



# **Environmental Exposure Chamber in Strasbourg**



# Opportunities

## **Prevalence of allergic diseases:**

- Increase in developed and developing countries

## **Interest of laboratories:**

- Immunotherapy
- Asthma, rhinitis, conjunctivitis
- In indoor environment quality

## **Regulatory context:**

- FDA
- EMA

## **Expertise:**

- More than 20 years involved in challenge tests

# Strasbourg EEC:

## Main activities:

- **Services:** undertaking clinical trials for pharmaceutical industries
- **Research:** R&D projects in collaboration with Strasbourg Hospital

# Strasbourg EEC:



**Better control**  
**Better standardisation**  
**Better safety**

To control all the factors having an impact on allergy symptoms

Casset A et al, Allergy, 2007

Gonzales M. et al, Clin Exp Allergy, 2013.

## 1) Non allergenic exposure

Monitoring of :

- Chemicals exposure (wall, floor, seats)
- Microbial exposure (endotoxins)
- On line registration of Relative humidity + Pressure + Temperature

But also:

- Cleaning procedures are recorded and precisely described
- Incoming air is qualified (ISO 8)

# Strasbourg EEC



**Better control**  
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## 2) Allergenic exposure :

- Online registration of airborne allergen concentration and of variation coefficient
- Online registration of the aerodynamic diameter of the particles carrying the allergens and of variation coefficient
- Spatial homogeneity and temporal stability of the exposure are recorded
- Use of standardized allergen registered by regulatory agencies
- Qualification of the chamber with different allergens
- Comparison of allergen exposure in the chamber with the natural exposure in terms of allergen dose and particle size distribution
- Comparison of allergen exposure in the chamber to individual challenge tests (nose, eye, bronchi)

Lieutier-Colas F et al, AJRCCM 2003  
de Blay F et al, JACI, 1991  
de Blay F et al , Allergy, 2011

# Strasbourg EEC



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## Controlled safety :

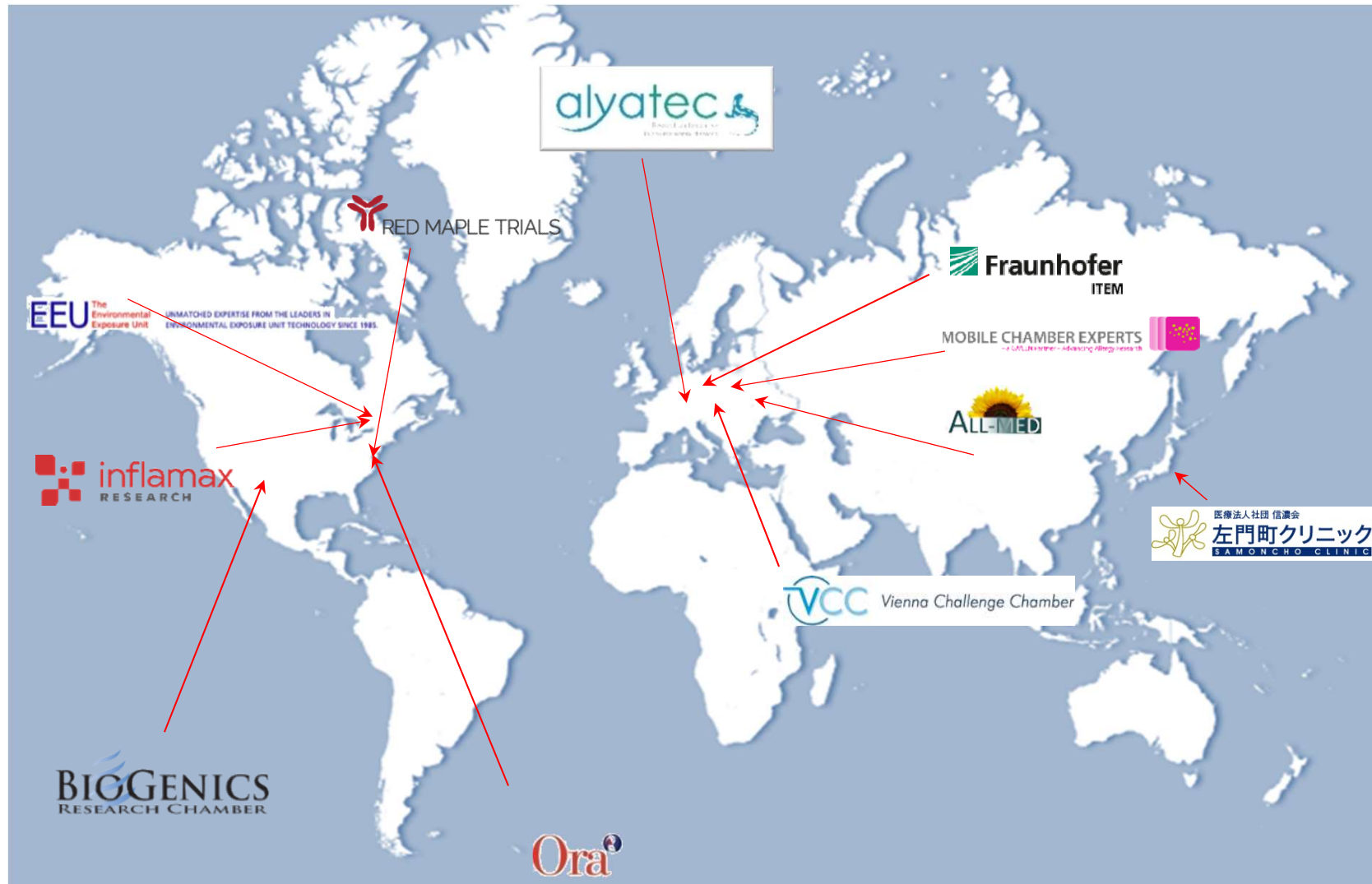
### Prevention :

- selection of patients able to be exposed ( particularly for asthmatics)

### Treatment :

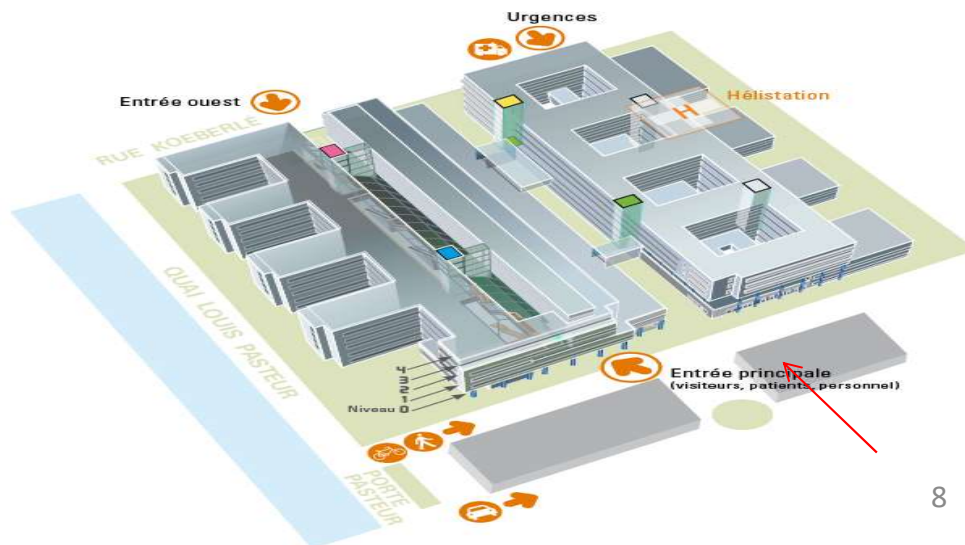
- Intensive care unit close to ALYATEC's chamber (less than 5 minutes )
- All emergency procedures recorded and evaluated by local, national agencies
- Ressuscitation possible inside the exposure room
- Physicians and nurses trained for ressuscitation

# Benchmark: other chambers



# ALYATEC

- **First chamber** with real-time monitoring of allergens, whatever the allergen
- **First chamber** with a controlled exposure of allergen and non allergenic agents
- **First chamber** localized in a hospital environment  
Close to intensive care unit of the hospital, insuring patients total safety



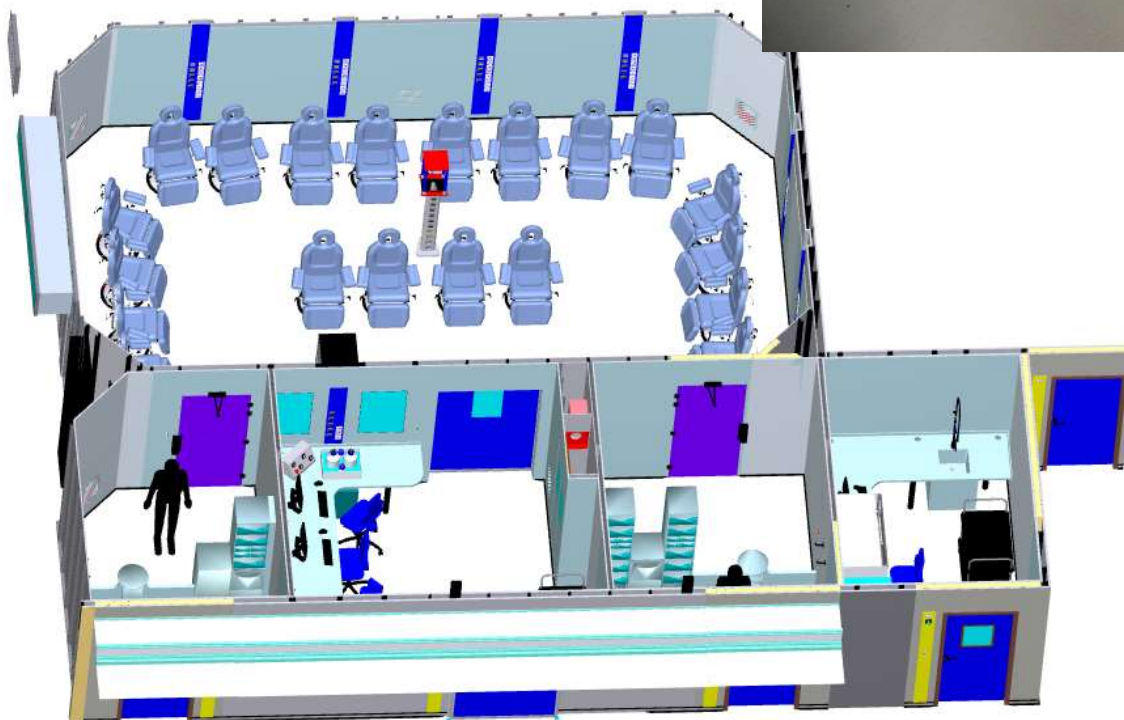


## Strasbourg EEC :



# Exposure chamber

- 65 m<sup>2</sup>
- 20 seats





**CONTROL ROOM**  
for supervision of subjects  
during allergen exposure

**MEDICAL SUPERVISION  
ROOM**  
after allergen exposure



# ALYATEC : Funding

- ALYATEC is a simplified joint stock company (Société par Action Simplifiée (SAS)) created in October 2013
- Shareholders:
  - ✓ Founding members (68 %)
  - ✓ SHAM (26 %)
  - ✓ Private investors (6 %)
- Raising funds (subventions and loans: Alsace Region, City of Strasbourg, CDC, BPI and banks)
- Investment : 3M€
  - 60% private funds and 40% public funds

# A complementary team

President: Albert SAPORTA, previous Stallergenes CEO

Chief Operating Officer: Nathalie DOMIS

Permanent scientific advisor: Pr. Frédéric de Blay

## Medical and technical team:

1 physician (coming from clinical research)

1 pharmacist

2 nurses (former executive nurses in phase I units)

1 technician

# CONCLUSION

ALYATEC exposure chamber is unique in the world considering its technology of allergen diffusion

Process proposed by ALYATEC is innovative and long-awaited by health profession