



Activities of SVS-CAP Compagny





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- SC Flash
- Nano technologies
- SCW separation

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1. INTRODUCTION

A) SVS-CAP Contact :

SVS-CAP

Route de Lezoux

ZA Le Bournat

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Fixe phone number : +334 73 28 97 22

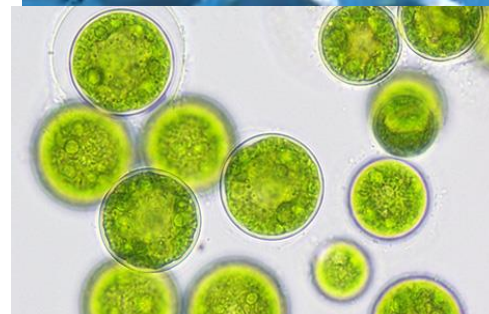
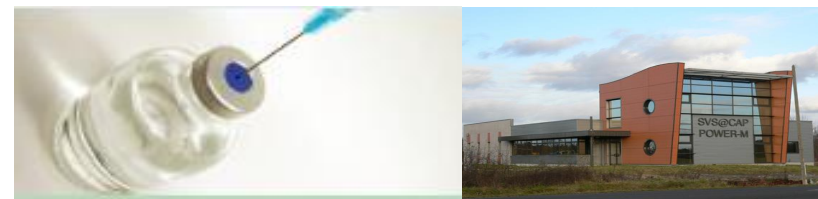
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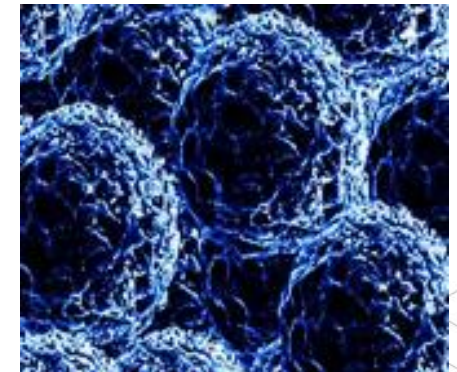
**Expert in Safety Analysis , CMR contamination and R&D
in Pharmaceutical – Cosmetics projects**



1. INTRODUCTION

B) Principals activities of SVS-CAP compagny :

- **SAFETY ANALYSIS** by engineers expert in Explosion risk , Contamination risk (Viral or CMR)
- **LABORATORY** : Explosive test with powders and flammables products in accordance with 99/92/CE and 2014/34/UE European Directives , CMR Tests , Pharmaceuticals test on new molecules , tests in nano particules, tests of inerting , ventilation tests , HPLC Chromatographic to supercritics phases
- **R&D Developpements activities** : Laboratory to extraction molecular , study to the cancer of Faith , lung , pancreas and SC_FLASH Technology , VITA-HAL products , nano technologies ...



SVS-CAP PRESENTATION



€854 M of managed turnover - 53% abroad

36 % Pharmaceuticals
OPERATIONS



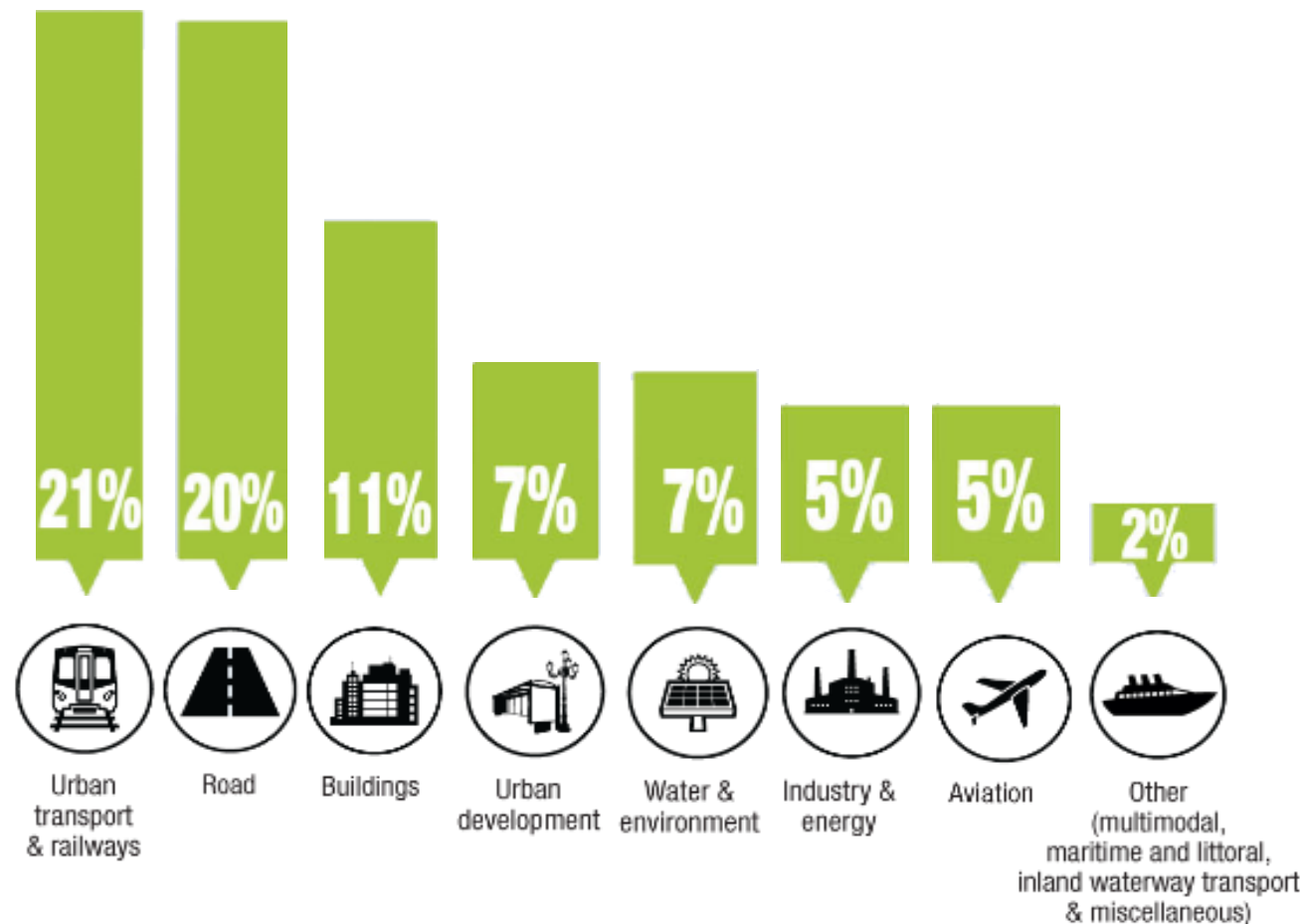
France :

- Turnover 7%
- backlog 11%

Algeria:

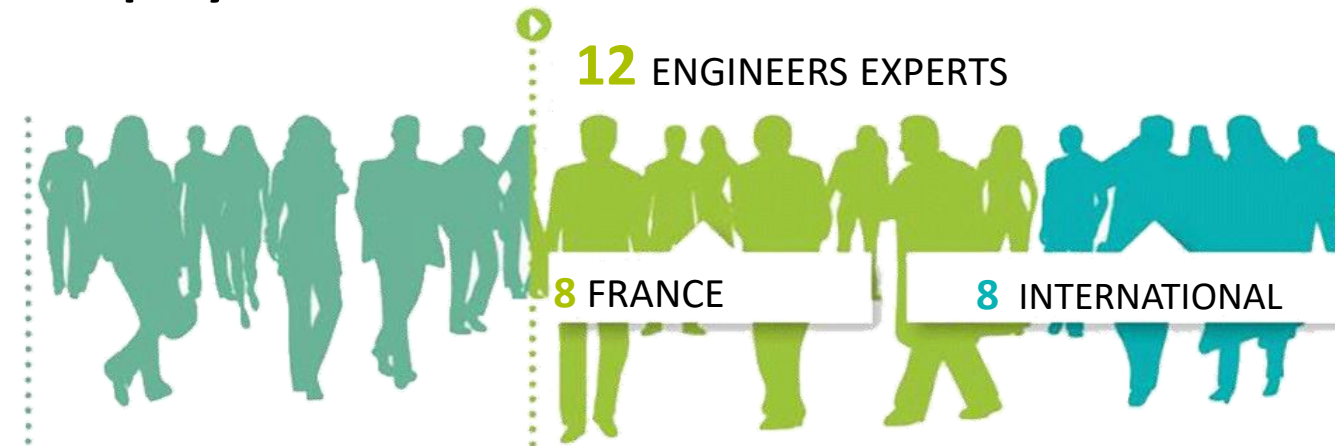
- Turnover x%
- backlog x%

78 % SAFETY ANALYSIS



20 employees with Power-M and Ips

20 employees



8

In Health and phramaceuticals plants

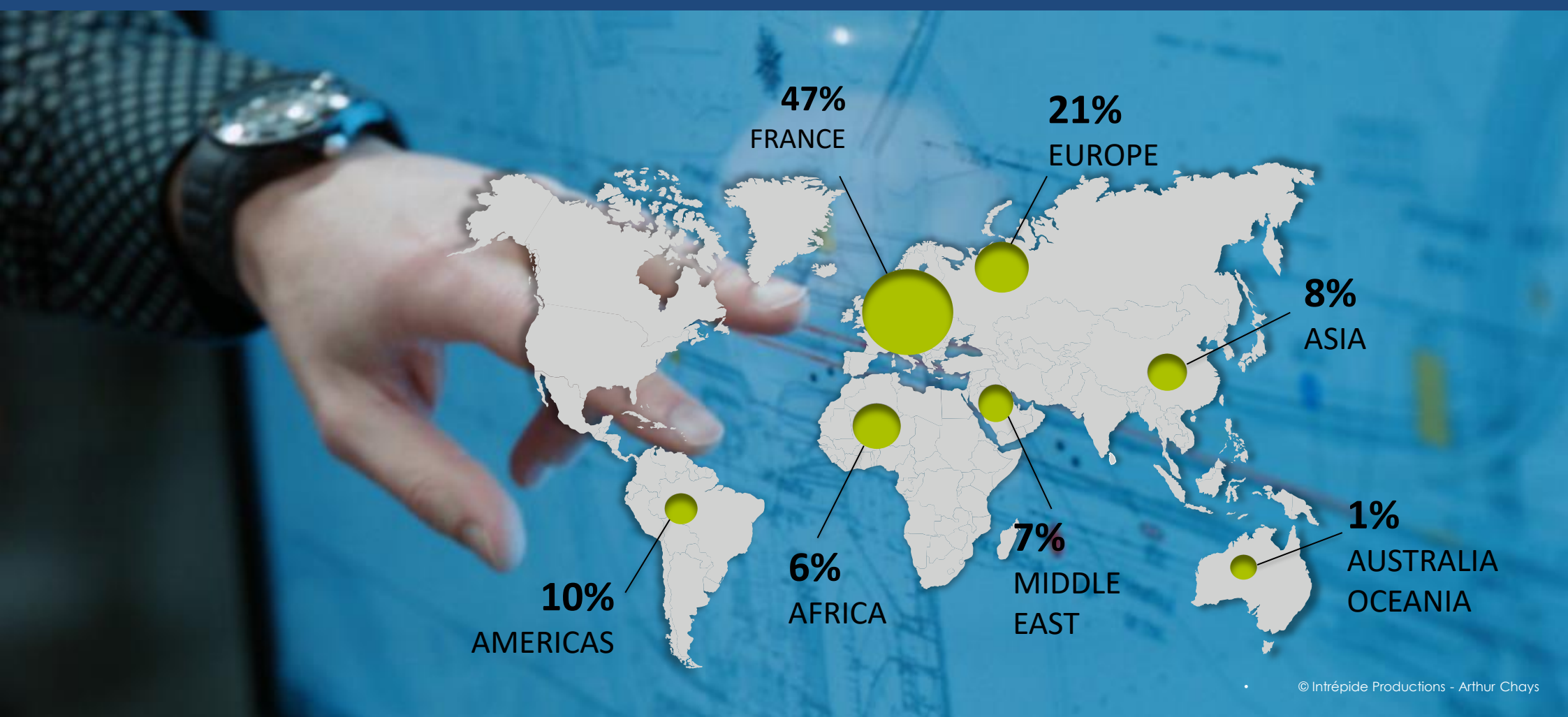
6 employees in Spain and Brazil:

- In tests in the plants .
- In Cosmetics and pharmaceuticals projects .

Actions in the countries in the world:

- Spain , Germany , France , Italy , Portugal
- Argentine , Chili , Brazil , Santo Domingo , Cuba , Peru
- Malaysia , Oman , Dubai , Abbu Dabi
- Australia

A GLOBAL OFFER
















A global offer








Target countries and regions

France	
Brazil	
India	
Middle East	
North, Central and West Africa	
Europe	

Sectors of activity

Cosmetics		Water		Maritime , coastal & inland waterway transport	
Rail transport		Food Industry		Environment, waste, contaminated sites & soils	
Process		Industry pharmaceutical		Energy	
New farmaceuticals development		Arms industry		Mining	
R & development					

Services

	Expertise		Project analysis		Operation
	Laboratory tests		Mobility Services		Turnkey
	Architecture, Urban planning & Lan				

PHARMACEUTICAL PROJECTS OR COLLABORATION

Projects or collaboration	Type of mission	Features
CANCEROPOLE Pierre Fabre	explosive safety analysis and CMR contamination	Research laboratories to Toulouse
ITER	Study of the magnetic field	Project of the Tokamak to the hot melt in Marcoule (South of France)
SERVIER BIO-S project	Immunology for the treatment of leukemia	Research laboratories in Orléans
CEVA Laboratory, Libourne	Analysis in the powders manufactured process	Research , Quality Control laboratories and manufacturing
MERCK	Analysis on the 3C France process with acetone	Manufacturing new process

PIERRE FABRE, CANCER RESEARCH PARK and MANUFACTURED PLANT IN IDRON



- Construction of a pharmaceutical and dermo-cosmetics research lab:
- 1/ Study of the risk situation linked to the handling of carcinogenic products
- 2/ Explosion study in accordance with European Directive 99/92/CE
- 3/ Research and development in micrometric and nanometric encapsulation
- 4/ Laboratory test in vaporization and explosive powders
- 5/ Training to the operator and maintenance man
- 6/ Works and study in Freeze drying
- 7/ Study to the autoclave and filling machines with flammable products

French Brain & Spinal Cord Institute

- EPCM for engineering trades EGIS



- Laboratories – Animals Center – Imaging investigation department

INSERM immunophenomic laboratories

- EPCM for engineering trades EGIS



- Construction of a building to house INSERM's immunophenomics laboratories in the technological and scientific park of Luminy. The building includes:
 - - A research area and laboratories with a confinement level ranging from L1 to L3
 - - An SPF (specific pathogen free) animal house
 - - Associated laboratories fitted with very advanced technology equipment
 - - An administrative and services sector area

CEVA SANTE ANIMALE Laboratories

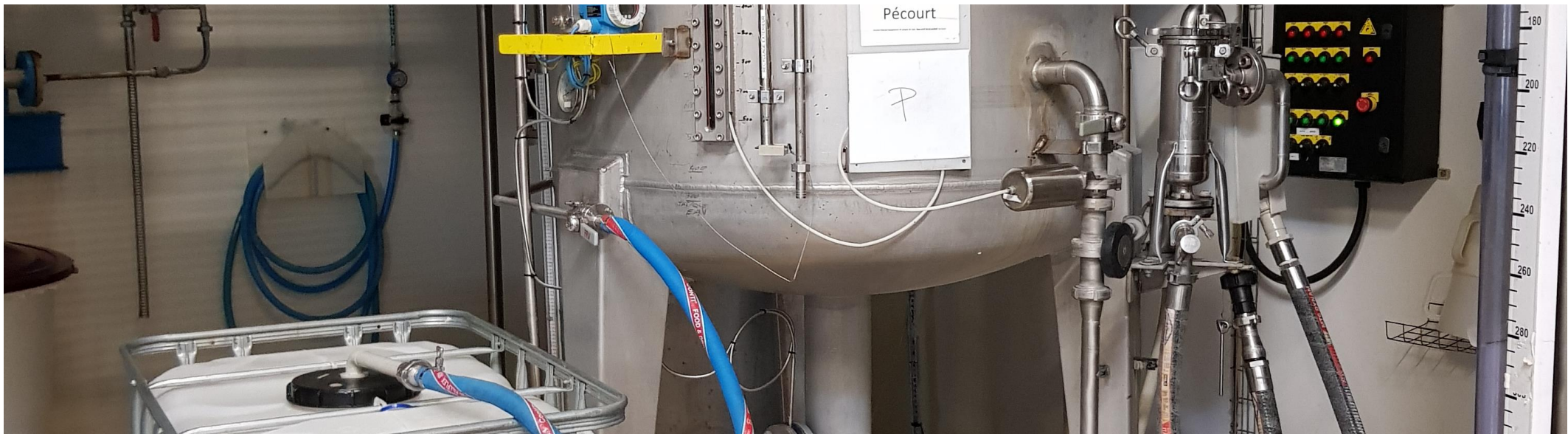
- Study and validation



- New process with ingeneering Laporte Euro to fabrication veterinary products with alcohol and powders in the manufactured part

PILEJE PROJECT

- Atex and laboratory tests



- - Atex details diagnostic in accordance of the European Directive 99/92/CE and EN 60 079-10-1 with SIL2 Classification .
 - assistance in finding solutions compatible with reasonable use in production to reduce or to eliminated the risks situation

OUR MAINS CUSTOMERS



GEA Westfallia Separator



NESPRESSO



SCHUTZ



SIEMENS



Pierre Fabre

GRIFOLS



YVES ROCHER



PUIG
Beauty & Fashion Group



mespack
packaging machinery



ThyssenKrupp

ASHLAND



Nutribén



II –DESCRIPTION OF THE SVS-CAP Project

- **VITA-HAL new anti viral product**
- The VITA-HAL project consists of manufacturing an anti-viral alcohol and H₂O₂-free allowing the destruction of most of the viruses in less than 2 minutes in the hands and protective masks
- It therefore constitutes a **much more effective anti-viral protection barrier** than alcoholic gel, which has a much higher vaporization kinetics (vaporization of ethanol + H₂O₂ at hand temperature).
- It comes in the form of sachets or pharmaceutical tubular bags in PE-BD



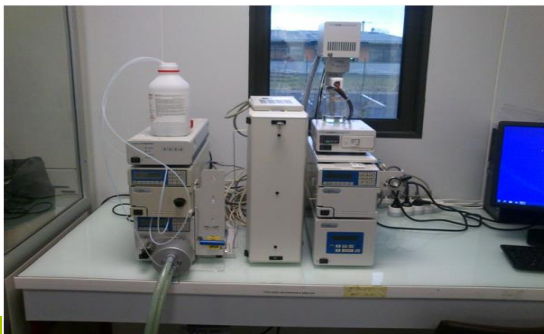
II –DESCRIPTION OF THE VITA-HAL Project

- **VITA-HAL new anti viral product**
- To spread on the hands: melting product in the hand and ensuring lasting anti viral protection over time
- AND at the level of the protective masks: spread the product on the protective mask on the outside part



II –DESCRIPTION OF THE VITA-HAL Project

- **VITA-HAL new anti viral product**
- To obtain the product we use a new technology SC-FLASH (SCCO₂/N₂ + HP) :
- -**Alcohol-free extraction** : we proceeded to the extraction of pharmaceutical molecules using our SC_Flash technology (super critical CO₂ / N₂)
- -**Molecular Purification** to the Purification of these pharmaceutical molecules by supercritical High Pressure (HP) filtration up to a level of purity that can reach 99.97 to 99.99% depending on the yield (working pressure between 150 bars and 450 Bars)



II –DESCRIPTION OF THE VITA-HAL Project

- **VITA-HAL new anti viral product**
- **mixing phase** of 20 to 22 Molecules in a base consisting of Glycerin and slightly heated Shea butter (38° C max) in our 300L mixing tank.



II –DESCRIPTION OF THE VITA-HAL Project

- **VITA-HAL new anti viral product**
- This product would **destroy viruses in less than 2 minutes**, so it's a good candidate for the current epidemic. **Tests must imperatively be carried out under an isolator to verify its effectiveness on the two strains of Covid-19**
- This **VITA-HAL** product, in the form of a small solid dose melting in the hand in contact with it, it can therefore be put on the hands and on the masks in order to **constitute mechanical and chemical anti-viral protection effective**. In addition, the product remains much longer effective due to its low vaporization (anti-viral molecules retained in the fatty substance)

II –DESCRIPTION OF THE VITA-HAL Project

- **VITA-HAL new anti viral product**
- Unfortunately, **current alcoholic gels constitute only limited protection:** hospital staff using alcoholic gels (based on 70% ethanol and H₂O₂) since the start of the crisis, as well as protective masks, unfortunately continue to be contaminated. This is mainly due to the **decrease in the effectiveness of the latter over time due to the rapid vaporization of both ethanol and hydrogen peroxide.**

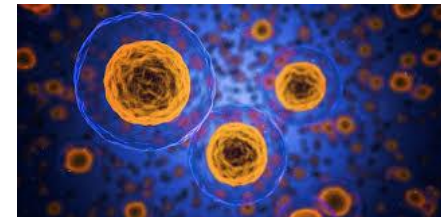
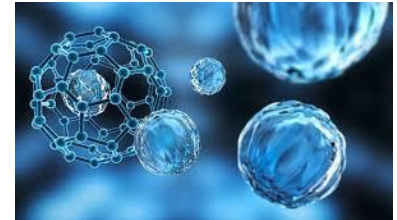


• II-DESCRIPTION OF THE R&D ACTIVITIES



R&D n° 1 : A Nanotechnology Research

- How is this addressing done? Largely thanks to the different environmental conditions between a healthy and cancerous cell. In fact, at the level of a tumor, the environment is more acidic than around healthy cells. Tumor cells also consist of specific biomarkers which allow targeting
- Today, three nanoparticles are excellent candidates for the transport of drug molecules: 1-the liposomes, 2- the nanocapsules 3- the nanospheres
- BFS Corp and European Laboratories (Germany , Spain , French SVS-CAP) collaborate to make R & D



- **II. DESCRIPTION OF THE R&D Activities**
- **R&D n° 2 : Natural Insuline research**
- Actual process to INSULINE

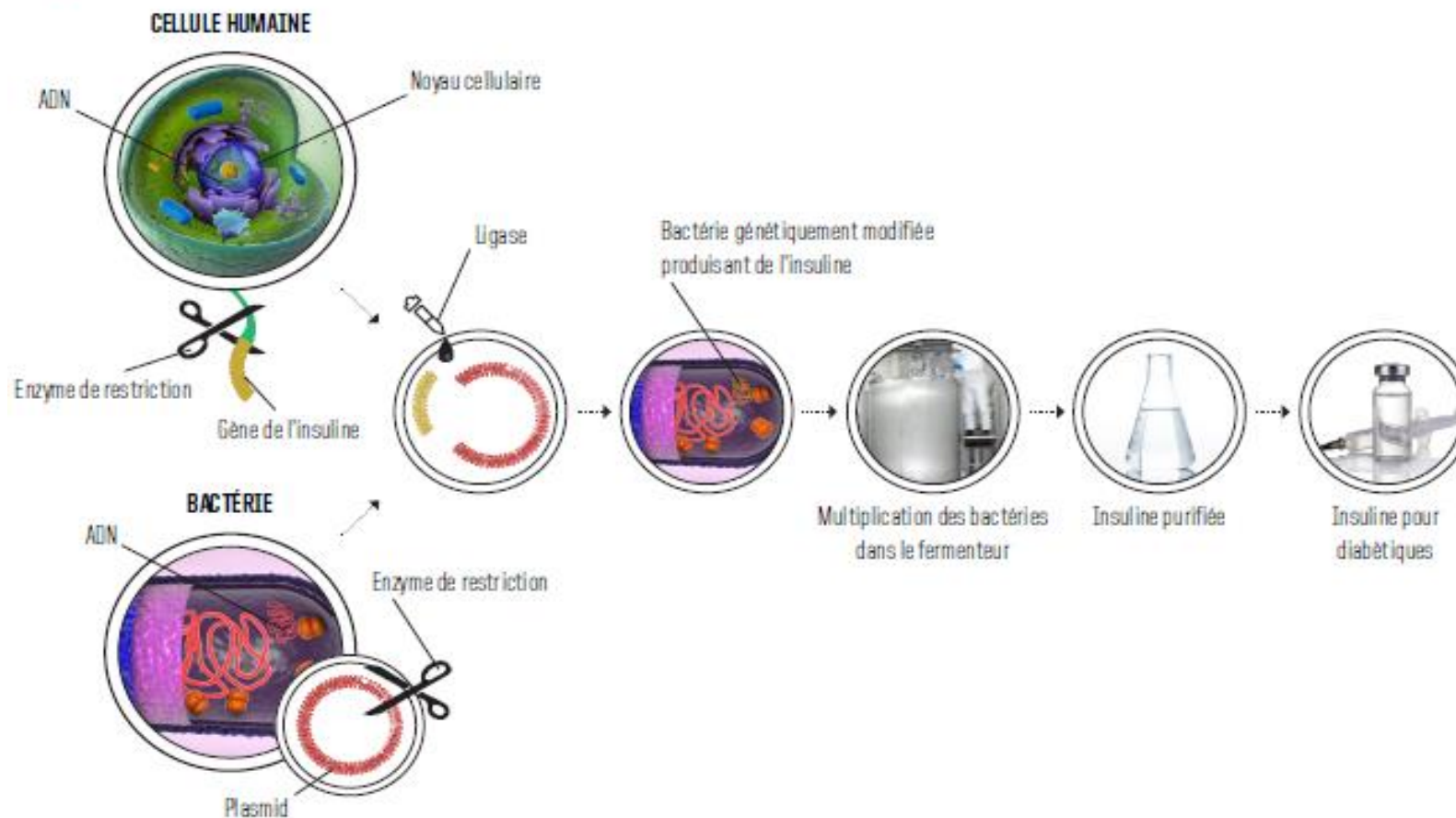


- - Insuline existing Biotechnology process:
- License to product by Sanofi

FEUILLE

03

PRODUCTION D'INSULINE PAR GÉNIE GÉNÉTIQUE



- Existing Process Insulin :

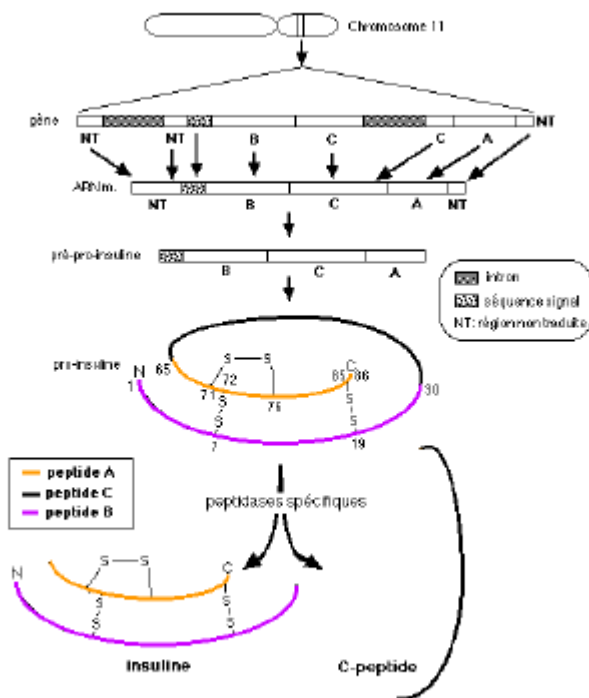
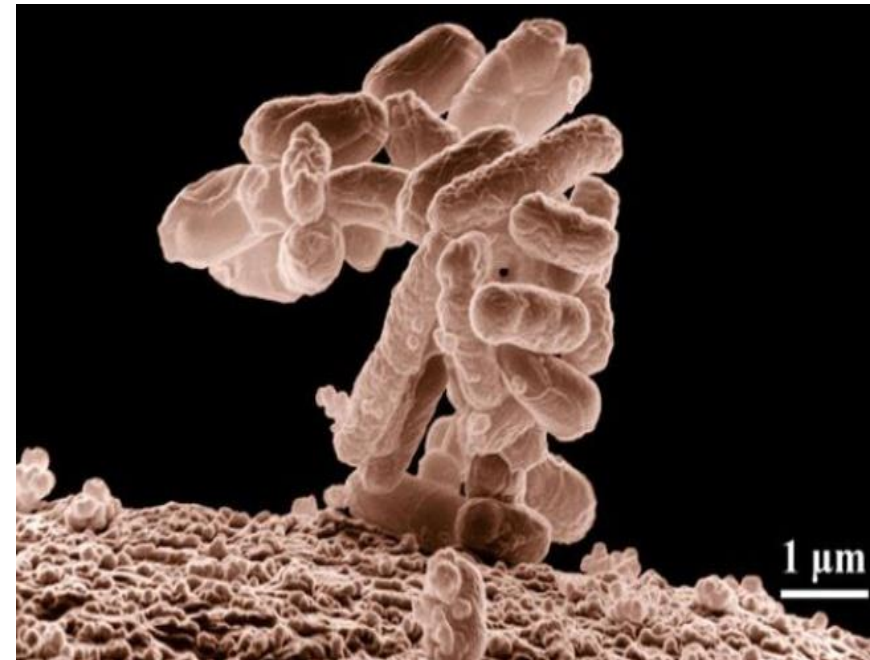


Figure 21 : Schéma de la synthèse de l'insuline (37)



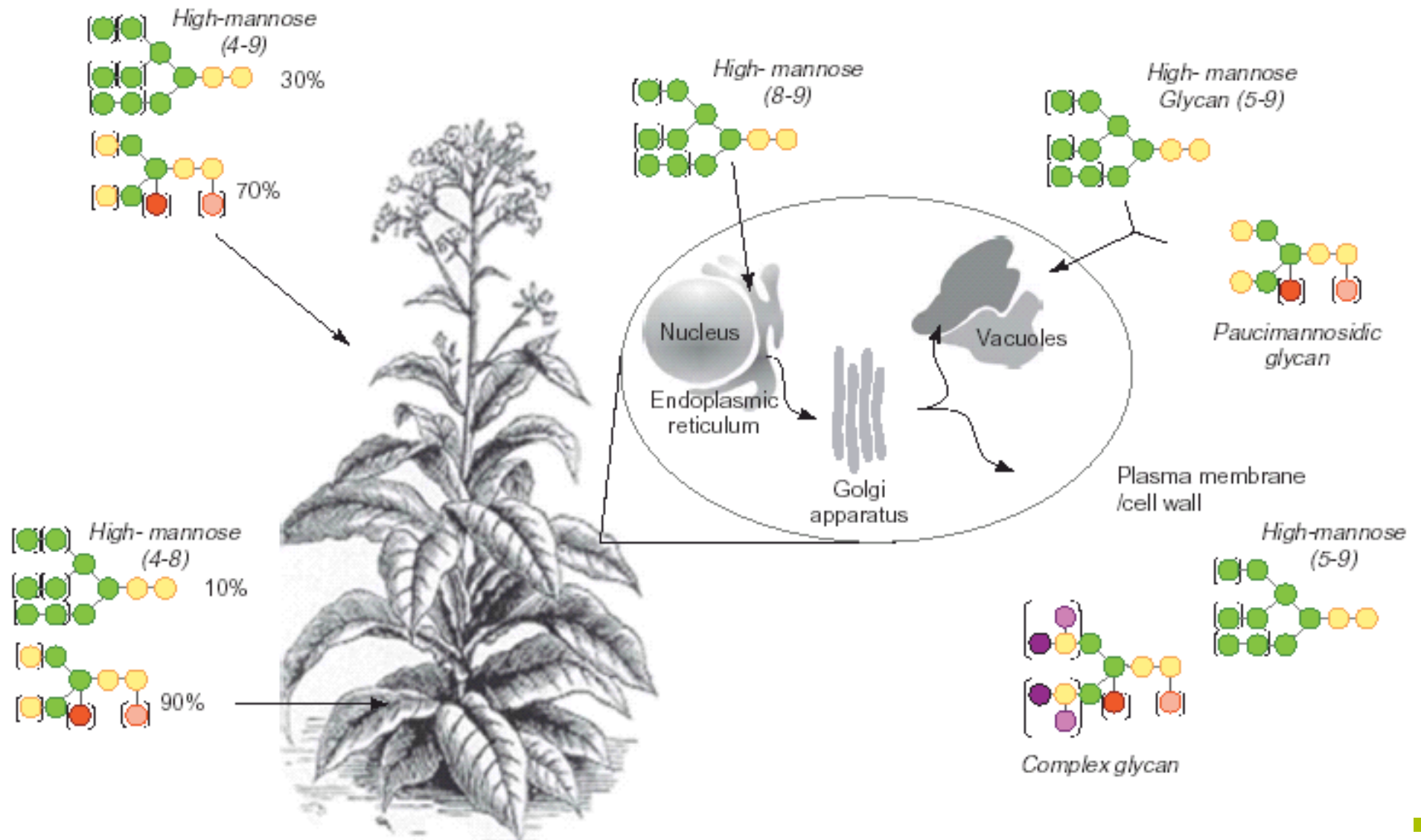
La bactérie *Escherichia coli* (E-coli). - Erbe/Pooley / Rex Featu/REX/SIPA

- **R&D n° 2 : New Process Insulin :**
- natural Brasil plants enzymatic in process



Carthamus tinctorius

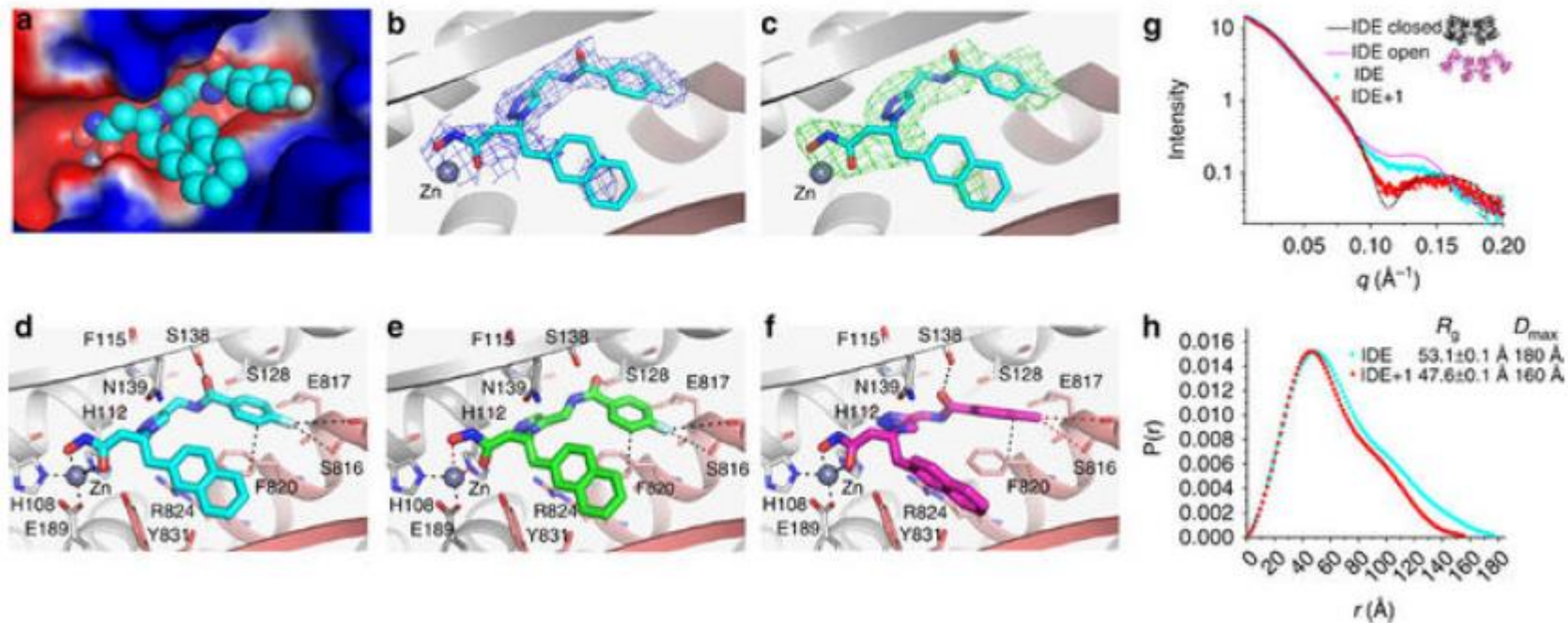
- R&D n° 2 : New Process Insulin :
- Patenting of natural Brasil plants enzymatic in process



- **II. DESCRIPTION OF THE R&D Activities**
- **R&D n° 3 : New Natural products to care Cancer of FAITH , Lung and Pancreas :**
- Collaboration with BRAZIL , France , SPAIN



Figure 3: Structural and SAXS analyses of the interaction of hIDE with inhibitors.

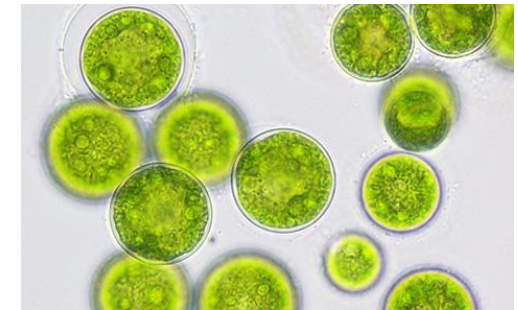


- **III. TRANSFERT OF NEW TECHNOLOGIES**

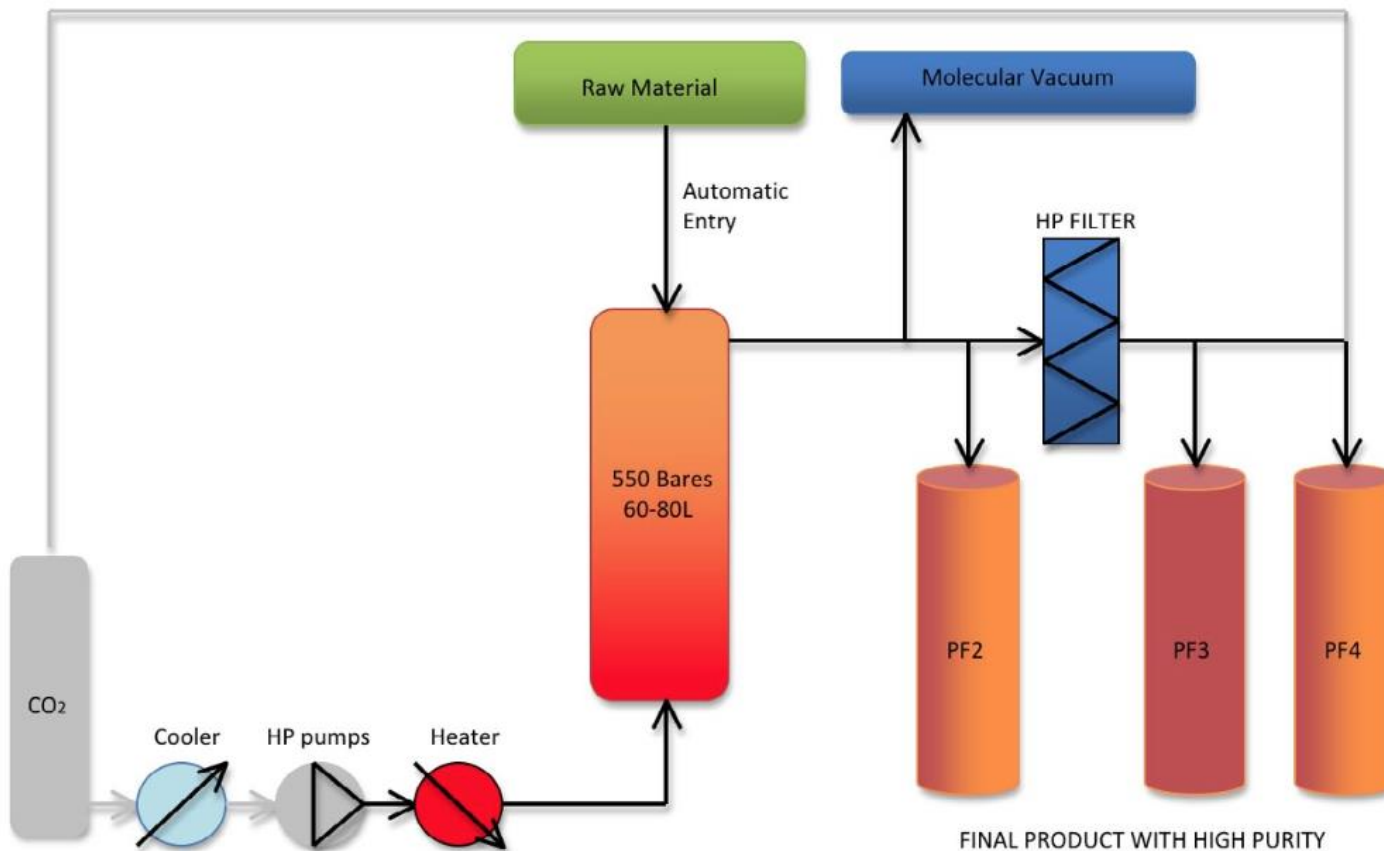
- **1- SC-FLASH :**
- To extract and purified products
- INNOVATIVE TECHNOLOGY DEVELOPED BY SVS@CAP - ITERG FOR OVER 3 YEARS OF R & D.
- SC-FLASH IS A MACHINE **USING A SEPARATION TECHNIQUE** CHARACTERIZED BY:
 - SENSITIVITY IN THE **PRESERVATION OF THE QUALITY OF NATURAL SOURCE**
 - **INCREASING PURITY HIGH YIELDS (98 TO 99%)**
 - SUSTAINABILITY TO THE **ENVIRONMENT.**
 - EXTRACTION WITHOUT USING HEXANE
 - FAST EXTRACTION.
 - PHARMACEUTICAL **CAPACITY OF PURIFICATION PRODUCTS UNTIL 99,98 – 99,99%**



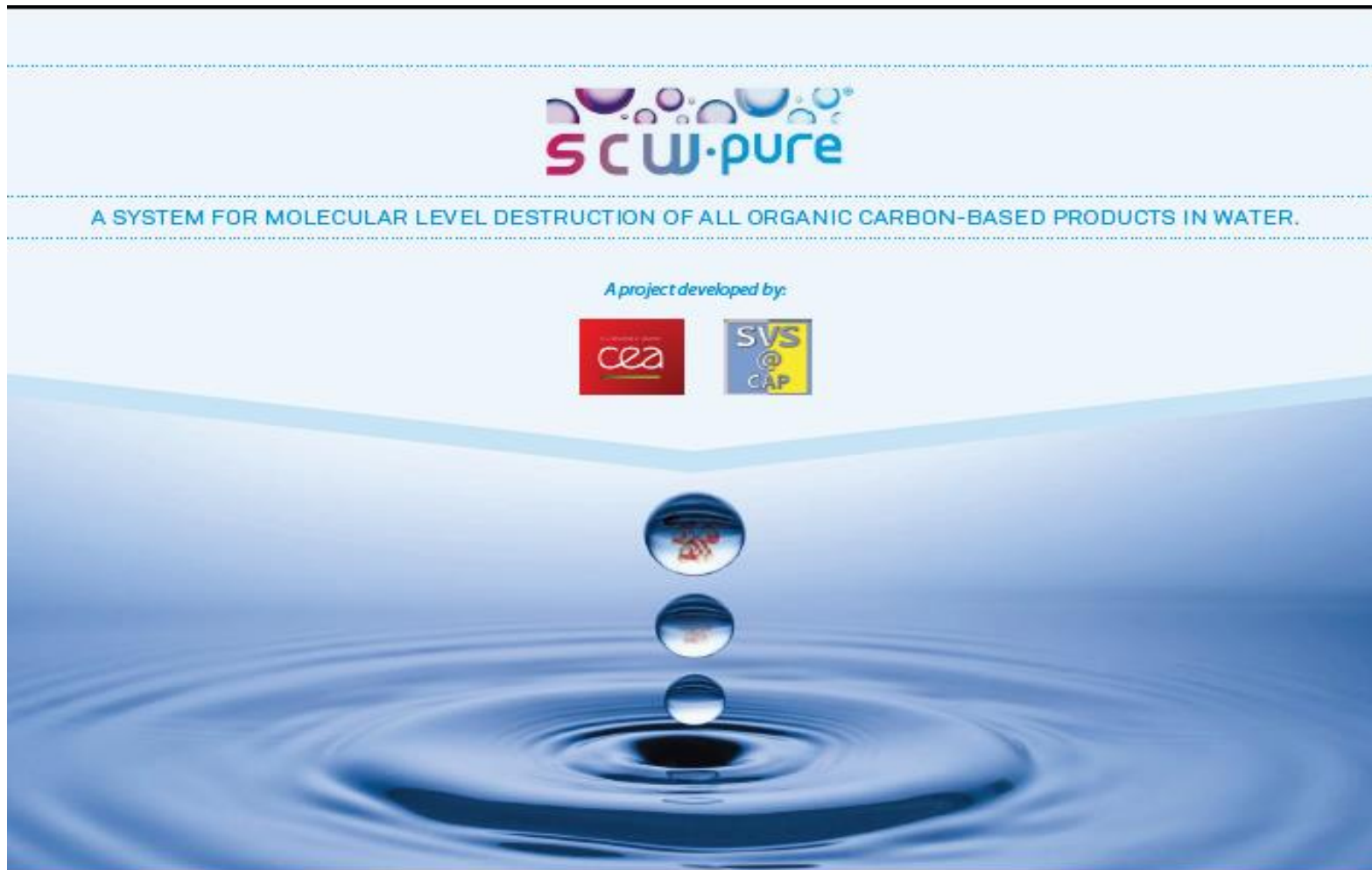
- **III. TRANSFERT OF NEW TECHNOLOGIES**
- **1- SC-FLASH :**
- Extraction / **purification of molecules** **pharmacy** sector with very high level of purity :
 - **Scalen** (in vaccine applications)
 - **Resverastrol** (in applications on cancer treatment)
 - **Taxol** (in applications on cancer treatment)
- Process without alchool and compliance with FDA and GMP standards for Pharmacy
- Hight Pressure (HP) Technology (550 Bars) – Super Critical Technologie with CO2 and Filtration HP



- **III. TRANSFERT OF NEW TECHNOLOGIES**
- **1- SC-FLASH :**
- Operating principle



- **III. TRANSFERT OF NEW TECHNOLOGIES**
 - **2- SCW : recombinaison and splitting at molecular scale**



- **III. NEW TECHNOLOGIES**
- **2- SCW :**
- This machine called SCW-Pure is capable of splitting ,and recombination .It was developed with the **CEA and SVS-CAP**
- Transfert authorized by the French government



- **III. NEW TECHNOLOGIES**
- **3- BIOTECH** :Research and development on BioTech
Biotechnology- Molecular farming
- Making proteins using the plant as a generating system :lipidic proteins , oleosine

