Matchmaking registration form
Green Hydrogen in Uruguay

Institution or company name	**GRZ Technologies SA**

Institution webpage	http://www.grz-technologies.com					
Other web sites of interest						
Contact (person, email, phone…)	Christian E. Wehrli christian.wehrli@iprsales.com +1 954 214-1812					
Additional contact (person, email, Mobile Phone…)	Switzerland Claudio Ruch claudio.ruch@grz-technologies.com +41 79 761 78 44					
Type of institution (please select all that apply)	*Public*		*Private*	☐	*Academy*	

Short description of your institution/company:

The vision of GRZ Technologies is a world fueled by renewable energy – day and night, summer and winter. We replace fossil-based energy systems with safe, cost-efficient, and sustainable hydrogen solutions.

GRZ Technologies was founded in 2017 as a spin-off from the Swiss Federal Institute of Technology in Lausanne. The company's pioneering technology is the result of several decades of research and development in the field of hydrogen, dating back to the 1990s. One of GRZ Technologies core competencies is the design and application of metal hydrides. GRZ uses these materials to manufacture hydrogen-based electricity storage systems, hydrogen storages, and thermal hydrogen compressors in Switzerland. In addition, through the realization of numerous challenging hydrogen projects in the MW-scale, GRZ Technologies possesses the competencies to design, build, and commission large hydrogen systems.

The design of our products requires careful engineering and optimization. Therefore, GRZ's multidisciplinary team includes specialists from all relevant areas such as materials technology, mechanical and thermal engineering, software design, and project management. We operate our own materials laboratory and are continuously developing our technology further. Thanks to new, innovative approaches, combined

with many years of experience, we are setting new standards in the field of hydrogen technology.

The introduction of a new, environmentally friendly energy system is a global challenge, so cooperation across countries and continents is crucial. GRZ Technologies therefore works together with partner organizations internationally. Our partners include Hyundai Motor Company, the Fischer Group, Auto AG, and Messer Gas – moreover, our hydrogen eco-system is growing constantly.

Your institution provides (please select all that apply)	*products*	□	*services*	(□)

Short description of your relevant market, i.e. your relevant product/service and geographic market:
All our cutting-edge products and technologies are finding outstanding applications around the world. GRZ Technologies is selling in Europe, Africa, Latin America, and Asia.

Area(s) of activity (please select all that apply) in connection with Green H2					
Hydrogen and other products production	□	*Renewable Energy*	□	*Transport*	□
Logistic	□	Industrial	□	*Finance*	
Legal				*Risk Management*	
Expertise areas (please select all that apply)					
R&D	□	*Technology transfer*		*Technology developer*	□
Technology end-user		*Technology supplier*	□	*Investor*	

Other: hydrogen storage, hydrogen-based electricity storage, hydrogen compression, on-site refueling stations, methanation, hydrogen turnkey, and hydrogen project-oriented feasibility studies

Main technological capacities and facilities

DASH H_2 Storage (**D**ense **A**nd **S**afe **H**ydrogen) H_2 metal hydride, solid state, hydrogen storage systems

+ 99% recyclable, designed for a lifetime of +30 years, no degradation. Metal hydride based H_2 storage technology to be employed for critical infrastructure

- DASH (**D**ense **A**nd **S**afe **H**ydrogen), not explosive, no ATEX Zone
- High energy density, twice as liquid hydrogen at almost atmospheric pressure
- Can be placed/used inside buildings/factories

H_2 to electric-Power modules with electric output for Long Duration Energy Storage Installations (LDES), including off-grid, mini-grid and isolated grid, Islands, off-grid EV charging, construction sites, and more.

DASH (**D**ense **A**nd **S**afe **H**ydrogen), this technology allows storing up to 4.5 MWh of electrical energy on the footprint of one 20'-ISO container, up to 14 hours continuous power supply at constant 320kW$_e$ output and/or 500 kW$_e$ Peak.

- Solid-state hydrogen storage
- Integrated Hyundai automotive fuel cell system(s) including DC/AC converter
- Low maintenance, low degradation rate (fuel cells only) all systems built in 20ft-ISO containers

Metal Hydride technology based thermal hydrogen compressors

Compressor does not have movable parts, it is silent, vibration-less, without leakage, no diffusion and need minimal maintenance. Possibility to build combined storage and compression modules, all containerized in 20ft-ISO containers.

- Combined H_2 storage and compression system, highly efficient compression units, the safest on the market
- Thermal powered compression does not require electrical energy for compression
- Silent, vibration-less, without leakage/diffusion and minimal maintenance

UPSOM Methanation Reactors, to produce synthetic methane gas from CO_2 and H_2

A new methanation technology with improved efficiency at 99% conversion rate and reduced costs. It converts CO_2 and H_2 into synthetic methane directly $CO_2 + 4H_2 \rightarrow 2H_2O + CH_4$ reduced costs and directly in gas-grid quality. Applications:

- Upgrade of raw biogas doubling the output of the plant
- Use of CO_2 from flue gases
- Storage of excess energy in form of synthetic methane

About the partner(s) you are looking for

Where are you looking for a partner (please select all that apply):					
In Uruguay		*Brazil, Chile*	and other		
Looking for partners in the area(s) (please select all that apply)					
Hydrogen and other products production	☐	*Renewable Energy*	☐	*Transport*	☐
Logistic		*Industrial*	☐	*Finance*	
Legal					
What kind of partner(s) are you looking for					
Any partner with activities within the hydrogen production, its storage, energy storage, e.g., utilities, wind farms, solar farms, agricultural farms.					
Which capacities and/or facilities are you looking for					
We are also looking for strategic partners/cooperation that may as well have manufacturing /assembling/integration capacities.					

Date: 18/01/2024