

H2Power is an On-demand producer of green hydrogen. Establish a unique method of green hydrogen production in Europe with:

Phase 1. Research & Development Facilty

Phase 2. Hydrogen Refueling Station

**Phase 3. Aluminium Powder Production** 

Phase 4. Production of the Mixers



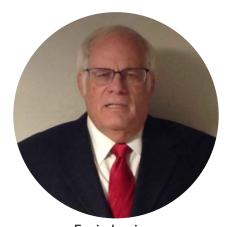
# H2P

# Who We Are

- H2 Power is a Chicago-based company created in 2019 to develop a global infrastructure for the supply of hydrogen to the Transportation industry sector.
- H2 Power was granted a global exclusive license for the use of a technology developed by the U.S. Army laboratory.
- We produce an aluminium powder capable of generating pure hydrogen anywhere when simply mixed with water.



Fabrice Bonvoisin



**Ernie Levine** 



## Research & Development Facility

This site will be the headquarters of H2 Power in Europe, and the center to design hydrogen stations using mixers, scale up the production of aluminium powder, manage EU standards, and select European suppliers.

#### Location

Proximity to metallurgical and organic analysis laboratories, and schools training potential employees.
Close to the first demonstration sites, station and powder production.
Site in the country side is certainly preferable for our researchers, and privacy.

#### **Staffing**

Skills required for team leaders and laboratory technicians in the following areas: aluminium recycling; automation; manufacturing processes using aluminium; aluminium packaging; development of equipment; experiment planning; digital modeling; equipment assembly; industrial processes; manufacturing environment; gas environment (preferably hydrogen).

#### **Building**

 Building large enough to have in separate areas: a mini powder production line, a mixer to test hydrogen gereration, alumina, and mechanisms; a digital department; an automation department; a laboratory; a mechanical workshop for the maintenance department; and many individual offices for researchers and their teams, general services, and executives.

#### **Requirements**

- Existing building, or land to build a new one
- A parking large enough to accommodate employees, visitors, and subcontractors.

- Proximity to Motorway
- TGV station

- Budget: \$6,000,000
- Jobs: 19 at startup, expanding upon commercial development.
- Start Time: As soon as possible because this site will also serve as a headquarters, and be used to prepare the demon sites.





#### **Purpose**

• The first site will be used to demonstrate scalability and improvements of mixer and powder, with all the components necessary to make this hydrogen refueling station fully operational. This refueling station will be equiped with an M400 Mixer to produce hydrogen, tested for performance and compliance with EU regulations.

#### **Staffing**

Experience in gas station operations.

#### Location

The site should be close to H2 Power other facilities, with all the requirements necessary to be commercially viable.

#### **Requirements**

- Proximity to Motorway
- About 4 hectares with parking for large trucks and cars, equipment, and facilities (store).

- Budget: \$10,000,000
- Jobs: 3 at startup, 5 after 3 years
- Start Time: Once the first mixer is built by the R&D center.



## **Industrial Powder Production**



H2 Power will build several factories across Europe to produce its aluminium powder. With an annual capacity of 70,000 tons, the first site will be used for process improvements, testing, and demonstration for suppliers and partners.

#### **Purpose**

 Production facility for aluminium nano powder alloy, from incoming feed material (recycled aluminium) to finished product. Industrial processes and equipment will be tested at full scale for safety and efficiency.

#### **Staffing**

Skills required will be the same as those found at large industrial production facilities using staggered hours,
7/7 and night shifts.

#### **Building**

• The building, used or built-to-suit, should be large enough to accommodate several trucks simultaneously, with dedicated parking for at least 3 trucks.

The storage areas needed include: materials before treatment; materials after treatment; and finished products.

The facility should have a security enclosure to prevent intrusions.

#### **Requirements**

- Proximity to Motorway
- Easy access by road for heavy trucks

- Budget: \$10,000,000 + \$94,000,000
- Jobs: 114 at startup, 342 after 3 years
- Start Time: By the end of 2022, or beginning of 2023



### **Production of Mixers**



H2 Power plans to establish only one production facility for its mixers in the European market.

#### Location

 Low energy prices; local network of potential subcontractors. The proximity of motorways is important. The proximity of a hydrogen station using H2 Power's mixer would be a plus.

#### **Staffing**

 Skills for industrial production of equipment: Maintenance, welders, machinists, assemblers, electrician, quality control / safety, and operators.

#### **Building**

 Preferably, 2 or more loading docks for receiving goods, and 2 or more loading docks for shipping mixers (with a large area available for storage of ready-to-ship mixers)



\*Products under development. This picture is purely indicative and does not represent the actual products.

#### **Requirements**

- A rural environment
- TGV Station

Rail Freight

- Proximity to Motorway
- River Port

- Easy access by road for heavy trucks with trailers the size of a 40-foot container.
- Budget: €19,000,000
- Jobs: 27 at startup, 100 after 3 years
- Upon receipt of the first sales order.

# H2P

## **Benefits of Aluminium Powder**

- No need for electricity (other than basic power for equipment)
- Low-cost transportation to supply refueling stations
- Low-cost construction and CAPEX of refueling stations
- Small hydrogen storage required
- Can be used anywhere
- No waste the resulting alumina can be used in many existing market applications
- Valorization of aluminium recycling
- Quick installation of refueling stations
- Daily capacity available: 400 kgH2 and 1600 kgH2

Produces	10 kg of powder with water =
Hydrogen	1kg of H2 in minutes
>90% Aluminium	<ul><li>Safe to store</li><li>Low-cost to transport</li><li>Enviromentally friendly</li></ul>

## Summary



Our goal is to help local governments and their economic stakeholders to effectively fight climate change by reducing CO2 emissions and greenhouse gases while building sustainable ecosystems.

H2 Power is committed to accelerate the world's energy transition. Its unique expertise is in the production of sustainable hydrogen by mixing a proprietary aluminum powder with water. Our mission is to develop efficient equipment and processes to safely produce that hydrogen at the point of use for transportation and power generation.

Our journey has just started and already includes Europe, North America, and Asia. We believe in teamwork, diversity, respect, and ethics.

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# Sustainable Hydrogen Infrastructure



# Thank You

