

PARIS FLOW TECH

**YOUR BEST PARTNER IN
CONTINUOUS FLOW CHEMISTRY**

**PARIS FLOW TECH IS THE LEADING
FRENCH TECHNOLOGY PLATFORM
IN CONTINUOUS FLOW CHEMISTRY**



FLOW CHEMISTRY

A REVOLUTION IN THE CHEMICAL INDUSTRY

SAFER REACTIONS

Increased safety for hazardous reactions
(exothermic reactions, gas formation)

INCREASED PRODUCT QUALITY

Better control over the reaction conditions

COSTS

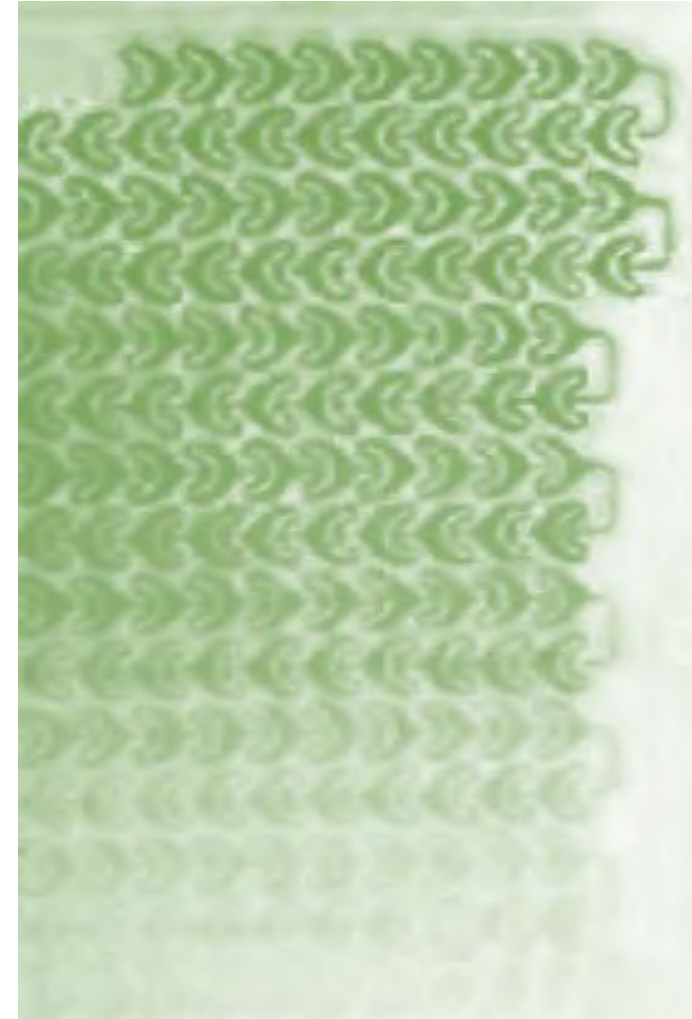
Reduced maintenance costs and less waste products

MINIMIZED FLOOR AREA IN PRODUCTION PLANTS

Smaller volume of reactor necessary compared to batch

INTEGRATED SYNTHESIS

Allow for continuous work up and purification



OUR EXPERTISE IN FLOW CHEMISTRY

WE SUPPORT YOU AT ALL LEVEL IN THE DEVELOPMENT OF YOUR FLOW CHEMISTRY

PROOF OF CONCEPT (POC)

Transposition batch to flow
Innovative chemical activation (electro-, photo-, plasma chemistry)
Optimization of reactions on Corning reactors
Allow new synthetic routes via innovative technologies

SCALE UP

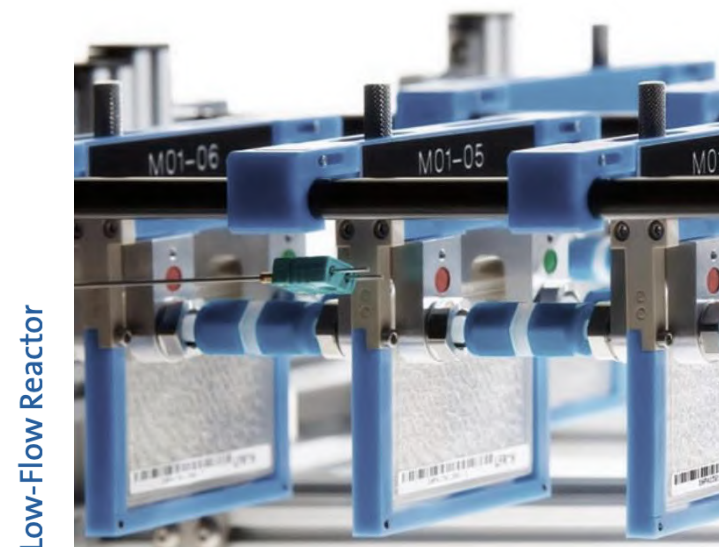
Up to several 100g per day on the platform
CORNING Advanced-Flow systems allow for production up to 10000 tons/year

ONLINE ANALYSIS & ANALYTICAL TOOLS

In line GC analysis
Fully dedicated analytic park: GC-MS, LC-MS, NMR, Spectroscopy

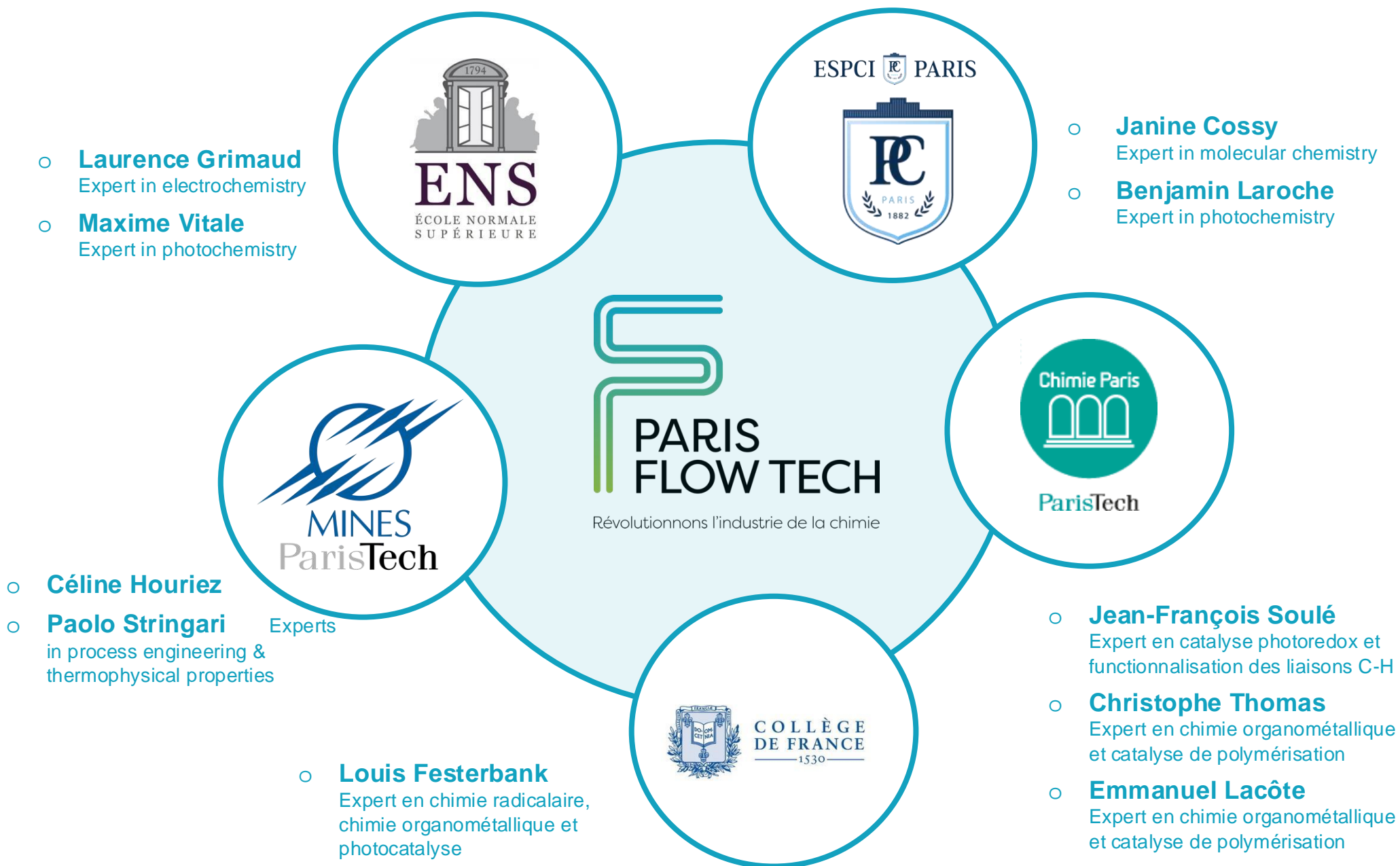
AUTOMATED SYSTEMS

Innovative technology for screening (microlab)
Home-made reactors

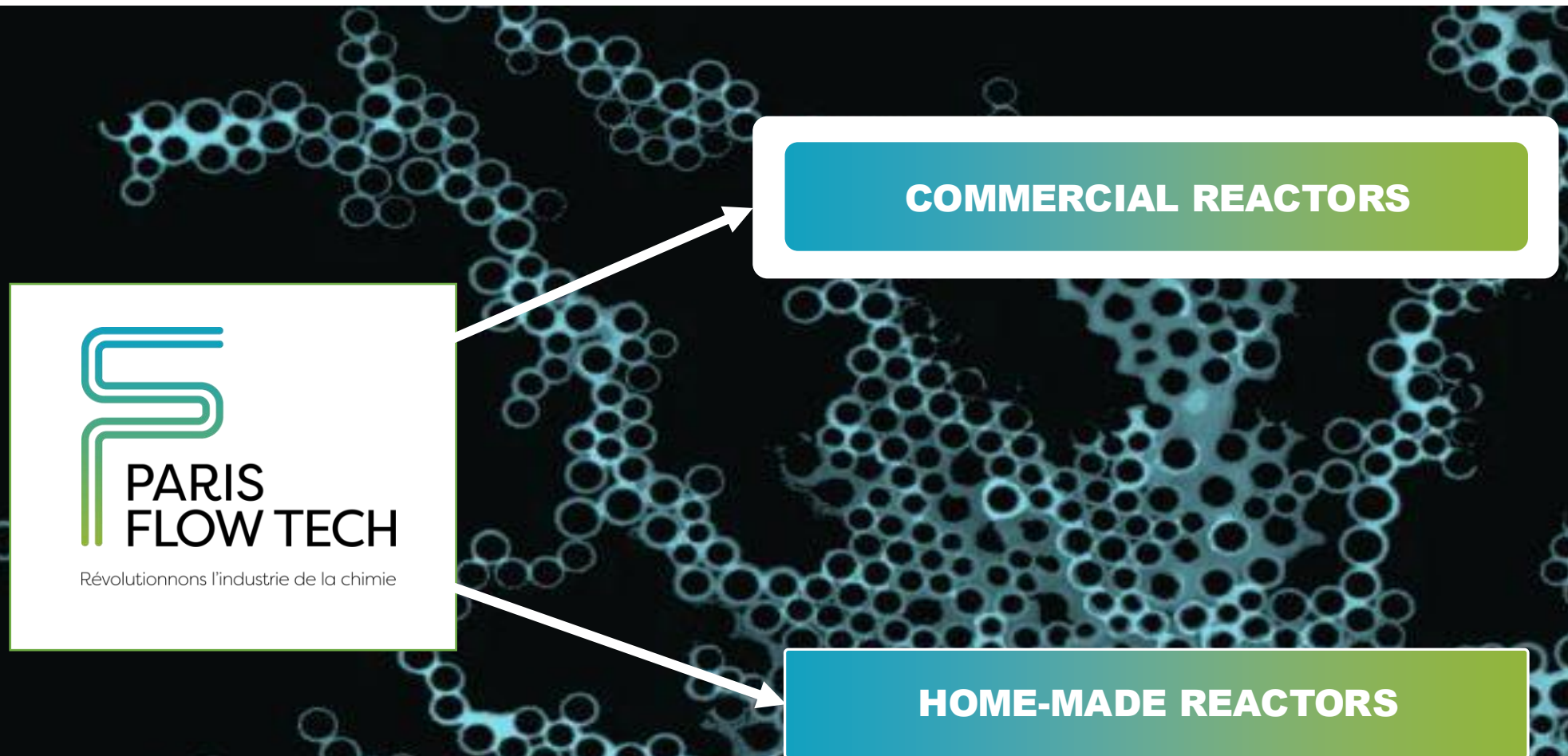


OUR EXPERTISE IN FLOW CHEMISTRY

A CONSORTIUM OF EXPERTS TO SUPPORT YOUR PROJECT



AVAILABLE TECHNOLOGIES ON THE PLATFORM



AVAILABLE TECHNOLOGIES ON THE PLATFORM

COMMERCIAL REACTORS : CORNING | Advanced-Flow™ Reactors

NEBULA



- TRAINING
- REACTOR PLATE G1

AVAILABLE IN TWO VERSIONS:

- CHEMISTRY
- CHEMICAL ENGINEERING

LOW FLOW



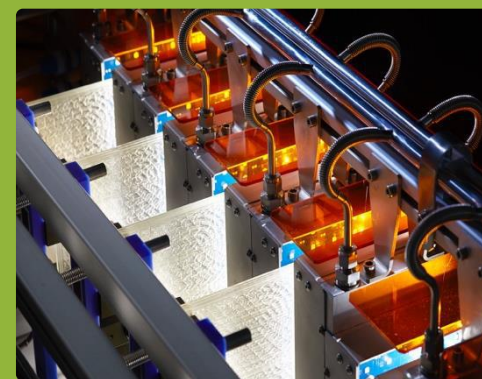
- PROOF OF CONCEPT
- LIQUID/LIQUID OR LIQUID/GAS REACTIONS

OPERATING CONDITIONS :

- -60°C TO 200°C
- UP TO 18 BARS

PRODUCTION :
100 G / DAY

G1 – LOW FLOW

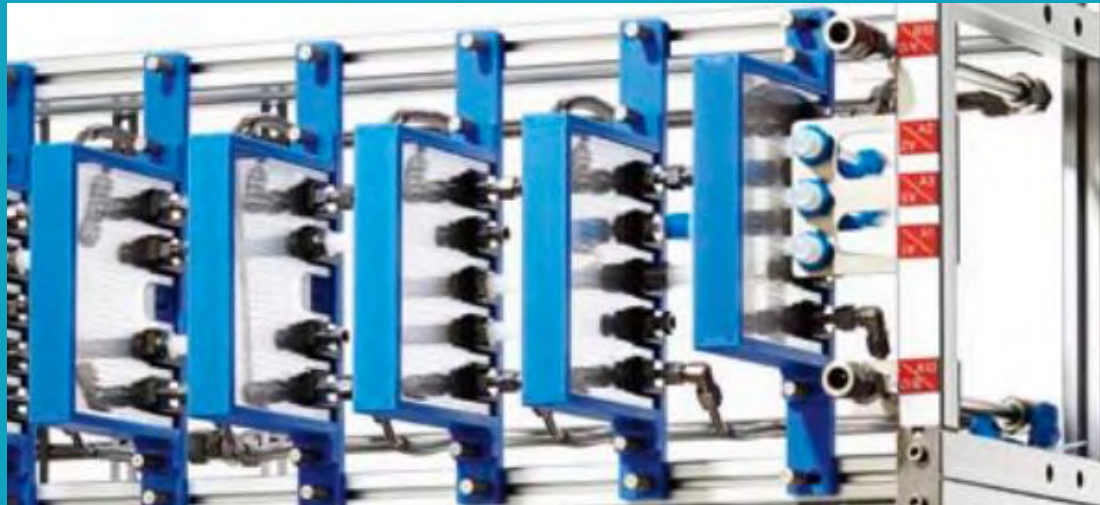


- PRODUCTIVITY 500 G / DAY
- REMOVABLE PHOTOCHEMICAL MODULE :
 - MULTIPLE λ
 - UV-VIS / UVA

AVAILABLE TECHNOLOGIES ON THE PLATFORM

COMMERCIAL REACTORS : CORNING | Advanced-Flow™ Reactors

G1



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- LIQUID/LIQUID
- LIQUID/GAS REACTIONS

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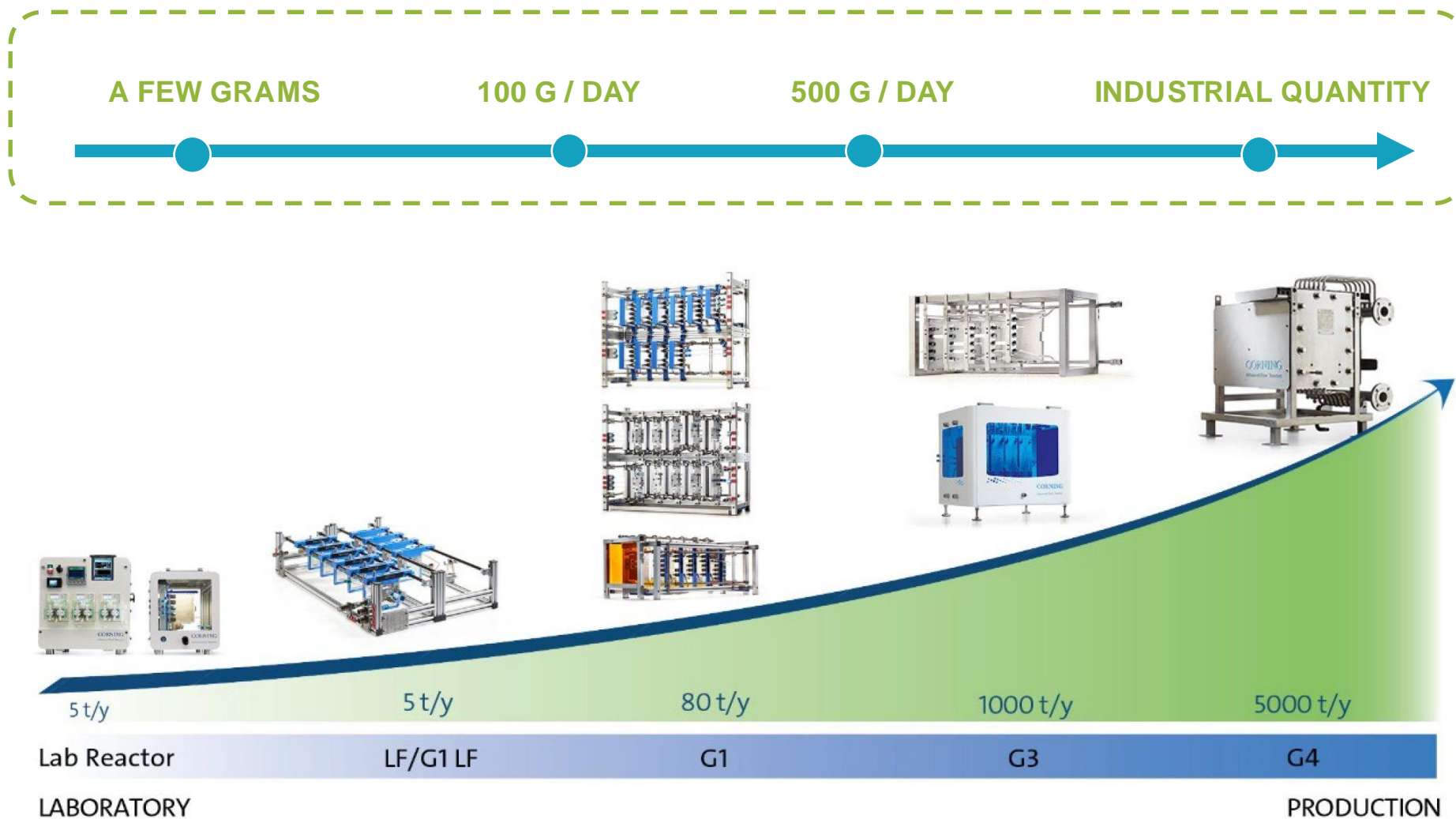
PRODUCTION :

100 G / DAY

SCALABLE TECHNOLOGIES

Corning Qualified Advanced-Flow Reactor Lab (1st in France)

SCALING



AVAILABLE TECHNOLOGIES ON THE PLATFORM

➔ **CATALYSIS, PRESSURE & HEAT :**



H-CUBE PRO



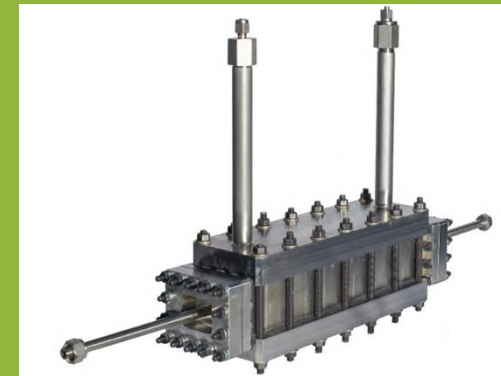
- HYDROGENATION REACTIONS
- HIGH PRESSURE (100 BAR)
- UP TO 100 DEGREES
- LIQUID FLOW: 1ML/MIN

PHOENIX



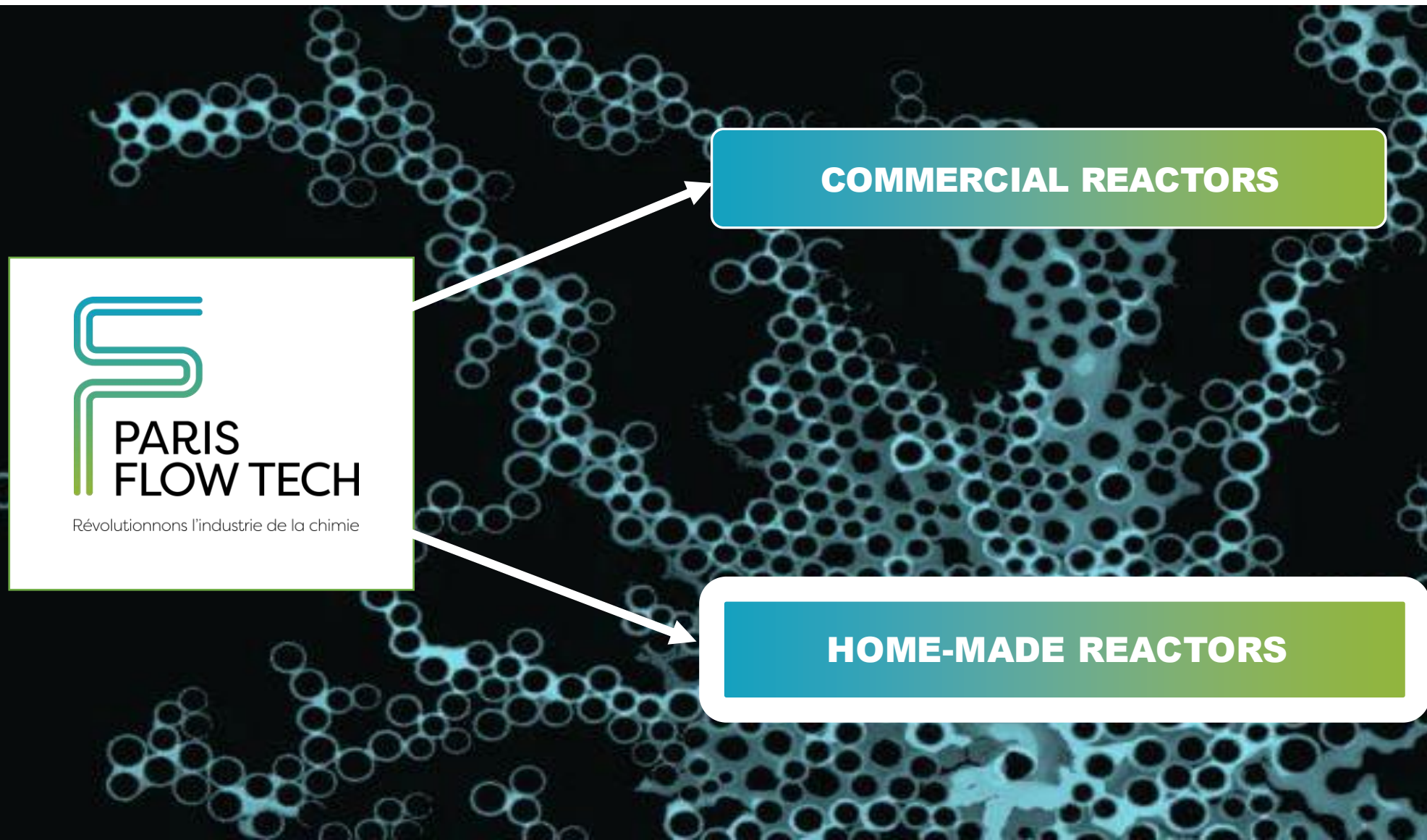
- GAS REACTIONS
- HIGH PRESSURE (100 bars)
- HIGH TEMPERATURE (350°C)
- GAS FLOW: up to 50 ml/min

KHIMOD K1



- GAS REACTIONS
- HIGH PRESSURE (100 bars)
- HIGH TEMPERATURE (350°C)
- VOLUME: 100 mL
- FLOW: 10 L/min

AVAILABLE TECHNOLOGIES ON THE PLATFORM

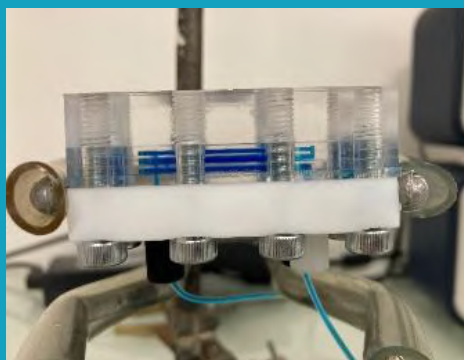


AVAILABLE TECHNOLOGIES ON THE PLATFORM

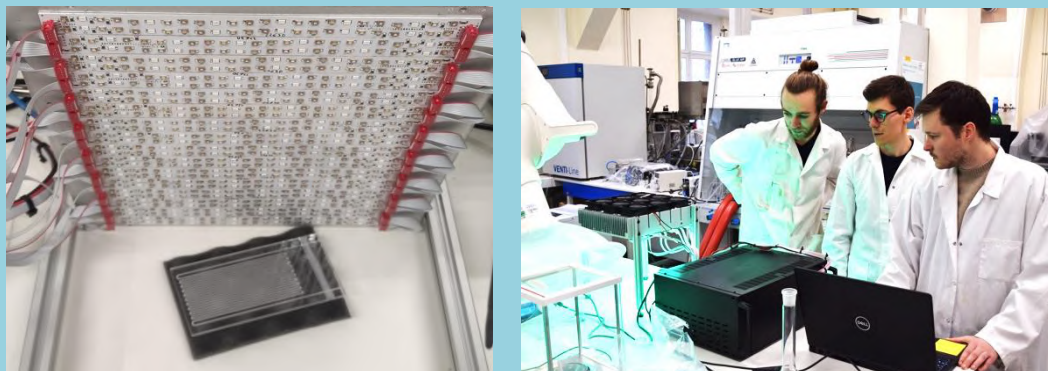
HOME-MADE REACTORS :



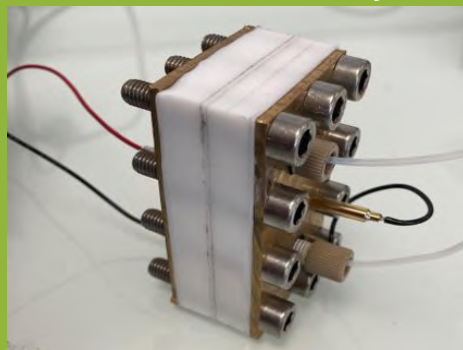
Microfluidics



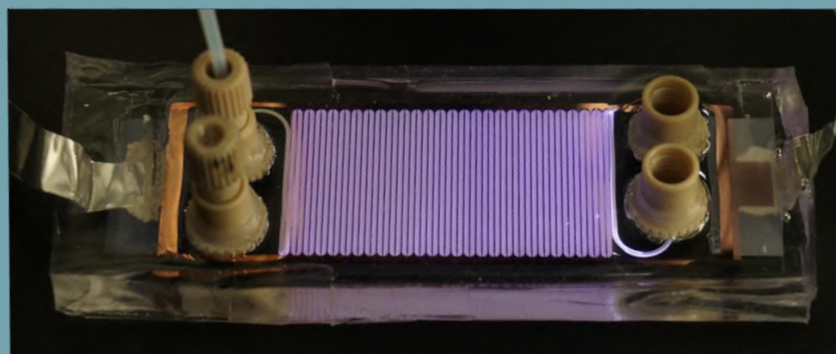
Photochemistry



Electrochemistry



Plasma



European
Patent
Pending
(EP 18305214.1)

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AVAILABLE TECHNOLOGIES ON THE PLATFORM

MICROLAB :



Automated pumping system

- EXPLORE MORE OPERATING CONDITIONS, MORE QUICKLY

Home-made reactors

- FLEXIBILITY IN THE USE OF ACTIVATION SOURCES

Analytical park fully dedicated

- GC / GC-MS
- MICRO GC
- LC / LC-MS
- UV / IR
- NMR 400 & 500 MHZ
- ONLINE ANALYSIS...

I.A.

- PREDICTION OF RESULTS, PROCESS OPTIMISATION

THE TEAM

PARIS FLOW TECH

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