

Session de pitches

1. Geostock
2. New Generation Tanks SA
3. Sakowin
4. Construction21
5. University of Gabes
6. Technip Energies
7. IRT Jules Verne
8. Serma Technologies
9. CNR Compagnie Nationale du Rhône
10. CRM Group
11. CETIM
12. Ariane Group
13. Arhyze
14. CMR Group
15. Wavely



1. Geostock

1. Pitching session for project ideas and proposition of competencies

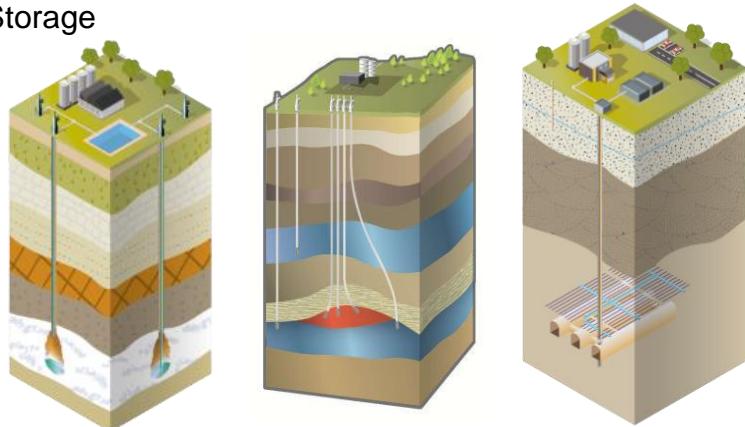
29/03/2022 – Webinaire Horizon Europe/Clean Hydrogen

Presentation:

- Myself : Arnaud Réveillère, Deputy Director of Geostock Green Storage
- My company: Geostock SAS, a private company (SME), specialising in consultancy, engineering, design, construction management, operation and maintenance services for Underground Storage facilities.
- My department: Technical Department / Geostock Green Storage
- Our Expertise: geophysics, geology, drilling, leaching, tightness tests, reservoir engineering, process engineering, geochemistry, rock mechanics, civil works, corrosion, material sciences...

Contact:

- arnaud.reveillere@geostock.fr
- <https://www.geostockgroup.com/>



What can we bring to proposals ?

Experience and expertise in designing underground Hydrogen storage

On which calls?

- HORIZON-JTI-CLEANH2-2022-05-03: Safe hydrogen injection management at network-wide level: towards European gas sector transition..... 170
 - (Existing) underground storages of natural gas, especially salt caverns ones, can be key H₂ injection points in the gas grid. It enable to immediately mix the produced hydrogen with large quantity of gas, bringing **solutions to questions of time and spatial heterogeneity** of the H₂ concentration in the grid
- HORIZON-JTI-CLEANH2-2022-06-01: Hydrogen Valleys (large-scale)..... 180
- HORIZON-JTI-CLEANH2-2022-06-02: Hydrogen Valleys (small-scale) 186
 - As mentioned in the calls, **(underground) storage can be part of a Hydrogen valley project.**



2. New Generation Tanks SA

2. Pitching session for project ideas and proposition of competencies

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- Gilles Rocher
- New Generation Tanks SA (NGT)
- Startup Suisse (Lausanne)
- Développement de réservoirs de type 4 en composite thermoplastique

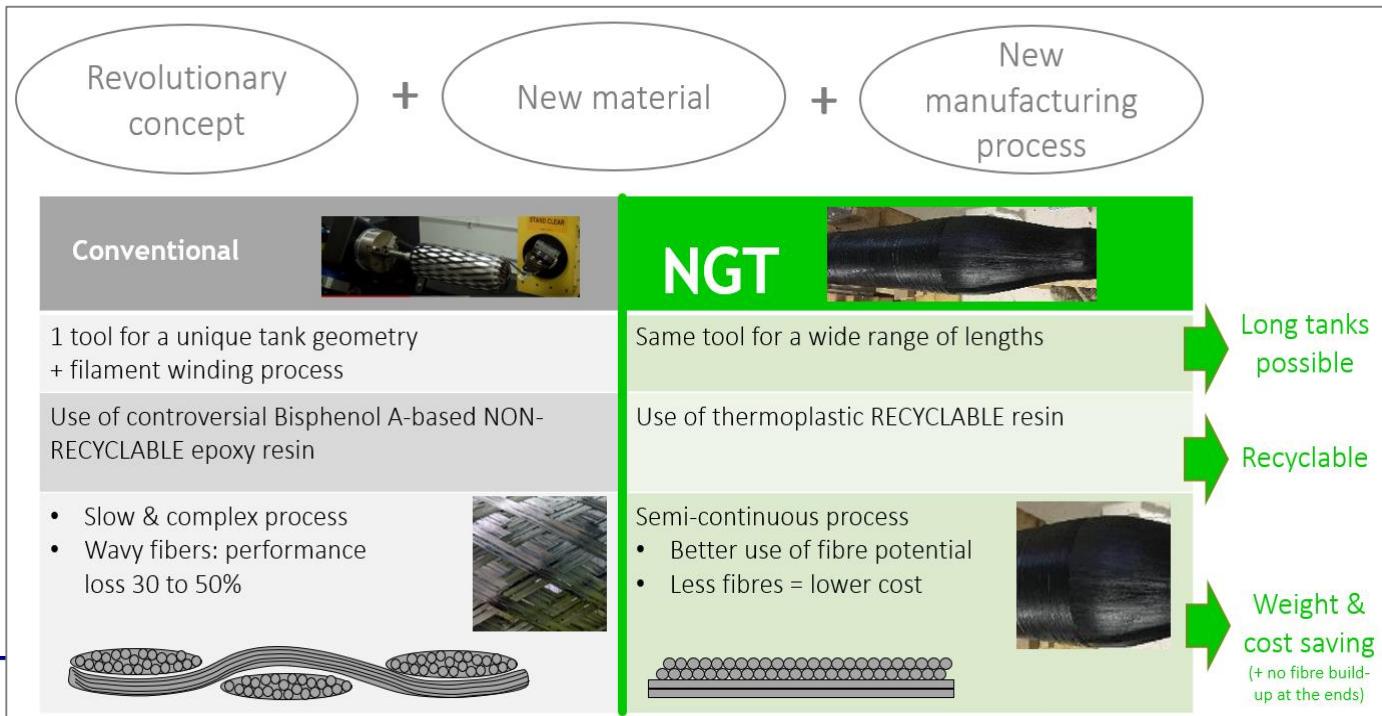
- contact@newgenerationtanks.com
- +41 79 957 38 17
- www.newgenerationtanks.com



What we do:



- Réervoirs Type 4
- Composite thermoplastique
- Grande longueur
- Ultra-légers
- TRL4 today - TRL5 en 2023



HORIZON-JTI-CLEANH2-2022-02-07: Increased hydrogen capacity of GH 2 road trailers

- Today:
 - Réservoirs en acier, type 1
 - 200 bars
 - 1% de charge utile (350kg d'H₂)
 - 12 à 20 réservoirs par camion
-
- Avec réservoirs NGT
 - Réservoirs en composite, type 4
 - 500 bars
 - 5% de charge utile (+1500kg d'H₂)
 - 100 réservoirs par camion





HORIZON-JTI-CLEANH2-2022-02-07: Increased hydrogen capacity of GH 2 road trailers

- NGT est une société Suisse (Associated Country): Project coordinator pas possible
- Statut à définir dans le consortium
- Recherche partenaires:
 - Intégrateurs
 - Société d'engineering
 - Distributeurs H2
 - etc

Gilles Rocher

contact@newgenerationtanks.com

+41 79 957 38 17



3. Sakowin

3. Pitching session for project ideas and proposition of competencies

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Who we are?



A French SME developing

Sustainable, CO2-free, low-cost Hydrogen,
for on-site and on-demand production
by compact & modular equipment

Who am I?



Mathieu SCHMITT

Strategic Partnerships & Business Development

mathieu@sakowin.com

Tél : 33(0) 7 68 53 87 33

linkedin.com/in/mathieu-schmitt/

www.sakowin.com

What do we do?

- Sustainable Hydrogen
- At competitive Cost
- At large scale and quantity

How do we do it?

Decomposing methane without oxygen using **microwave plasma technology**

Who are we?

- 12 experts and doctors
- 6 R&D Partners
- 3 Patents
- 5 Clients



Markets & Partners



H₂ refueling
station
for trucks



H₂ refueling
station
for Airports



CO₂–free Oil &
Gas extraction

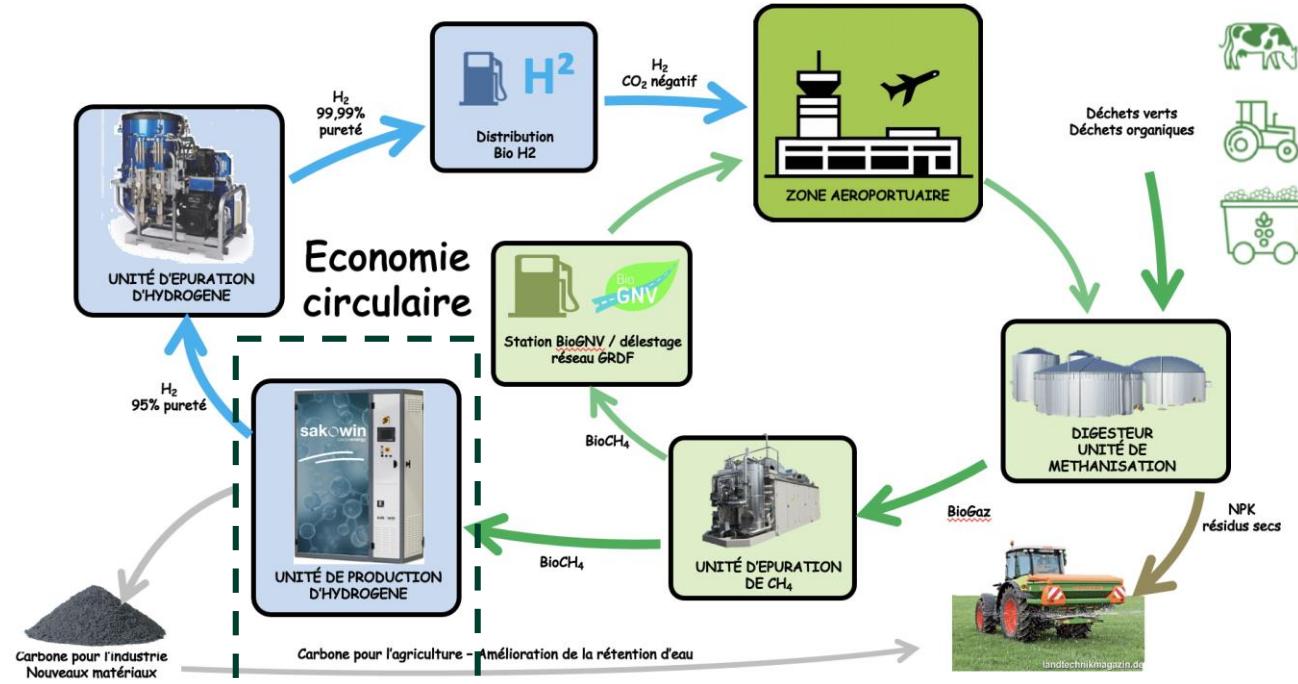


H₂ refueling
station
for farms &
biomethane



CO₂–free
industrial process
for materials

Example of project





4. Construction21

4. Pitching session for project ideas and proposition of competencies

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Construction21 is a **non-profit organization**

Our mission : Contribute to the dissemination of best practices in the buildings and cities sector

A network of committed professionals

- Identification of influencers / network leaders in the area of sustainability.
- Co-organiser of specialised events.



Contact : veronique.pappe@construction21.fr – 06 69 14 02 33

www.construction21.org / www.construction21.fr

An influencial media

- Construction21, a collaborative platform open to all, on all subjects related to sustainable buildings
- Proven influence on our topics on social network
- Organiser of the **Green Solutions Awards**



In France and worldwide

- Platforms driven by local partners in 10 countries (Europe, Maghreb, China...)
- A global platform in English.
- An international network coordinated by France

Our expertise:



Communication strategy

- Development of a **global communication strategy** for your project.
- **Leadership of the work package communication.**



Content creation & communication tools

- Articles, interviews, videos, case studies...
- Newsletters, e-mailings
- Posters, roll-ups, billboards...



Social media campaigns

- **Animation of the project's social media**
- Social media **training** for project partners



Events organisation

- **Organisation of events of your own**
- **Event communication** (event announcements, video capture, live-tweeting, post-event promotion...)



What makes us different:

- You will immediately attract a wide audience → We already have a network!
- We will guarantee visibility for your project on the long run → deliverables will be read even after the project's completion



TOPICS OF INTEREST:

We are a social media dedicated to **sustainable buildings & cities**.

We are interested in joining a project on hydrogen solutions for buildings, cities/territories, renewable energy... (i.e non-industrial applications).

For example:

- Hydrogen & mobility
- Hydrogen & renewable energy storage
- Hydrogen & clean heat

References:



D2Grids Project - 2019/2023 - 19 partners – 19,4 M°€

Goal : Rolling-out 5th generation district heating and cooling through in North-West Europe

www.5GDHC.EU



Projet SB&WRC - 2017/2019 - 7 partners – 1,8 M°€

Goals : Development of 3 prototypes of insulation materials based on bio-sourced or recycled materials.

<https://www.construction21.org/static/sbwrc-project.html>

5. University of Gabes

5. Pitching session for project ideas and proposition of competencies

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- Name: Yassine Ben salem
- Organization and its type : University of Gabes, Tunisia country, Academic
- The Department : National Engineering school of Gabes
- The Expertise of this Department / team:

By means of its division of **sustainable solutions**, our research laboratory offers Innovative solutions and tools **for energy technologies**, and **Life Cycle Assessment (LCA)**, **solar powered** solutions and **hybrids** technologies, **ICT technologies** applied to energy.

Our core business is to provide highly qualified consultancy services, through our interdisciplinary team consisting of experienced researchers and professors.

With a clear international projection strategy, we are directly linked to the European Innovation Partnership in Horizon2020 program by taking part in two different projects (685793, in 2017; 869467, in 2020)

The University is also an active member of the Erasmus+ program with more than 11 projects, working on the importance of critical raw materials over the manufacturing, energy production. Our relevance in the EU arena, in addition to our large network of industrial clients, can ensure a sound contribution in the dissemination and exploitation plan, as well as in managing and implementing EU clustering activities.



Topics:

- Hydrogen storage & distribution
- Hydrogen uses (Transport application et Clean Heat and Power)
- Cross-cutting
- Hydrogen production

- Contact (email and phone number) : yassinebensalem@ieee.org,
- Tel: 0021622745410
- Web page: http://www.univgb.rnu.tn/En/home_46_3



6. Technip Energies

6. Pitching session for project ideas and proposition of competencies

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Name of the organization: **Technip Energies**

Type: Industry

<http://www.technipenergies.com>

Contacts:

Xavier Millerand – Project manager – externally funded projects, within the Energy Transition hub (*)
xavier.millerand@technipenergies.com
01 47 78 35 06

Thibault De-Sorbier – Electrochemical Systems manager within the Energy Transition hub (*)
thibault.de-sorbier@technipenergies.com
01 49 01 83 58

Elvire Chollet – Coordinator engineer – Energy Transit hub (*)
elvire.chollet@technipenergies.com

Technip Energies is a leading Engineering & Technology company for the energy transition, with leadership positions in Liquefied Natural Gas (LNG), hydrogen and ethylene.



LNG
Onshore and offshore liquefaction



Carbon-free
energy solutions
Green hydrogen,
offshore wind, nuclear



Sustainable chemistry
Biofuels, biochemicals,
circular economy



TEN
TECHNIP
ENERGIES



Decarbonization
Energy efficiency, blue
hydrogen, CCUS¹

15,000
talented employees worldwide

34
operating countries

450
projects under execution

60+
years of operation

(*) EThub, is an agile team dedicated to transverse «defossilized» solutions, located at the Paris headquarters of Technip Energies.

¹CCUS: Carbon Capture, Utilization and Storage.



Technip Energies is interested in participating as an industrial partner in the following JU calls for projects:

- HORIZON-JTI-CLEANH2-2022-01-09: Scaling-up technologies for SOEL
- HORIZON-JTI-CLEANH2-2022-04-02: Ammonia powered fuel cell system focusing on superior efficiency, durable operation and design optimization
- HORIZON-JTI-CLEANH2-2022-01-07: Bringing renewable hydrogen MW scale off grid installations closer to technical and financial maturity

Possible T.EN contributions:

- On 2022-01-09:
 - Share and validate our solution for assembling stacks into enlarged modules (T.EN remains open to other innovative solutions)
 - Designing the integration of the enlarged components into a multi-MW scale electrolysis unit
 - Techno-economical assessment
- On 2022-04-02:
 - Share and validate our high efficiency ammonia-fed high temperature solution (T.EN remains open to other innovative solutions)
 - Dynamic modelling of system performance
 - Risk assessment of safety aspects
 - Techno-economical assessment for a selected application
- On 2022-01-07:
 - Share and validate our solution for Energy Management System (EMS) in order to optimize plant production

We need partners to leverage and industrialize the possible applications



7. IRT Jules Verne

7. Pitching session for project ideas and proposition of competencies

29/03/2022 – Webinaire Horizon Europe/Clean Hydrogen



Who we are ?



IRT Jules Verne, Nantes, France - RTO, Private Scientific Foundation



Marie Weiss - Head of Europe Unit

Basile de Parscau du Plessix - Composite processes R&T Engineer (PhD) – Composites processes research team

Contact

Marie WEISS
+33 7 84 28 91 26 | +33 2 28 44 35 08
marie.weiss@irt-jules-verne.fr

Basile DE PARSCAU DU PLESSIX, PhD

+33 7 57 43 53 36
basile.de-parscau@irt-jules-verne.fr

Website: <https://www.irt-jules-verne.fr/en/>



Our Work in this field: Manufacturing LH2 Onboard Storage Tank

- Project in progress (NOMADE*) focuses on the LH2 tank thermal insulation optimization
 - Techno-economic analysis
 - Thermal simulation of the LH2 tank with a focus on the insulation
 - MLI (Multi-Layer-Insulation) material optimization
 - Automatization of the MLI lay-up process
 - Optimization of the vacuum packing step of the tank double wall
 - Definition of the optimum assembling set-up and parameters
 - Development of non-destructive methodologies to control the insulation performances



IRT JV demonstrator – MLI lay-up

IRT Jules Verne Added Value

- Thermal and thermomechanical simulation
- Composites and metallic processes
- Non-destructive control and SHM (Structural Health Monitoring)
- Robotic and process automatization



3 Topics of interest

H2-03-04 : LH2 tanks for heavy-duty vehicles

- Implementation of MLI to produce full-scale demonstrators → 31 May
- Weld seams thermomechanical fatigue behavior characterization and simulation
- Thermal and thermomechanical simulation of the LH2 tank

H2-03-07 : Development of specific aviation cryogenic storage system with a gauging, fuel metering, heat management and monitoring system

- Hybrid tank concept development to improve tank gravimetric efficiency → 31 May
- Composite materials for vacuum applications
- Thermal and thermomechanical simulation of the LH2 tank
- Temperature, pressure and structural health monitoring

H2-02-06 : Development of large scale LH2 containment for shipping

- Insulation implementation processes for large scale tanks → 20 Sept
- Automatize welding process development for large tank
- Thermal and thermomechanical simulation of large scale LH2 tank



8. Serma Technologies

8. Pitching session for project ideas and proposition of competencies

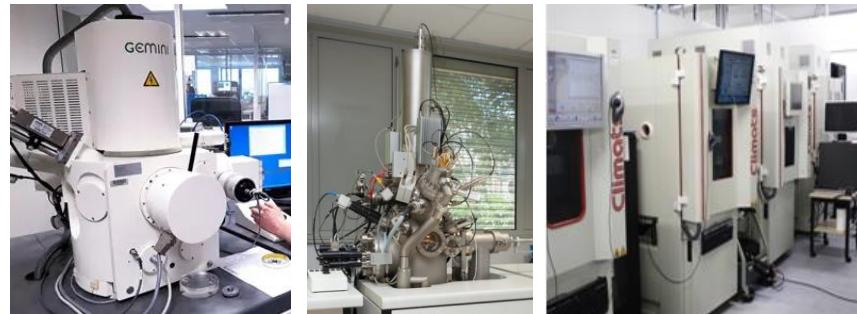
29/03/2022 – Webinaire Horizon Europe/Clean Hydrogen – SERMA TECHNOLOGIES

Company activities:

- SERMA TECHNOLOGIES, subsidiary of SERMA GROUP (Large Industry), proposes activities of technology expertise, analysis (bulk and surface), control, test, consulting and training, on semiconductors, materials, active and passive components, boards, systems, batteries, **hydrogen**, and solar panels for signal and power electronics. Thanks to a partnership in Horizon Europe, we will develop our methodologies, including failure mechanism characterization, testing, and modelling, to be ready to support our future customers with adapted tools.
- SERMA TECHNOLOGIES carries out 8000 analyses per year, thanks to its 200 employees, 7000m² of laboratories and 25M€ of equipment. Multiple industrial sectors are addressed (aeronautics, space, defense, automotive, railway, telecommunications, health care, solar, etc.), at any level of the industrial cycle (consulting on reliability / durability / maintainability / availability / HM-PHM, process audit, technical training, analysis and technological qualification, failure and root cause analysis, SPICE modelling, electromagnetic simulation, extreme temperature characterization and endurance electrical tests).

Contact details:

- Mathieu MEDINA , R&D Director, +33 6 98 04 30 52
- Pascal GOUEREC, BU Manager, +33 6 46 60 45 18
- Web Page: <https://www.serma-technologies.com/en/>



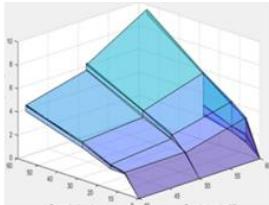
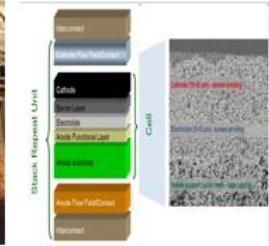


Amongst our competencies:

- Material science and physical characterization (SEM, FIB, TEM, SIMS, XPS,...)
- Electrochemistry
- Electrical, safety (abuse), and environmental testing
- Reliability, HM / PHM (Health Monitoring / Prognostic and Health Management) and associated models
- Industrialisation and manufacturing process support

Topics addressed

- Almost all topics may be addressed in this Clean Hydrogen program:
 - Benefits for partners: SERMA competencies based on more than 30 years of experience in multiple industrial sectors
 - Benefits for SERMA: methodologies development, including failure mechanism characterization, testing, and modelling, to be ready to support our future customers with adapted tools
- Current participations in projects in this field: projet in ENERGY field: TEESMAT (H2020), eFAN





9. CNR Compagnie Nationale du Rhône

9. Pitching session for project ideas and proposition of competencies

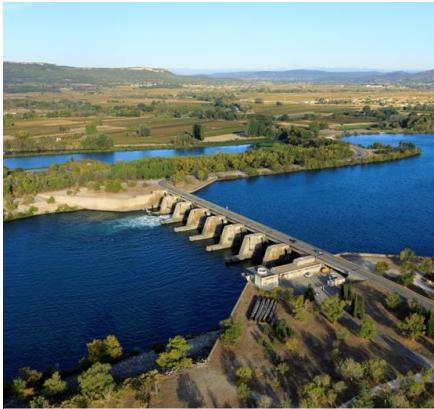
29/03/2022 – Webinaire Horizon Europe/Clean Hydrogen

CNR Compagnie Nationale du Rhône - ETI



- **Benjamin Graff** – Responsable Innovation Ouverte, Direction Transition Energétique et Innovation
Animation et suivi du portefeuille de projets R&D, référent Innovation Ouverte
b.graff@cnr.tm.fr – 06 79 00 67 00
- **Nina Maschio Esposito** – Chargée de mission Affaires européennes, Cellule Europe
Relations institutionnelles/lobbying, montage et gestion de projets européens, animation de la démarche Europe en interne
n.maschio-esposito@cnr.tm.fr – 06 73 25 69 48

Plus d'information : <https://www.cnr.tm.fr/>



1^{ER} PRODUCTEUR FRANÇAIS
D'ÉNERGIE 100%
RENOUVELABLE



EAU



VENT



SOLEIL



ACTEUR DE LA TRANSITION
ÉNERGÉTIQUE
AUX CÔTÉS DES TERRITOIRES



LE CONCESSIONNAIRE DU
FLEUVE RHÔNE DEPUIS
90 ANS



NOS 3 MISSIONS SOLIDAIRES



Produire de l'hydroélectricité

Développer la navigation fluviale

Irriger les terres agricoles



Quelques projets H2 aux abords du Rhône :

- ÔH2 Port de Lyon : 2MW pour la mobilité portuaire fluviale
- ÔH2 Pierre-Bénite : 30MW pour les industries de la Vallée de la Chimie à Lyon
- Quai des énergies (station de recharge multiénergies) : 0.5MW pour la mobilité routière
- ÔH2 Rhône : développement d'une logique de vallée avec le GPMM, VNF et Medlink (Lyon – Marseille-Fos)



Intérêts pour les AAP suivants :

- HORIZON-JTI-CLEANH2-2022-06-01: Hydrogen Valleys (large-scale) - IA – 25M€ - 20/09/2022
- HORIZON-JTI-CLEANH2-2022-06-02: Hydrogen Valleys (small-scale) - IA – 8M€ - 20/09/2022
- *AFIF Alternative Fuels Infrastructure Facility – 125M€ - plusieurs dates*



Nous recherchons :

- Des partenaires potentiels pour intégrer un consortium
- Des acteurs de la filière pour discuter de défis communs



Nous proposons :

- Des activités industrielles au cœur des objectifs de la transition énergétique :
 - Développement des énergies renouvelables, stockage et flexibilité
 - Transport, mobilité fluviale et logistique des derniers km
 - Verdissement des activités industrielles et portuaires...
- La fourniture d'énergies renouvelables comme moyens de production d'électricité pour le développement de la filière hydrogène renouvelable
- Des initiatives et projets en cours sur l'hydrogène renouvelable en ligne avec les stratégies UE et France
- Une concession et des sites industriels et portuaires comme terrains d'expérimentation et de valorisation des projets à l'échelle de la vallée du Rhône



10. CRM Group

10. Pitching session for project ideas and proposition of competencies

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- Name : LARNICOL
 - Organization : CRM Group (ASBL R&D center)
 - Department : Hydrogen & Electrochemistry
-
- Contact : Maiwenn.larnicol@crmgroup.be (+32474245212)
 - Web page : <http://www.crmgroup.be/>



If you want to present a competence offer, on slide 2 and 3 please indicate:

- Your expertise and competencies and those of: your organisation /department /team
- Competences :
 - Development and test of components for electrolyzers, and SOFC as electrodes, bipolar plates, membranes
 - Building of Pilot Test equipment
 - Equipment for manufacturing and forming processes
 - Development of coatings (electroplating, wet coating, thermal spraying, laser cladding...) and finishing treatments
 - Measurement of hydrogen (embrittlement)
 - Interaction gas – metal
 - Management of breakthrough projects for industrial partners
- The topics you are interested in :
 - Electrolyzers optimization, SOEC development
- Your previous or current participations in projects in this field
 - **Walloon region projects and European funding, private projects**



11-Pitching session for project ideas and proposition of competencies

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Company Profile

- CETIM Technical Center for Mechanical Industry

22

1100

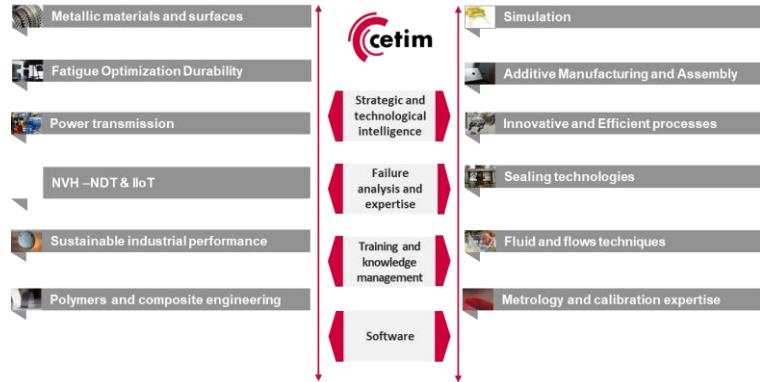
150 M€

18%

4 000+

50%

Mains locations France
Employees
Annual Sales 2019
Export turnover
active Annual clients Worldwide
of Revenue on client Top10



Contact Person



- Jeremy VIALE, PhD
- CETIM (Technical Center for Mechanical Industry) www.cetim.fr
- Great Projet HyMEET (Hydrogen Material & Equipment Engineering & Testing Center)
jeremy.viale@cetim.fr +33645324884

Positionning as Project Coordinator :

HORIZON-JTI-CLEANH2-2022-02-08: Development of novel or hybrid concepts for reliable, high capacity and energy-efficient H2 compression systems at real-world scale

- In the continuity of H2REF project
- Development of Composite vessel

H2Ref Development of a cost effective and reliable hydrogen fuel cell vehicle refuelling system

Développement d'un système de compression/stockage H2 → TRL 5
Compression assurée par un système hydraulique et des accumulateurs à vessie (enveloppe composite)

Hydrogen storage
Hydrogen compression
Hydrogen refuelling
Hydrogen storage
Hydrogen compression
Hydrogen refuelling

© H2REF Consortium 2010-2015

Perspectives : Recherche d'un nouveau consortium pour poursuivre la montée en TRL.

HORIZON-JTI-CLEANH2-2022-03-04: Liquid Hydrogen Tanks for Heavy-Duty Vehicles

- Development of Fluid System on the basis of Mechanical Industry support

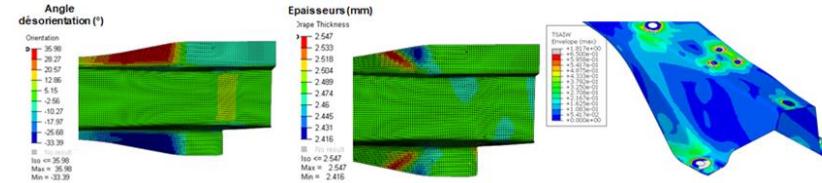
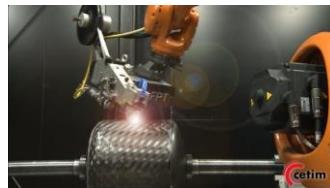
HORIZON-JTI-CLEANH2-2022-03-07: Development of specific aviation cryogenic storage system with a gauging, fuel metering, heat management and monitoring system

Positioning CETIM as potential Partner

- HORIZON-JTI-CLEANH2-2022-01-01: Development and validation of pressurised high temperature steam electrolysis stacks (Solid Oxide Electrolysis) .
- HORIZON-JTI-CLEANH2-2022-01-02: Development and validation of pressurised high temperature steam electrolysis stacks (Proton Conducting Ceramic Electrolysis)
- HORIZON-JTI-CLEANH2-2022-01-04: Design for advanced and scalable manufacturing of electrolyzers
- HORIZON-JTI-CLEANH2-2022-01-08: Integration of multi-MW electrolyzers in industrial applications
- HORIZON-JTI-CLEANH2-2022-02-01: Compatibility of Distribution non-steel metallic gas grid materials with hydrogen
- HORIZON-JTI-CLEANH2-2022-02-02: Hydrogen and Hydrogen/Natural gas mixture leak detection system for continuous monitoring and safe operation of HRS and future Hydrogen/Natural gas mixture networks
- HORIZON-JTI-CLEANH2-2022-02-03: Validation of a high-performance hydrogen liquefier prototype
- HORIZON-JTI-CLEANH2-2022-02-06: Development of large scale LH₂ containment for shipping
- HORIZON-JTI-CLEANH2-2022-02-07: Increased hydrogen capacity of GH 2 road trailers
- HORIZON-JTI-CLEANH2-2022-02-09: Sampling methodology and quality assessment of HRS
- HORIZON-JTI-CLEANH2-2022-02-10: Implementing new/optimised refuelling protocols and components for high flow HRS
- HORIZON-JTI-CLEANH2-2022-03-01: Development and optimisation of reliable and versatile PEMFC stacks for high power range applications
- HORIZON-JTI-CLEANH2-2022-03-04: Liquid hydrogen tanks for heavy-duty vehicles
- HORIZON-JTI-CLEANH2-2022-03-08: Development and optimisation of a dedicated Fuel Cells for Aviation: disruptive next-gen high temperature Fuel Cells technology for future aviation.
- HORIZON-JTI-CLEANH2-2022-04-04: Dry Low NO_x combustion of hydrogen-enriched fuels at high-pressure conditions for gas turbine applications
- HORIZON-JTI-CLEANH2-2022-05-03: Safe hydrogen injection management at network-wide level: - towards European gas sector transition
- HORIZON-JTI-CLEANH2-2022-05-04: Development of validated test methods and requirements for measuring devices intended for measuring NG/H₂ mixtures
- HORIZON-JTI-CLEANH2-2022-05-05: Research & Innovation co-operation with Africa on hydrogen
- HORIZON-JTI-CLEANH2-2022-07-01: Addressing the sustainability and criticality of electrolyser and fuel cell materials

Competence offer on Hydrogen

- Composite Manufacturing process :Thermoplastic Filament Winding
- Material Characterization (Metallic Materials and Composite Materials)
- Sealing Technologies
- Fatigue on Materials and Components
- Non-destructive testing
- Life-cycle assessment
- Data analysis
- Structural Health monitoring

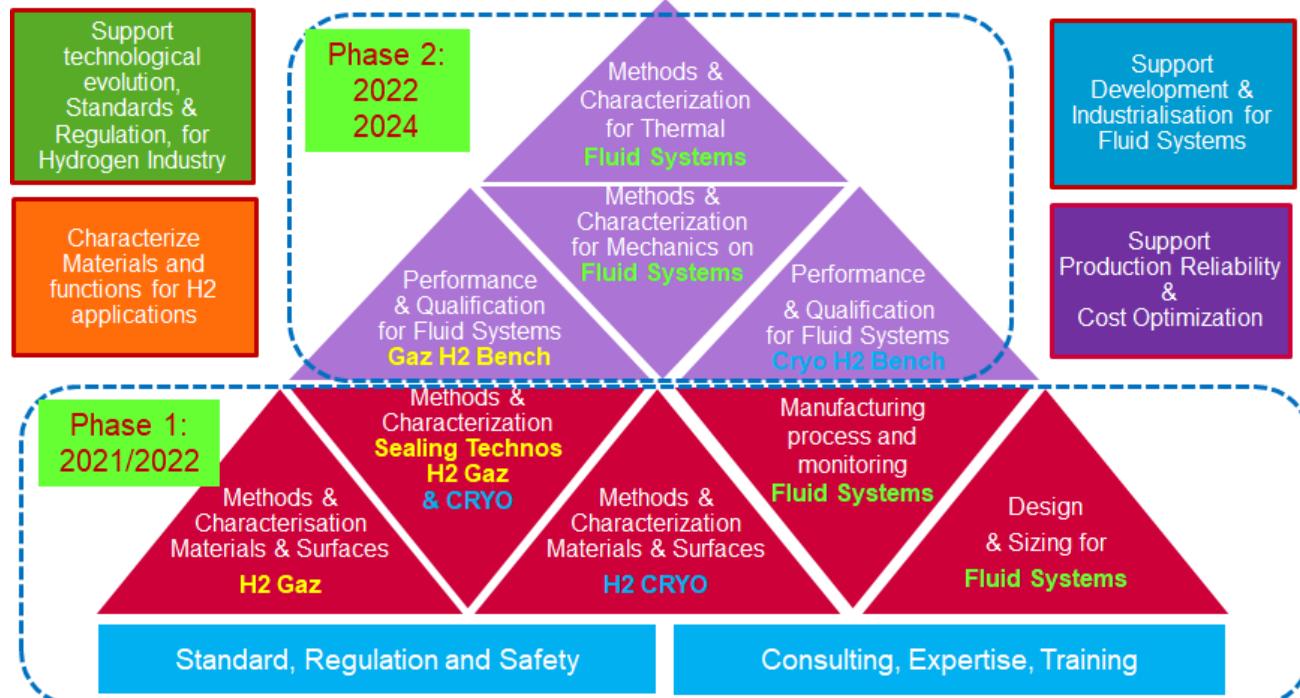


- About H2: Project Leader on **H2REF Project** and Workpackage Leader on **THOR Project**

Looking for :

- Project leader
- Notification bodies

Competence offer on Hydrogen





12. Ariane Group

12. Pitching session for project ideas and proposition of competencies

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ID Company:

ArianeGroup SAS (industry)
<https://www.ariane.group/fr/>

The Department
you work in:

- H2 high power solution

The Expertise of this
Department:

- LH2 on board systems and sub-systems
- H2 infrastructures
- Design manufacturing integration and test capacities

Contacts:

Auriane LE CORRE
Business Developer

T. +33 2 32 21 76 91
M. +33 6 50 03 70 43
Forêt de Vernon - BP 806
27200, VERNON
auriane.le-corre@ariane.group

Arnaud HIBERT
Sales & Contract Senior Advisor

T. +33 2 32 21 88 74
M. +33 6 88 02 97 25
Forêt de Vernon - BP 806
27207 VERNON FRANCE
arnaud.hibert@ariane.group

3 pillars of development

Services

Ground infrastructures

Onboard systems

Training

Tests

Consulting

Process LH₂/GH₂



Aeronautic



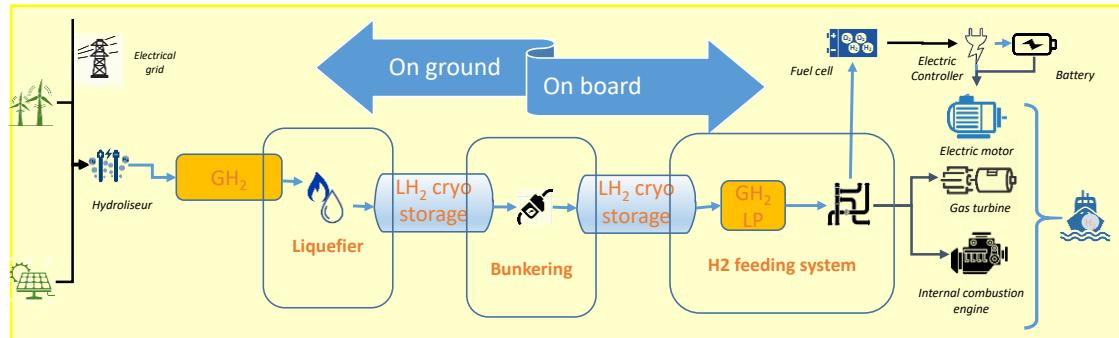
Railway



Maritime



Other applications





Competencies Offer (application deadline - 31st May 2022)

Topics	Expertise / Competencies	Previous / Current participation in similar project	ArianeGroup Role
Validation of a high-performance hydrogen liquefier	<ul style="list-style-type: none"> Handling of GH2/LH2 systems and subsystems Test bed adapted for H2 environment 	Works with energy producer, project LH2 onsite production	Design, manufacturing and test
Large scale demonstration of hydrogen fuel cell propelled inland waterway vessels	<ul style="list-style-type: none"> Conception, development of GH2/LH2 systems and subsystems Test bed adapted for H2 environment 	Works with ship constructors, ships owners, regions, certification entities within the IdF/Region Normandie for inland waterways vessels	Design, integration and test
LH2 tanks for heavy-duty vehicles	<ul style="list-style-type: none"> Conception, development and test of LH2 tanks for space launchers Test bed adapted for H2 environment 	Works with German, French automobile constructors	Test
Development of specific aviation cryogenic storage system with a gauging, fuel metering, heat management and monitoring system	<ul style="list-style-type: none"> Laboratory : cryogenic material characterization Test bed adapted for H2 environment 	Activities within ZERO-e programme –with AIRBUS and SAFRAN	Design, manufacturing and test
Safety of cryogenic hydrogen transfer technologies in public areas for mobile application	<ul style="list-style-type: none"> Safety experience for space launch could be adapted for public areas 	Works with safety and certification entities regarding management of H2	Expertise



Competencies Offer (application deadline - 20th September 2022)

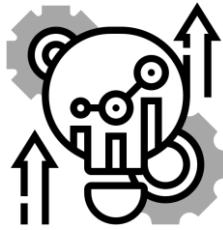
Topics	Expertise / Competencies	Previous / Current participation in similar project	ArianeGroup Role
Development of large scale LH2 containment for shipping	<ul style="list-style-type: none"> Conception, development and test of LH2 tanks for space launchers 	Works with Italian ship constructor for ferry vessel	Test and expertise support
Development and demonstration of mobile and stationary compressed HRS for application in inland shipping and short-distance maritime operations	<ul style="list-style-type: none"> Bunkering experience Management of GH2 high pressure Test bed adapted for H2 environment 		Test and expertise support
Hydrogen Valleys (small scale)	<ul style="list-style-type: none"> Conception, development of GH2/LH2 systems and subsystems Test bed adapted for H2 environment 	Works on regional inland waterways project → replicable at large scale ?	To be defined with the valley project (Seine river, Aquitaine, Hamburg, Bremen)
Hydrogen Valleys (large scale)	<ul style="list-style-type: none"> Conception, development of GH2/LH2 systems and subsystems Test bed adapted for H2 environment 	Works on regional inland waterways project	To be defined with the valley project (Seine river, Aquitaine, Hamburg, Bremen)



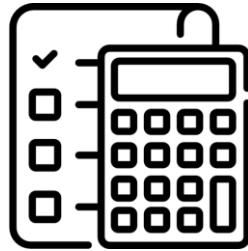
13. Pitching session for project ideas and proposition of competencies

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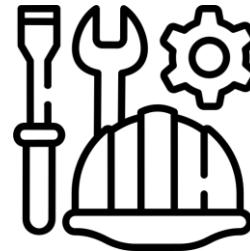
Développeur & producteur d'hydrogène renouvelable



Prospection et
développement de
projets



Investissement et
financement

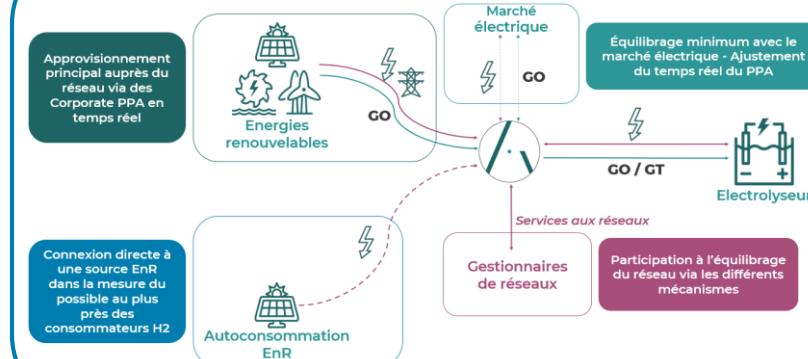
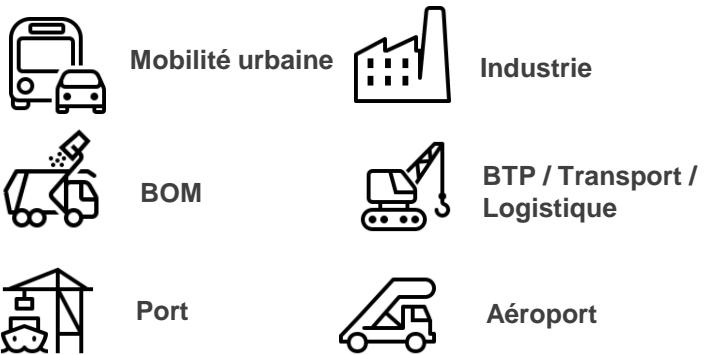


Construction



Exploitation et
supervision des
installations

LA VISION ARHYZE DU DEVELOPPEMENT D'ECOSYSTEMES HYDROGÈNE



La mutualisation des usages

Electricité renouvelable

Avec un développement raisonné et concerté,
Arhyze développe et exploite ses centrales de production d'électricité et
d'hydrogène renouvelable

Notre métier : produire et fournir de l'hydrogène renouvelable, c'est-à-dire 100% décarboné

- Un déploiement de centrales de production localement
- Une technologie française et européenne
- Un investissement et une implication long terme



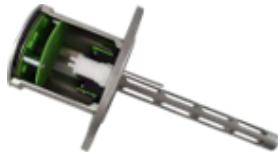


14. CMR Group

14. Pitching session for project ideas and proposition of competencies

29/03/2022 – Webinaire Horizon Europe/Clean Hydrogen

Spécialiste de la conception et la fabrication d'instrumentation industrielle pour des environnements sévères depuis 1959



Capteurs



Câblage



Surveillance



Julien Moynet

Responsable Recherche et Développement

julien.moynet@cmr-group.com

+33 6 17 63 84 83

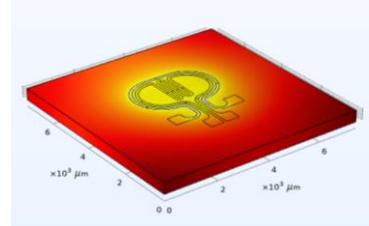


IMPROVING YOUR ENERGY
Smarter, Safer, Cleaner

Nous développons des technologies de mesure d'hydrogène



Capteur de qualité de gaz temps réel



Micro-capteur hydrogène

Nous cherchons à rejoindre des consortiums pour répondre à des projets liés à l'injection d'hydrogène dans le gaz naturel et ses usages

CLEANH2-2022-02-02: Hydrogen and H2NG leak detection for continuous monitoring and safe operation of HRS and future hydrogen/H2NG networks

CLEANH2-2022-04-04: Dry Low NOx combustion of hydrogen-enriched fuels at high-pressure conditions for gas turbine applications

CLEANH2-2022-05-03: Safe hydrogen injection management at network-wide level: towards European gas sector transition

CLEANH2-2022-05-04: Development of validated test methods and requirements for measuring devices intended for measuring NG/H₂ mixtures



15. Wavely

15.Pitching session for project ideas and proposition of competencies

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wavely

Nicolas Côté

nicolas.cote@wavely.fr

+33(0)6.28.65.56.41

<https://wavely.fr>

WAVELY - SME

WAVELY is a French startup that develops solutions that combine metrological acoustic sensors and embedded state-of-the-art artificial intelligence models. Our sensors can process in real time large amounts of acoustic data and recognise many different sound sources. We deploy our sensors for two main applications:

noise annoyance monitoring from construction sites based on urban sound sources & industrial equipment detection and safety on industrial sites using gas leak detection and localization.

The technical team is composed of several PhD in acoustics, electronics and artificial intelligence for the development of our solution, and engineers in IT for the maintenance of our infrastructure.



wavely



Our solution enables the detection and localisation of any anomalies. The proposed solution offers a capacity of **continuous and real time monitoring** of the entire plant with a capacity to **identify the audio fingerprint of specific events, including fugitive gas leaks**. Using a reliable monitoring system lets the operators focus on the production process.

When compared to other kinds of solutions such as optical or electrochemical sensors, our system has the strong advantage of being **agnostic of gas type**. Our sensors can be applied to different types of gas, including CO₂, hydrogen, nitrogen, etc. Finally, by changing a few parameters, our system is able to detect other types of problems such as industrial equipment malfunctions or noise annoyances.

Over the last two years, we improved the performances of our gas leak detection model. We obtain a precision of at least 90% for gas leak with a mass rate higher than 0.3 g/s with almost no false alarms.

We obtain several grants since the creation of Wavely in 2017 (ANR, BPI, ADEME).

We are interested to propose our solution to different environments (urban areas, refineries, ...) and introduce new use cases (other anomalies)