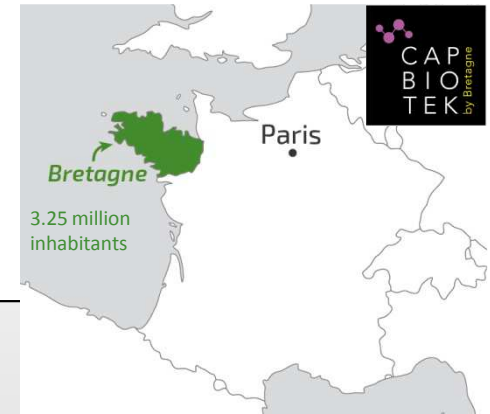




# Bretagne & economy : Land of excellence for several businesses



❑ **2 730 Kms OF SEACOAST**

❖ **1st region in Marine Science & Technology**

❖ **1st fishing region (for production value)**

❖ **1st region in shellfish aquaculture**

**14 910 employees, 2510 companies,  
51% of french production**

❑ **LAND :** *60% agricultural lands & 13% forest*

❖ **1st Agri-Food region in France**

**€ 18bn turnover, 80 000 employees,  
14 of France's 20 largest group**

❖ **1st region for livestock production**

❖ **1st Agricultural region in France**

❖ **1st region in fresh vegetable cultivation**

**€ 9bn turnover, 70 000 employees,  
35 000 farmers**

❖ **3rd region in Biotechnology**

❑ *A bio-booster : Capbiotek*

❑ *Leaders: Yves Rocher, Roullier, Sanofi etc...*

❑ *Marine biotech : 62 companies / Agrobiotech : 58 companies*

❖ **Cosmetic : one of the first world provider of marine ingredients**

Sources : Bretagne Commerce International, Bretagne  
Développement Innovation, Biotech Finances





# Bretagne, an excellent level of research

7 000 researchers

110 000 students /year

200 institutions

Agrifood

(green)Chemistry

Marine biotechnology

Health

Environment

## FOCUS LIFESCIENCES : research & innovation

### STRONG AND VIBRANT NETWORKING...



**63** research teams



### Innovation clusters

Based or represented in the region  
 •Sea: Pôle Mer Bretagne Atlantique  
 •Agrifood: Valorial  
 •ICT: Images & Réseaux  
 •Health: Atlanpole Biotherapies  
 •Plant: Végépolys

Nearly **40** technological  
innovation centres  
and core facilities

including

**3** regional innovation  
and technology  
transfer centres

at the heart of our biotech strategy:  
 •Fine chemicals: CBB Capbiotek  
(biotech sector coordinator)  
 •Health: ID2Santé  
(health sector coordinator)  
 •ICT: MEITO

**National** research organisations  
located in the region  
ANSES, CNRS, Ifremer, INRA, INSERM, Irstea...

### Clusters with specific themes

•Products and nutrition from the sea: Brit'Innov  
 •Promotion and use of biomass: Eco Origin  
 •Photonics and optics: Photonics Bretagne  
 •Business club: Bretagne Biosciences

**3** marine  
biology stations  
Concarneau, Dinard and Roscoff

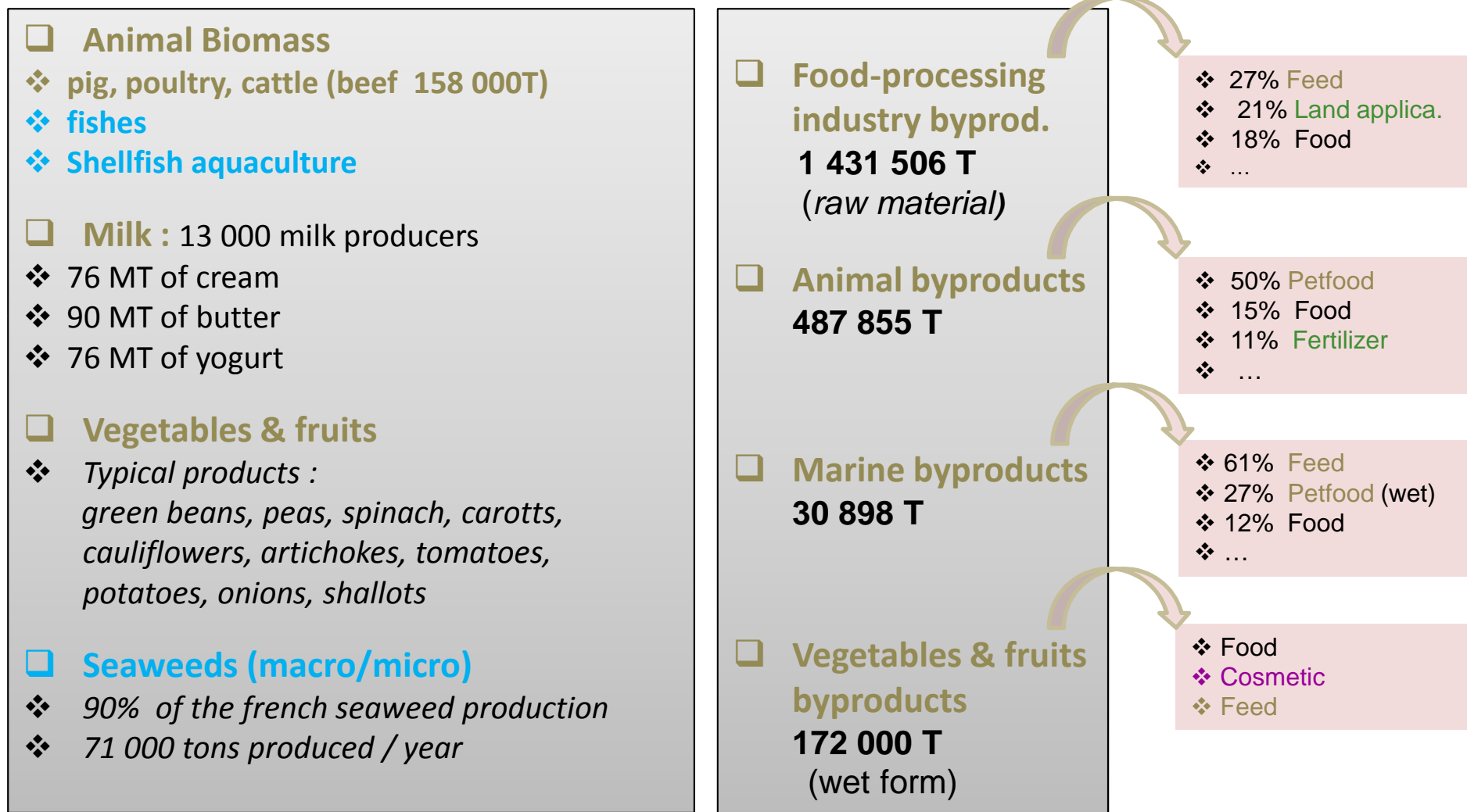
**Business incubators**  
available across the region

### ... AND A WEALTH OF INNOVATIVE PROJECTS

**50** new biotech projects  
supported every year by public  
and private funding

**10** biotech-related  
programmes  
within France's *Investissements d'Avenir*  
funding scheme.

# Bretagne, its « green » and « blue » biomass



# La Bretagne & key factors



## KF1 : Feedstock

Abondant & highly diverse 'green' and « blue » biom.  
*But need to better quantify resources*

## KF2 : Feedstocks & prod. infrastructures

- Organised sectors (organized cooperatives)
- Numerous harbors
- Collection system (companies)

## KF3 : Access to finance

- European , regional & national financial supports
- *Less financial supports for biotech. &/or chemical extraction facilities for biom. valo.*
- *Difficulties for fund raising / Biotech projects (from lab scale to industrial scale)*

## KF4: skilled workforce

Numerous research institutions

## KF5: support institutions

Universities, pôles (clusters), CRITT, CIT

## KF6: regional markets

- Innovative producers
- *Support to develop biorefineries*
- Numerous Networks : Capbiotek, technopoles, Clusters, Actfood ...
- *Need to promote alliances SME + major chemistry & pharma. companies*

## KF7: Entrepreneurship

- 7 technopoles, Breizh Up
- But no industrial parks

## KF8: Public support Policies

- Smart Specialisation Strategie (Bretagne) : biom. Valo., sustainable development, health.
- Lab in common (univ/companies)
- Companies incubators
- *Potential pb : regulations (waste/ access to the sea)*



# Bretagne, investment potential in sustainable chemical production



## Biotechnology & extraction - purification facilities

- *Quantification, mapping, quality of the sourcing and storage facilities*

## Current use of Food-processing industry byproducts for biogas & biomethane production

- *RM has to be characterised, automation processes, digests upgrading*
- *Biogaz or biomolecules ?*

## Valo of biomasses for food, feed, cosmetic & health untill fine biobased chemistry and biorefineries

- Heparine / pig / SANOFI
- Appetence ingredients / animal byproducts / SPF
- AA / poultry feathers / BCF Life Sciences
- Valo animal carcasses & fish byproducts / SARIA
- Algae natural solutions / OLMIX

# Bretagne, barriers for investments



## Regulations :

- New biobased products
- New RM
- Wastes

## Societal factors:

Waste & consumer perception

## Costs for new process investments / Decision making processes

- Facilities (labo-pilote) for technical feasibility study
- Pilote scale to estimate costs & financial viability)
- Costs of the new process & SME

## Logistic : RM / dispersion

Travel costs / sustainable

## Reduced links/network between agriFood and chemistry companies

Valorization of biomasses : complexity / several intermediates - middlemen

# CBB Capbiotek (Rennes, France)

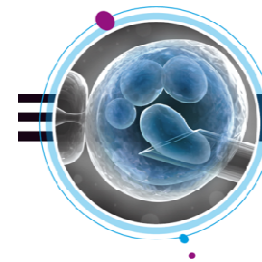
## Two missions:

- ❖ **Scientific expertise in chemistry & biotechnology (fermentation & enzymatic processes) to companies in order to enhance their development and productivity.**

- ✓ *Support for building and developing innovative projects*
- ✓ *Scientific and technical monitoring*
- ✓ *Lab-scale feasibility studies*
- ✓ *Coordination of science-industry meetings*

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