

H₂ERA

The background features a stylized landscape with a green and blue wavy line representing the horizon. Above this line, a blue line graph with circular markers is plotted, showing fluctuations across the width of the image. The overall design is clean and modern, with a light blue background and vertical dashed lines.

the new age
free energy

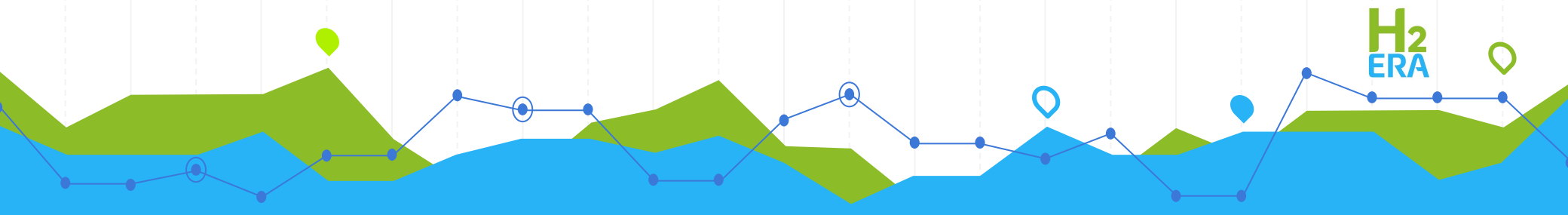
ABOUT US

H₂ Era is the **leading hydrogen transformation** company with its innovative products and premier solutions.

H₂ Era serves end-to-end localized valuable solutions with its global decentralized research, development, and production methodology.

The mission of H₂ Era is to accelerate the sustainable energy transition towards a hydrogen society for a brighter, environmentally friendly, and CO₂ free decentralized future.

H₂ Era does research, development, and production with its own decentralized ecosystem



ABOUT US

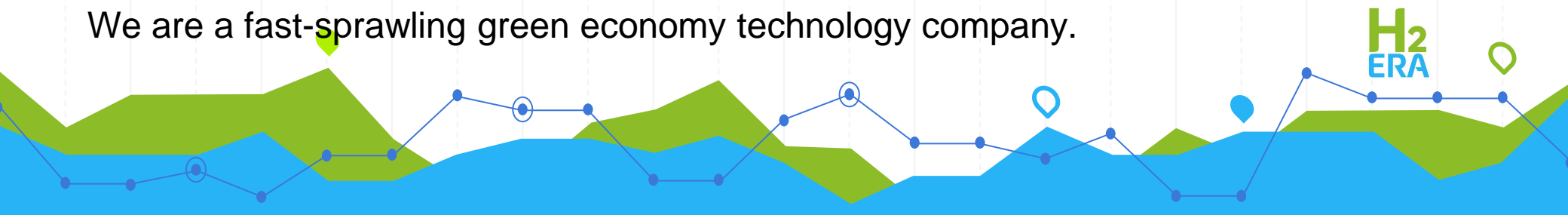
We are working on hydrogen technologies and hydrogen transformation services.

H2ERA; Contrary to classical PEM and Alkali type membrane electrolyzers, it has its own innovative electrolyzer technology based on artificial intelligence, without membrane, with wireless Electricity transmission technology, fatigue-free, scalable according to needs, 100% runtime, cannot demand pure water, its own security and transmission system, and can be remotely managed. There are proprietary electrolyzer technology with 2 different technologies one is unique all over the world because it produces H₂ and O₂ mixed and does not explode.

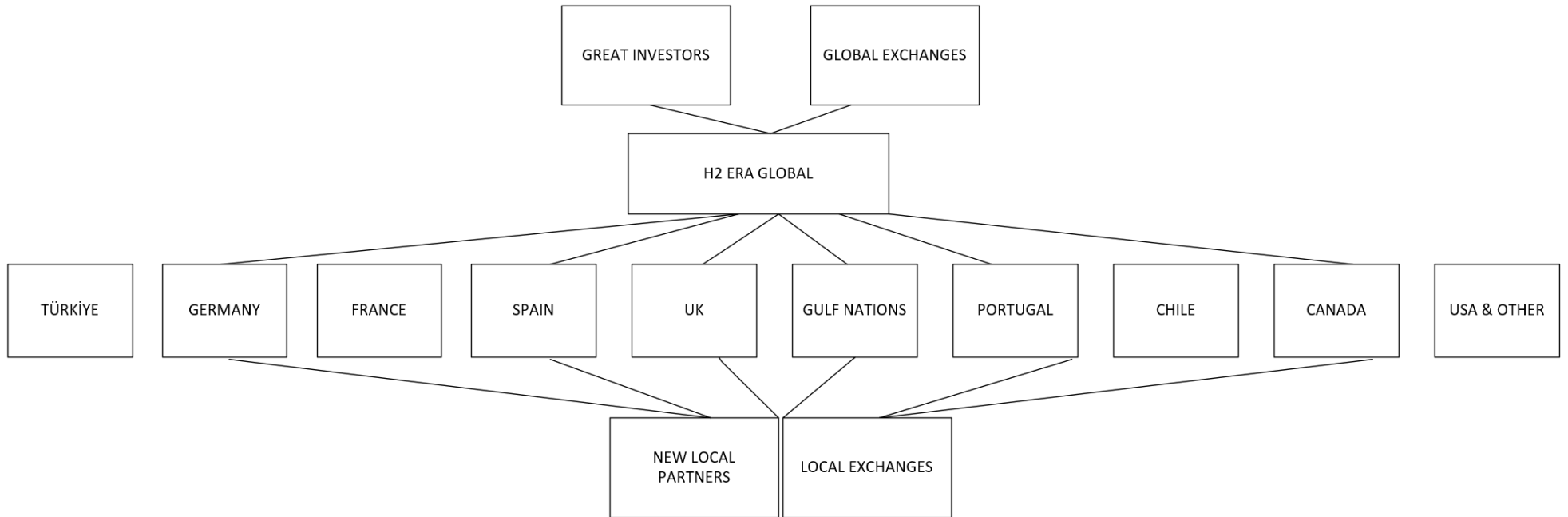
In addition to electrolyzer technologies, H2 Era also works on hydrogen storage, combustion systems, cooling, water filtration, extinguishing systems, detection systems, Artificial intelligence-based IoT system, Sensors, and Transport pipes required for hydrogen conversion.

We have R&D offices in Türkiye, Germany, France, UK, Portugal, and Spain,

We are a fast-sprawling green economy technology company.



DECENTRALIZED FUTURE



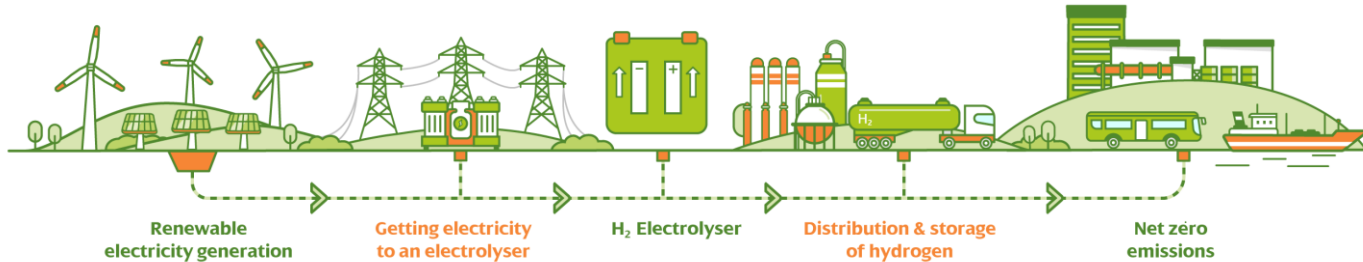
ACHIEVEMENTS

- In the 2022 evaluation of Deloitte, one of the Big 4, we became the 2nd fastest growing technology company in Turkey in the Fast50 competition with 3049% growth.
- In the 2021 evaluation of Deloitte, one of the Big 4, we became the 3rd fastest growing technology company in Turkey in the Fast50 competition with 1690% growth.
- According to Hacettepe Teknocity's assessment of 2020, we became the fastest growing company in Teknokent.
- Our waste collection project was chosen 2nd by British startup accelerator Wayra.
- According to the financial data of 2021, we became the company with the highest R&D revenue with 98.2% profitability.
- According to the financial data of 2021, we became the company with the highest turnover among Incubation companies.
- We were invited to Forbes Middle East.



PRODUCTS & SERVICES

Energy Production	Transmitting	Hydrogen Production	Storage
Renewable Energy Solar Hydro Wind Wave Nuclear Large Small modular reactor	Electricity Transmitting Hydrogen Transmitting Off-Grid Hibrid-Grid	PEM Alkaline SOEC HOXY (H ₂ +O ₂) G2G Capture	Large Mini Compressor



Power	Equipments	Tools	Security
Fuel Cell Hydrogen Generators Refueling Stations	Filter Sensors Water treatment Fittings Climate Systems All others	Measurement Instruments Assembly Tools IOT Systems	Fire Escape Trap Fire Extinguishing System Flame Catchers

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SOLUTIONS

Industries	Home	Transportation	Mobility
Steel Oil Refining Aluminium Agriculture Cement Ceramic Plaster Construction Ammonia Glass Production Mining	Off-Grid On-Grid	Airplane Truck Marine Heavy-Duty Vehicle	Car Hydrogen Motobikes Hydrogen Station

Health	Piping	Defense	SME
Treatment Valuable Water	Outdoor Piping Indoor Piping	Fire systems Power Drones Borders	ALL

H-TRANSFORMATION ROADMAP PROGRAM IN INDUSTRY

CURRENT STATUS ANALYSIS



1. Analysis of MF's electricity supply, electrical transmission infrastructure and indoor installation



2. Superficial analysis of which fossil fuel or fuels MF uses at which stage of production.



3. Analysis of MF's current carbon emissions.



4. To determine in detail how the combustion equipment, machines and the heat or fire produced by the fossil fuel are used in the production process where MF uses fossil fuels.



5. Meetings and information exchange with the machine manufacturer or services that MF has used in current production



6. Establishing MF's current fossil fuel use situation

MF:MODEL FACTORY

H-TRANSFORMATION ROADMAP PROGRAM IN INDUSTRY

H-TRANSFORMATION ROADMAP



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1. Technical determination of how the current production process will burn hydrogen. Preparation of equipment conversion roadmap



2. Calculation of how much hydrogen the factory will need at which hour intervals after conversion



3. Hydrogen capacity planning and determination of production technology



4. Determination of hydrogen storage capacity and technique



5. Determining how hydrogen will be distributed within the plant



6. Determination of the amount and type of electrical energy needed for hydrogen production



7. Determining how electrical energy will be transferred to the plant for hydrogen production



8. Creating the H-Transformation report

MF:MODEL FACTORY

SYSTEM

- There are many sources of generating electricity, although except for our system, you need to buy off-grid industrial gas H_2 , O_2 , N_2 , and their mixtures, which are also power sources. **We offer free and independent energy and gas solutions.**
- Our offer is a completely clean and independent energy and industrial gas system.
- Hydrogen is a fuel with zero carbon emissions.
- Hydrogen is also a highly efficient energy carrier, it can be stored and converted into other energies.
 - With the joint combustion of hydrogen and oxygen, the calorific value and efficiency are maximized, and also we can produce N_2 .
- Combustion of natural gas and other fossil fuels with hydrogen and oxygen increases combustion efficiency and reduces emission values.
- Water is produced from the combustion of hydrogen and oxygen.
- If desired, hydrogen and oxygen can be stored separately and used in production and application in industry and health applications.
- In the Off-Grid grid-connected generation method, operating and investment costs and losses are eliminated.
- In the off-grid system, there are no losses in the transport of the electrical source used for electrolysis.
- Since our system reduces carbon emissions, it is an investment that reduces carbon tax.
- External dependency is eliminated.
- With the increase in renewable energy investments and methods and hybrid invest

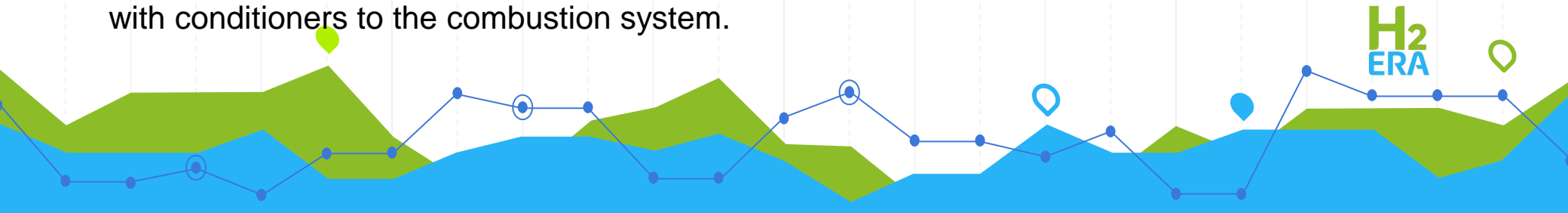
H_2 ,
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ADVANTAGES

- All of the electrolyzers H2 Era producing are our own technology.
- HOXY™ electrolysis the water and produces H₂ and O₂ mixed. It is transmitted to the combustion system in a mixed manner over the same pipe and burned. It is a Net Zero fuel as there is no carbon emission.
- HOXY™ has been tested in model factories to meet the calorific needs of energy-intensive sectors such as Steel, Cement, Ceramic, Gypsum, Glass industry, and SMEs, and successful results have been obtained.
- Our Hydroxy solution is the fastest applicable solution to reach **Green Steel**. It can be burned directly in the steel industry instead of all fossil fuels including natural gas, or it can be mixed with other fossil fuels, allowing them to burn more efficiently and to reach high calorific values with less fossil fuel.
- It is easy to set up systems that can be produced in infinite GWs with HOXY™'s scalable technology in the above-mentioned kWh multiples according to the need.
- Electrolyser plates are not connected by any cable, electricity is transmitted wirelessly.
- There is no membrane or maintenance material within the scope of HOXY™. You can run it non-stop for years.
- HOXY™ has ultrasonic cleaning technology so that it can maintain itself.
- Each electrolyzer reactor works independently.
- It does not need to shut down all reactors during a breakdown or maintenance.
- The resulting H₂ and O₂ can be transported within the factory in the same pipe without exploding with conditioners to the combustion system.

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ADVANTAGES

- The electrolyzer reactor, which is detected to be inefficient by artificial intelligence, is automatically shut down by the system and this status is reported to the center via IoT.

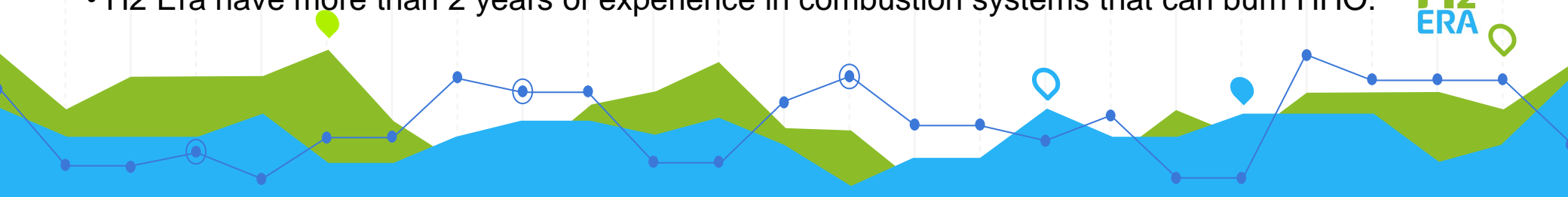
HOXY™ has high-sensitivity detectors for gas leaks. After the slightest warning from the gas leakage system, the system autonomously protects itself.

- The switch system, we have developed within the scope of our electrolyzer can instantly open and close thousands of electrical currents in milliseconds.
- All components of the electrolyzer can be managed remotely.
- HOXY™ can electrolyze all kinds of water. It doesn't have to be pure water. It can electrolyze all water types including sea and well water.
- HOXY™ can start electrolysis at full capacity in 10 seconds.
- The working water temperature of HOXY™ can operate at 20 degrees and above. No time or electricity is wasted on heating water.



ADVANTAGES

- The technology of cooling systems developed for HOXY™ invented by H2 Era.
- The conductivity measurement system we developed in the electrolyzer system automatically adds water or conductor additives from the dosing system by checking the gas production, electricity use, and pH level in the system.
- Since HOXY™ does not get tired, it can be used as a hybrid load balancer with other electrolyzer technologies.
- This hybrid hydrogen generation architecture ensures that the pure hydrogen electrolyzers used for storage are fatigue-free and have a longer working life. It also allows for more economical hydrogen production.
- HOXY™ plug and play system includes Transformer, Current protection, IoT Remote management system, Water tanks, Water filtration system, Fire detection extinguishing system, Cabinet, Cooling system, Dosing system, Filtration, Flame traps.
- Fire escape traps and flame catchers are also manufactured by H2 Era within the system. Because of this, it has a non-explosive feature.
- The mixture of H₂ and O₂ can be used as pure Oxy hydrogen flame. It can be mixed with all fuels such as natural gas, coal, LPG, gasoline, and biogas for efficient combustion and reduction of emissions. H2 Era has experienced Oxy burning processes in all fossil fuels mentioned above.
- H2 Era have more than 2 years of experience in combustion systems that can burn HHO.



HoXYTM

Oxyhydrogen Systems

free energy

H₂ERA
the new age

THE MISSION

H2 Era aims to accelerate the decarbonization of hard to abate industries with its innovations in electrolysis.

PATENT PROTECTED

Different technologies of HOXY™ are protected by international patents

H₂ERA

Oxyhydrogen gas, also known as HHO gas is a mixture of hydrogen and oxygen gases. It is produced by electrolysis of water, which breaks down the water molecules into hydrogen and oxygen gases.

The resulting gas mixture is highly flammable and can be used as a fuel source for various applications, including welding, cutting, and heating.

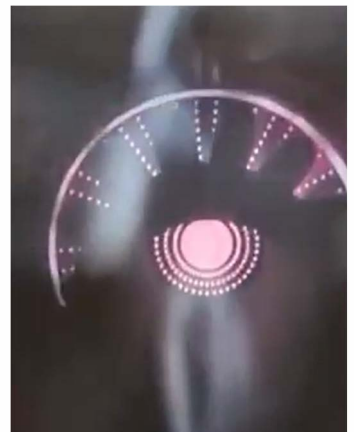
HHO gas can reduce the use of natural gas in industry by serving as a supplemental fuel source, particularly in processes that require high temperature heat sources.

By using HHO gas it is possible to reduce the amount of natural gas needed to produce the same amount of heat energy.

This can result in significantly reduced energy costs and lower greenhouse gas emissions, as HHO gas is a cleaner and more sustainable fuel source than natural gas.



Natural Gas



HHO



Oxyhydrogen Systems

IDEAL GREEN STEEL

HOXY™ is the fastest applicable solution to reach **Green** Steel. It can be **burned directly in the steel industry** instead of all fossil fuels including natural gas or it can be mixed with other fossil fuels, allowing them to burn more efficiently and to reach high calorific values with less fossil fuel.

LIMITLESS

HOXY™ is a limitless system that can be scaled up to GWs and meets all safety standards due to its innovative design.

TESTED PRODUCT

Tested in model factories to meet the needs in energy intensive sectors such as Steel, Cement, Ceramic, and Glass

NO PURE WATER

HOXY™ has innovative filtration system, It electrolyzes all types of water as mains, well, sea, dirty, rain, lake, etc. You do not need to purify the water.

ZERO DOWNTIME

HOXY™ has ultrasonic cleaning technology so that it can maintain itself. It has no membrane or maintenance need material. No need to shut down all reactors during a breakdown or maintenance.

FAST REACTION TIME

HOXY™ can start full capacity electrolysis in 10 seconds. It can operate at 20 C and above water. No time or energy is wasted on heating water.

THE SAFE

HOXY™ has non-explosive feature. H2 Era also manufactures fire escape traps , flame catchers, fire extinguisher with aerosol technology with its own patented technologies.

ALL IN ONE

HOXY™ includes Transformer, Current protection, IoT Remote management system, Water tanks, Water filtration system, Fire detection extinguishing system, Cabinet (4x2.5x2.2m), Cooling system, Dosing system, Filtration, Flame traps.

THE ONE

HOXY™ is working in the factories since 26.12.2021

without any maintenance or shutdown.

H₂ERA

the new age - free energy

FEATURES AND BENEFITS OF HOXY™

- The switch system, we have developed within the scope of our electrolyzer can instantly open and close thousands of electrical currents in milliseconds.
- All components of the electrolyzer can be managed remotely.
- HOXY™ can electrolyze all kinds of water. It can electrolyze all water types including sea and well water.
- Working water temperature of HOXY™ can operate at 20 C and above. No time or energy is wasted on heating water.
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HOXY™ Production Values

Load factor is the percentage value that determines how much electric current will go to the anode and cathode infrastructure in the electrolysis system for stable and efficient operation. The load factor can be managed autonomously by the artificial intelligence

Load Factor	Consumption KWh	H2 kg/h	H2 Nm3/h	O2 Nm3/h	Total HHO Nm3/h
100	1000	18,18	202,00	101,00	303,00
75	1000	15,00	166,65	83,33	249,98

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