



MedTech
Lab



What ?

What ?

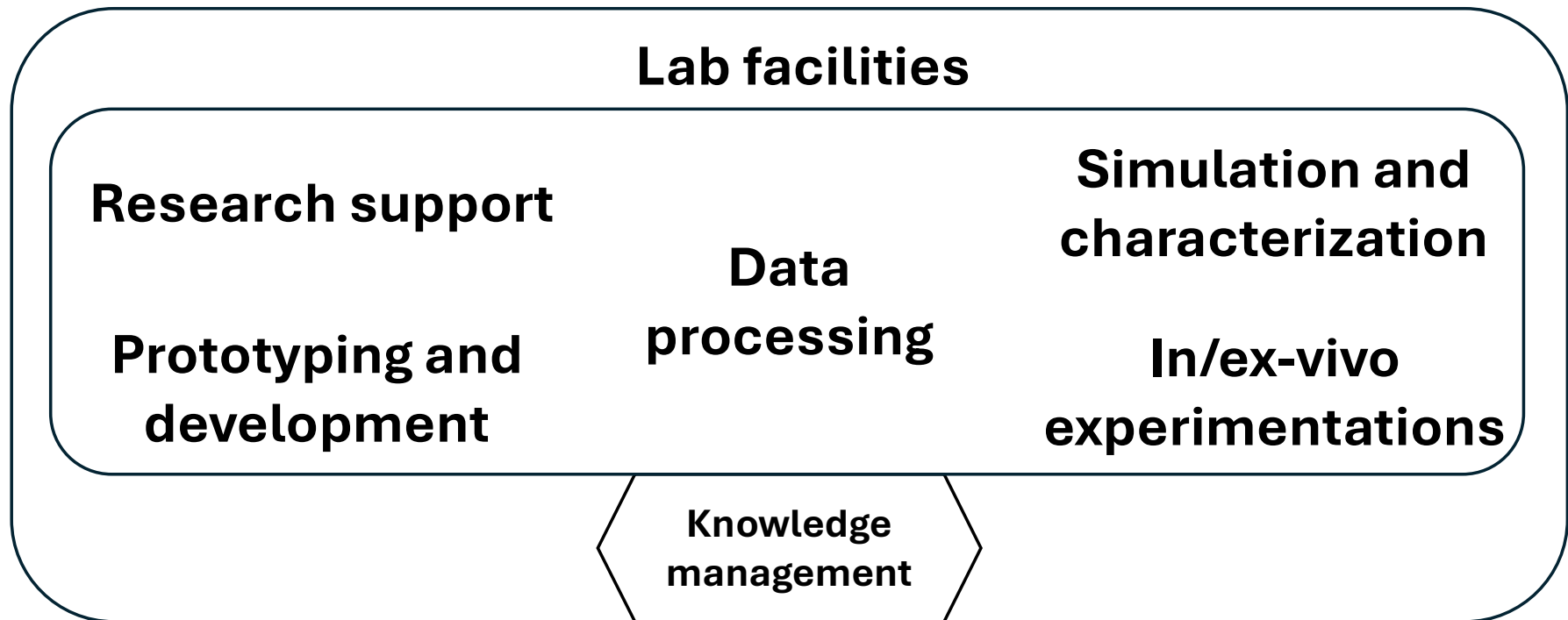
Vision

Become a leading academic hub that fosters research in medical technologies and accelerates innovation and collaboration in the medical devices industry

Mission

Empower researchers, academics, and industry professionals by providing expertise, facilities, and tailored services to design, develop, and validate cutting-edge medical technologies

What ?



Design for sustainability

<https://medtechlab.site.ulb.be/>



Who ?



Benjamin
Bondue



Anne
Botteaux



Jacques
Devière



Nicolas
Gaspard



Alain
Delchambre

Antoine
Nonclercq

Directors



Bernardo
Innocenti



Arnaud
Lemmers



François
Quitin



François
Reniers



Thierry
Roumeguère



Ramzi
Ben Hassen

Research Logistician



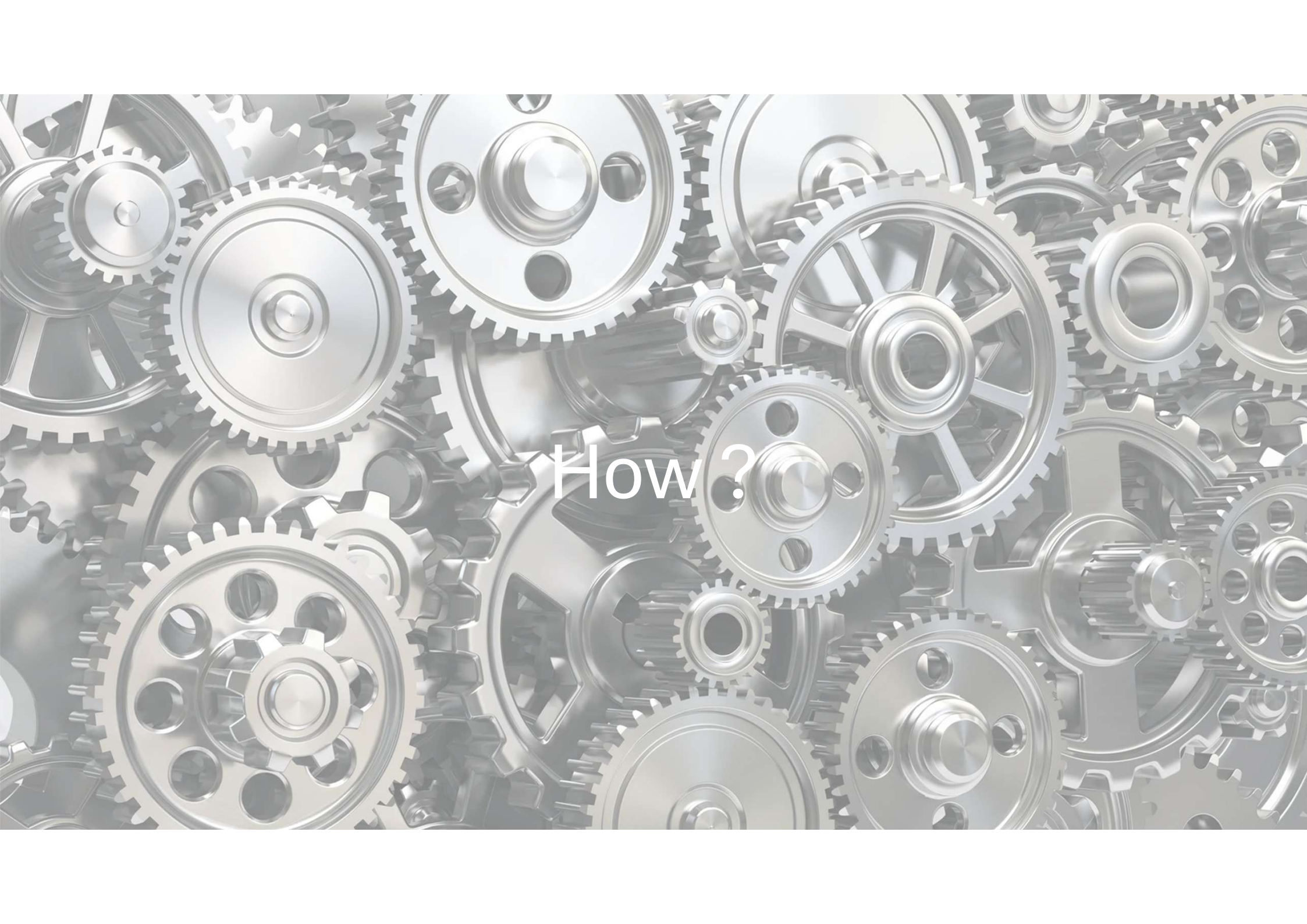
Geoffrey
Vanbienne



Michel
Osée

Technical support

Steering committee



How?

How ?

20%

Lab

Management

Equipment

Follow up



Ramzi
Ben Hassen
Operator

60%

Research

State of the art

Knowledge transfer

Data management

Support

20%

Services

R&D

Experimentation

Characterization

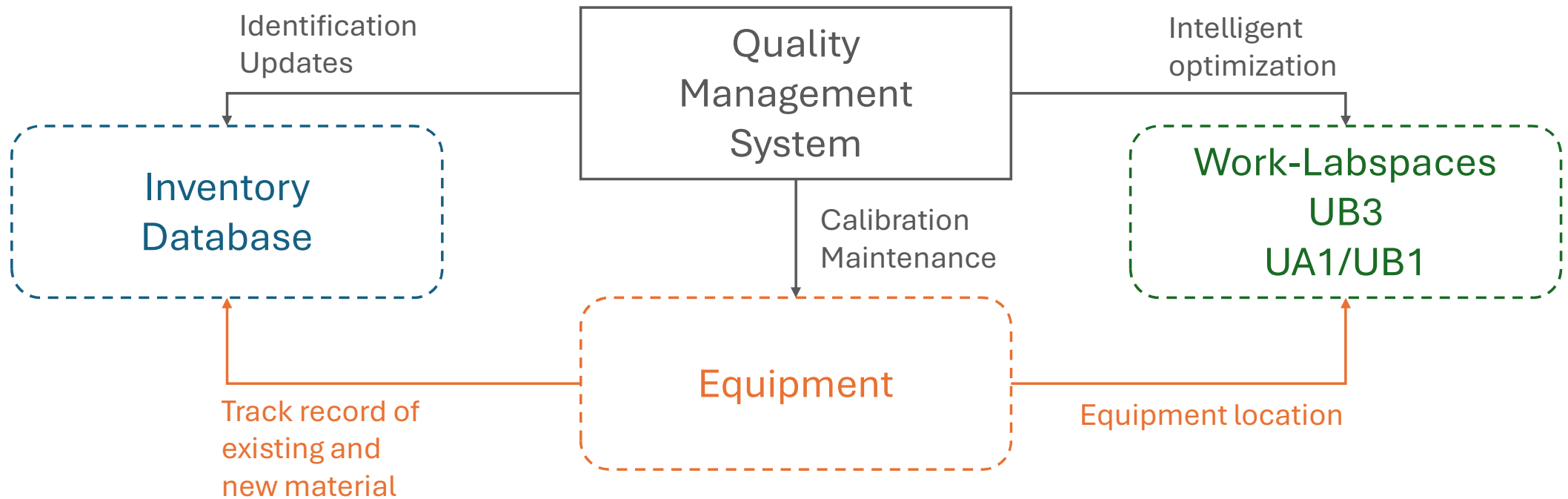
Simulation

Data processing

Quality

How ?

Lab



How ?

Research

State of the art

Collect our expertise
and strength:

Research areas,
cutting edge equipment,
collaborations, ...

Knowledge management

Make everything knowable:

Ending PhDs, prototypes,
processes, ...

Scientific support

Bringing own know-how
to researchers:

Test bench, prototyping,
equipment expertise,
scientific writing, ...

Grant writing

How ?

Services

Research & Development

Ideation

Prototyping : 3D printing,
silicon molding, laser
cutting, electronics,
outsourcing, ...

Proof-of-Concept

Data processing

In/ex-vivo experimentations

Isolated
organs trials

Preclinical testing
and validation

Monitoring setup

Simulation & Characterization

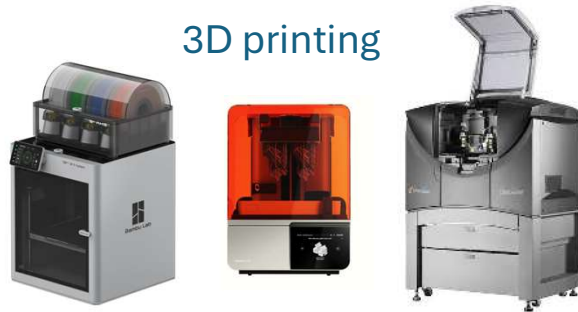
Finite
Elements
Modelling

Biomechanical
analysis of
devcies

How ?

Services

3D printing



Resolution

Silicon molding



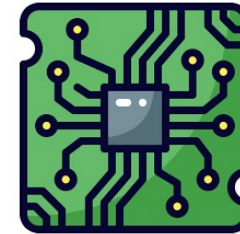
Clean room



Laser cutting



Electronics



+ Subcontractors

How ?

Services

**Trials on animals
(in/ex-vivo)**

**Design experimentation
and protocol**

Ethical committee

Veterinary clinic

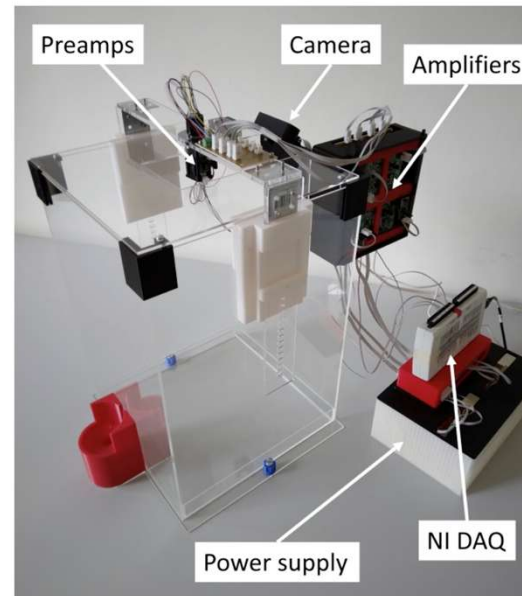
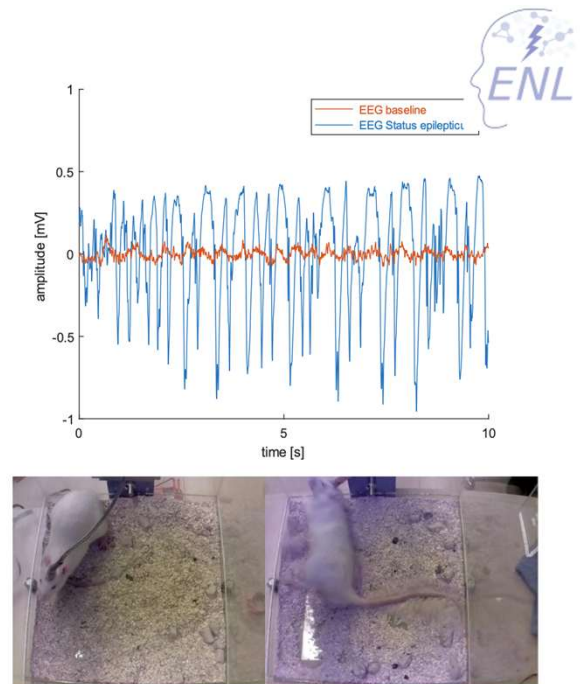


Fig. 3. Chronic setup for continuous monitoring.



How ?

Services

Target Audience

Academia

Professors, students, and researchers involved in biomedical engineering, life sciences, and related fields.

Industry

Startups, SMEs in the medtech sector seeking testing, simulation, and prototyping services.

Hospitals and Clinics

Collaboration between engineers and physicians to design new concepts, medical devices and process data.

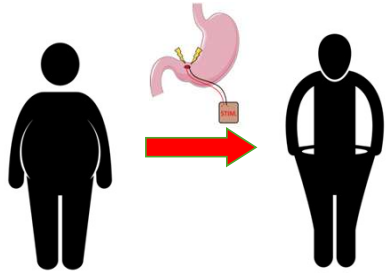
Government and Non-Profit Organizations

Entities funding or driving innovation in medical technologies.

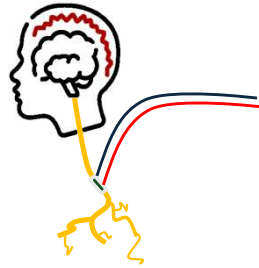
Current projects

Implantable devices (neuromodulation)

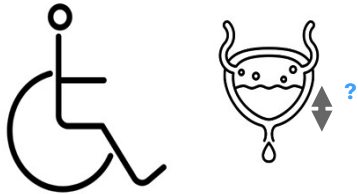
Gastric Electrical Stimulation for Obesity



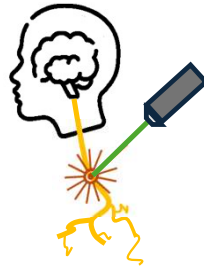
Vagus Nerve Stimulation for Epilepsy



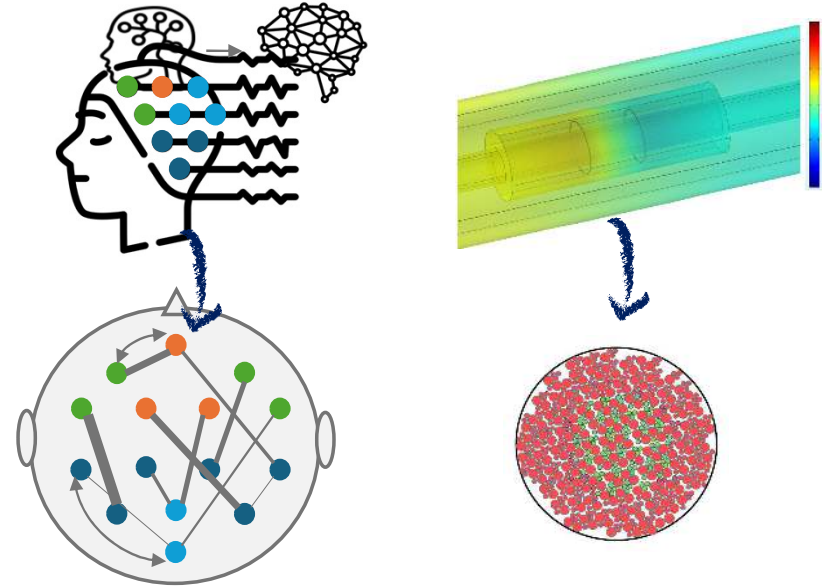
Bladder Monitoring



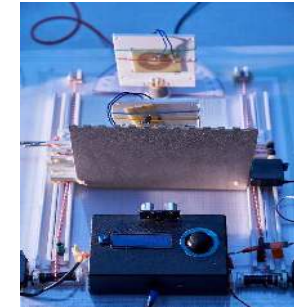
Optical Stimulation



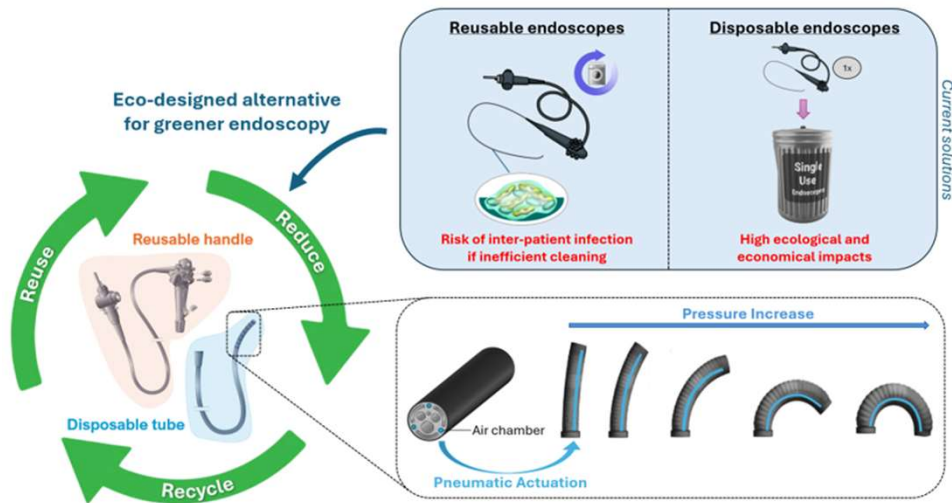
Neurological signal processing & modelling



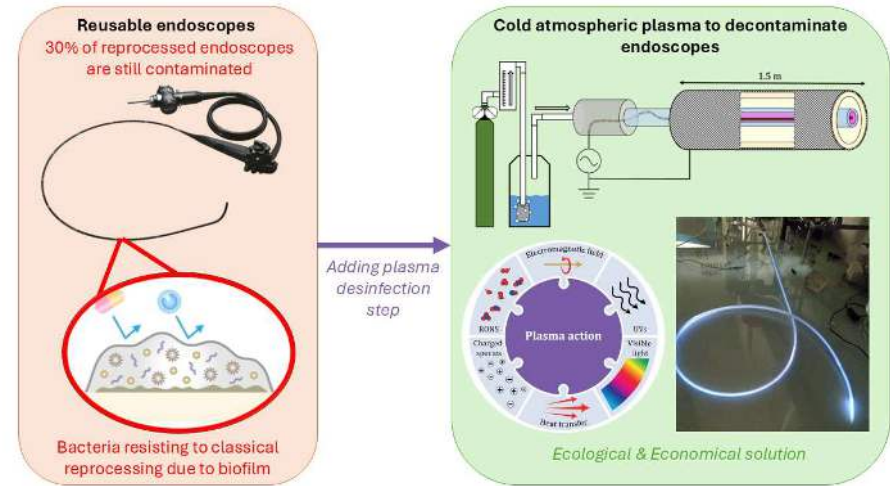
Active medical devices



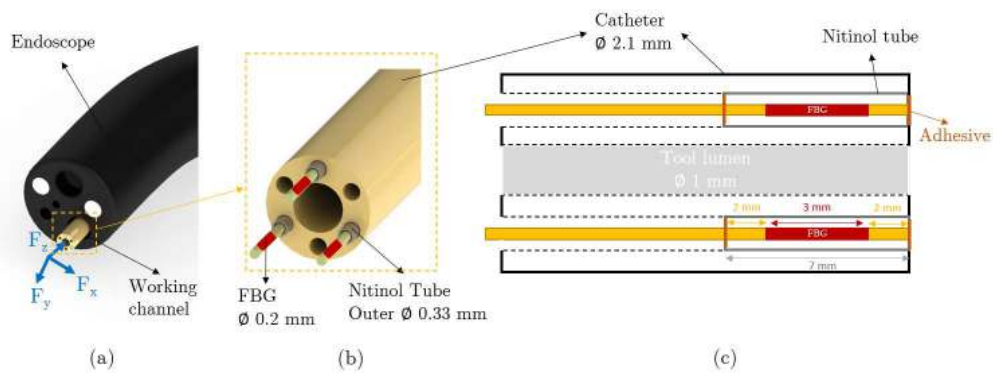
Eco-design of endoscopes



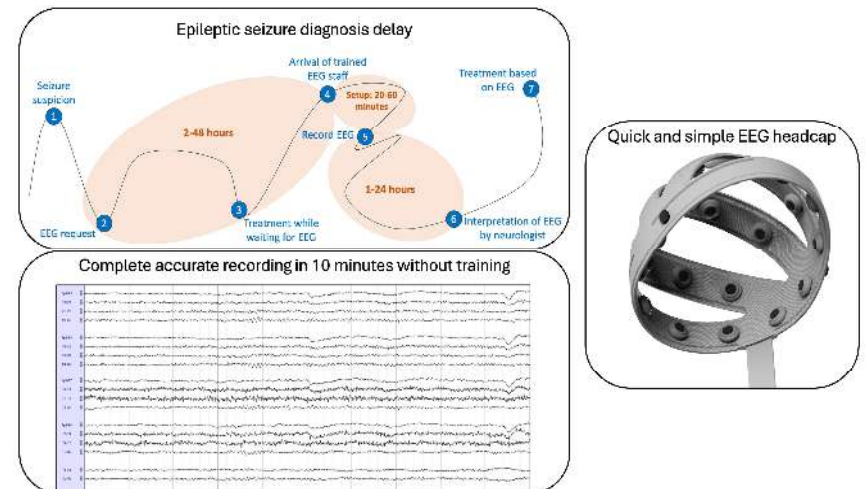
Plasma disinfection of endoscopes



Endoscopic force sensors

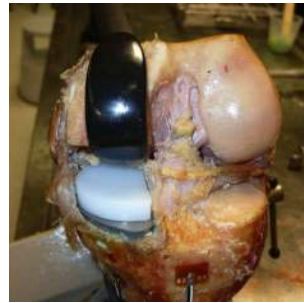
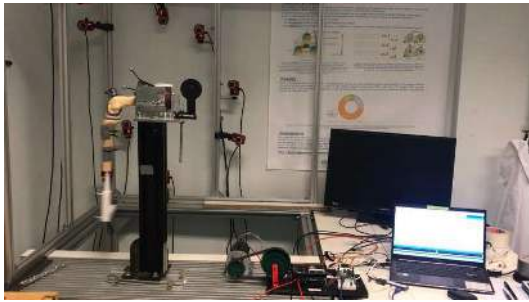


Dry EEG electrodes

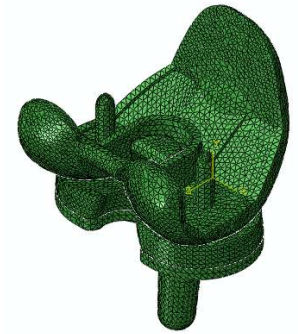
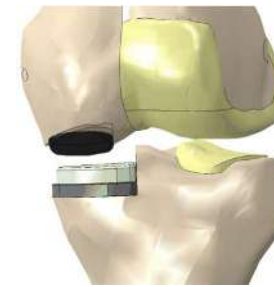


Biomechanical Analysis

Experimental

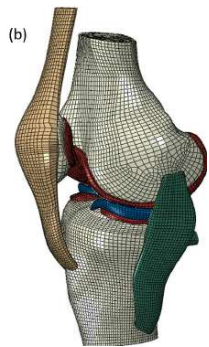


Numerical

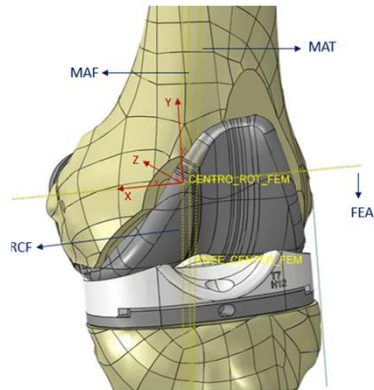


on

Human joints



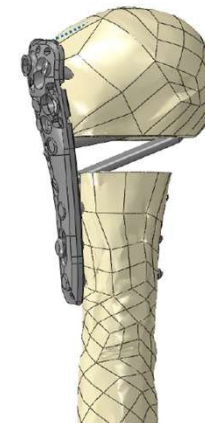
Orthopaedics



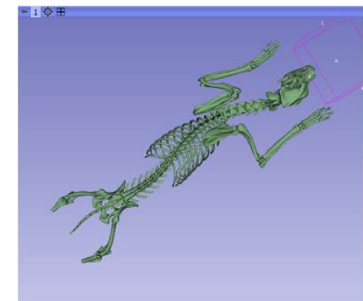
Materials



Traumatology



Animals



Join the journey ?

For any questions :
ramzi.ben.hassen@ulb.be

or

Coffee time at UB3