UPPA Tech

INSTRUMENTAL SERVICE CENTRE

PAU · ANGLET · MONT-DE-MARSAN · TARBES · SAINT-PÉE-SUR-NIVELLE

ACTIVITY REPORT 2018-2019

e2s UPPA energy environment solutions

INVESTIR L'AVENIR

UNIVERSITÉ DE PAU ET DES PAYS DE L'ADOUR

Boost the potential of innovation of territory partners by research.

EDITOS

Established in a region strongly marked by its industrial history, the University of Pau and Adour countries' ambition is to boost convergence between the academic institutions of the Adour region, higher education, research, innovation and socio-economic and cultural actors of the Adour countries, to co-construct tomorrow's solutions for energy and environmental transitions.

> This synergy would create a strong collective increasing joint research forces, and of training, optimising investment in experimental platforms, promoting innovation and entrepreneurship.

The University, in association with Inria, INRAE and CNRS, has made it possible, through its I-Site e2s UPPA project, the pooling of State resources through the PIA (Programme d'Investissements d'Avenir), 9 territorial authorities and more than thirty public and private partners, to ensure that convergence between the public and private sectors of the Adour territory. The very clearly stated objectives are to strengthen collaborative research with industrial partners, through shared access to high-level experimental equipment, to improve joint actions of R&D and vocational training and to support the transfer of research results conducted in the laboratory to companies. The instrumental service centre UPPA Tech, which brings together the university's research facilities as a whole, is a key element in this strategy. The unique and high-performance facilities that it brings together make a major contribution to attracting and keeping the talents that will participate in building the future of the university and that of the Adour territory. UPPA Tech is intended to be an open instrument, accessible to all the actors of the territory, an essential element in the development of the university, a territorial network of experimental instruments connecting the academic and research resources, and private sector, an accelerator of innovation and research. Federating the development strategy of the university with that of the socio-economic actors of the territory will allow them to be more reactive on the challenges of energy and environmental transitions, while opening up to other themes related activities already established in UPPA such as food processing, health and well-being.

This first activity report shows the strong dynamic driven by the structuring of the offer of services within UPPA Tech by presenting the experimental equipment and skills of high level, which accompanies him in our research laboratories.

Mohamed **AMARA**, President of the University of Pau and Pays de l'Adour
Gilles **PIJAUDIER CABOT**, Executive Director e2s UPPA

UPPA Tech's first activity report, which I am pleased to present to you, is an important milestone in the life of this new entity, as it represents the assessment of the work carried out since its creation in 2018 and its deployment in 2019.

UPPA Tech today brings together all the instrumental power of the University around 18 platforms and has the task of coordinating and to pool expertise and the equipment present in the research laboratories of the University. It constitutes a mechanism support and optimisation of their operation and management in connection with research policy of the UPPA and the deployment of actions of the I-Site " Energy and Environment Solutions", e2s UPPA.

UPPA is a player in the strategy of University Research and Innovation based on a necessary change of scale to support research of excellence and ensure recognition national and international on its flagship themes related to the territory, while meeting the needs of the of the socio-economic world.

There is still a long way to go to reach the ambitions we have set ourselves fixed. The development of UPPA Tech requires, in particular, to pilot a trajectory of partnerships with companies in line with the scientific strategy of the university and skills of its laboratories. The impacts expected scientific results include linked to the synergy of UPPA tech platform equipment and within companies, with the aim of carrying out work originals of national scope or in the segments of the international specialisation of UPPA.

Investment projects in equipment worn by UPPA Tech must consolidate this implementation. network. We must invent or develop the right tools to support the platforms to accompany them in this inevitable change of scale. It is also a question of giving an international dimension at UPPA Tech with the insertion of platforms into the European instrumental networks. Creation and operational implementation of UPPA Tech between 2018 and 2019 have had a direct impact on the normal operation of services and laboratories of the University, which have been able to initiate the necessary changes and adapt. Finally, I warmly thank the UPPA Tech team for its commitment as well as the people involved in this project.

I wish you a good reading.

Isabelle **LE HÉCHO**

Director of the instrumental service centre UPPA Tech

01

UPPA Tech, **major steps.**

01 IMPLEMENTATION OF UPPA Tech

NEW UNIVERSITY TOOL IN THE CONTEXT OF e2s UPPA

January 2018:
Creation of the instrumental service centre UPPA Tech.

June 2018:
Recruitment of the financial management assistant.

September 2018:
Recruitment of the Business Developer.

December 2019:
Appointment of the Director of UPPA Tech by the President of UPPA.

02 FUNCTIONING AND GOVERNANCE

PROFESSIONALISATION AND RATIONALISATION OF ACCESS TO RESEARCH FACILITIES

- Drafting of UPPA Tech's internal regulations.
- Organisation of the first steering committees.
- June 2019:
  Internal seminar for the managers of the platforms.

03 FINANCIAL MANAGEMENT OF PLATFORMS

OPTIMISATION AND MANAGEMENT OF FINANCIAL FLOWS

- Setting up of access rates to the equipment of the platforms.
- Management of the financial flows of the platforms.

04 COMMUNICATION AND PROMOTION

OPENING UP TO THE SOCIO-ECONOMIC FABRIC OF THE TERRITORY

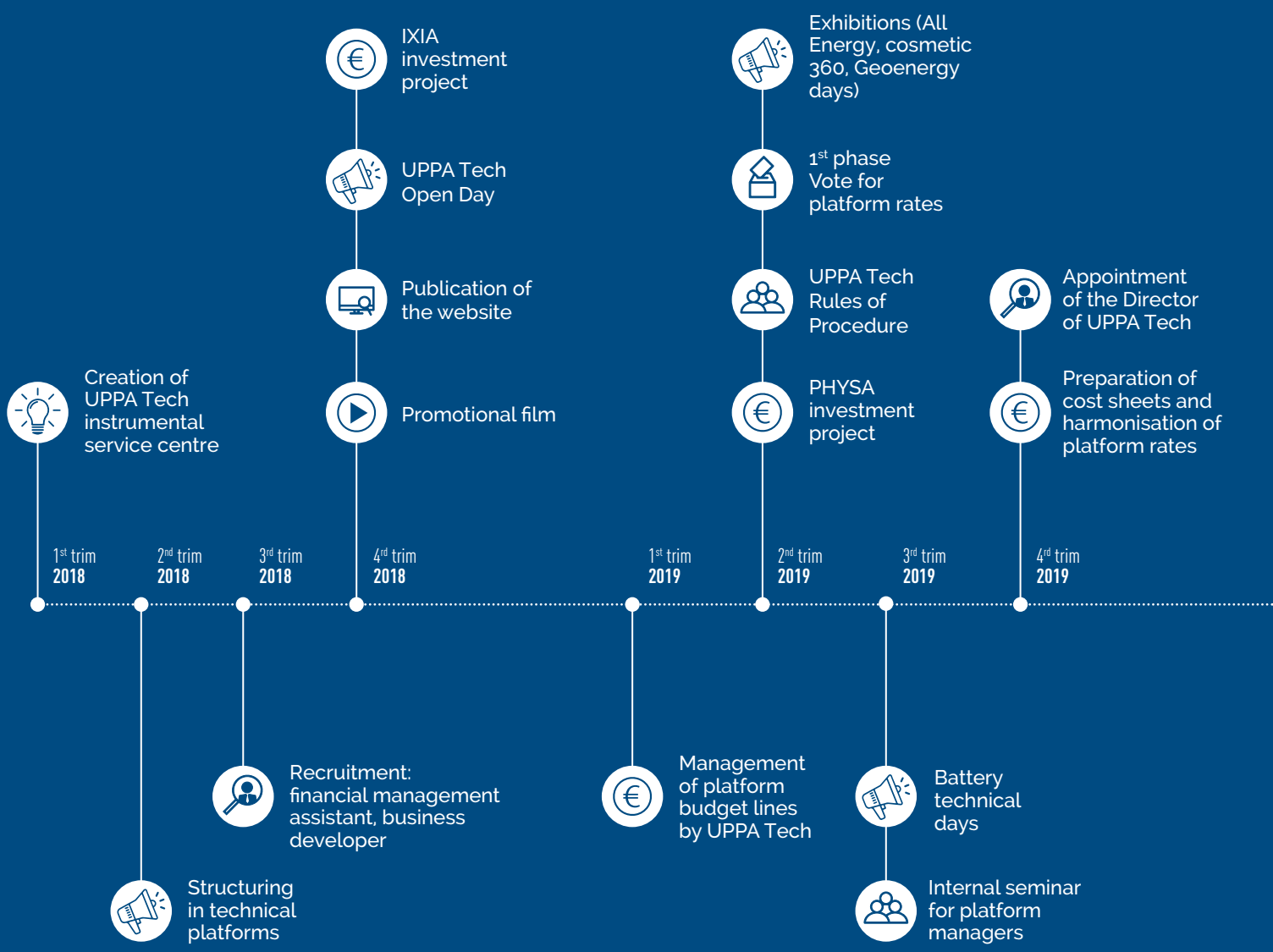
- About thirty promotional actions for UPPA Tech activities (trade fairs, business conventions, visits...).
- Organisation of 4 thematic days..

05 MAJOR INVESTMENT PROJECTS

FOR A RESEARCH FOR EXCELLENCE

- Management of 2 equipment projects worth €2.4m (IXIA and PHYSA).

UPPA Tech PHASING
FOR THE PERIOD 2018-2020



1st trim 2020

- 2nd phase Vote for platform rates
- Response to the IDEES call for projects
- CLIMAC investment project
- G2MP-GC platform becomes G2MP
- MATCO platform creation
- SCOPE platform creation
- CPER investment project

2nd trim 2020

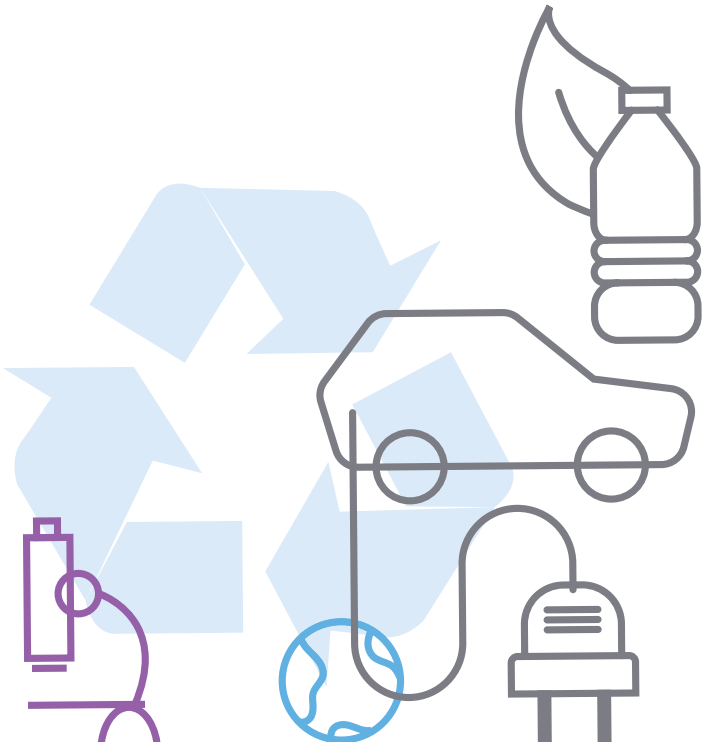
- Call responses to Equipex project
- Call for investment projects 2021

3rd trim 2020

- Recruitment: instrumental cartography mission manager for the platforms
- Human resource support for platforms

4rd trim 2020

- Instrumental sharing partnership
- Scientific and Strategic Committee
- ISO 9001 Certification Mock Audit
- Stabilisation of financial processes
- Implementation of a seed fund for investments
- Internal seminar for platform managers



02

UPPA Tech, instrumental service centre of the University of Pau and Pays de l'Adour brings together all the experimental power available at UPPA.

PRESENTATION OF UPPA Tech

UPPA Tech in the context of **e2s UPPA**

UPPA Tech is an internal component of the College of Science and Technologies for Energy and the Environment (STEE). At as a flagship action of the I-SITE project (Energy and Environment Solutions - e2s UPPA). UPPA Tech deploys its roadmap to support its ambitious objectives. Its purpose is to coordinating and pooling equipment and expertise associated organised into technical platforms. It constitutes a system for optimising their operation. It participates in the development and deployment of the research policy of UPPA in terms of experimental means: investments and associated human resources.

Via UPPA Tech, UPPA has the will to professionalise its experimental power, to ensure optimal maintenance of its existing scientific equipment. It thus deploys its strategy of openness and attractiveness while strengthening its links with the socio-economic world as a whole, and its diversity in a context of innovation based on a change of scale for a research of excellence.

THE MISSIONS OF UPPA Tech

FINANCIAL MANAGEMENT
AND STEERING

Ensuring the operational financial management of the budget lines dedicated to the use of the platforms in the framework of grants, partnership research contracts, national projects or international cooperation, academic collaboration, services and targeted training;

Manage maintenance, costs and financial procedures;

Implementing the necessary measures to promote the use of the platforms in the following areas calls for projects (ANR, Europe, etc.) ;

Provide annual financial indicators and multi-year programmes at the level of each platform;

Ensuring financial management related to investment operations in equipment.

DEVELOPMENT
OF AN OFFER ON SEVERAL SCALES

To provide UPPA researchers and research organisations with cutting-edge experimental means, maintained and operated by high level technical staff;

To make these means available to the national and European scientific community on the basis of agreements setting out the conditions of access (funding, technicians, intellectual property, etc.) ;

Integrate national and European networks of major instruments;

Integrate within the framework of a territorial network the experimental means of private R&D centres to display a wider instrumental power, complementary and accessible also for the SME-TIS;

To thus have a tool at the service of innovation and territorial development in line with the needs of companies.

UPPA Tech carries out the following tasks:

PROMOTION
AND COMMUNICATION

To increase the national and international attractiveness of UPPA by making its experimental means professionally managed and certified attractiveness factors;

To support the managers of the platforms in the development of their services of their platform by offering them adapted marketing supports;

Enhance the value of the platforms to external partners through the development of services linked to their use: training, analysis, characterisation, etc. ;

Communicating on projects crosswise.

COORDINATION
OF EQUIPMENT REQUESTS

Implement a multi-year policy of investment and upgrading of experimental resources;

Coordinate and carry out equipment projects in an approach based on integrated inter-platform in connection with the University's research policy ;

Have a forward-looking approach to equipment (upgrading, renewal, upgrading, acquisition, etc.).

TRAINING

Encourage the platforms to take part in initial training actions set up within the framework of the teaching units provided for bachelor's, master's and doctorate degrees at the Science and Technology for Energy and the Environment (STEE) college;

Responding to requests from the Continuing Education Department (FORCO) to host lifelong learning.

THE UPPA Tech **TEAM**

Isabelle **LE HÉCHO**

Director

Drive and deploy UPPA Tech.

Ensure operational coordination between UPPA Tech, the platform managers, the management of the platform support structures and the departments concerned.

Bring together and lead UPPA Tech's governance bodies.

Géraldine **BOURGUET**

Financial management assistant

Ensure the financial and operational management of the UPPA Tech platforms.

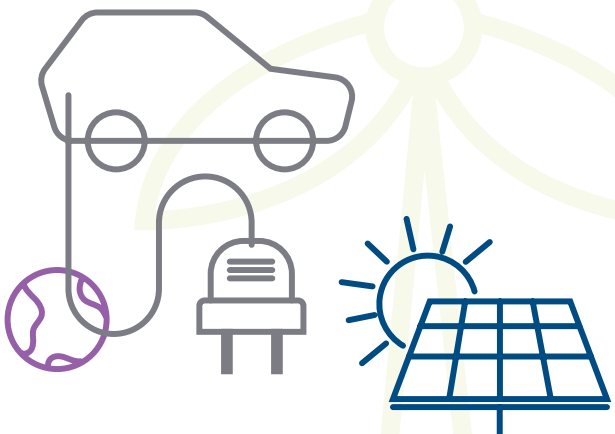
Hervé **GARRAUD**

Business Developer

Develop partnership relations.

Communicate on UPPA Tech's actions.

Steer transversal projects.



GOVERNANCE
STRUCTURED

STRATEGIC AND SCIENTIFIC COMMITEE

brings together the guardianships of the representatives of the socio-economic fabric and external scientific experts and has the task of:

- Evaluate the strategies and orientations proposed by the management team and the steering committee of UPPA Tech;
- Examine the activity report of UPPA Tech;
- Guide the strategy for the evolution of the instrumental service centre;
- Formulate recommendations, proposals, opinions to the UPPA Tech steering committee.

THE **STEERING** COMMITTEE

brings together representatives of the university, the directors of the platform backing units and the platform managers and is responsible for:

- Render a detailed opinion on the activities of the various platforms;
- Deciding whether to create and / or stop platforms;
- Develop the roadmaps for the platforms;
- Elaborate UPPA Tech's investment and financing policy;
- Examine investment projects by giving an opinion on the orientations to be favoured;
- Examine and issue an opinion on the UPPA Tech activity report, which includes the assessment of the functioning of each of the platforms.

THE **OPERATIONAL** COMMITTEE

brings together the UPPA Tech management team with the mission of:

- Deploy the roadmap: objectives, means and deadlines of UPPA Tech in the short, medium and long term;
- Decide on the communication actions and the promotion of the skills displayed in the platforms;
- Set up a quality approach;
- Set up and plan innovative actions, in particular to develop synergies between UPPA Tech and the socio-economic fabric around research / service / life-long learning actions.

The activities of UPPA Tech are governed by internal regulations submitted to the STEE College Council and voted on by the UPPA Board of Directors.

03

UPPA Tech is made up of 18 technical platforms working in different sectors such as energy, environment, materials, food and health.

UPPA Tech PLATFORMS

A technical platform provides a community of users with high-level equipment and associated skills. The aim is to offer analysis and characterisation services, technological solutions, technical expertise as well as training offers to partners, whether internal (members of UPPA) or external (laboratories, institutes outside UPPA and companies).

Each platform has its own operating mode. It is autonomous and ensures its financial equilibrium. It is represented by its manager, who reports to the director of the backing structure of the platform (research laboratory or training unit), who coordinates its operation and participates in the steering committee of UPPA Tech.

THE SHARED PLATFORMS

A collaborative and open shared platform is a grouping of platforms or instruments available within a platform around a scientific project to offer a community of users high-level technological services and resources. Its existence is therefore conditioned by the development of a common scientific project that is subject to external scientific evaluation.

Examples: MARSS platform and IXIA platform presented in the equipment projects section.*

** MARSS (MAss Spectrometry Center for Reactivity and Speciation Sciences or centre for mass spectrometry) is an EQUIPEX labelled in March 2012 for metal speciation studies, bringing together the latest generations instrumentation in the field of mass spectrometry.*

THE 18 PLATFORMS OF UPPA Tech

ENVIRONMENT
AND GEOSCIENCES

AGRO HALL
Agri-food
Technology Hall

C2STD
Scientific
Computing and Data
Processing

APLILAB
Physical and glass
workshops

IE ECP
Experimental
Facility Fish
Behavioural
Ecology

CARMICE
Microbiological
characterisation
and environment

POLYCATS
Analysis and
characterisation of
polymer materials,
biosourced plastics

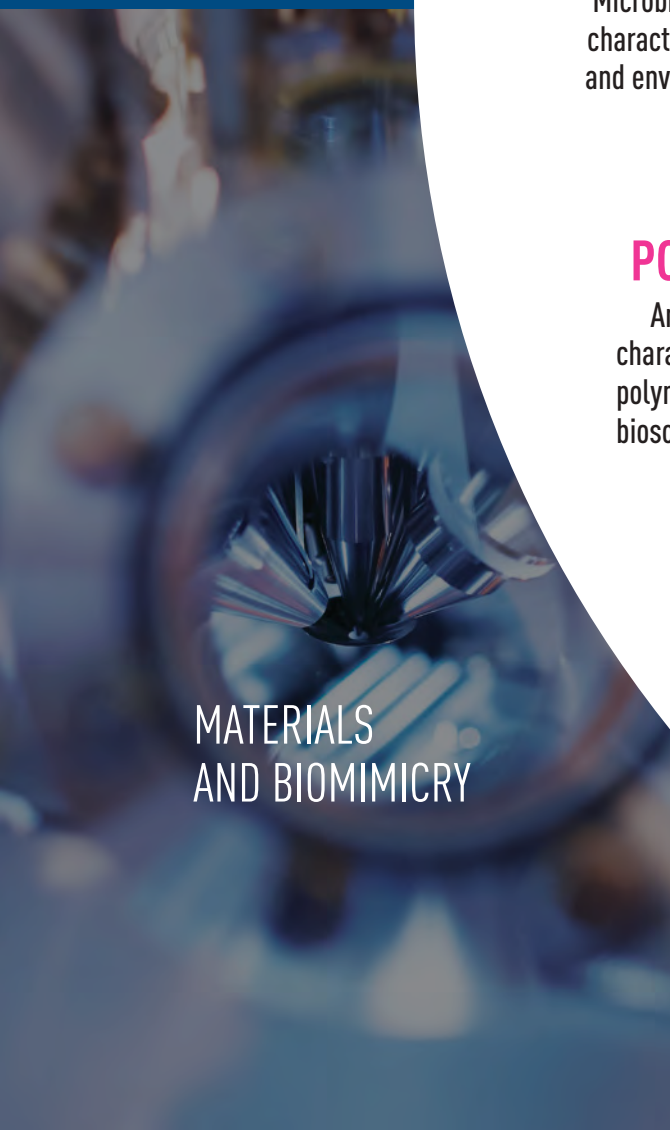
XRISE
Characterisation
of surfaces and
interfaces

I3
Inorganic,
Isotopy,
Imaging

ECOMES
Emerging
Contaminants,
Speciation, - Omics

INRAE

IPREM PLATFORMS



MATERIALS
AND BIOMIMICRY

ENERGY AND PROCESSES

AGRI-FOOD AND HEALTH

PHT
High Voltage Processes

PROCEN
Processes optimised for energy and the environment

MAVERIC
In lab device for the experimental validation of controlled injection cooling

CRG
Characterisation of Geological Reservoirs

CFC
Characterisation of Complex Fluids

DMEX
Development of Experimental X-Ray Methods

G2MP
Geomechanics, Porous media

MATCO
Advanced Materials for Civil and Coastal Engineering

SCOPE
Coastal monitoring and physicochemical observation of marine and estuarine environments

IPRA PLATFORMS

MIRA

PHT PLATFORM
HIGH-VOLTAGE PROCESSES

The PHT technical platform offers developments and measurement tools in the field of high voltage and high transient currents.

FIELDS OF APPLICATION

- Geosciences: treatment of environments dispersed.
- Environment: treatment of VOCs in air, electro-filtration.
- Food and health: disinfection, debacterisation, electro-chemotherapy.
- Materials: generator design thermoelectric, qualification and testing of equipment performance.
- Energy: storage, fast recharging
- Military: jamming, radar.

THEMES AND SKILLS

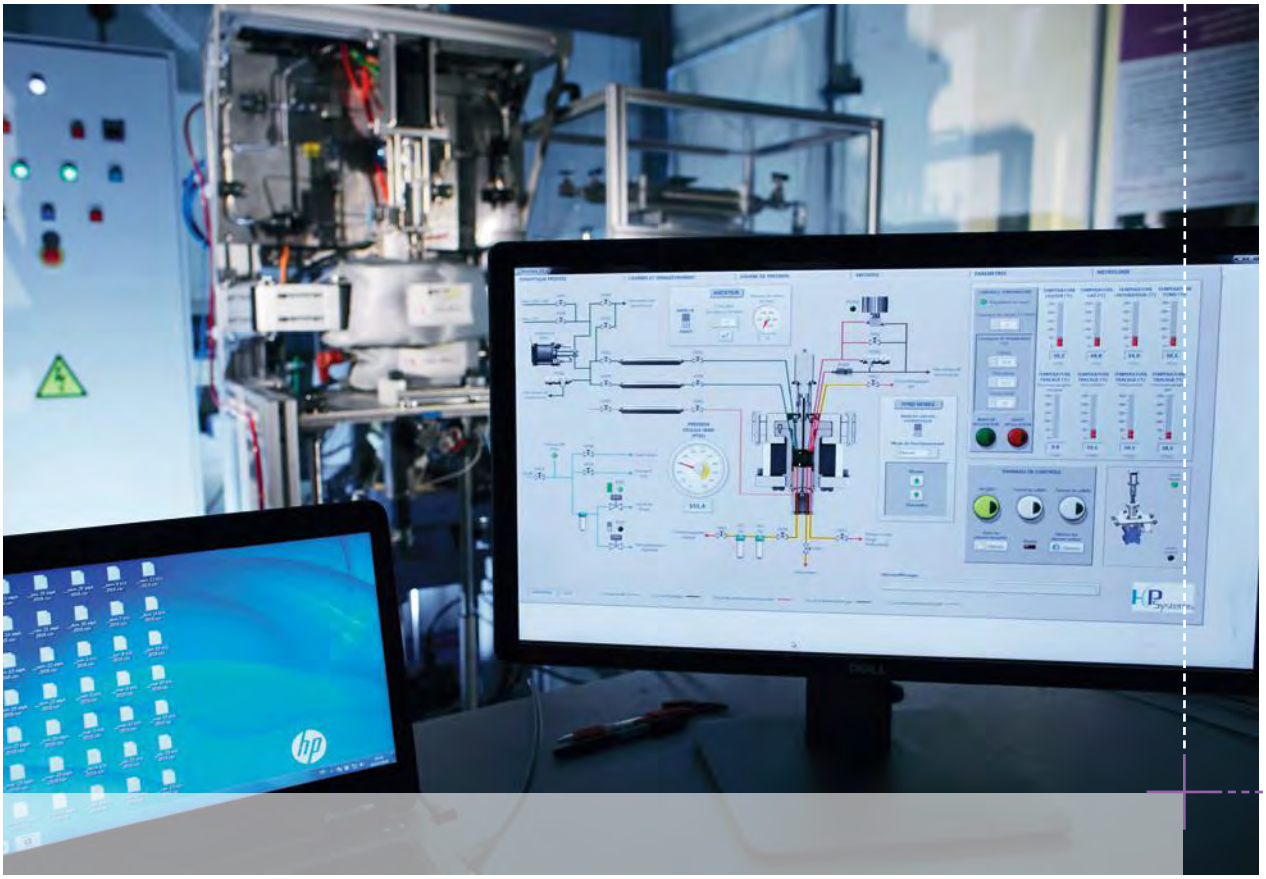
Generation of high-voltage pulses.
Generation of high pulse currents.
Simulation software.
Metrology and electrical characterization.

EXAMPLES OF REALISATIONS

Qualification of lightning conductor devices.

Generator development for applications of targeted therapies anti-cancer.

Treatment of gaseous effluents by electric shock.



PROCEN PLATFORM

OPTIMISED PROCESSES FOR ENERGY AND THE ENVIRONMENT

The PROCEN platform is positioned on the development of new processes for the energy transition. PROCEN enables process optimisation industrial companies via demonstration pilots.
The platform provides appropriate responses to the sober and efficient management of energy as well as environmental protection.

DOMAINES D'APPLICATIONS

- Energy.
- Materials.
- Environment.

THEMES AND COMPETENCES

Characterisation and "process" approach to sludge dewatering.

Characterisation of highly saline waters (applications to thermalism, cosmetology, energetics).

Characterisation of the thermal treatment of waste and biomass and for the modelling of treatment reactors (pyrolysis).

Optimisation of heating networks.

EXAMPLES OF ACHIEVEMENTS

Storage of thermal energy in phase change materials.

Module development thermoelectric. Impact of heat transfer fluids on heat exchangers.

Characterisation of pyrolytic oils from biomass.

MAVERIC PLATFORM

MODEL FOR VALIDATION EXPERIMENTAL COOLING BY CONTROLLED INJECTION

The MAVERIC PLATFORM offers experimental characterizations and flow turbulence modelling as well as the interpretation of phenomena and fluid mixtures.

FIELDS OF APPLICATION

- Aeronautics.
- Materials.
- Liquid and gaseous processes.

THEMES AND SKILLS

Instrumented test bench for aerodynamic studies internal, physical analysis of flows, turbulence.

Acoustics.

Validation of calculation programs and models of turbulence.

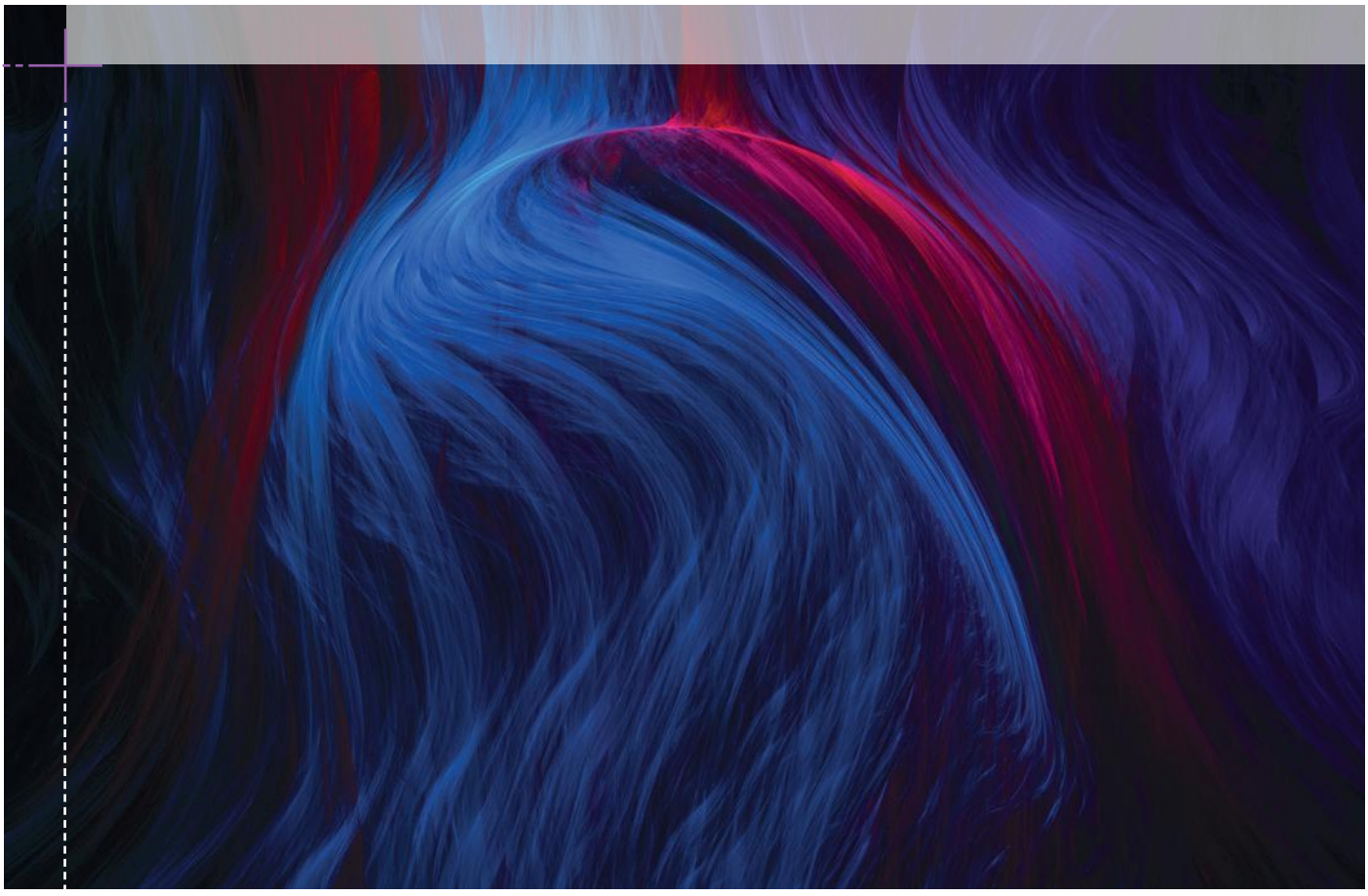
On-site campaigns of PIV measurements (Image Article Velocimetry) by observation of non-opaque fluids.

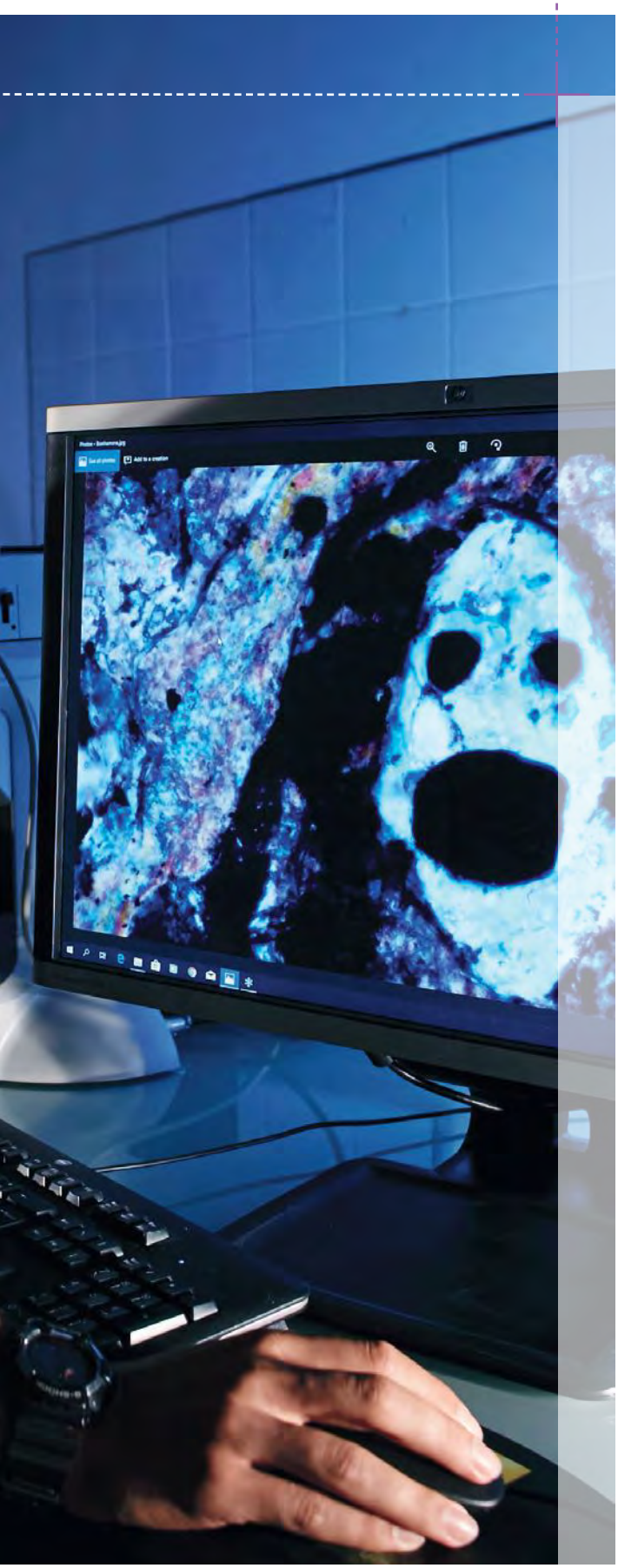
EXAMPLES OF REALISATIONS

Tests and modelling of flows around cylindrical storage enclosure (effect of the storms on industrial structures).

Cooling tests of engine parts helicopters.

Visualisation of liquid fluid mixtures (agri-food industry).





CRG PLATFORM

CHARACTERISATION OF GEOLOGICAL RESERVOIRSS

The CRG Platform brings together the instruments and skills needed to determine the properties and characteristics of geological reservoirs from micrometre to kilometre.

FIELDS OF APPLICATION

- Geological analysis of basins.
- Exploration of resources.
- Reservoir characterisation.
- Reservoir simulation.
- Modelling and signal inversion geophysics.

THEMES AND SKILLS

Preparation of the rocks.

Texture anisotropy analysis.

Quantitative petrography by observation microscopic thin/thick slides.

Measurement of compositional properties fluid inclusions of minerals.

Mineralogy of rock samples.

Experimental geophysics.

Field geophysics.

EXAMPLES OF REALISATIONS

Characterisation of fluid inclusions in rocks, dating.

Quantification of processes and conditions deformation in storage tanks.

CFC PLATFORM

CHARACTERISATION OF **COMPLEX FLUIDS**

The CFC platform offers experimental devices allowing to measure equilibrium conditions of fluid-fluid, fluid-solid phases but also to characterise the thermophysical properties of the fluids.

FIELDS OF APPLICATION

- Geosciences: gas storage (CO_2, H2).
- Energy: transport of gas in the form of hydrates (clathrates), dimensioning of thermal engines.
- Environment: CO_2 capture and storage.

THEMES AND SKILLS

Measurement of fluid-fluid, fluid-solid phase equilibrium conditions for pressures up to 100 Mpa.

Interfacial properties of fluids (variation of the pressure and temperature conditions).

Thermophysical properties of the fluid phases.

EXAMPLES OF REALISATIONS

Prevention of hydrate formation in offshore gas pipelines.

Development of a high pressure gas sampling device.

DMEX PLATFORM

DEVELOPMENT OF EXPERIMENTAL METHODS

The DMEX platform, certified ISO 9001, offers X-ray imaging and characterisation services of solid materials.

FIELDS OF APPLICATION

- Geosciences: study of rocks.
- Materials: concrete, wood, polymers.
- Environment: durability of materials under stress.

THEMES AND SKILLS

Non-destructive morphological characterization.

Visualisation of the internal structure of natural, biological and artificial materials with details of the order of a thousandth of a millimetre.

Implementation of samples placed under pressure and temperature constraints.

Real-time monitoring of fluid-solid interaction.

QUALITY APPROACH: ISO 9001 CERTIFICATION

EXAMPLES OF REALISATIONS

Non-destructive characterization of a state and 3D modelling of a tube ceramic.

Observation of cracks on grains of cereals for the optimisation of conditions transport - Euralis.

Characterisation of core plugs of sedimentary rocks, determination porosity - Total.

G2MP PLATFORM

GEOMECHANICS AND POROUS MEDIA

The G2MP platform includes a set of equipment for the determination of fluid transport properties and their behaviour in confined spaces. These tools allow the characterization of porous media for the study of gas storage, sedimentary rocks or advanced materials.

FIELDS OF APPLICATION

- Environment: CO_2 storage.
- Geosciences: porosity characterisation of rocks, reactions to the interfaces.
- Energy: H2 storage.
- Materials: characterisation of nanoporous materials.

THEMES AND COMPETENCES

Absorption isothermal measurements and couplings.

Permeametry.

Porosimetry and textural properties porous media.

Thermal and air treatment and flow mechanics.

EXAMPLES OF REALISATIONS

Storage of CO_2 in aquifers saline - e2s UPPA Industrial Chair CO_2ES Total, CNES, BRGM.

Study of storage and restitution hydrogen in materials hybrids - HYGIE II New Region Aquitaine.

MATCO PLATFORM

ADVANCED MATERIALS FOR CONSTRUCTION, CIVIL ENGINEERING, COASTAL ENGINEERING

The MATCO platform mobilises skills and characterisation tools to define the Behaviour of geomaterials (concrete, soil, etc.) and rocks) during damage studies, of cracking, permeability, coupling, etc. thermo-hydro-mechanics. It develops low-impact building eco-materials and geomaterials in aggressive environment (chemical, fire).

FIELDS OF APPLICATION

- Enironment: safety of the works.
- Geosciences: soil stability.
- Energy: eco-construction.
- Materials: durability.

THEMES AND COMPETENCES

Characterisation of fresh cementitious materials.

Characterization of granular materials, soils.

Mechanical characterisation of soils.

Manufacture and machining of concrete and mortar.

Modelling and numerical simulations of structures under complex loading.

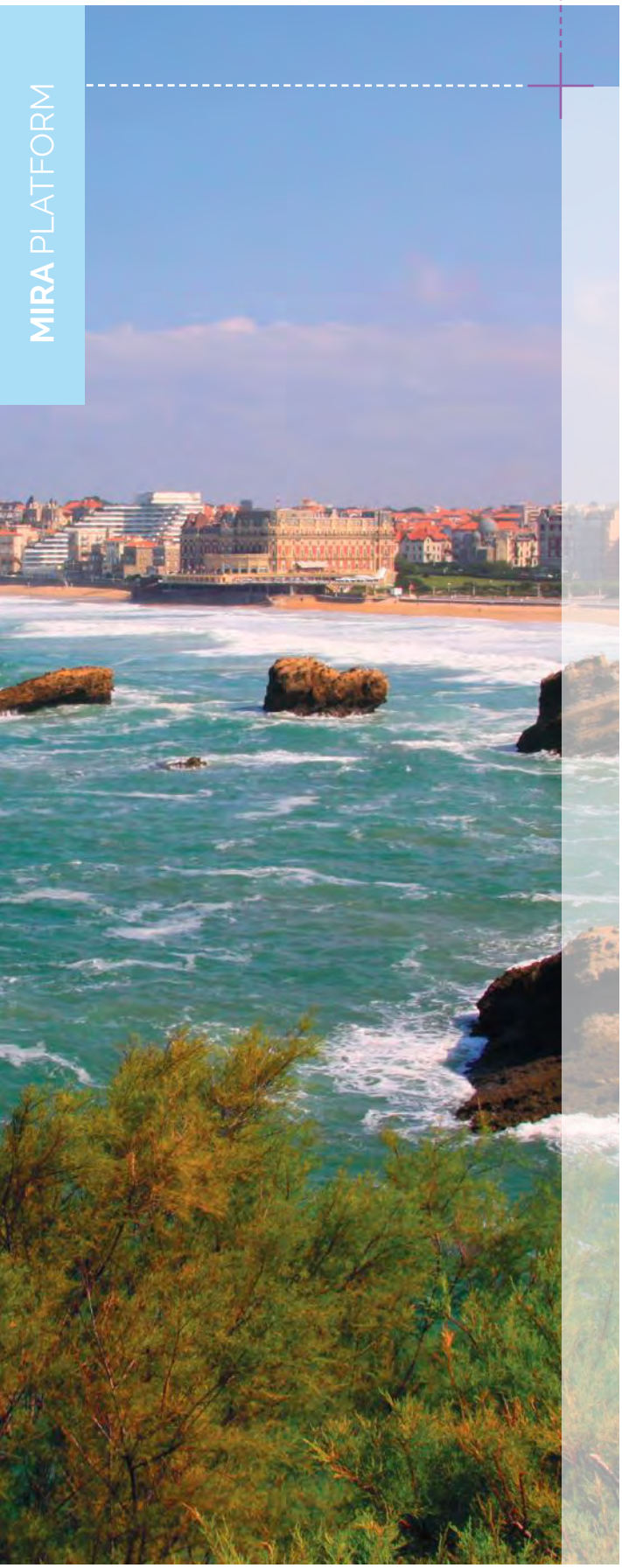
Experiments and characterisations: mechanical, thermal transfers, thermo-hydraulic transfers, couplings, indicators of sustainability after physicochemical stress.

EXAMPLES OF REALISATIONS

Characterisation of thermal and thermal performance mechanics of bricks in raw earth.

High temperature concrete behaviour - CSTB.

Ultra-fluid cementitious composite for storage radioactive waste subject to a fire hazard - CERIB, CSTB, IFSTTAR.



SCOPE PLATFORM

COASTAL FOLLOW-UP AND ESTUARINE PHYSICOCHEMISTRY

SCOPE specialises in the monitoring of coastal environments both for their characteristics physical as well as chemical and biological. The erosion of the coastline, the simulation the impact of waves on the structures, measuring the quality of coastal environments and estuaries are as many subjects that SCOPE approaches in its projects.

FIELDS OF APPLICATION

- Geosciences.
- Environment.

THEMES AND COMPETENCES

Reactivity and impacts of micropollutants and nutrients.

Dispersion of contaminants.

Physical observation of the coastline, topographical measurements.

Monitoring the quality of aquatic environments.

Maritime and river engineering.

EXAMPLES OF ACHIEVEMENTS

Impact of cigarette butts on the quality of coastal waters.

Wave impact modelling on a dike - HPC Waves Chair.

ECOMES PLATFORM

EMERGING CONTAMINANTS, -OMICS, SPECIATION

The analytical resources of the ECOMES platform federate a fleet of mass spectrometers for the characterisation of biomolecules and nano-objects in biological matrices, and materials..

FIELDS OF APPLICATION

- Environment.
- Food, nutrition, health.
- Energy.
- Materials.

THEMES AND COMPETENCES

Characterisation of proteins associated with metals or trace elements.

Characterisation of nanoparticles and nanoplastics (food, cosmetics, environment).

Speciation of metals (environment, oil, food, pharmaceuticals).

Analysis of volatile compounds resulting from the emission of materials.

Analysis of additives, contaminants, POPs, emerging pollutants, metabolites.

EXAMPLES OF ACHIEVEMENTS

Determination of active chemical forms trace elements in nutrition.

Characterisation of VOC emissions from of bio-sourced materials.

Nanoparticles in food.

I³ PLATFORM

INORGANIC, ISOTOPY, IMAGING

Platform I³ offers analytical means measurement of isotope ratios characterization of nano-objects, analysis of high-sensitivity metals by laser ablation and imaging of chemical elements with very low scale (cells).

FIELDS OF APPLICATION

- Geosciences.
- Environment: characterisation of nano-objects, biogeochemical cycles.
- Agri-food / health: traceability of origin.

THEMES AND COMPETENCES

Isotopy of metals, metalloids, radionuclides....
Isotopy of light elements (C, N, H, O, S).

Qualitative identification, adulteration, traceability of origin.

Elemental imaging.

Geochronological dating (U, Pb & Th).

Biomineral analysis, forensics, traceability (counterfeits, adulteration).

Characterisation of chemical elements and their isotopes nano scale on the surface of a sample and/or subcellular cells in the field of living organisms and medicine.

EXEMPLES DE RÉALISATIONS

Direct analysis of traces in polymers by laser ablation - Arkema.

Characterization of trace elements in the biomethane - Teréga.

Traceability of wine origin by isotopic analysis with high sensitivity.

Elementary imaging at the cell scale.

XRISE PLATFORM

CHARACTERISATION SURFACES AND INTERFACES

The XRISE Surface and interface characterisation platform offers equipment to define the complementary measures to define the physical and chemical properties of samples solid and viscous by methods spectroscopic and imaging.

FIELDS OF APPLICATION

- Materials: energy storage, corrosion studies, microelectronics, catalysts.
- Environment, health: nanoparticles.
- Polymers: tyres, recycled materials.

THEMES AND COMPETENCES

Surface spectroscopic analysis: detection of chemical elements, determination of the local chemical environments (speciation), quantitative analysis.

Chemical mapping of the elements of a surface.

Morphological analysis of a surface / measurement of roughness and surface mechanical properties.

Electronic structure of the materials.

Transfers and analysis of samples in atmosphere controlled / cold analysis (frozen T N2 samples).

EXAMPLES OF REALISATIONS

Characterisation of reactions to interfaces in a lithium battery HUB RAISE 2024
SAFT ARKEMA.

Study of ageing phenomena, degradation and corrosion in the field of transport - Thales, Messier-Dowty, Michelin.

POLYCaTS PLATFORM

ANALYSIS AND CHARACTERISATION OF POLYMER MATERIALS

The POLYCaTS platform offers a range of skills and techniques for the physical and chemical characterisation of polymers. The used means are applied as much to the synthesis of polymers as to their processing and properties.

FIELDS OF APPLICATION

- Energy: energy storage, use of conductive polymers.
- Environnent: impact on natural environments, purification processes, nanoplastics.
- Geosciences: assisted recovery.
- Agri-food/health: formulation of adhesives.

THEMES AND SKILLS

Development of innovative methods in areas of chemical composition / structure / size of polymers, colloidal matter and nanomaterials.

Development of new materials, new properties, new processes (conductive polymers, biosourced polymers, sensors).

Multidimensional analysis of materials.

Concept / development / optimisation of methods of specific characterisation.

Measurement of physical or electronic properties materials.

Shaping and ageing of materials.

EXAMPLES OF REALISATIONS

Development of recyclable plastic platforms for contract catering - collaboration with Noostrim start-up created in 2018.

Characterisation and metrology of nanoplastics in the environment.

Bio-inspired sunscreen formulation - Laboratory of Biarritz - Manta Chair.

CARMICE PLATFORM

MICROBIOLOGICAL CHARACTERIZATION AND ENVIRONMENT

The CARMICE platform offers a set of f skills in the fields of identification, sequencing, microbial culture (aerobic, anaerobic, extreme environment), as well as the provision of a stem bank microbial of interest.

FIELDS OF APPLICATION

- Geosciences.
- Environment.
- Agri-foodstuffs.

THEMES AND SKILLS

Culture (aerobic, anaerobic, extreme environment).

Characterisation and dynamics of microbial communities.

Reactivity or adaptation to stress.

Geochemistry, natural attenuation of contaminants.

Industrial and agri-food processes.

EXAMPLES OF REALISATIONS

Definition of genetic markers associated with plant/microbial soil interaction traits by view of genetic plant breeding (potatoes) - ERA NET project.

Effect of micro-organisms on gas storage natural - Project RINGS TEREGA, STORENGY.

Microbiological characterisation of processes of 3rd generation biofuel production, selection of resistant bacterial strains to the toxicity of biofuels.

INRAE PLATFORM

IE ECP PLATFORM

EXPERIMENTAL INSTALLATION
FISH BEHAVIOURAL ECOLOGY

The I E ECP platform, which is backed by the Saint-Pée-sur-Nivelle Hydrobiology centre, offers studies on fish and aquatic resources in their environment.

FIELDS OF APPLICATION

- Management of fish populations and their environment for the preservation resources and biodiversity.
- Population trends.
- Assessment of species in aquaculture.
- Development of ecological approaches experimental (in a controlled environment or natural), modelling and genetics populations.

THEMES AND SKILLS

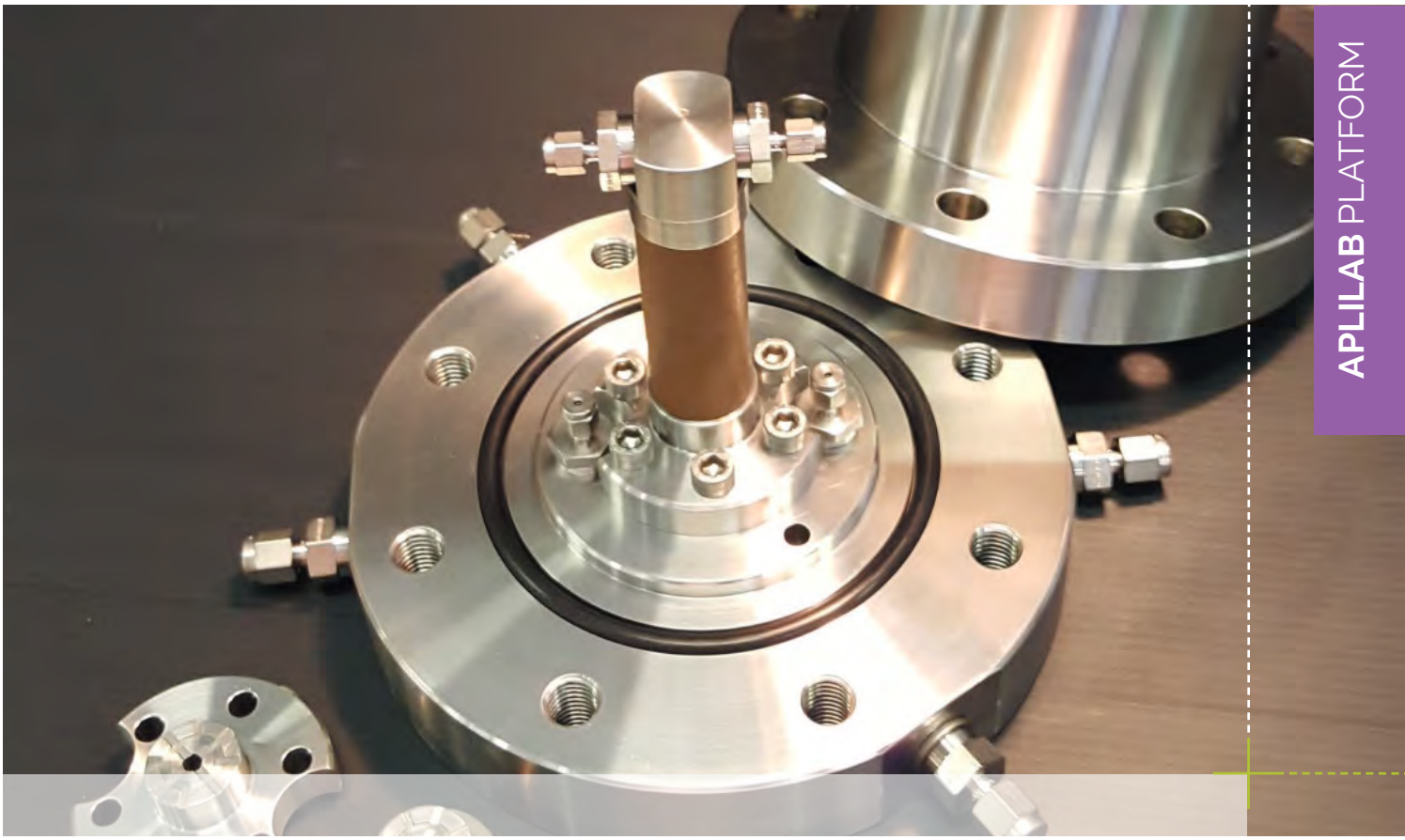
Experimentation on migrating fish, focused on the study of biology and the behaviour of the species.

Monitoring of migratory populations through trapping/counting of individuals, the fish stalling and catching them in the natural environment.

EXAMPLES OF ACHIEVEMENTS

Study of the implementation of RFID chips for monitoring fish populations - SCIMABIO Interface.

Substitution of animal meal in the fish nutrition - junior chair.



APLILAB PLATFORM

PHYSICS AND GLASS WORKSHOPS

Physics and glassware workshops propose to develop and carry out new experimental devices and accessories for the research activities studies.

AREAS OF EXPERTISE AND ACHIEVEMENTS

Design in various fields (high pressure, high voltages, plasmas, specific instrumentation).

Machining on conventional machines (turning, milling).

3D FDM printing (molten filament deposition).

Design and repair of Pyrex and Quartz parts.

Definition of properties for high resistance.

C2STD PLATFORM

SCIENTIFIC COMPUTING AND DATA PROCESSING

The C2STD platform allows you to bring a support for research teams with needs in terms of scientific computing and/or data processing.

FIELDS OF APPLICATION

- Chemistry.
- Molecular dynamics.
- Mechanics of solids and fluids.
- Process and environmental engineering.

THEMES AND SKILLS

Support for the development of scientific software.

Provision of computing resources.

Technological watch in the field of scientific calculation.

Technical correspondence with meso-centre and national centres.

AGRO-FOOD TECHNOLOGICAL PLATFORM

SENSORY ANALYSIS AND FOOD TESTING

The agri-food technology hall provides access to a set of tools for the carrying out tests on food products.

FIELDS OF APPLICATION

- Food industry.
- Sensory analysis.

THEMES AND SKILLS

Manufacture of food products.

Development of food products for the pilot scale.

Technical support in implementation sensory analysis.

Initiation to sensory analysis.

Control of bioproducts.

EXAMPLES OF REALISATIONS

Manufacture of foodstuffs of animal origin type: pâté, sausages and various products vacuum packing - Ferme de Pichon.

Training courses (CTCPA, technical centre the preservation of agricultural products and CNFPT, the national centre for the function territorial public).

04

Review of activities, events and highlights

1. EVOLUTION OF THE PLATFORMS: CREATION OF SCOPE AND MATCO, REDEFINITION OF THE G2MP-GC PERIMETER

At the end of 2019, two new platforms were created.

SCOPE, oriented towards environmental monitoring, has all the characteristics of a marine station and aims to participate in the major national and European networks responsible for providing essential information on the monitoring the quality of coastal and estuarine environments.

MATCO offers access to equipment in connection with the characterisation of advanced materials for sustainable construction. It brings together expertise in civil and coastal engineering.

G2MP created from the resizing of the G2MP-GC platform is focused on the characterization of porous media. Its positioning flagship concerns the storage of hydrogen and CO_2.

These three platforms will enter an operational management phase by UPPA Tech in 2020.

2. PROMOTION AND COMMUNICATION ACTIONS

UPPA Tech's VISIBILITY DEVELOPMENT PROMOTION AND COMMUNICATION ACTIONS

This communication is in line with the values that UPPA wishes to convey via UPPA Tech.

Communication actions are carried out for a better visibility and a better in value of instrument sets and associated skills in relation to the Carnot Institute ISIFoR (Sustainable engineering georesources) for research of excellence.

- Joint actions are organised with CEPyA, the UPPA business club, relay to the local socio-economic fabric.
- Collaborations are woven with the ecosystem: technopoles, competitiveness cluster, etc. in order to highlight and further develop socio-economic partnerships.

These communication and promotion actions are based on:

- the organisation of theme days;
- participation in trade fairs, conferences technical, business meetings, workshops, etc. ;
- the organisation of visits to the platforms;
- presence in the field (industrial sites, technopoles, competitiveness clusters).

COMMUNICATION TOOLS PUT IN PLACE:

- Website **https://uppatech.univ-pau.fr.**
- Brochure *(English and French versions)*.
- Promotional film.
- Thematic Kakemonos (cosmetics, CO_2 and CH_4 storage, hydrogen storage).
- Social networks *(LinkedIn)*.

EXTERNAL COMMUNICATION ACTIONS

EXHIBITIONS:

Participation in trade fairs in the instrumentation, environment, energy, chemical and food-processing sectors.

Forum labo, Paris (exhibition)
Technological watch in analytical chemistry.

All Energy, Glasgow (joint exhibitor with Invest In Pau Pyrénées) - *39 contacts followed up.*

Chemistry Lyon (exhibition) - *14 followed up.*

2019 Bordeaux (exhibition) – *9 followed up.*

Cosmetic 360 (exhibition as exhibitior)
24 followed up.

BUSINESS MEETINGS:

Participation in business conventions in the fields of the environment, geosciences, etc. and the food industry.

Cycl'eau, Bordeaux – *3 appointments made.*

Geoenergy days – *11 meetings held.*

Nutrevent, Rennes – *21 contacts followed up, 13 appointments made.*

TECHNICAL DAYS:

8 in the fields of materials, sustainable construction, circular economy, water and industry, environment, hydrogen, innovations for the sector sport.

PROMOTIONAL ACTIONS:

17 organisations of visits to the platforms on behalf of industrial, poles, consular chambers, etc.

INTERNAL COMMUNICATION ACTIONS

THEME DAYS:

- **2018**
  UPPA Tech open doors for 50 visitors.
  Surface treatment for the sector aeronautics in collaboration with the AEROSPACE VALLEY centre.
- **2019**
  Protection of water resources for 5 participants.
  Design and integration of electrochemical batteries in aircraft in collaboration with the AEROSPACE VALLEY cluster, 80 participants.

CONTRACTUAL ACTIVITIES DRIVEN BY UPPA TECH:

Number of contracts generated:

- 2 provision of equipment *(AIA, Noostrim);*
- 1 ASL Induslacq agreement;
- 8 secrecy agreements signed.

SYNERGY WITH TERRITORIAL DEVELOPMENT POLICIES

- Links with competitiveness clusters *(Aerospace Valley, AVENIA, AGRI SUD OUEST INNOVATION, ELASTOPOLE, ODEYS, ALPHA-RLH).*
- Industrial areas Lacq Pau Tarbes.

UPPA Tech ORGANISED IN JULY 2019, ITS 1ST INTERNAL SEMINAR

with the managers of the platforms in partnership with the consulting company CMI: four work sequences under workshops on UPPA Tech's missions have been held in the form of were organised.

- **Sequence No 1**
  Expectations of UPPA Tech and perceived risks.
- **Sequence No 2**
  Positioning of the service offer.
- **Sequence No 3**
  Exchanges towards a shared calculation model costs and tariffs.
- **Sequence No 4**
  Animation and exchanges between platforms.

3. MANAGEMENT OF THE FINANCIAL FLOWS OF PLATFORMS

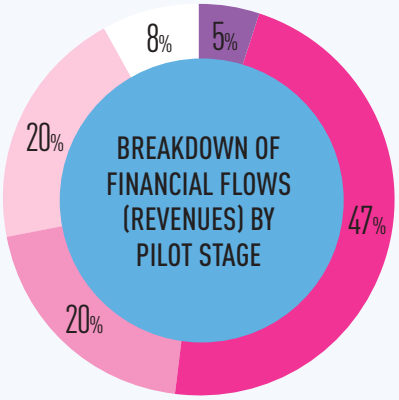
FINANCIAL MANAGEMENT BEGAN IN 2019 WITH 5 PILOT PLATFORMS, WHICH MADE IT POSSIBLE TO DEFINE THE FINANCIAL PROCESSES TO BE DEPLOYED. ALL THE PLATFORMS WILL BE GRADUALLY INTEGRATED INTO OPERATIONAL MANAGEMENT, NOTABLY THROUGH EQUIPMENT INVESTMENT PROJECTS.

In 2019, a total financial flow of

430 000 €

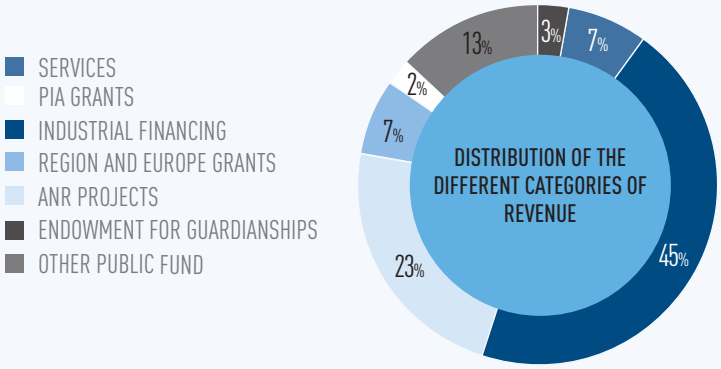
... has been managed for

5 PILOT PLATFORMS

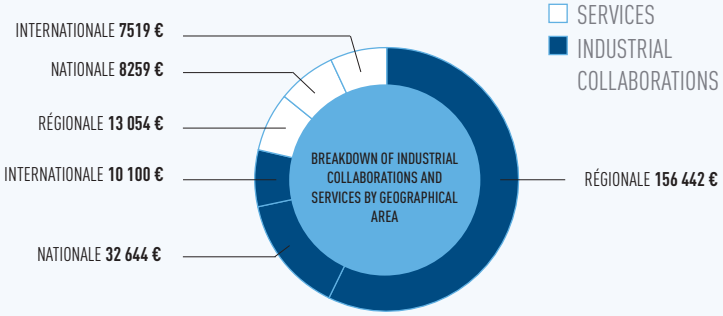


SOURCE OF FINANCIAL FLOWS

The financial flows come from various sources and are mainly the result of industrial research collaborations. Projects funded by the ANR and by local authorities complete the panel of flows showing the diversity of funding.



A focus on private partnerships (research collaborations and services outside the APLILAB platform) shows a strong representation of research projects and a geographical anchoring at the regional level.



4. EQUIPMENT PROJECTS

UPPA Tech steers investment projects via calls for projects "shared platforms" from the Nouvelle Aquitaine regional council, complemented by the support of the e2s UPPA project. Since 2018, UPPA Tech has coordinated and monitored 2 projects with a total investment of €2.4M.

IXIA MULTI-SCALE STRUCTURAL AND CHEMICAL IMAGING IN 2D AND 3D

NanoSIMS
Ultra-fine sample preparation

TOF-SIMS
MS molecular tandem

FsLa-ICPMS MS
Tandem Isotopic

Dual energy X-ray microtomography

From nm to cm

Morphological, structural, molecular, isotopic 2D and 3D

From ultra-trace to %

Application to macromolecules, nanoparticles, cells, grains, rocks

IXIA (X-RAY TOMOGRAPHY IMAGING, ION PROBES AND LASER ABLATION)

Investment: **€1.2m (I3, XRISE, DMEX platforms)**
Financing: **50% New Aquitaine region, 30% e2s UPPA, 20% UPPA equity capital**
Project support: **AVENIA and ALPHA-RLH competitiveness clusters**
Objective: **increase in skills in the field**

The IXIA instrumental platform, a 2D and 3D imaging tool 3D, unique in New Aquitaine, offers a new approach in analytical physico-chemistry allowing the obtention of morphological and chemical information simultaneously at different size scales (from nanometre to centimetre) and mass (pg to %).

The IXIA platform meets the needs of academic researchers and local, national and international socio-economic players, particularly in terms of imaging, dating and traceability in sectors as varied as energy (electrochemical storage / batteries), the environment (detection of traces of metals), archaeology, subsoil exploration, fine chemistry, the fight against counterfeiting, biology and biomedicine (biological tissues, neuronal cells, etc.), surface treatment (anti-corrosion coatings, functionalized glasses...), the study of polymers / composites for transport and food processing.

The IXIA platform combines X-ray tomography, nano-mass spectrometry, time-of-flight and secondary ion mass spectrometry technologies (ToF-SIMS and ToF-SIMS) with a wide range of other technologies. NanoSIMS). For these state-of-the-art instruments available on UPPA Tech's platforms, the acquisition of new devices for the preparation of specific samples; the acquisition of a detector for complex molecules (Tandem MS) and high-resolution X-ray tomography allow technical advances to be made. major. In addition, the detection of trace elements and their isotopes within different types of materials is enhanced by 2 femtosecond lasers coupled to quadrupole inductively coupled plasma mass spectrometers (ICP MS/MS), allowing identification with extreme selectivity and pushes the limits of analysis towards unequalled thresholds for elements present in ultra-traces.

The equipment of the IXIA project:

Ultra-microtome • Polisher • Metalliser •
Microscope • Tandem MS for TOF • SIMS • LIBS •
ICPMS triple quadrupole ICPMS •
X Microtomograph "dual energy"

PHYSA (GROUPING AND COUPLING OF INSTRUMENTS FOR MULTIDIMENSIONAL AND MULTIPHYSICAL ANALYSES)

Investment: **€1.2m (POLYCATS, ECOMES, MATCO, G2MP platforms)**
Financing: **80% e2s UPPA and New Aquitaine region, 20% UPPA equity**
Project support: **AVENIA, Xylofutur and ODEYS competitiveness clusters**
Objective: **instrumental couplings for multidimensional characterisation**

The PHYSA platform (Pooled and HYphenated instruments for multidimensional and multiPHYsics Analyses) proposes to apprehend the expertise of new materials via multi-dimensional characterization and the study of their behaviour under real conditions of use and implementation.

The PHYSA platform is oriented towards methods that are innovative and includes in particular:

- the development of a unique tool in France and Europe combining characterisation techniques such as liquid chromatography, nuclear magnetic resonance (NMR), inductively coupled plasma mass spectrometry (ICPMS) and high-resolution mass spectrometry coupled with ion mobility (TIMS-TOF),

- the development of experimental pilots enabling the implementation of coupled thermo-chemohydro-mechanical measurements in real conditions of use or environment (basement). The applications are related to the production, transport and storage of hydrogen in porous media, but also in the manufacture and use of the validation of new materials with a lower impact for sustainable construction.

The applications of the PHYSA platform therefore focus on two main areas and are positioned in several domains with economic, environmental or societal stakes:

ENERGY:

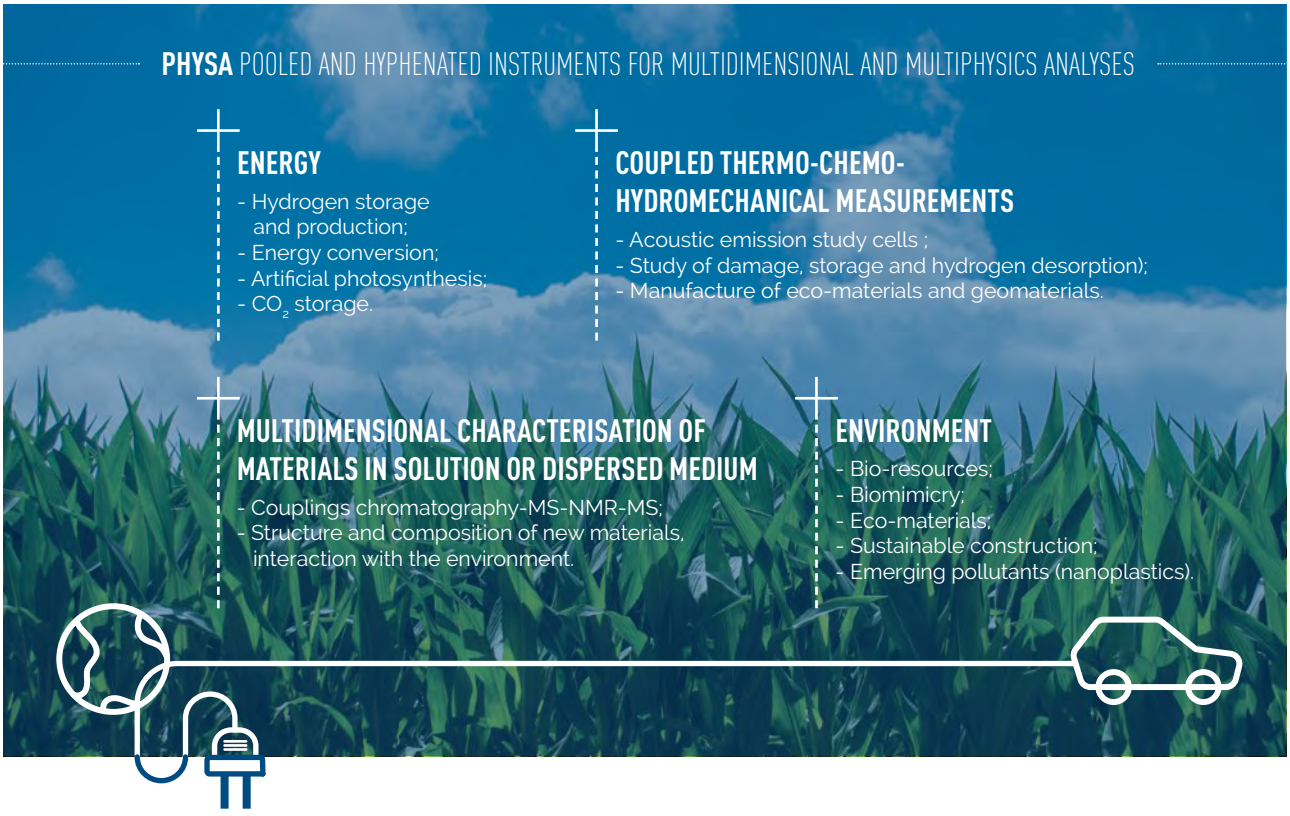
hydrogen storage and production, energy conversion, artificial photosynthesis, CO_2 storage, new mobilities ;

ENVIRONMENT:

bio-resources, biomimicry, eco-materials, sustainable construction, emerging pollutants (nanoplastics), etc.

The equipment of the PHYSA project:

Ultra high performance separation system • 400 MHz NMR • Acoustic emission study cells equipped with an infra-red analysis device • Hydrogen detection unit • MecoConcept and electromechanical brick presses 300kN • Laboratory mixers, concrete, mortar and cement grout mixers, polisher, saws



05

UPPA Tech brings a new tool to all the actors of the territory.

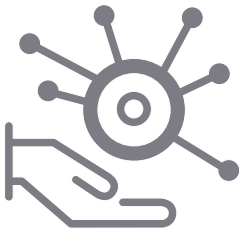
ORIENTATIONS AND PERSPECTIVES:

THE PLATFORMS THAT MAKE IT UP ARE OPEN TO COMPANIES AND BEYOND, TO LARGE GROUPS AND SMES, AS WELL AS SMES AND SMES, AND LOCAL AUTHORITIES.

The instrumental service centre provides researchers with the following services of UPPA, research organisations and the scientific community national and international **state-of-the-art experimental facilities**.

UPPA Tech also aims to strengthen collaborative research with industry, to improve services, to support the transfer of research results from laboratories to companies through the networking of equipment and skills. This means:

- Making the instruments more efficient, open and easy to access, particularly with regard to the socio-economic sector;
- Pooling the instrumental excellence of the UPPA with that of the companies in the territory;
- Becoming a key player in innovation projects in conjunction with the territory's socio-economic actors.



1. TO CARRY A DYNAMIC INVESTMENT APPROACH

UPPA Tech's mission is to offer a first-class instrumental park at an international level.

> Access to state-of-the-art equipment requires a **dynamic and far-reaching investment policy strongly** supported by e2s UPPA and local authorities.

SEVERAL TOOLS WILL BE USED TO MEET THE NEEDS:

- An investment seed fund will be set up in order to developing, renewing and maintaining this stock with the help of tools for adapted management (CMMS, cost sheets, etc.) ;
- Financial support will help the renewal of small equipment;
- The steering of major investment projects will make it possible to deploy the UPPA's multi-year investment plan (CPER, e2s UPPA, Conseil Régional Nouvelle Aquitaine (CRNA) platforms mutualised, etc.).

A strengthening of this investment policy is planned in the Through various future actions:

The structuring project IDéES* SWEET-AI

(South West Energy and Environment Technologies - Advanced Innovation) carried by UPPA and filed March 2020. These include, among others, over 9 years to create the best conditions for access to power instrumental of the UPPA for economic actors and in particular SMEs and TWAs; while promoting the development of skills technical staff working on the sets. The project also aims to participate in the creation of campuses of innovation in which academic and research privately-owned companies are converging to serve the territory.

**Call for projects ANR IDéES 2019 " Integration and development of IdEx and ISITE " which aims to support universities with the ISITE label. (institutions holding an IdEx or ISITE) in their efforts to transformation.*

The support of the e2s UPPA I-site

has been solicited via an investment request for 2020 bringing together several platforms around the CLIMAC project (contributions to the limitation of the the effects of climate change and its consequences) in connection with with climate issues.

CLIMAC (CONTRIBUTIONS TO LIMITING THE EFFECTS OF CLIMATE CHANGE AND ITS CONSEQUENCES)
Investment: **€1.4m (G2MP, CRG, DMEX, SCOPE, ECOMES platforms)**
Objective: **4 pools of equipment dedicated to the study of climate change and its impacts**

IMPACT OF CLIMATE DEREGULATION

MITIGATION SOLUTIONS

EXTREME WEATHER EVENTS

Experimentation on a wave channel on the effects of extreme climatic events

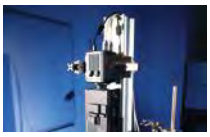
REMEDIATION STRATEGIES

In situ physico-chemical monitoring of environments

Description of solid media by digital microscope

Monitoring by ICP-MS and its couplings

CO_2 STORAGE



Optical storage studies of CO_2 on pilots in conditions actual pressure and temperature

COASTAL RESILIENCE

3D imaging and composition elementary by microtomography equipped with a spectral detector

Capital projects of international scope:

- Contrat de Plan Etat Région (CPER) 2021-2027 - Estimated budget €10M.
- Call for expression of interest EQUIPEX+ 2020 - 3 large-scale projects between €4M and €10M each.

THE EQUIPMENT ENVISAGED:

CPER 2021-2027 :

Multi-platform equipment, ECOMES, POLYCATS, XRISE, I³, backed by the IPREM UMR 5254: Equipment for developing state-of-the-art methods for the analysis and characterisation of objects, surfaces and interfaces at various scales and their coupling: very high resolution mass spectrometer FT ICR MS, Auger spectrometer new generation, new techniques for the nanocharacterisation of materials. Extension analytical capabilities in the field of ultra trace of isotopy and imaging.
Equipment for the G2MP and CFC platforms, backed by the LFCR/IPRA, to reinforce the small-scale material characterisation systems and to expand the equipment for the study of coupled multi-physical phenomena in porous media on the one hand, and to develop a microscopy pole on the other hand.

EQUIPEX+ 2020 :

PLATTO: PLatform for isotopic ATTOtraces analysis - Platform for elementary measurements of isotopes in attotraces on inorganic matrices or in gases (I³ platform).
IMAGINE : Imaging and analysis national shared platform for environmental and energetic transitions (DMEX platform) - Instrumental platform for 2D-3D imaging around X-ray electron spectroscopy instruments.`
HECTOR: Hydro-morphodynamics in coastal areas: collaborative tools for scientific research (SCOPE platform)

2. OPTIMISED EQUIPMENT MONITORING

In order to ensure optimal operational management, UPPA Tech is setting up in 2020 an in-depth internal diagnosis to enable a very detailed qualification of the instrument park present at the university.

> **The objectives are to manage the rejuvenation of the equipment and to plan the increase in power of the instrumental park** through innovative and breakthrough investments, in line with the strategic orientations towards a search for excellence.

- This exercise must be carried out by taking into account the mapping of the equipment presents on the territory, in particular within the private R&D centres. This action is part of the Strategic and Management Dialogue of UPPA for the period 2020 - 2021 for which UPPA Tech has been identified as one of the strategic axes.
- Dedicated staff will be in charge of carrying out a detailed inventory and fine mapping of the instrumental and experimental park and implementing a computer-assisted maintenance management application (CMMS).

This tool will be used as a decision-making aid in the renewal of the fleet.

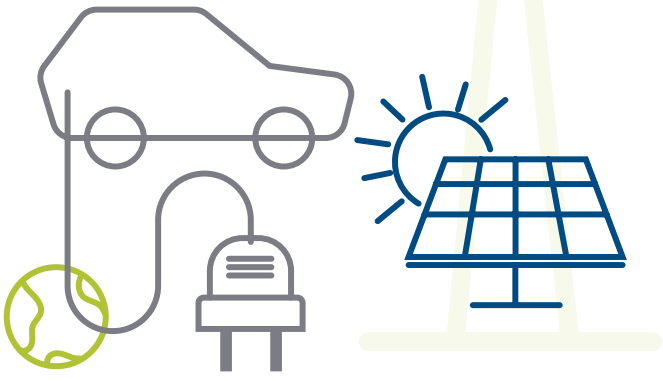
In addition to these actions, UPPA Tech will centralise the management of laboratory gases, enabling rationalisation of consumption and financial management of this expenditure item.

3. CUTTING-EDGE SKILLS FOR STATE-OF-THE-ART EQUIPMENT

The development of the instrument park makes sense if qualified personnel are present for maintenance and project implementation. UPPA Tech will organise and pilot the HR support to the platforms with the support of the e2s UPPA project, based on a viable economic model.

THE OBJECTIVE OF THIS APPROACH IS THREEFOLD:

- To maintain strong skills as close as possible equipment;
- To guarantee the partners a functioning optimal equipment and structured access;
- To be able to respond favourably to a greater number of requests.



4. TO PROMOTE SYNERGIES ON THE TERRITORY AND INTERNATIONAL COLLABORATIONS THROUGH PARTICIPATION IN NETWORKS

The networking of cutting-edge equipment, including with those present in companies, the development of European networks of technical platforms, collaborations with e2s UPPA partners will make it possible to offer a unique range of scientific skills.

> **The objective will be to respond even more effectively to the needs** of academic researchers and local, national and international socio-economic actors, particularly in terms of characterisation, analysis and experimentation, to be even more attractive in order to meet needs for development, modelling, transformation and to promote entrepreneurial spirit.

THIS ORIENTATION IS INSCRIBED IN THE STRATEGIC AND MANAGEMENT DIALOGUE OF THE UPPA THROUGH TWO ACTIONS:

POOLING SCIENTIFIC EXCELLENCE ON A TERRITORIAL SCALE

The aim is to carry out an in-depth mapping exercise to establish the necessary basis for weaving a regional and national network of state-of-the-art instruments. Communication actions will be organised for a better visibility and an enhancement of the sets of instruments and associated competences related to the priority themes of the territory.

PARTICIPATE AND DEVELOP EUROPEAN NETWORKS

Initially, UPPA Tech proposes to share its instrumental offer with networks existing Europeans such as :

- METROFOOD (metrology in the agro-food sector) : UPPA is already a partner.
- ECCSEL (stockage CO_2): positioning under study.

The development of instrumental networks is also a strong action of the structuring project IDEAS SWEET-AI (South West Energy and Environment Technologies - Advanced Innovation). The short-term objective (2022) is to federate UPPA Tech tools and industrial partners to enable the development of research collaborations, innovation and training on platforms open themes.
In a second phase, an inventory of existing networks positioned on UPPA's research themes will enable new opportunities to be identified..

In this context, the aim is to offer researchers, students and companies, a multi-partner and international instrumental and technical infrastructure, but also to create places of innovation on several scales in relevant fields of excellence.

5. EASIER ACCESS TO THE TECHNICAL PLATFORMS FOR INITIAL AND LIFELONG TRAINING

UPPA Tech is **also a tool at the service of the university's initial training** courses offering access to state-of-the-art instruments for all students.

> This contributes to **the influence of the university through a quality training offer that is recognised on the job market.**

UPPA has made the development of lifelong learning one of its priorities, wishing to be a key player in the development of skills in the territory but also at national and international level. **Since 2019, UPPA has integrated UT2A Formations & Conseil* into the activities of the Continuous Training Department (FOR.CO) of the establishment.** This means through proposals for short inter-company training courses in areas mainly oriented towards on the technical platforms of UPPA Tech and the tailor-made in-company training courses.

The longer-term objective is to develop a strategy for excellence in training (in link with UPPA's FOR.CO department), based on the deployment of European instrumental networks and of demonstrators (see 5.6). This proposed strategy in the SWEET-AI project must take into account the specific needs of the industrial world and the major strategic scientific orientations such as sustainable development, energy transition, preservation of biodiversity, etc.

** UT2A Training & Consulting, specialising in the organisation of internships and training courses in analytical sciences and engineering In 2019, the chemical industry's Continuing Education department will be integrated (FOR.CO) of the University of Pau and Adour countries.*

6. DEMONSTRATORS AS PROOFS OF CONCEPT FOR NEW TECHNOLOGIES

In addition to the communication actions, **UPPA Tech will participate in the setting up of demonstrators within the innovation campus defined in the IDéES call for projects.**

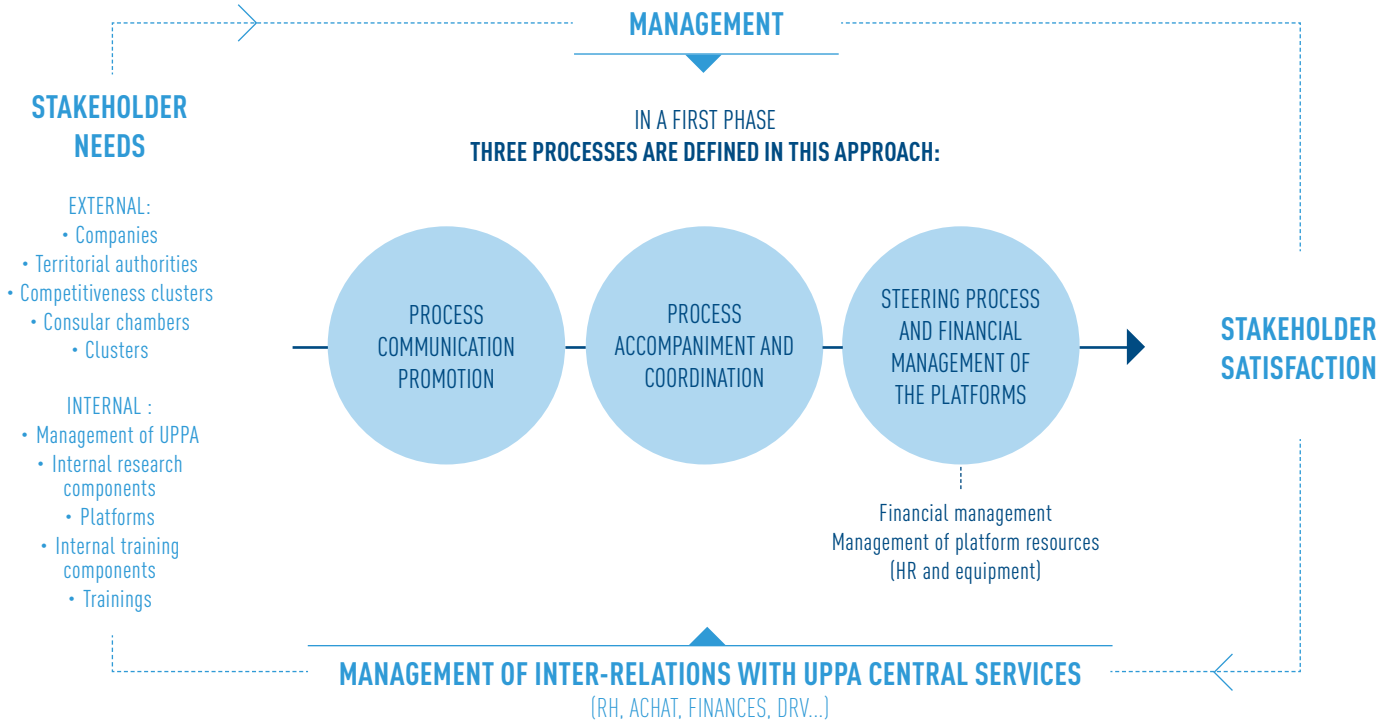
The objective will be to provide project leaders of pre-maturation and maturation projects, in conjunction with Aquitaine Science Transfert, with dedicated facilities enabling them to access the instrumentation necessary for the development of their technologies. It will also provide researchers and external partners (companies, START-UP, laboratories, etc.) with an experimental field via demonstrators facilitating the deployment of their own innovations.

These demonstrators, real factors of attractiveness, will highlight the results of the Research and Development and innovation and will allow for the presentation of evidence concept of new technologies.

7. QUALITY ISO 9001 UPPA Tech

UPPA Tech, in order to optimise its performance and best satisfy the requirements of its partners, whether internal or external to the University, is committed to **a process of continuous improvement**.

> This is reflected in the commitment to **obtain ISO 9001 certification in 2021**.



A COMMITMENT TOWARDS A NEW STRUCTURING

THE NEXT STEPS OF THE UPPA Tech PROJECT

01 A MULTI-ANNUAL INVESTMENT

POLICY

- Programming and managing equipment investment projects platforms around structuring projects;
- Deploying an investment seed fund in line with the UPPA's research strategy.

02 AN INSTRUMENTAL POWER

IN ITS TERRITORY

To create synergies between the instrumental means of the UPPA Tech platforms and the socio-economic actors of the territory through the construction of a territorial network with the private research, development and innovation centres: to propose a wider, complementary and open instrumental power, accessible both to large accounts and to TWAs and SMEs.

03 TOOLS AT THE SERVICE OF INNOVATION

Deploy demonstrators at the service of innovation and territorial development.

04 FOR A SEARCH FOR EXCELLENCE

Integrate and animate European instrumental platforms and national and international networks of major instruments.

05 HIGH-LEVEL TECHNICAL SKILLS

- Putting in place the tools to recruit ;
- To perpetuate highly technical personnel dedicated to the operations of the platforms.

06 ATTRACTIVENESS THROUGH TRAINING EXCELLENCE

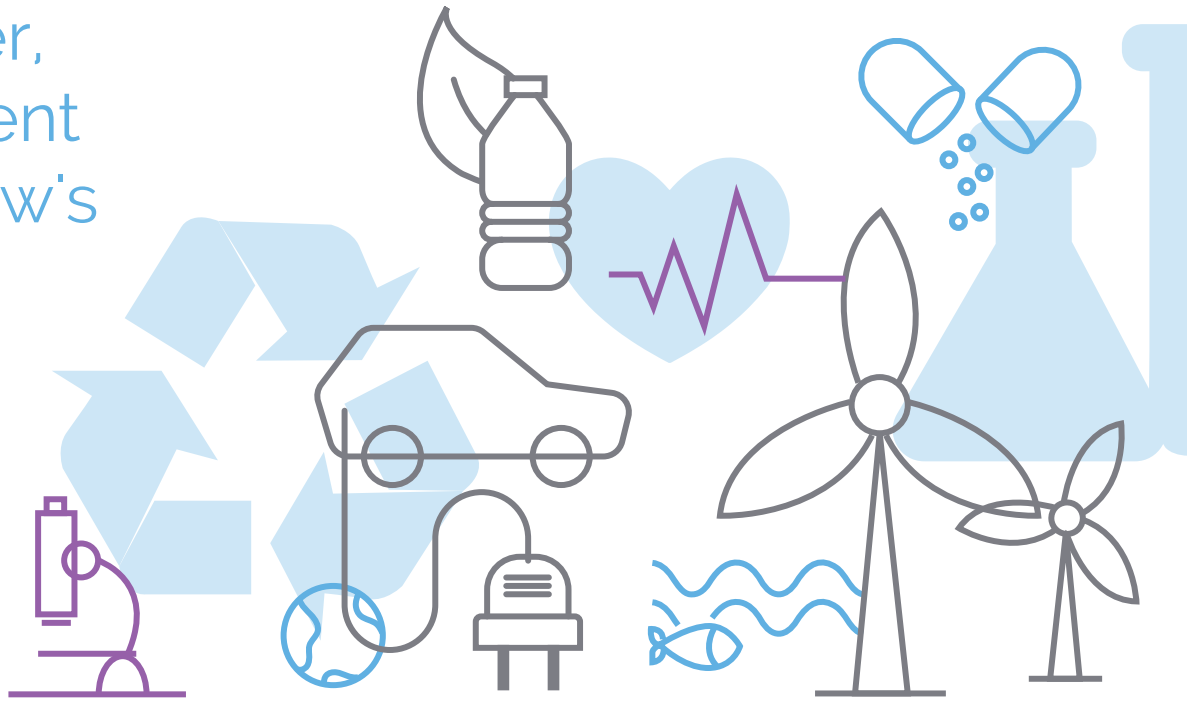
- Facilitate access to the platforms for initial training ;
- Developing lifelong learning.

07 STRUCTURING THE SERVICE THROUGH CONTINUOUS IMPROVEMENT

Obtain ISO 9001 certification for the financial management, platform support and communication processes.

Increase the national attractiveness and international UPPA thanks to a number of professionally managed resources and certified. Actively participate in the implementation in place of solutions for transitions energy and environmental issues.

Together, let's invent tomorrow's world



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