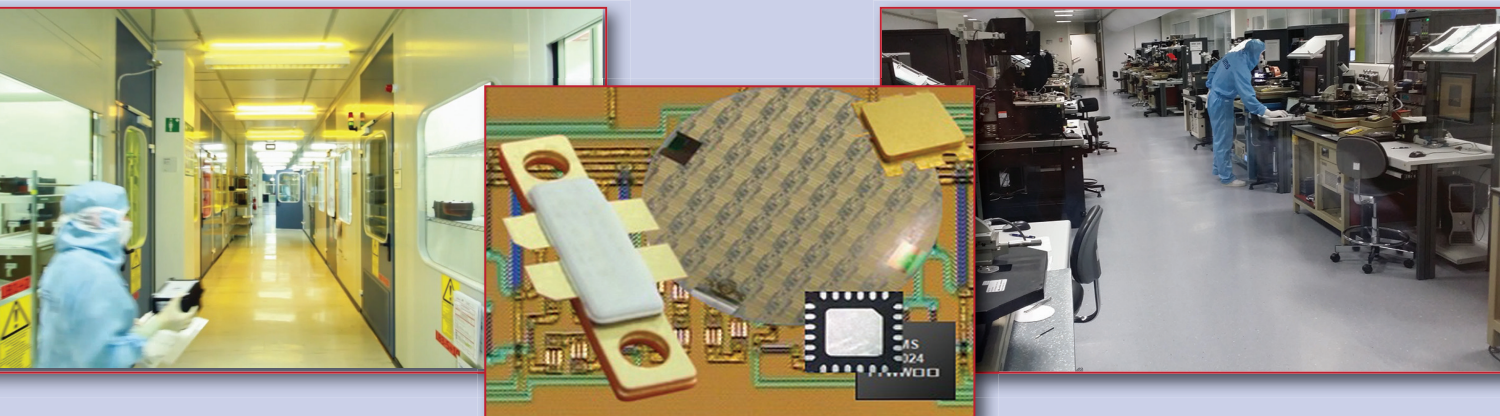


FAB S and LAB S

UMS – a European Enterprise with a Global Focus



United Monolithic Semiconductors (UMS) was created in 1996 as a joint venture between Thales and EADS, to provide a European source of III-V technologies and products. UMS is the European leader in offering RF MMIC products and foundry services for specialized markets, including defense and space, telecommunications, automotive radar and industrial sensors to the worldwide market.

The company has two production sites:

Company headquarters in Villebon, France, is the site of the design center, foundry services and back-end production and services. It also houses a 1400 m² state-of-the-art clean room and labs that offer on-wafer testing, automatic visual inspection, dicing, picking, automated test of packaged devices and characterization.

The Ulm, Germany facility houses 1000 m² of labs and clean room where GaAs and GaN technology development and wafer manufacturing take place. UMS also has sales offices in Lowell, Mass. and Shanghai, China, along with a network of sales representatives supporting a global customer base.

UMS' comprehensive offer is based on the supply of either ASIC or catalogue products, mainly based on the company's internal III-V technologies, and through the provision of a comprehensive foundry service, allowing customers to directly create their own product solutions. The range of catalogue products from DC to 100 GHz is based on GaAs, GaN and SiGe technologies and encompasses power amplifiers up to 200 W, mixed-signal functions, very low noise amplifiers and complete transceiver systems.

In-house GaAs and GaN processes provide the technology platform to enable the design of leading edge products and form the basis of foundry services

to external design centers. The open foundry provides an integrated suite of services aimed at ensuring that ASIC designs are fabricated successfully on the first fabrication run. The flow from design to fabrication and delivery is optimized to offer designers the right process selection to meet design goals; design kits supported by extended, accurate and validated models available on familiar platforms; technical support at all stages of the project, including critical foundry design reviews to identify and solve issues early; fabrication using reliable and repeatable processes; optional early MMIC validation through on-wafer test; dicing and known good die delivery.

UMS has strong relationships with many of the major R&D centers and universities throughout Europe. Recent innovations include multichip transceiver modules, using a combination of SiGe and GaAs technologies for the latest 24 GHz automotive radar sensors; and GaN high power devices, including general purpose transistors in SMD DFN packages and internally matched power quasi-MMIC amplifiers from L to C-Band in ceramic and QFN packages.

Power applications are the main drivers for in-house technology development. In addition to 0.5 μm , a 0.25 μm GaN HEMT high power technology has recently been qualified and released. It has been used internally and by foundry partners to create new products up to 20 GHz.

In the future, the current GaN technology range will be extended to higher frequencies with the development of a 0.15 μm technology. GaAs technology will remain the optimum choice for some power applications, so UMS is releasing a high breakdown voltage GaAs PHEMT process (PPH15X-20) for linear power applications into Ka-Band. In addition to chip-and-wire assemblies, it will be compatible with standard QFN packaging.