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# The security challenges in STMicroelectronics

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System Research & Applications

STMicroelectronics

# We are creators and makers of technology



One of the world's largest semiconductor companies



Over **50,000** employees  
of which **9,000+** in R&D



**\$16.1 billion** revenues  
in 2022



Over **80** sales & marketing  
offices serving over **200,000**  
customers across the globe

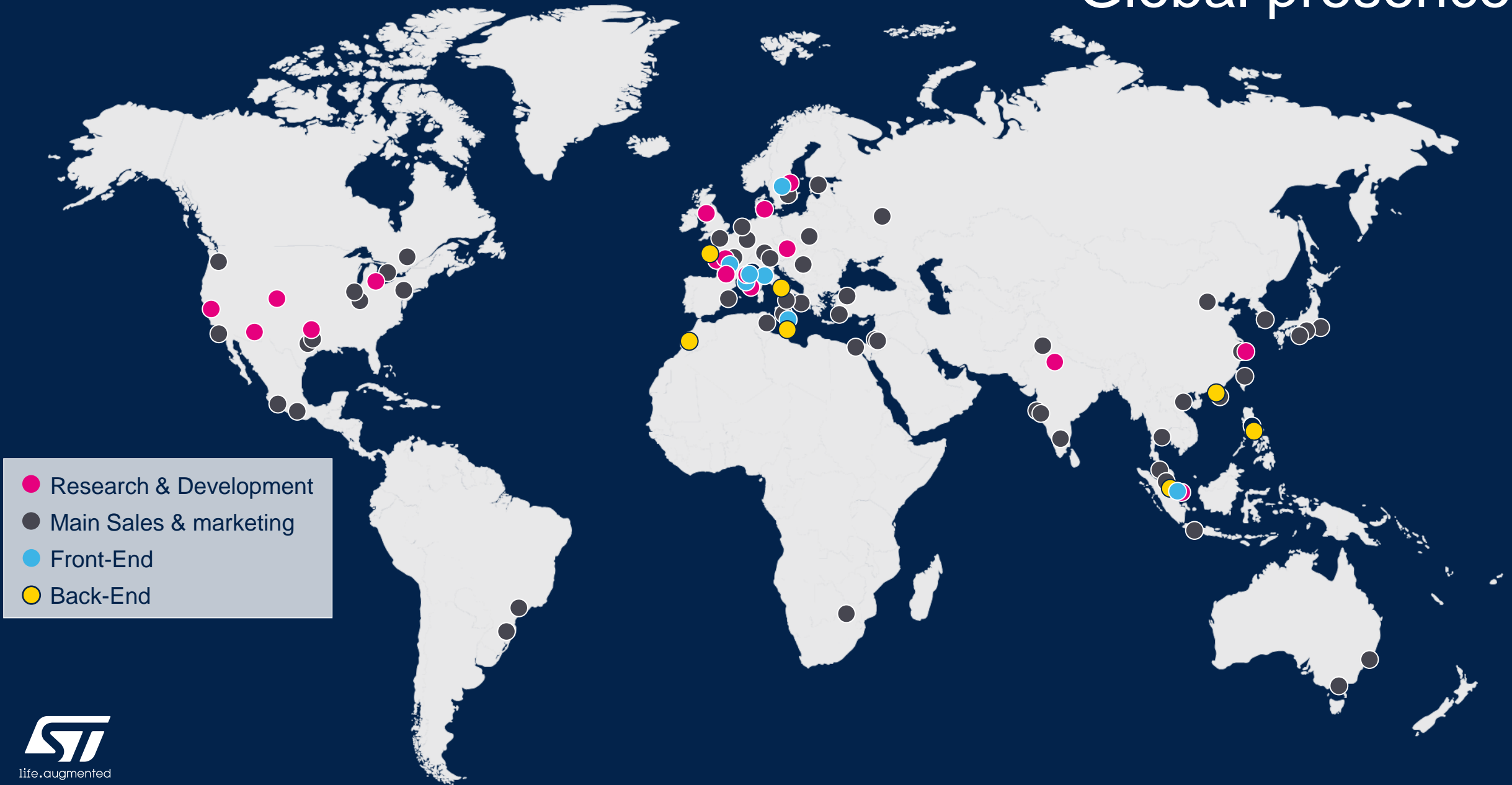


**14** main manufacturing  
sites



Signatory of the United Nations Global Compact (UNGC)  
Member of the Responsible Business Alliance (RBA)

# Global presence



# Examples of security challenges

**In-car security & Integrity**



**Digital key system**



**Secure EV charging  
Integrity & payment**



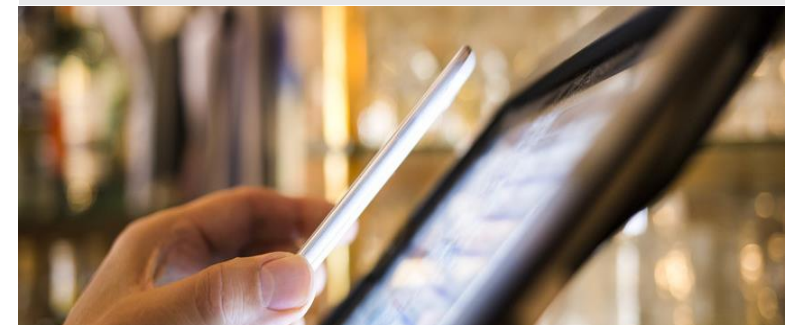
**Brand protection**



**Smart metering**



**Mobile transactions &  
payment**



# SRA security summary

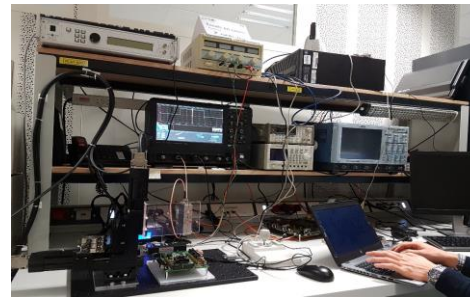
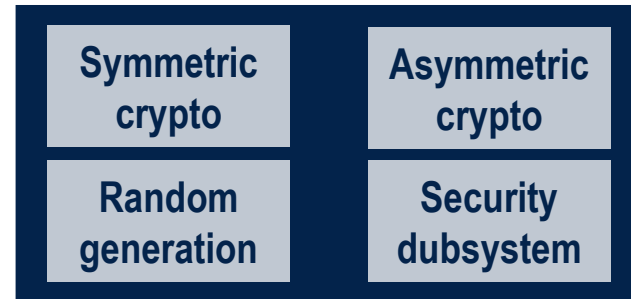
## System security, building blocks & SoC-level security

### System security

→ understand & anticipate system / applicative need: IoT, AI, smart mobility

Providing **security IPs** & expertise to product divisions throughout ST

**State-of-the-art lab** to perform side-channel and faults-injections attacks



General purpose MCUs



Connectivity products



Imaging sensors



Wireless charger



Automotive ICs

# Strategic areas in embedded security



## IP Developments

Hardware or software post-quantum crypto

## Investigation/Feasibility study

- Multiparty computation
- Zero-knowledge proofs
- Homomorphic encryption

## Tools

- Simulation of fault
- Simulation of SCA

# SRA security R&D team

## 16 security experts with diverse technical profiles:

- Hardware, software, cryptography, system-security
- 6 with PhD degrees in security

+ 5 PhD students (2 x PQC, 2 x SCA-protected crypto, 1 x TRNGs) + interns



Giulio Alesi



Fabrice Baudry



Richard Bouché



Albert Bouché



Dan Bouché



Stéphane Carpentier



Emma Carpentier



Albert Bouché



Matteo Boudon



Luca Boudon



William Orlando



Nicolas Boudon



Julien Montmasson



Jago Boudon



Thomas Sarrin



Ruggiero Boudon



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