

# SERMA - GAISLER

15 YEARS OF COLLABORATION

# SERMA GROUP AT A GLANCE

**+30**

years of experience

**1400**

engineers and technicians

**30**

sites in Europe, Tunisia and USA

**70M€**

of industrial facilities  
Investment > €4M/year

**25 000 m<sup>2</sup>**

of industrial facilities:  
laboratories, production zones, cleanrooms, test platforms

**60%**

of capital held by managers and employees

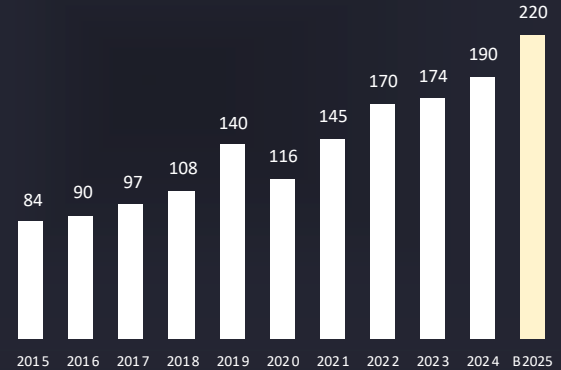
**R&D**

20 projects per year

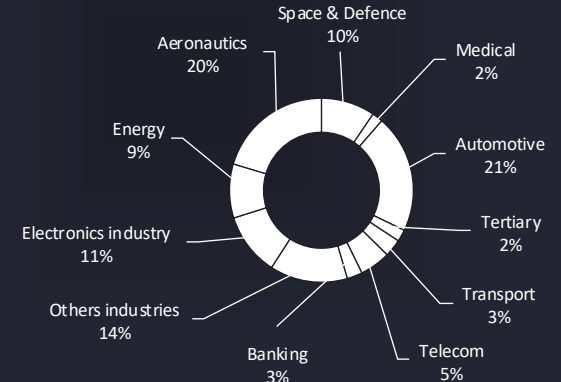
**Certifications**

quality, safety and environmental qualification and approvals

A continuous growth (M€)



A multi-sector positioning (% turnover)



# MICROELECTRONICS

Microelectronics solutions for various customer needs



ASIC



Hybrids



Ceramic substrates



System in package



RF Hyper MMIC



Power module

design office

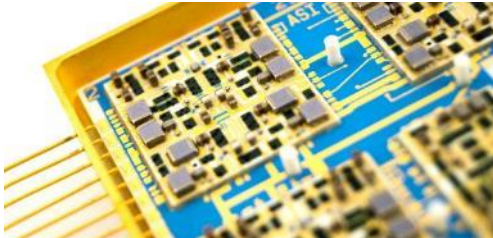
design and industrialisation

1000m<sup>2</sup>

of production cleanroom space

Testing laboratory

electrical and environmental



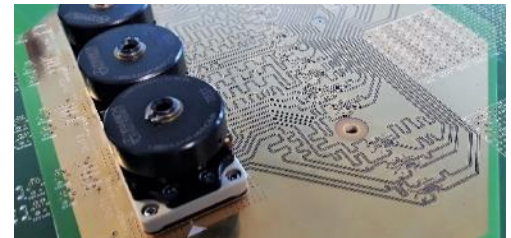
## Design

- ASIC, Hybrids
- Mixed-signal integrated circuits, analog and digital
- Specific applications: high T°, radiation, etc.
- Cloning of obsolete components
- DFM / Process brick development



## Production and assembly

- Wafer cutting, chip placement, bonding, etc.
- Hermetic/plastic packaging
- Special processes
- Strategic storage
- Outsourcing or sovereign supply chain
- 20 million parts per year (ASICs)



## Testing

- Environmental screening
- Development of electrical tests
- Electrical characterisation and testing in production
- Failure analysis and expertise
- Reliability and Qualification of batches (test design and performance)



# MICROELECTRONICS ASSEMBLY HOUSE



**90**  
employees



**19,5M€**  
Turnover  
in 2025



**35**  
years heritages in  
back-end services  
(wafer treatment,  
assembly and test)

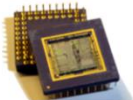
Substrates design  
and production

Wirebonding +  
SMT capabilities

Dice supply and  
secure storage

**We serve customers with constraints:**

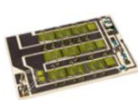
- Low Volumes (access constraint)
- Environment (reliability needs)
- Geopolitical (sovereignty)
- lifetime (Perennity)



Single Chip Modules



MCM / Hybrids



Power modules

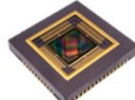


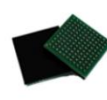
Image detectors



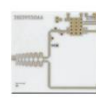
CCGA



Thick films



Enhanced plastic



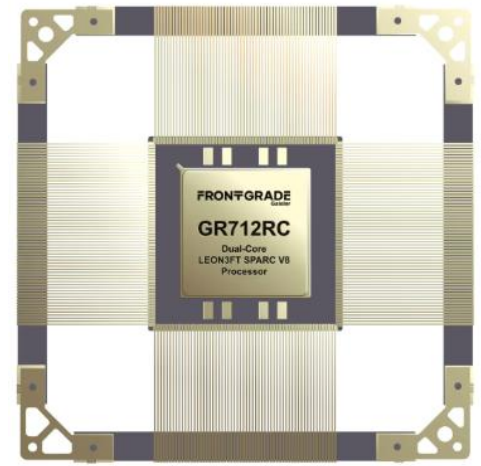
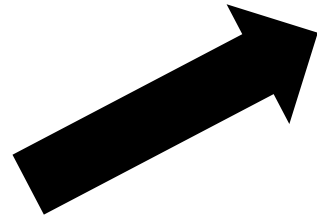
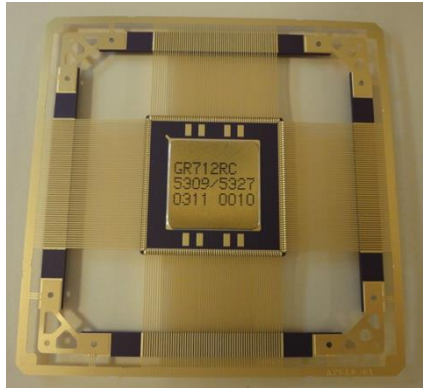
Thin film



# GR712RC COLLABORATION



From first prototypes in 2010

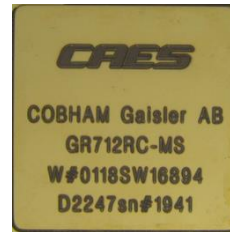


To a 10 years annual FM production

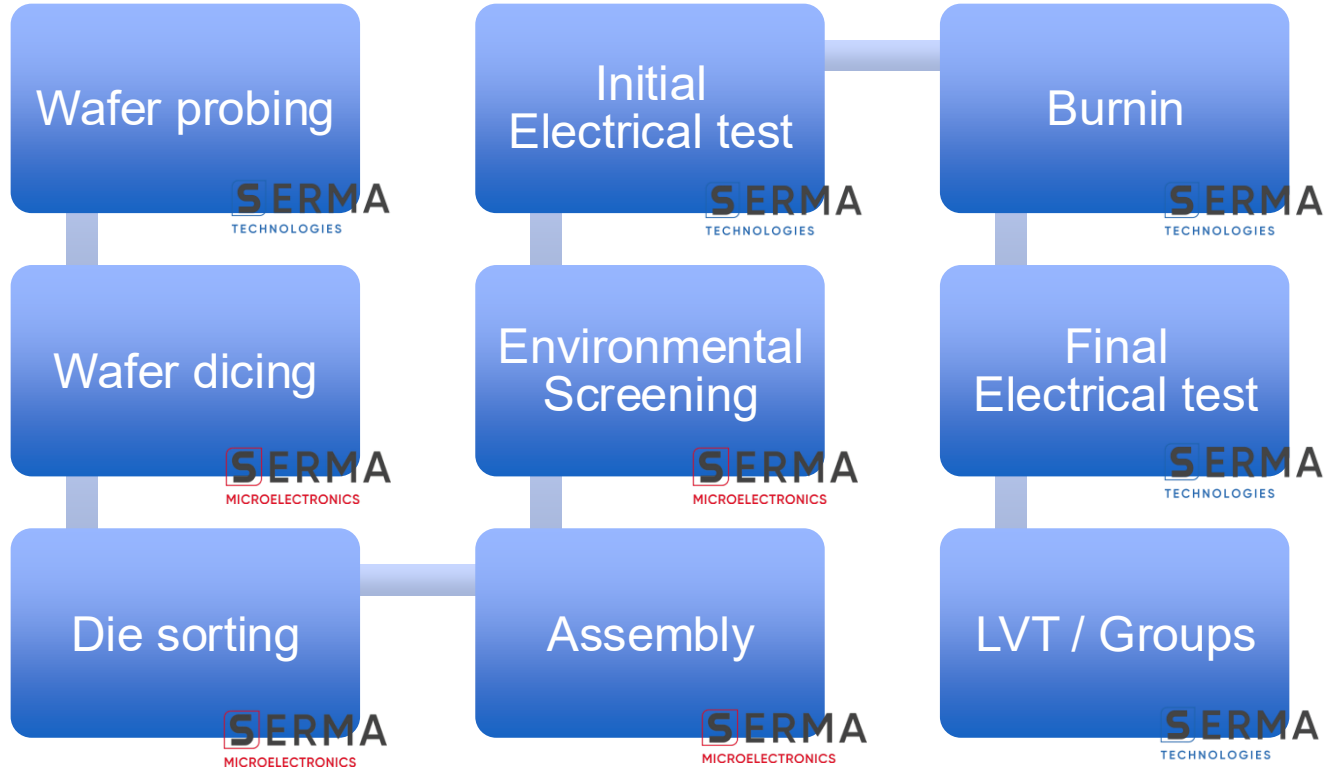


# GR712RC COLLABORATION

- 2010 → First prototypes
  - 12 FM batches launched
- 2016 → First flight models
  - 3000 devices produced
- 2018 → + environmental groups
  - 7 company changes of name !
- 2024 → + Electrical test



# GR712RC COLLABORATION



**GR712 is the perfect example of our strategy for space ASIC**

# EXTENSION OF THE COLLABORATION



**Proto batch assembled  
First FM batch in progress**



**Proto batch assembled**



**Proto batch assembled**

**WE THANK FONTGRADE GAISLER FOR ALL THESE YEARS OF TRUST !**

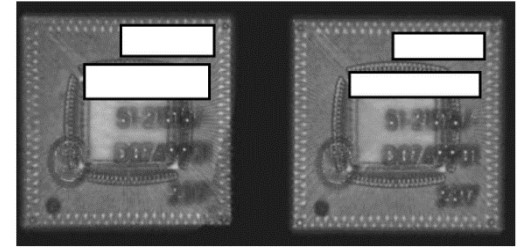


# NEW POSSIBILITIES @SERMA

## ► Qualification according ESCC9030:

- Pre-Conditioning MSL3
- Pressure Cooker Test
- uHAST 130°C / 85% / 33PSIA
- Thermal Cycling x500 at -65/+150°C
- HTS 500h at 150°C

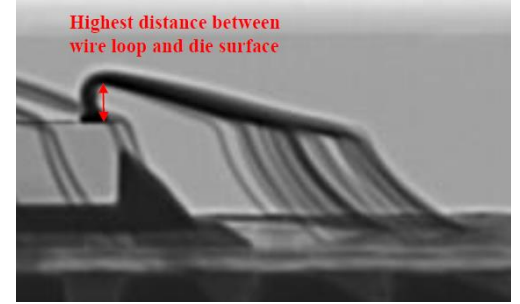
CSAM



## ► 100% done in house SERMA

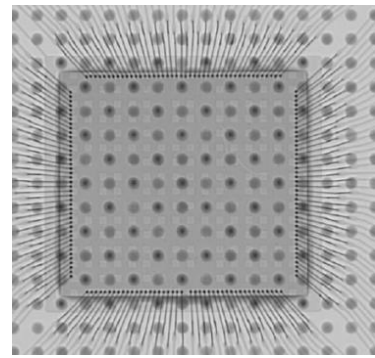
Including standard construction analysis at the end !

XRAY

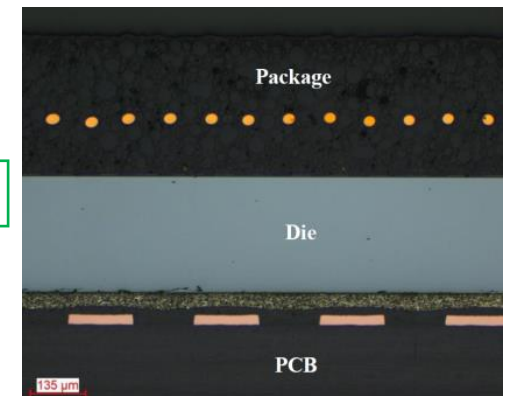


European Supply chain including IC-substrate design and production

3500+ FM produced as of today



Cross-section



# R&D CURRENT DEVELOPMENT

