

Goal

 **HEF**[®] GROUPE

| Surface materials engineering

HEF in figures

Since 1953,

70 years of surface
materials engineering
expertise

3200 employees (worldwide)

650 in France

€320 M

turnover in 2023

66%

of capital is owned by employees
and 34% by the founder's
family

200

patents

90

industrial sites

in **21** countries

€55 M

in investments in 2023

6500

customers



3 areas of surface materials engineering expertise



TRIBOLOGY

Studying phenomena related to dynamically interacting solids. Understanding and managing the mechanics of friction and wear.



PHOTONICS

Studying phenomena related to the interaction between light and matter.

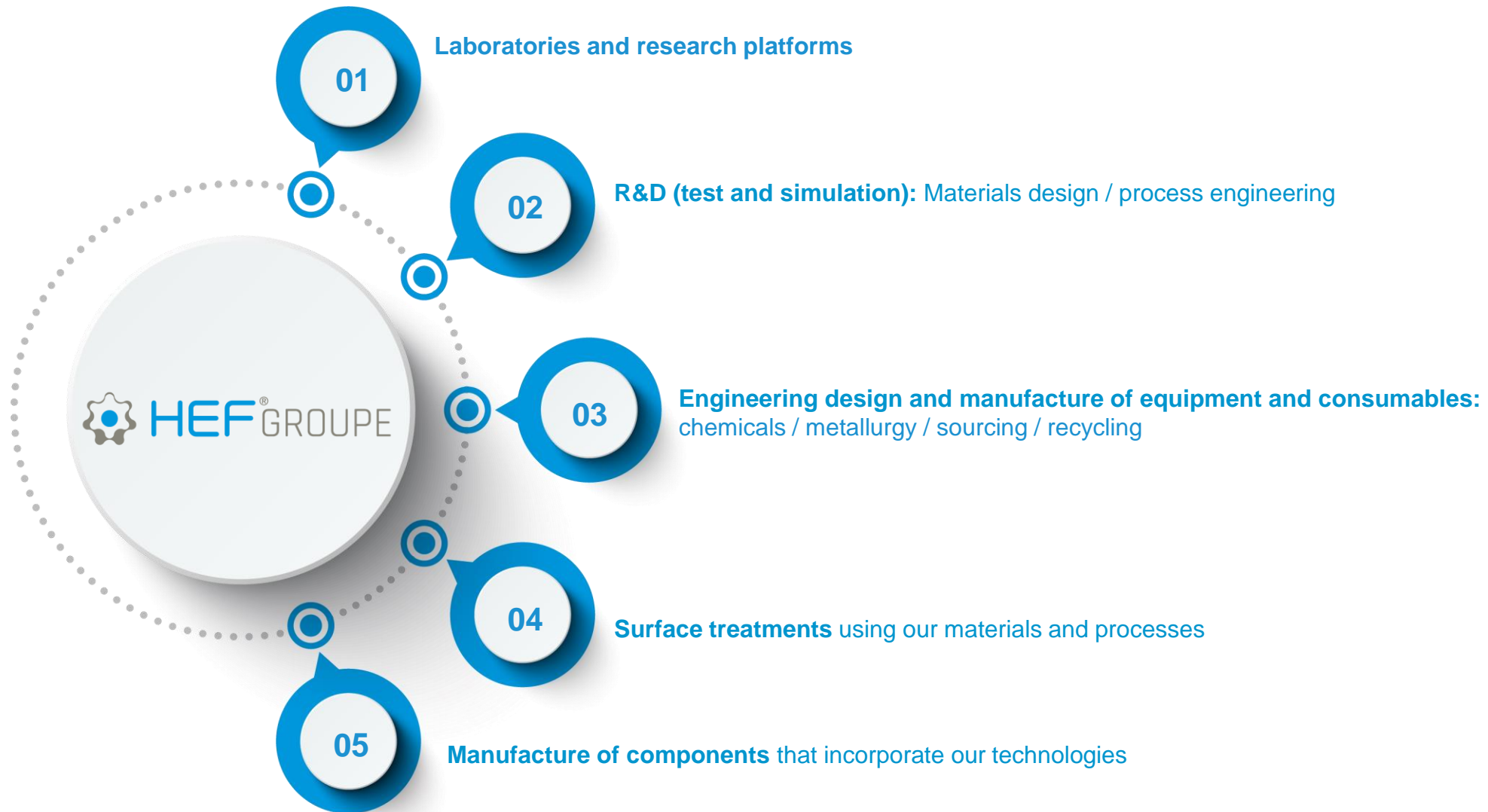
Understanding and managing surfaces and optical interfaces.



HYDROGEN TECHNOLOGIES

Manufacturing, transporting, storing and using hydrogen: electrolysis / compression / fuel cells and hydrogen engines.

From research to industry, a proven integration model



5 key technologies for developing surface materials



Liquid Nitrocarburising

World leader in ionic liquid nitriding:

Wear- and corrosion-resistance treatment by transforming metallic materials.



PVD – PACVD – CVD Evaporation new

World leader in carbon-based tribological deposits.

This technology enables the synthesis of new and complex materials in thin layers on all types of substrates.



FEMTOSECOND LASERS

This technology enables cutting, etching on a micron scale and the functionalisation of the surfaces of all materials while respecting the environment thanks to a very low energy consumption and by a dry process without any effluent.

HEF works in close proximity to its customers worldwide

Our teams are ready to provide prompt responses, service, and close proximity to the group's customers. Technologies and expertise available at consistent quality standards worldwide.



The group's key areas of activity



CONSTRUCTION



MEDICAL



MOBILITY

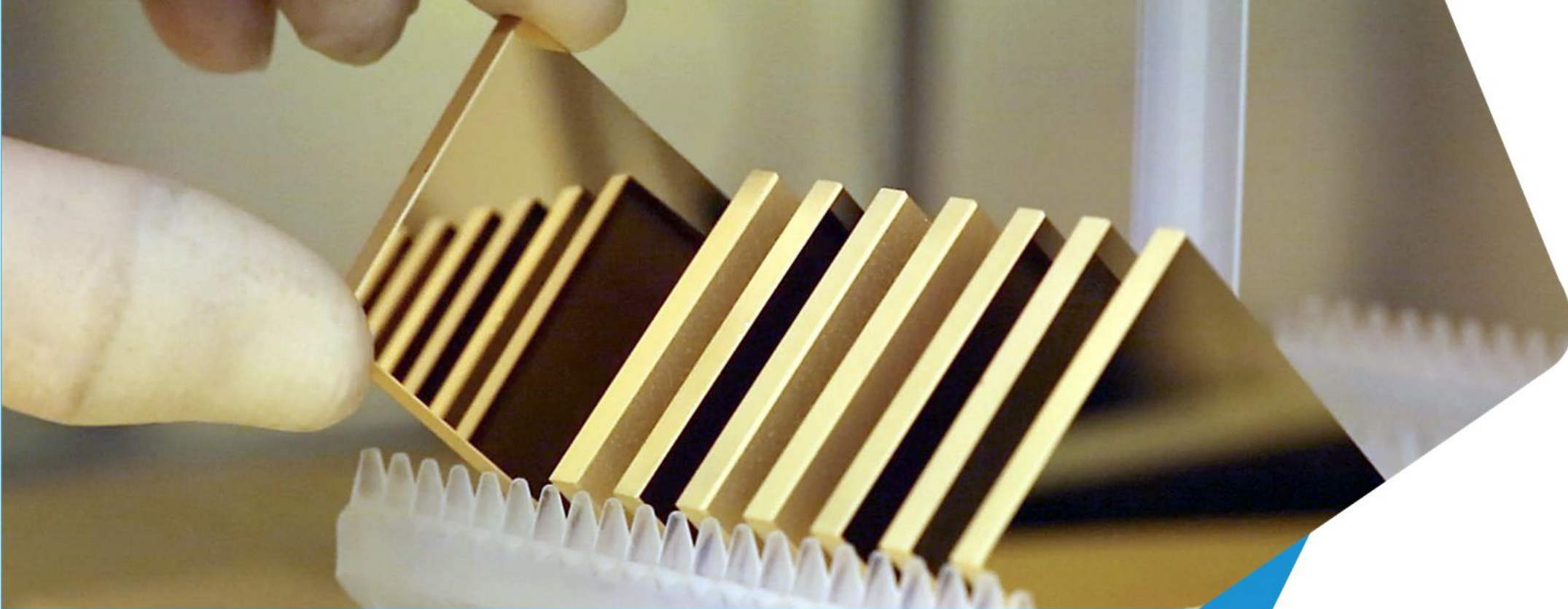


AEROSPACE



DECARBONATED ENERGIES

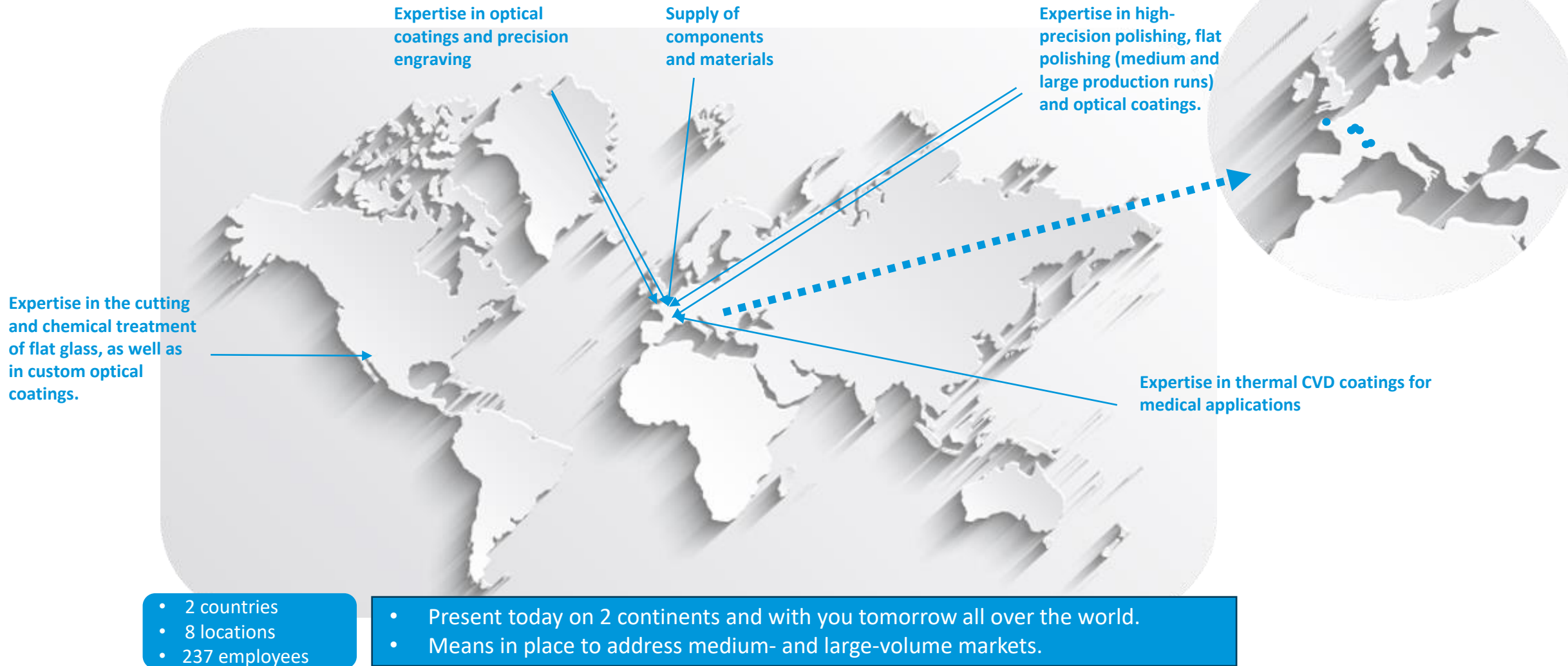




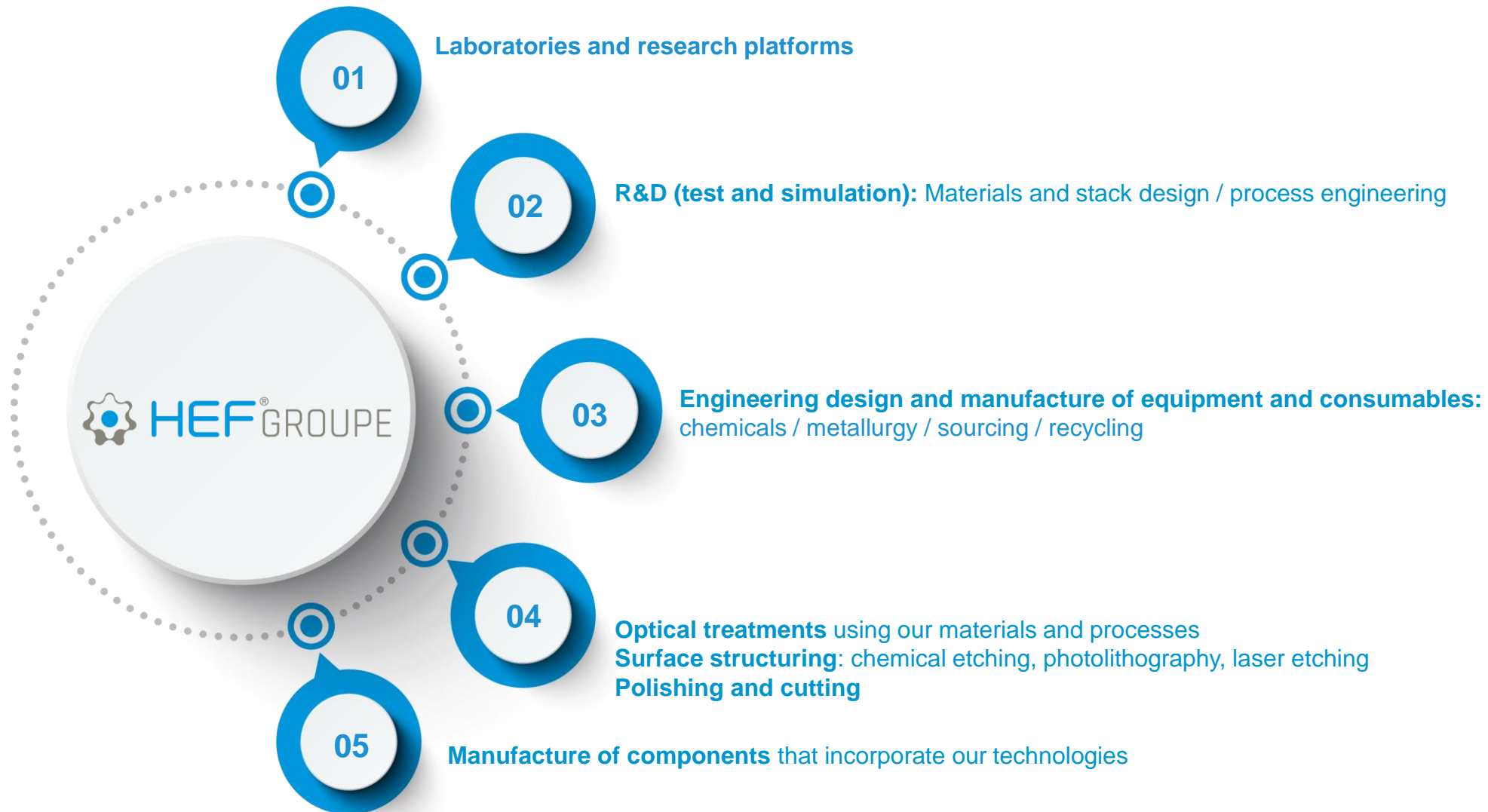
Surface materials engineering



Presence for HEF PHOTONICS



From research to industry, a proven integration model



Thanks for your attention.

HEF.fr

