Transversal competencies

INSTITUTLAFAYETTE

Institut Layette is a Research and Technology Organization specializing in GaN-based semiconductor devices, serving both researchers and industry partners. Our expertise covers sensors, power electronics, solar cells, and light sources, delivering solutions from materials development to system integration.

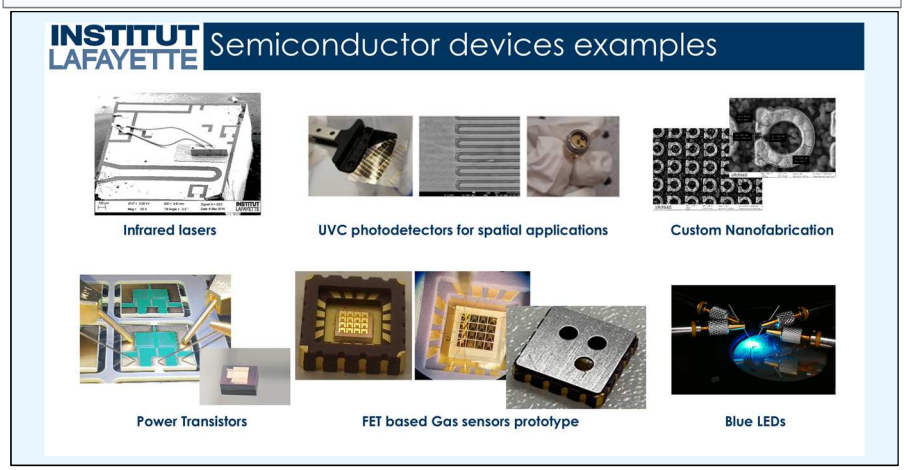
COMPETENCIES & CAPABILITIES

Fabrication of GaN-based semiconductor materials using Metal Organic Chemical Vapor Deposition (MOCVD).

Design and Microfabrication of components in a 500 m² cleanroom equipped with a comprehensive suite of micro/nanofabrication tools, including dielectric and metal deposition, dry and wet etching, pattern transfer via optical and electron beam lithography and more.

Material characterization using techniques such as Hall effect measurements, SEM, XRD, AFM, photoluminescence (PL), infrared (IR) spectroscopy, and others.

Devices characterization on probe stations and in controlled environments, including electrical (I-V, C-V), optical (L-I, P-I), UV, visible, and infrared spectra on packaged devices, bare chips, and wafers.



INSTITUT LAFAYETTE

PRODUCTS & SERVICES

Custom III-V Semiconductor Devices
Tailored development of advanced components including sensors, transistors, photodetectors, LEDs, and lasers — optimized for proprietary applications.
Epiwafer & Material Supply
High-quality III-N epitaxial wafers and heterostructures, engineered to meet partners' electrical and optical specifications.
Prototyping
End-to-end design and assembly of complete prototypes, integrating chip, packaging, and PCB for system-level validation.
Coatings
Precision thin-film solutions, including dielectric mirrors, anti-reflective coatings, and metallic layers.
Component Testing & Benchmarking
Evaluation of devices under controlled conditions, with detailed performance metrics and comparative analysis.

MAJOR SPACE PROJECTS & REFERENCES

We developed advanced UV-C photodetectors using wide bandgap semiconductor materials for harsh space environments.
Successfully integrated to Inspire-Sat 7 nanosat aboard Space–X Transporter–7 in April 2023, the technology has reached TRL 9, demonstrating operational performance in orbit.
(partnership with LATMOS & Nanovation)

POINT OF CONTACT

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WORK FORCE 12 employees (*2025*)
SPACE TURNOVER: -
SPACE WORK FORCE Variable upon projects needs (*2025*)