



Association Française
des Sociétés de Services et d'Innovation



Les **membres AFSSI**
ont la **parole** ”

WEBINAIRE



Le partenaire incontournable de vos innovations

Proche de chez vous





- OVERVIEW



Vanessa Rouaud et Stéphane Deniau
Biofortis

<https://biofortis.merieuxnutrisciences.com>

Les membres AFSSI ont la parole ”

WEBINAIRE

Qui suis-je ?
La réponse en 20 min

AFSSI
Association Française des Sociétés de Services et d'Innovation

NOTRE ACTIVITÉ

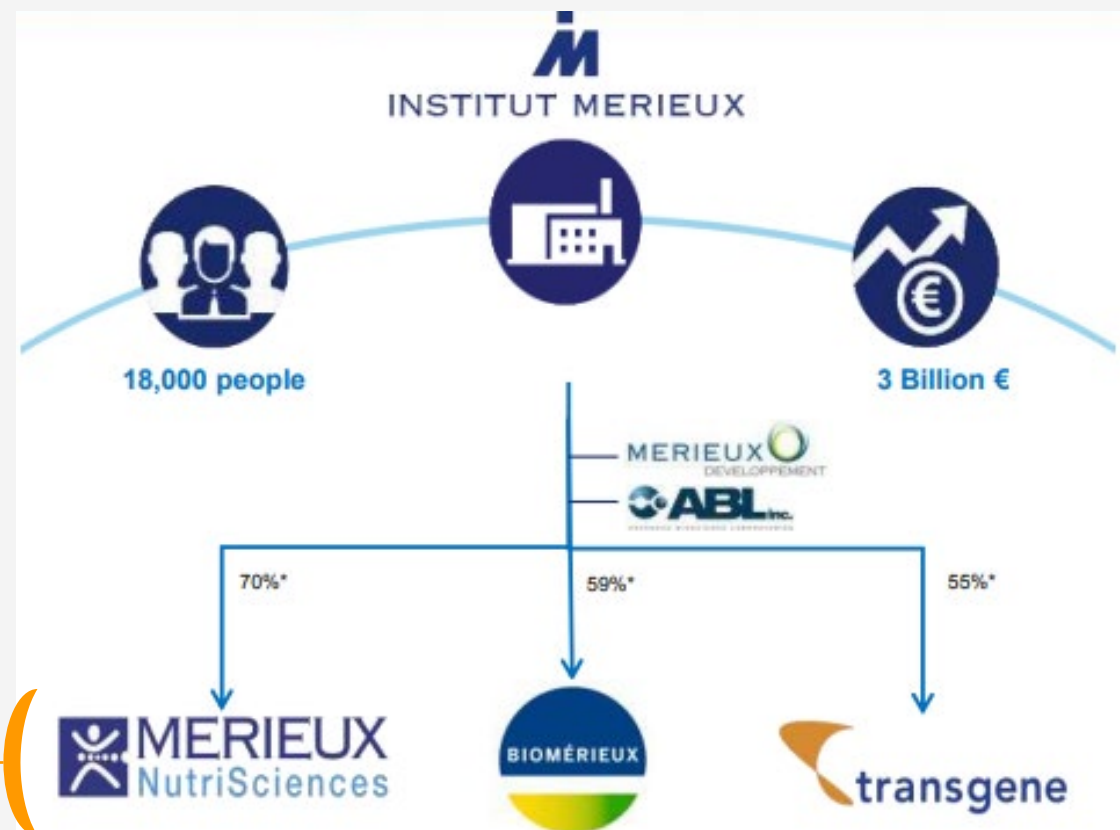
L'activité de recherche clinique est au service de l'industrie agro-alimentaire, food, ingrédients, complément alimentaire et Foodtech, LBPs et nutrition médicale. L'activité de laboratoire est dotée d'une plate-forme de biologie avec une expertise poussée dans le microbiome, qui va aussi bien de la collecte de l'échantillon jusqu'à l'analyse des données et même l'intégration de données via l'intelligence artificielle.

A family-owned French group established in 1897 following in the footsteps of Louis Pasteur



ONE MISSION

To fight against infectious diseases and cancers, Institut Mérieux imagines and develops new approaches in the fields of diagnostics, immunotherapy, food safety and nutrition.



From Real Life to Data... From Science to Market



**CLINICAL
EXPERTISE**



MICROBIOME



CENTRAL LAB



**DATA
ANALYTICS**



Human trials
Real-life conditions

Data acquisition
Bioanalyses
Data delivery

Computing
Valorize, ROI
Improve health & WB



125+ FTE covering the 3 main regions



Own facilities:

Private Investigational Units, Central lab Platform

We serve INNOVATION

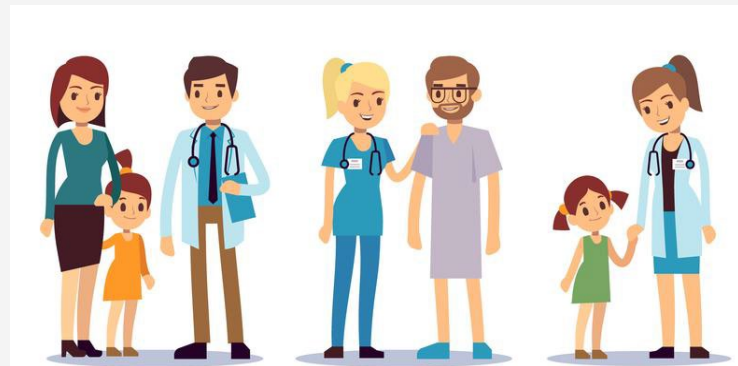


Biofortis Europe CRO Task Force (80+ Empl.)



CLINICAL BU	LAB & μ BIOME BU	SUPPORT	R&D BU
35 FTEs	15 FTEs	25 FTEs	5+ FTEs
Project Managers, CRAs, MDs,...	LPMs, Technicians, Engineers...	Scientists, engineers...	PhD, Stats, Bio-IT, DS...

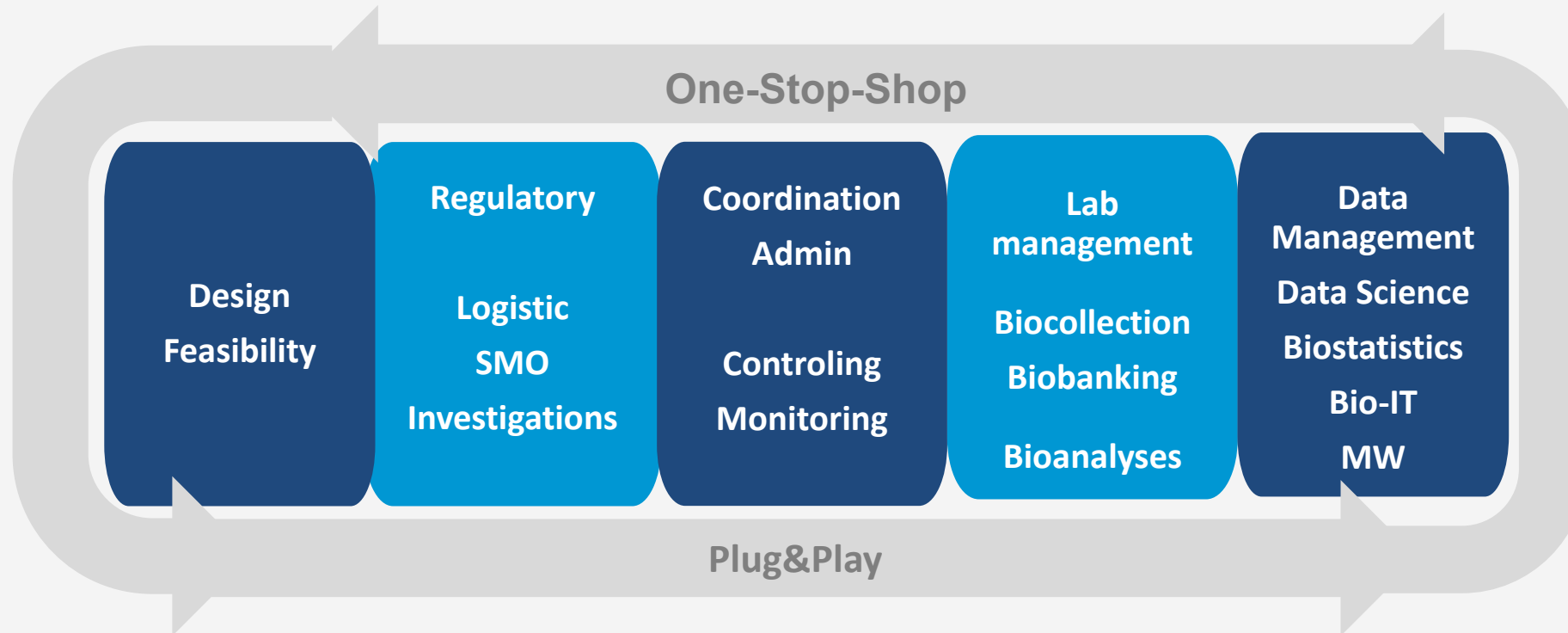
20 YEARS OF PATIENT HEALTH CENTRICITY





CLINICAL RESEARCH

Clinical & Analytical Services



Key figures about our Clinical activity



20 years of clinical expertise

500 projects

efficacy, safety and tolerance

15,000 volunteers

100 investigation sites
worldwide supported

~90,000

analyzed samples per year



CENTRAL LAB

Central Lab solutions

From kit supply to data delivery



Wet analyses only are not sufficient

For robust data valorisation, you need to ensure strong preanalytical steps

With the good companion



3 dimensions

Scientific : Why ?



⇒ *Define aliquote - quantity - quality - temperature*

Psychological : Who?



⇒ *Give technical instructions to: volunteers - laboratory - doctors, etc.*

Analytical : What and How?

⇒ *Devices & Processing? Operators*

Worldwide Logistics

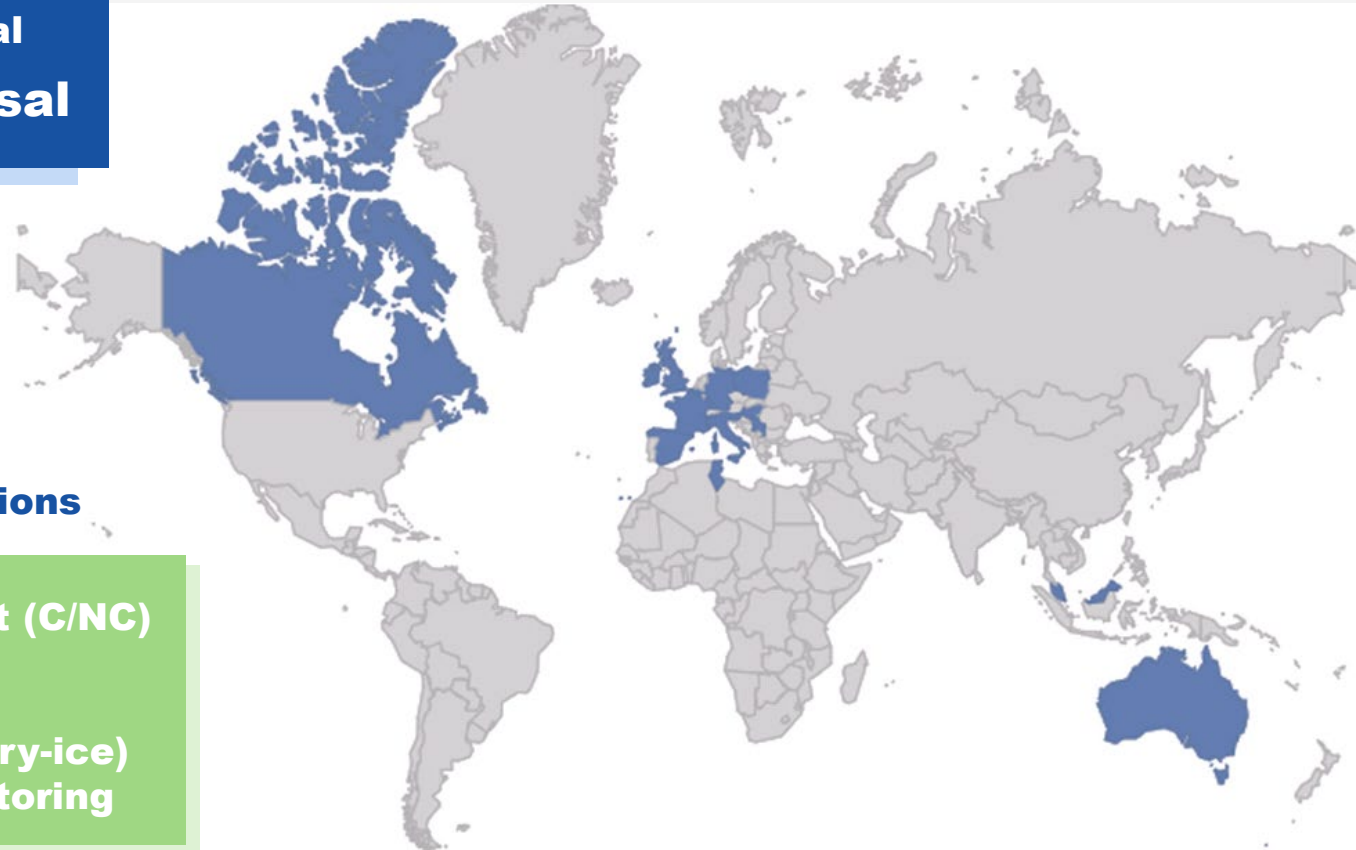


Worldwide Logistics for > 10.000+ kits produced in 2020

For different matrices

Sample Sourcing

Blood	Urine	Stool
Oral	Vaginal	
Cutaneous	Nasal	



At different conditions



Ambient (C/NC)
+4°C
-20°C
-80°C (dry-ice)
T° monitoring

Central Lab: areas & capabilities



Catalog available upon request

- Cardio metabolism
- Metabolism
- Oxidation
- Inflammation
- Endocrinology
- Immunology
- Oncology
- GI
- Infectious
- ...
- Serology
- Molecular biology
- Microbiology
- Hematology
- Biochemistry
- Microbiomic
- ...



Validation of SARS CoV2 in Stools



SOLUTION ADOPTED



Screening and testing donors

- Extensive review of the literature & recommendation from regulatory agencies
- Design of solution to secure the donation reviewed by experts
- Internal validation of a method to detect SARS-CoV-2 in stools to ensure safety of the material
- Full validation of this method with the ANSM
- Collection & Production restarted



~15 new validated biomarker per year



MICROBIOME



Companies invest in Microbiome Studies

65% of Biofortis Leads includes “Microbiome” monitoring

Segment:

- Pharma
- Biotech
- Nutrition
- Cosmetic
- Veterinary

Field:

- GI
- Infectious, Immuno
- Cardiometabolism
- Cognitive
- Cancer

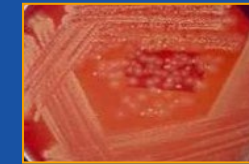
■ Microbiome monitoring... in addition to:

- Clinical endpoints
- Usual and specific biomarkers
- Environmental data (dietary, QoL, ...)

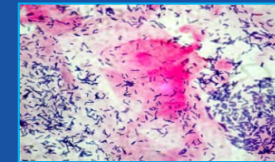
Gut



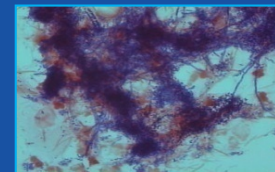
Skin



Vaginal



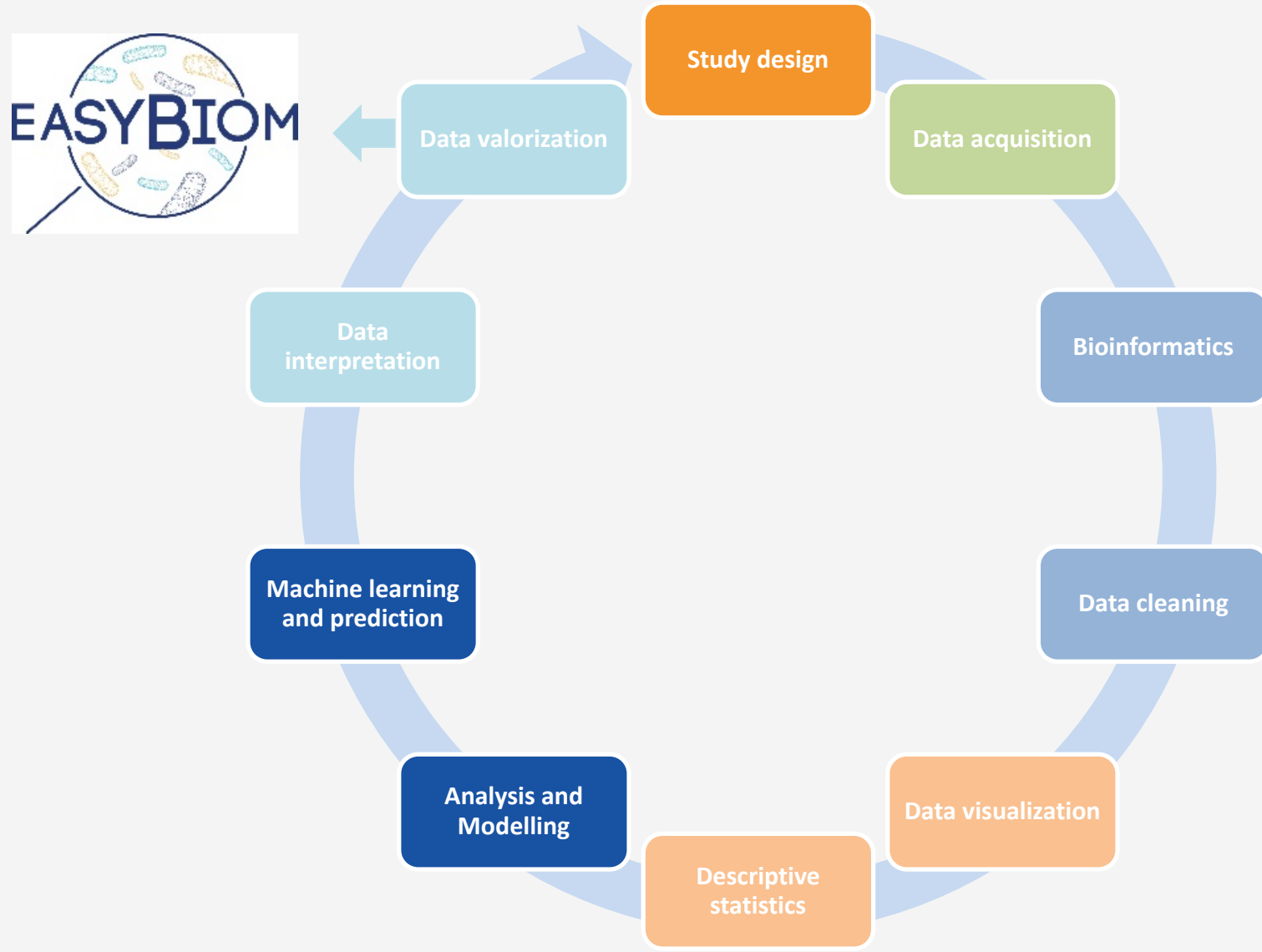
Oral





BIOMETRICS

Data life cycle: 15 FTEs



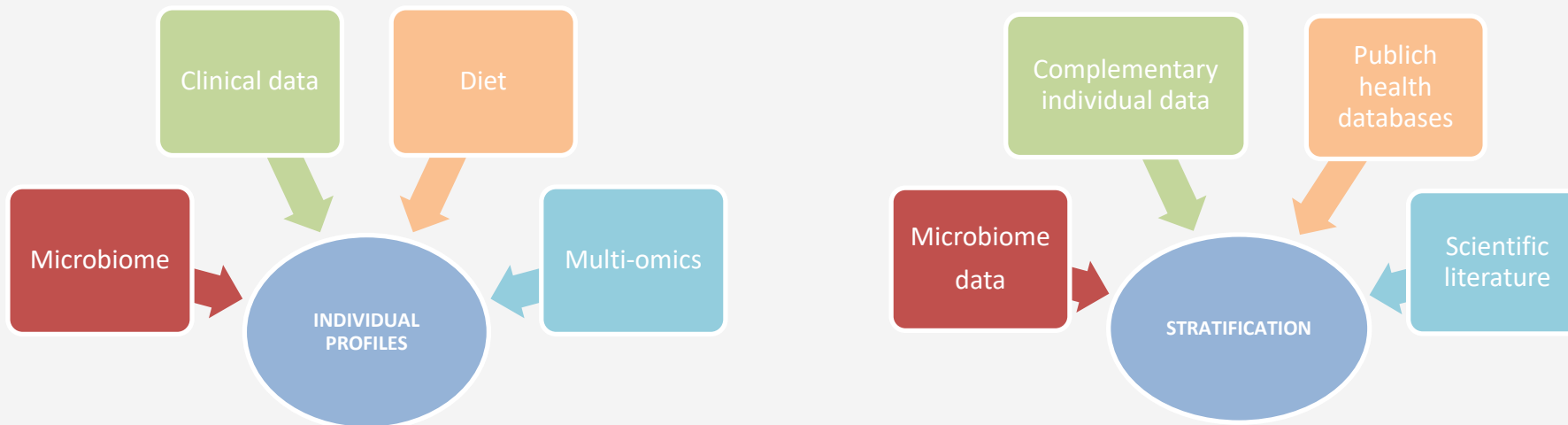
Contributions from Machine Learning and Data Science



Integration of **heterogeneous data** to build better individual profiles

Automated extraction of context information to aid stratification

To optimize conclusions, produce the best outputs and valorisation

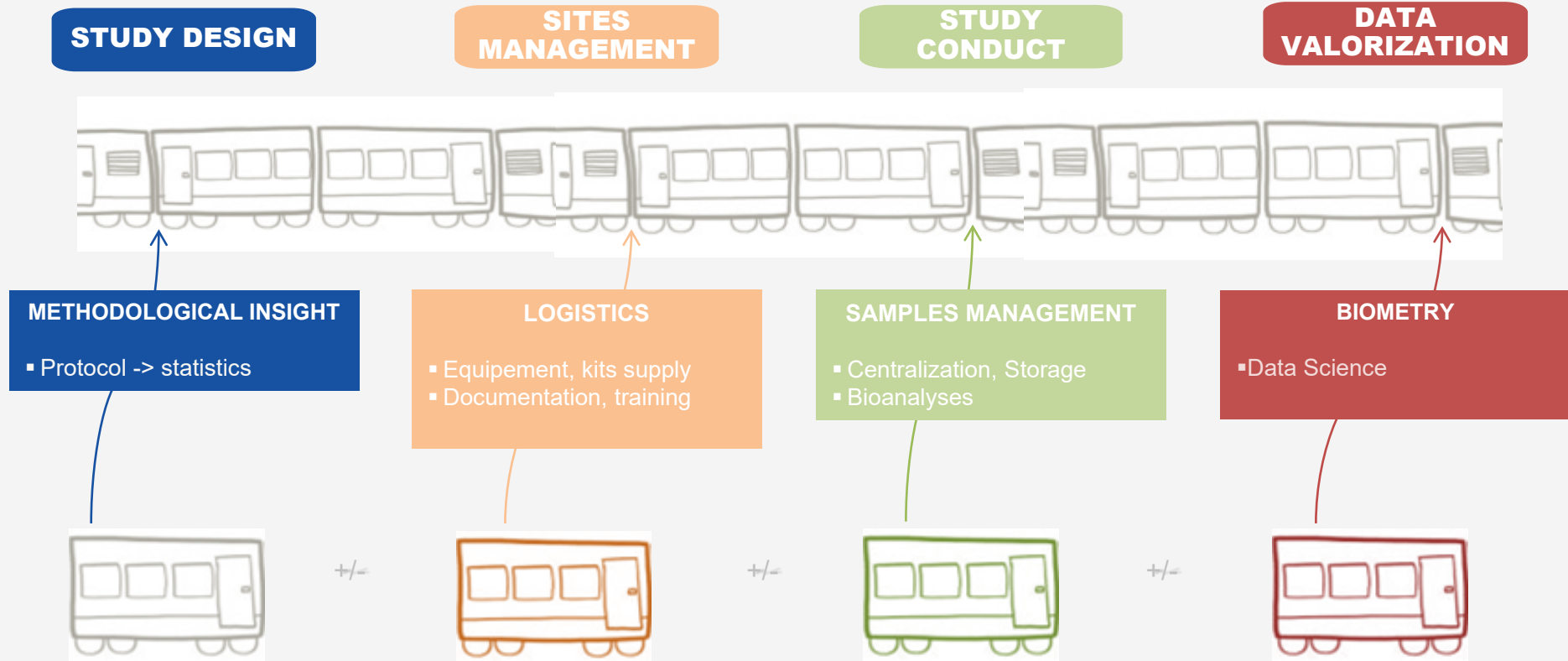


Plug-in our Central lab Pack within your trials



You drive the pre/clinical train

The Biofortis crew able to catch the moving train



Because we daily manage clinical trials, tending fieldwork constraints



"Accelerate your innovation with your clinical and microbiome partner"



BIOFORTIS
a Mérieux NutriSciences Company

Biofortis Booklet
MICROBIOTA
#7

OVERVIEW
Microbiome & Diabetes

EDITO

Dr Karine Clément
Professor MD, PhD
Sorbonne University

Dear readers,

Type 2 Diabetes (T2D) is a metabolic and chronic disease and its prevalence continues to grow in the world. Many contributing factors are known such as genetics/ epigenetics, unbalanced diet, lack of physical activity, overweight and obesity, etc. There is also growing evidence that the gut microbiome is involved in the onset of this pathology.

This new scientific booklet, prepared by the Biofortis Mérieux NutriSciences experts, provides an overview of the latest scientific literature in order to discuss some emerging key concepts regarding the link between gut microbiome and T2D.

Mechanistic studies have shown that the microbiome modulates inflammation, interacts with dietary compounds, affects the gut permeability, glucose and lipid metabolism and overall energy homeostasis of the host. Moreover, there are also some gut microbiota-derived metabolites which are important in driving and/or maintaining insulin resistance.

These results highlight the future need to monitor the microbiome in patients in addition to lifestyle and clinical features, and paves the way for the development of new therapeutic strategies including probiotics, prebiotics, microbiome medicinal product (MMP), postbiotics (i.e. targeted metabolites) or fecal microbiota transfer (FMT).

We wish you an enjoyable read!

Scientific chapters

Introduction: Key concept, risk factors, prevention and microbiota implication?

Dysbiosis and type 2 diabetes

Mechanisms of the Gut Microbiome in type 2 Diabetes and bacterial compounds associated

Gut impact and involvement in therapeutic and prophylactic strategies

Interview with:

Dr Karine Clément
Professor Sorbonne University, PhD

Catrina Holz, Lead Clinical Development, PhD
& Delphine Saunier, Health Science Lead, PhD
Novozymes

Murielle Casabiel
CNO Valbiots

Index / Highlights 2020-2021

References

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At Mérieux NutriSciences, as part of our expertise dedicated to protecting the health of our consumers, we are pleased to have an innovation and research organization such as Biofortis to support companies in the development of their products. For Mérieux NutriSciences, Biofortis represents the spearhead of innovation in nutrition and health. The quality of their expertise is reflected in this brochure published each year on the latest scientific advances in the field of Microbiome. This year, Biofortis has focused on type 2 diabetes in order to highlight and better understand the link between diabetes, nutrition and the gut microbiome.

Nicolas Cartier
CEO Mérieux NutriSciences



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Thank you !

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