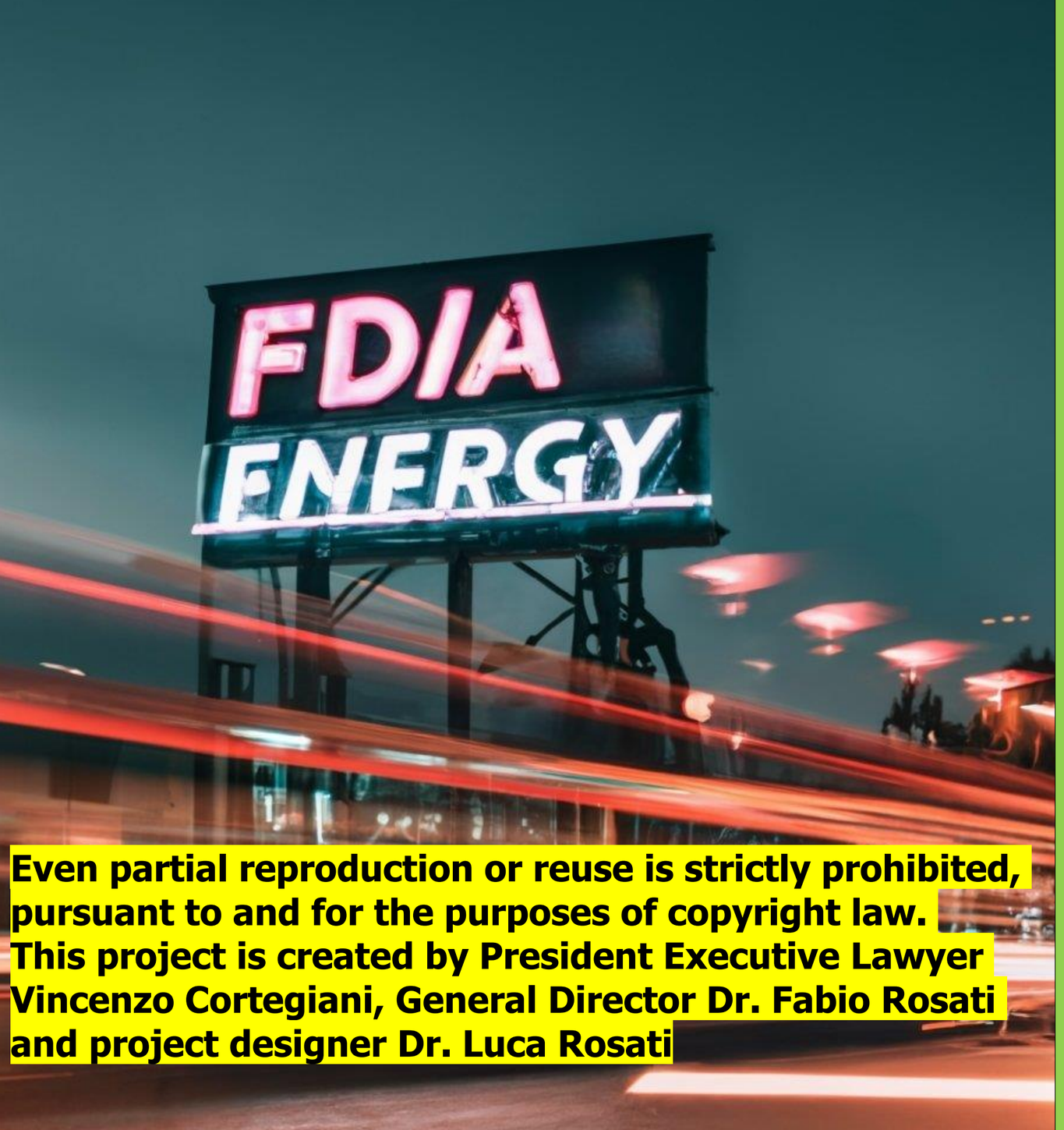


This project is created by President Executive Lawyer Vincenzo Cortegiani, General Director Dr. Fabio Rosati and project designer Dr. Luca Rosati

"FDIA H2 ENERGY PROJECT" of green hydrogen production plant & hospital refueling station for hydrogen & electricity”

Green hydrogen production: +9 375 t (102,5 million Nm3)/ year

Website: www.fdiangopermanente.pt/index.html
Projects & videos:www.fdiangopermanente.pt/download.html
Email: incubator@fdiangopermanente.pt
Email:eu.secretary@fdiangopermanente.pt

THE ITALIAN GENERAL CONTRACTORS WILL INSTALLATION VIA PHARMA1HUMANITAS HOLDINGS LTD CONSULTANCY A HUB FOR REFUELING: FROM HYDROGEN TO ELECTRICITY ALL IN ONE GREEN ENERGY CAR,AMBULANCE & BUS FUTURISTIC STATION.FDIA VOLUNTEERS WILL HELP THE HEALTH WORKERS OF HOSPITALS & CLINICALS.THIS PROJECT WILL BE CARRY OUT IN A COUNTRY TO BE DEFINED NEAR A HOSPITAL. DUE TO THE RISE IN ENERGY PRICES, IT IS IMPORTANT TO PROTECT THE PER CAPITA INCOME OF FAMILIES.WILL BE CONSTRUCTION WIND PARKS + 38 WIND TURBINE CAPACITY 6,45 MW WIND PRODUCTION EACH WITH TOTAL CAPACITY 245 MW.WE WILL INSTALLATION NEW HV SUBSTATION FROM 220/35/10 KV WITH TWO TRANSFORMERS PLANNING CAPACITY 160 KVA EACH.


FDIA
FDIA


FDIA
FDIA
FDIA
ENERGY


AMBULANCE

MAIN AREA OF CONSTRUCTION NEAR HOSPITAL INFRASTRUCTURE


FDIA
FDIA HOSPITAL

In the future we will build this electric and hydrogen refueling station in an area near a hospital.We will donate a fleet of ambulances and buses to help the health system of the developing (country to be defined). The doctors, nurses of the hospital will be given a free loyalty card to refuel their vehicles with hydrogen and electricity free of charge. This project has not yet been realized but we would like to create a more sustainable future for the populations. We hope that will be possibilities in the future the possibility to donate this gift energy card to the doctors that live in some area in the African continent also in Maghreb area.

FDIA

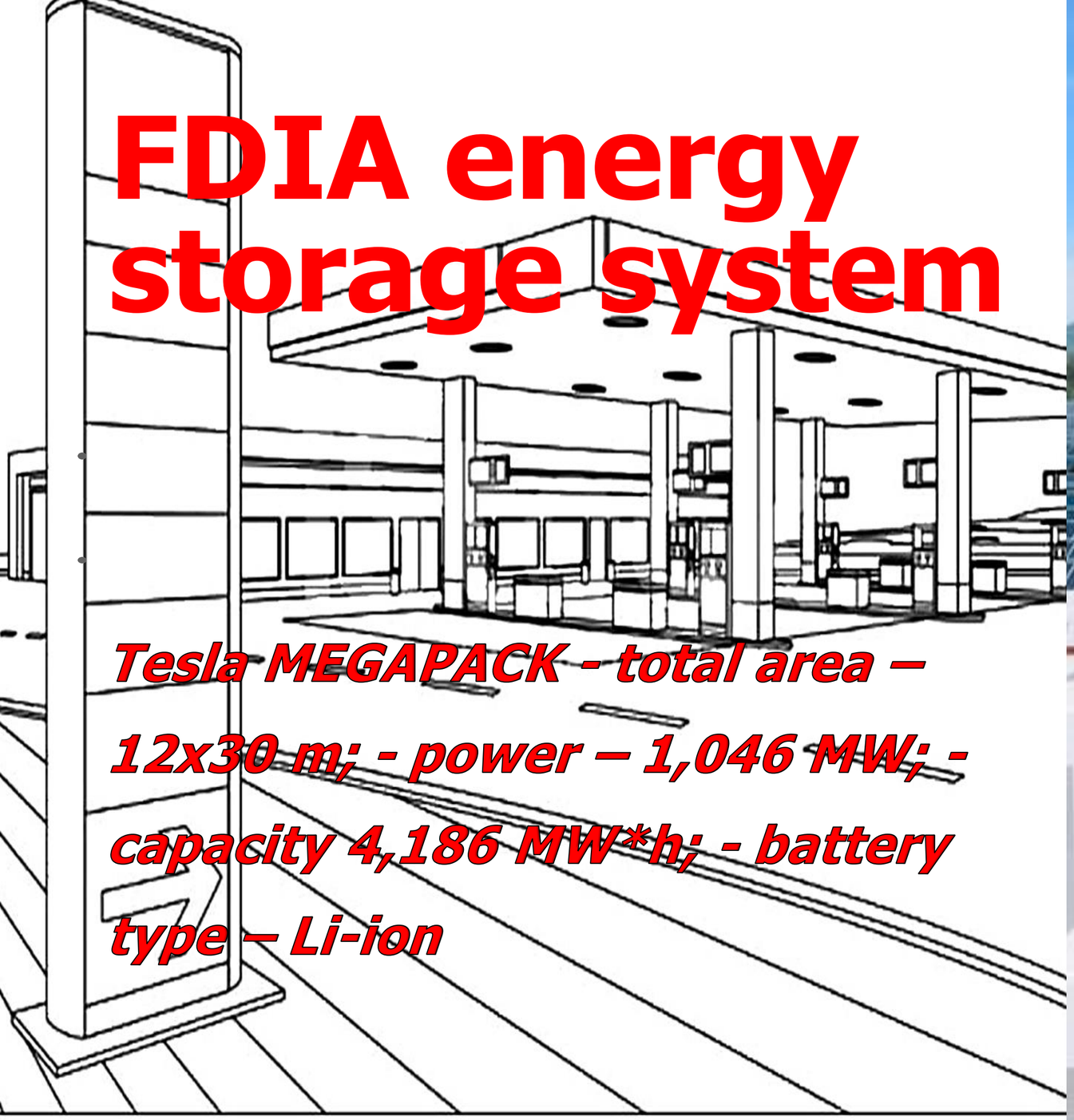

FDIA
H2
HYDROGEN
HYDROGEN

ELECTROLYZER STATION

Hydrogen production	340 kg/h
Plant efficiency (HHV[1])	>75%
Power demand	17.5 MW
Start-up time	<1 min, enabled for PFRS[2]
Dynamics in range	10%/s in 0 – 100%
Minimal load	20% single module
Dimension full Mod. Array	13.0x6.0x3.0 m
Array lifetime	>20 a (Module ≈10 a)
Plant availability	~95%
Demin water consumption	10 l/kg H_2
Dry gas quality[3]	99,999%
Delivery pressure	Customized


H2
PAY
Hydrogen
START
Hydrogen
FUEL CELL
CARS ONLY
FDIA
H2
Hydrogen H2

FDIA energy storage system



Tesla MEGAPACK - total area – 12x30 m; - power – 1,046 MW; - capacity 4,186 MW*h; - battery type – Li-ion


FDIA
Hydrogen
Hydrogen
5
3
1
H_2
H_2
Hydrogen
H_2

The Italian general contractors developing, designing, optimizing, and assessing the methods for hydrogen production, including hydrogen storage and distribution to essential facilities.

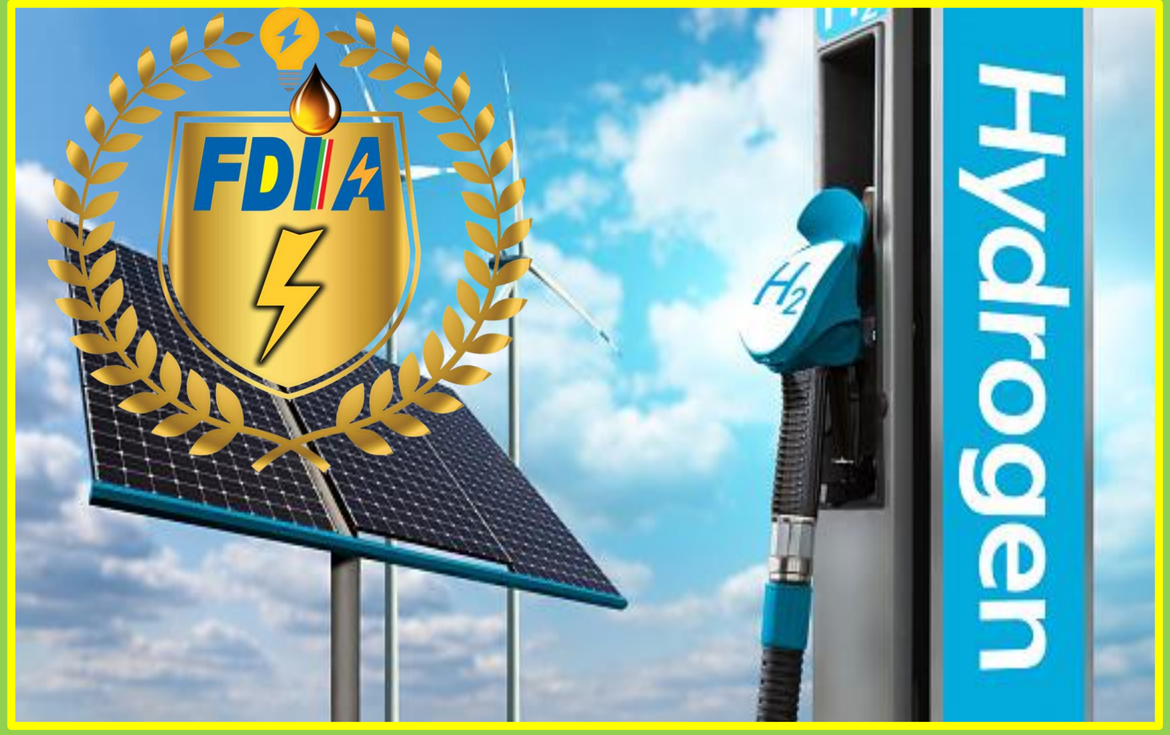
The five Silyzer 300 electrolyzers that make up the green hydrogen production plant will produce 102 500 000 m3 or 9375 t of green hydrogen annually. - With a planned power capacity of 245 MW and an annual energy production (AEP) of 758,52 GW*h, wind parks will supply the electricity.Artificial ponds and water pumping stations that draw water from nearby rivers will be built for the water supply.

The energy storage system will be made up of battery modules from an Italian general contractor company as well as Tesla. In a functioning project, the energy storage system's detailed power characteristics will be calculated.

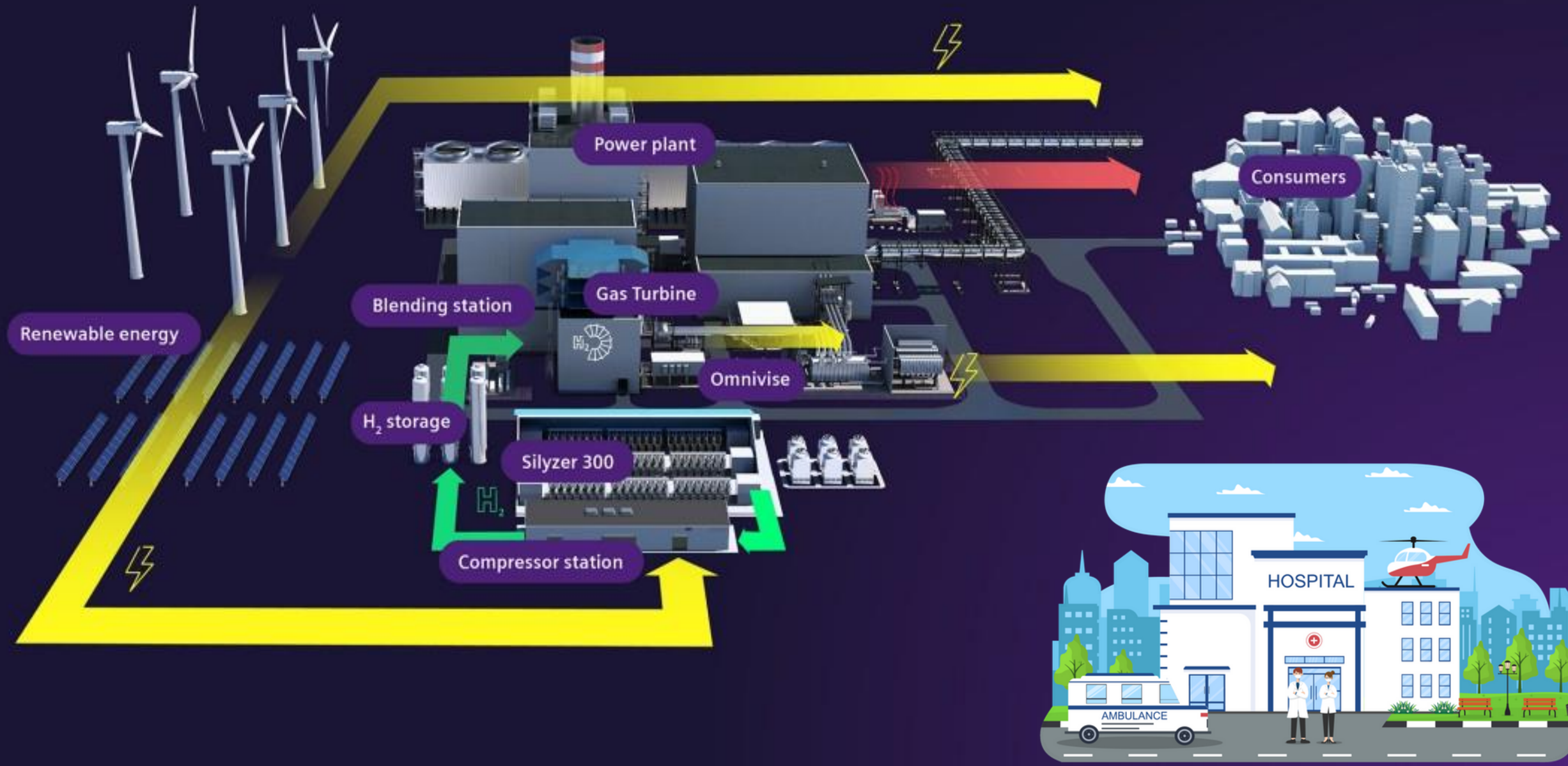
Building an OHVL 220 kV, 10 km in length, to link the current PS 400/220/110 kV substation with the "FDIA H2 Africa development”. Constructing a 16-energy storage array

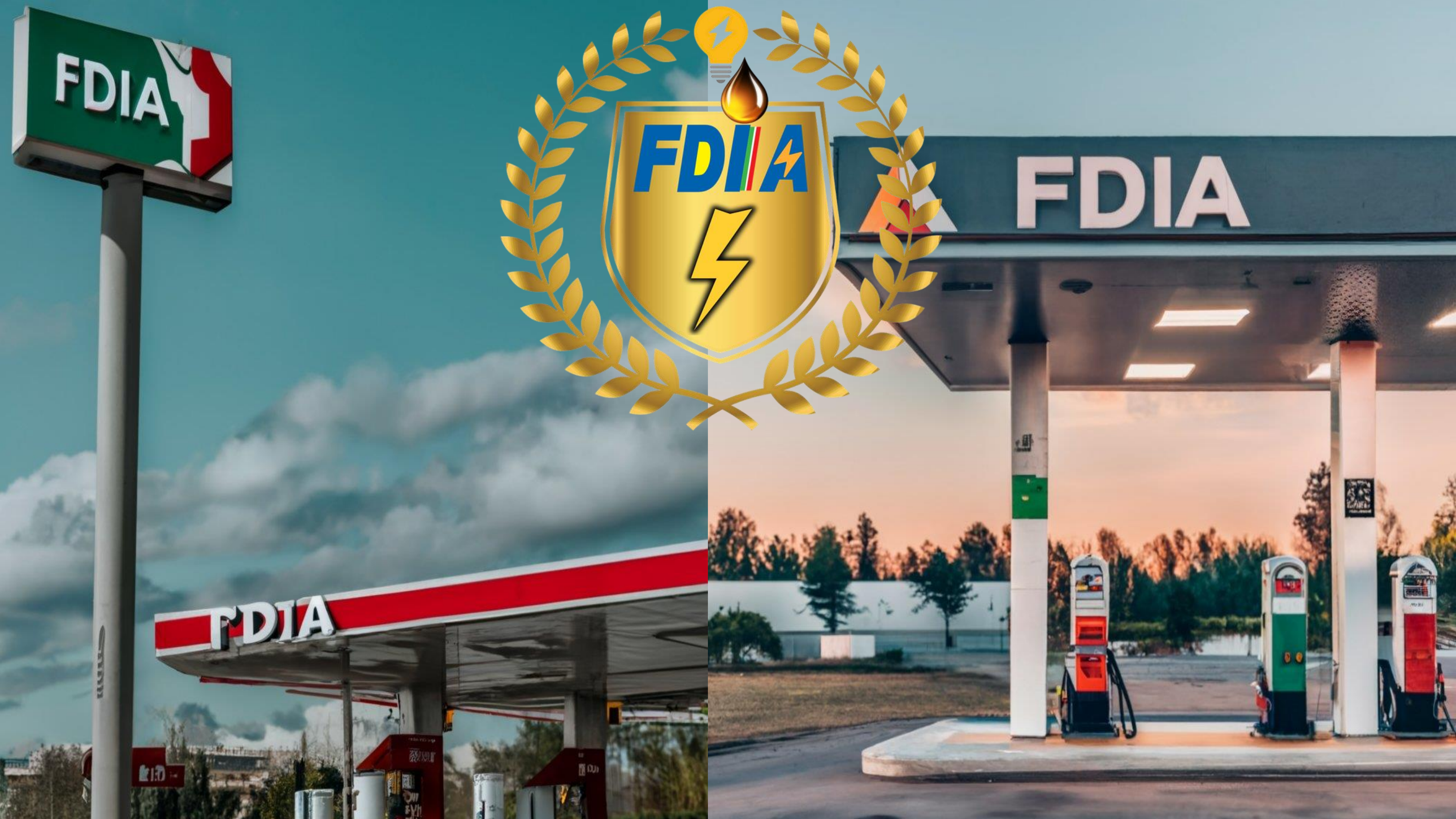
In a functioning project, the energy storage system's detailed power characteristics will be calculated.

Building an OHVL 220 kV, 10-kilometer long, that will link the current PS 400/220/110 substation with the "FDIA H2 Africa development" kV. Building a 64 MW*hour energy storage system with a 16 MW power output



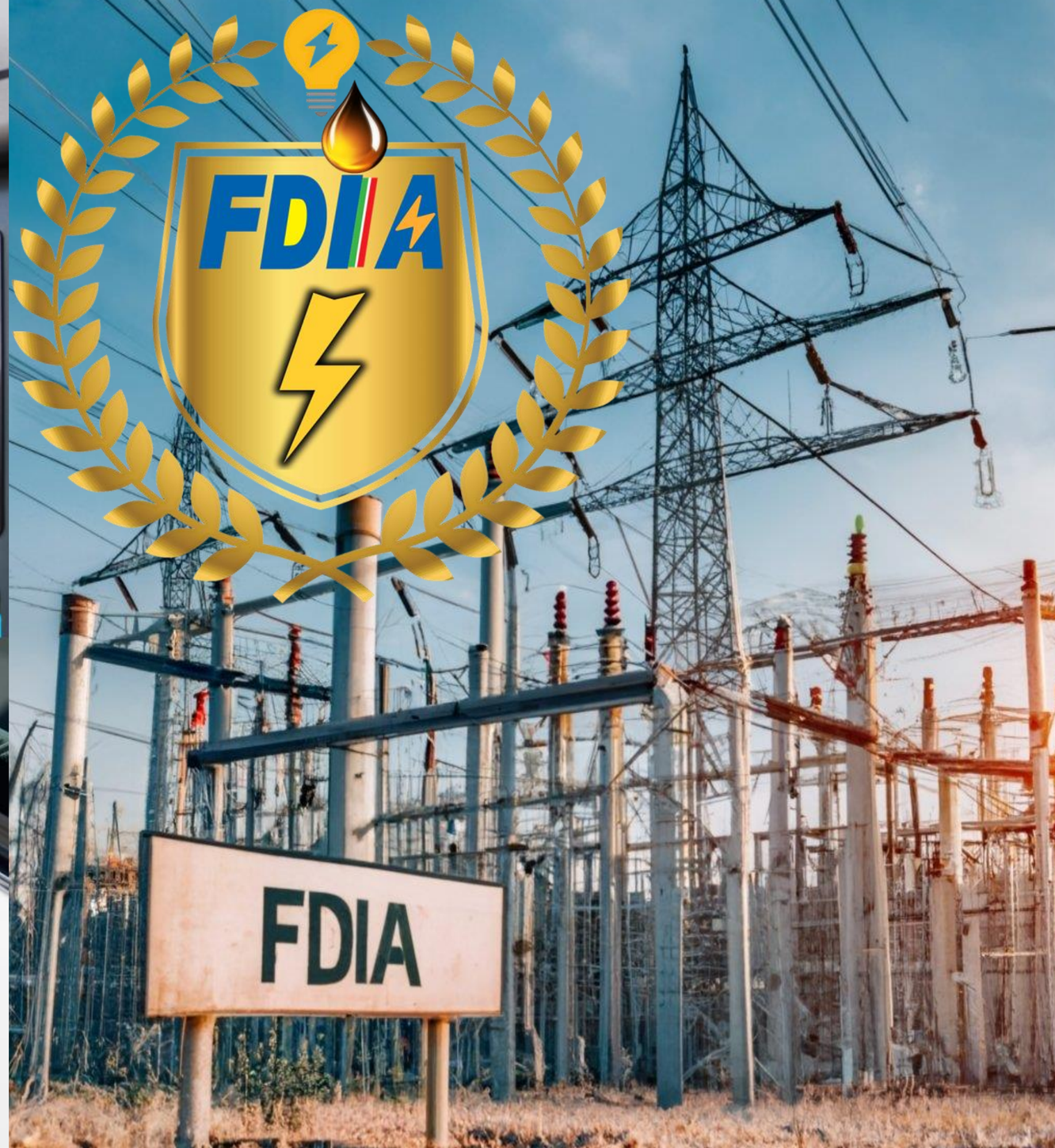

H2
H2 HYDROGEN
H2 ZERO EMISSION
CLEAN ENERGY OF THE FUTURE
FDIA


Power plant
Consumers
Renewable energy
Blending station
Gas Turbine
Omnivise
H_2 storage
Silyzer 300
H_2
Compressor station
HOSPITAL
AMBULANCE

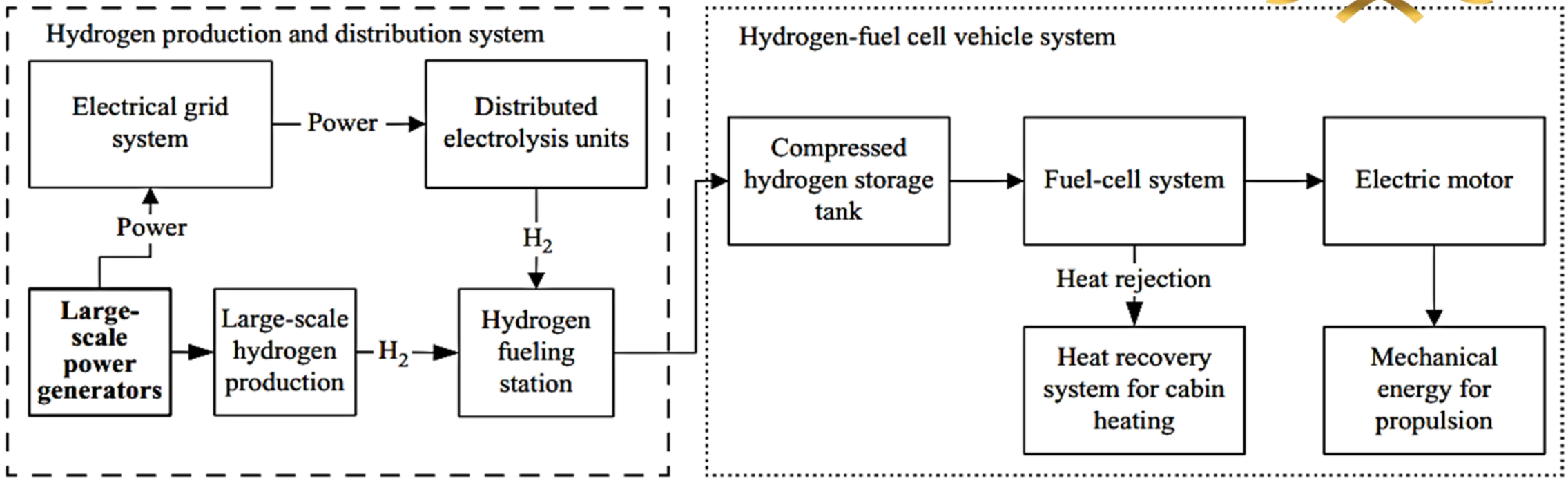

FDIA
FDIA
FDIA
FDIA


Hydrogen
H_2

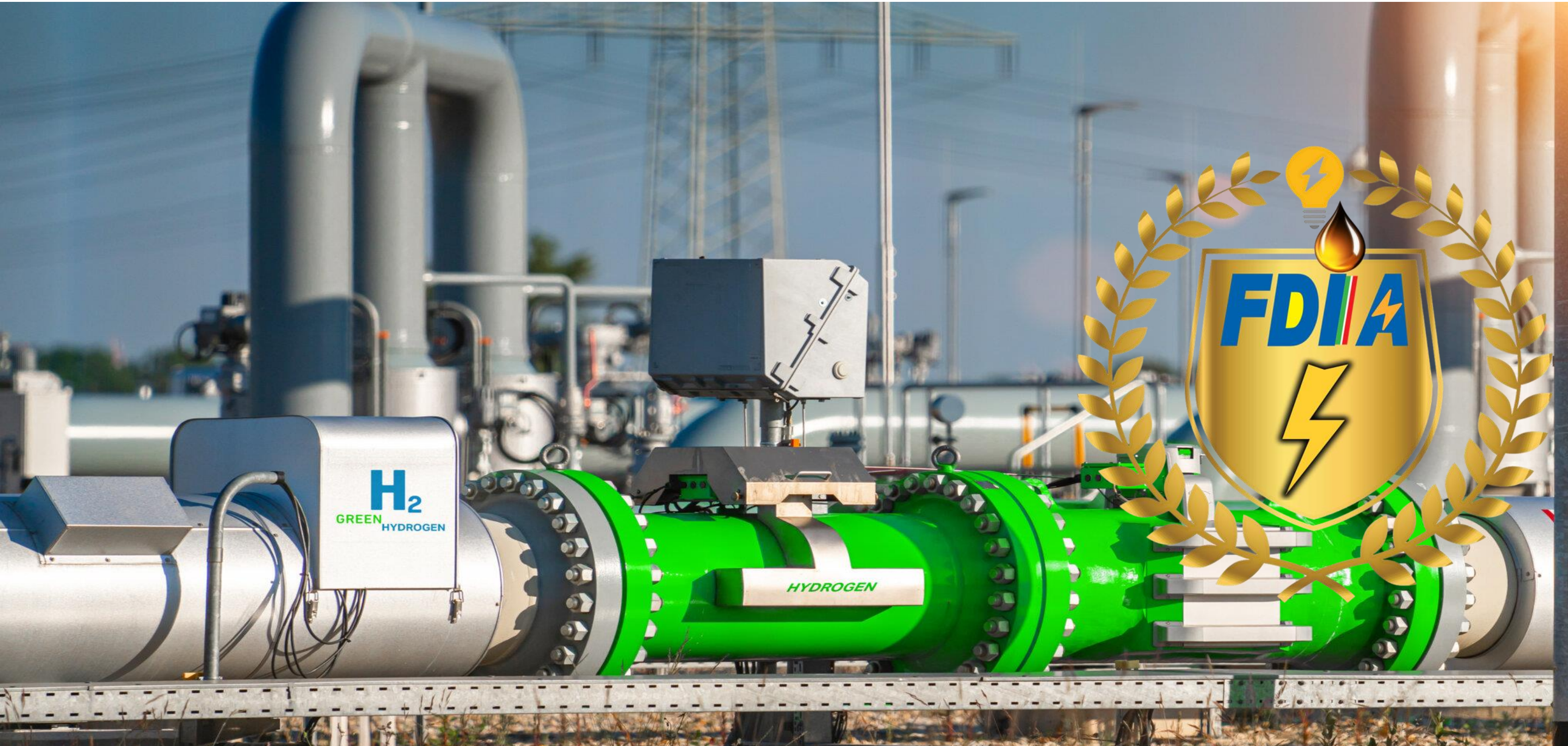

H_2
only
hydrogen
inside


FDIA
FDIA

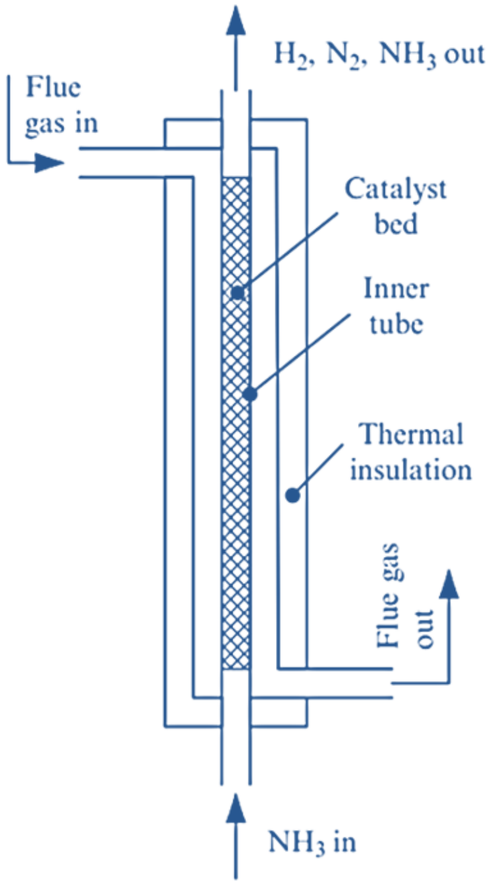
Hydrogen becomes increasingly important to society, as it is considered one of the key solutions to sustainability.
Since the global population and its demand for services, materials, transportation, etc(...). Thence, there is a clear motivation worldwide to develop cleaner processes and more efficient production methods in all sectors, which will become able to integration the conventional power generation and production methods by incorporating hydrogen and sustainable energies, including renewables & FDIA permanent magnet motor.

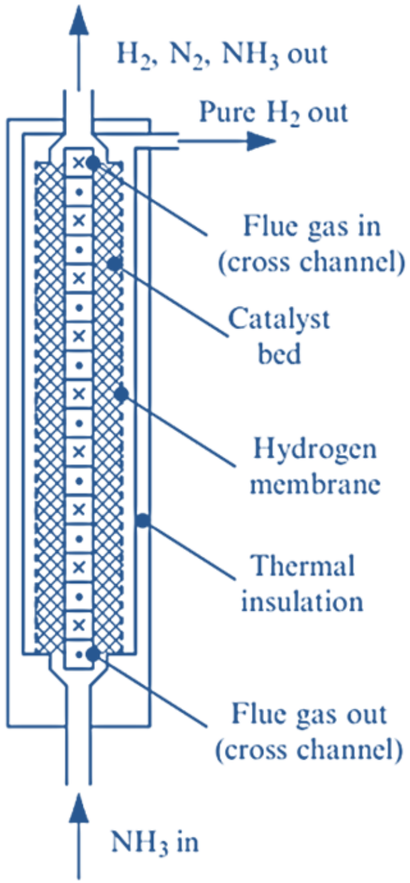


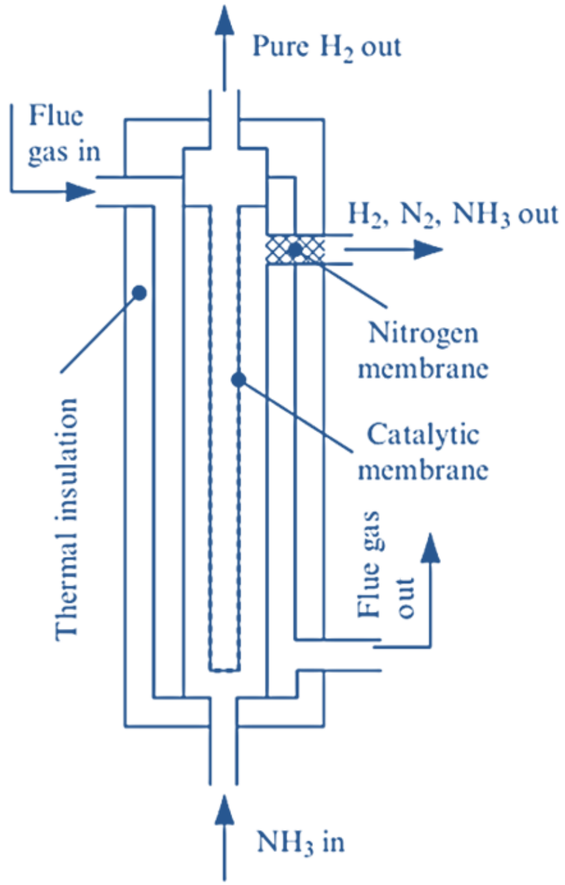

FDIA


H2
GREEN HYDROGEN
HYDROGEN
FDIA

Green hydrogen can be produced also from green ammonia. Ammonia is a major raw materials, with much of its value being in the fertilizer industry. It is also used extensively in refrigeration on an industrial scale. Ammonia is much used as a NOx reduction agent in power plants and on vehicles (in which case, ammonia is carried in the form of urea solutions).







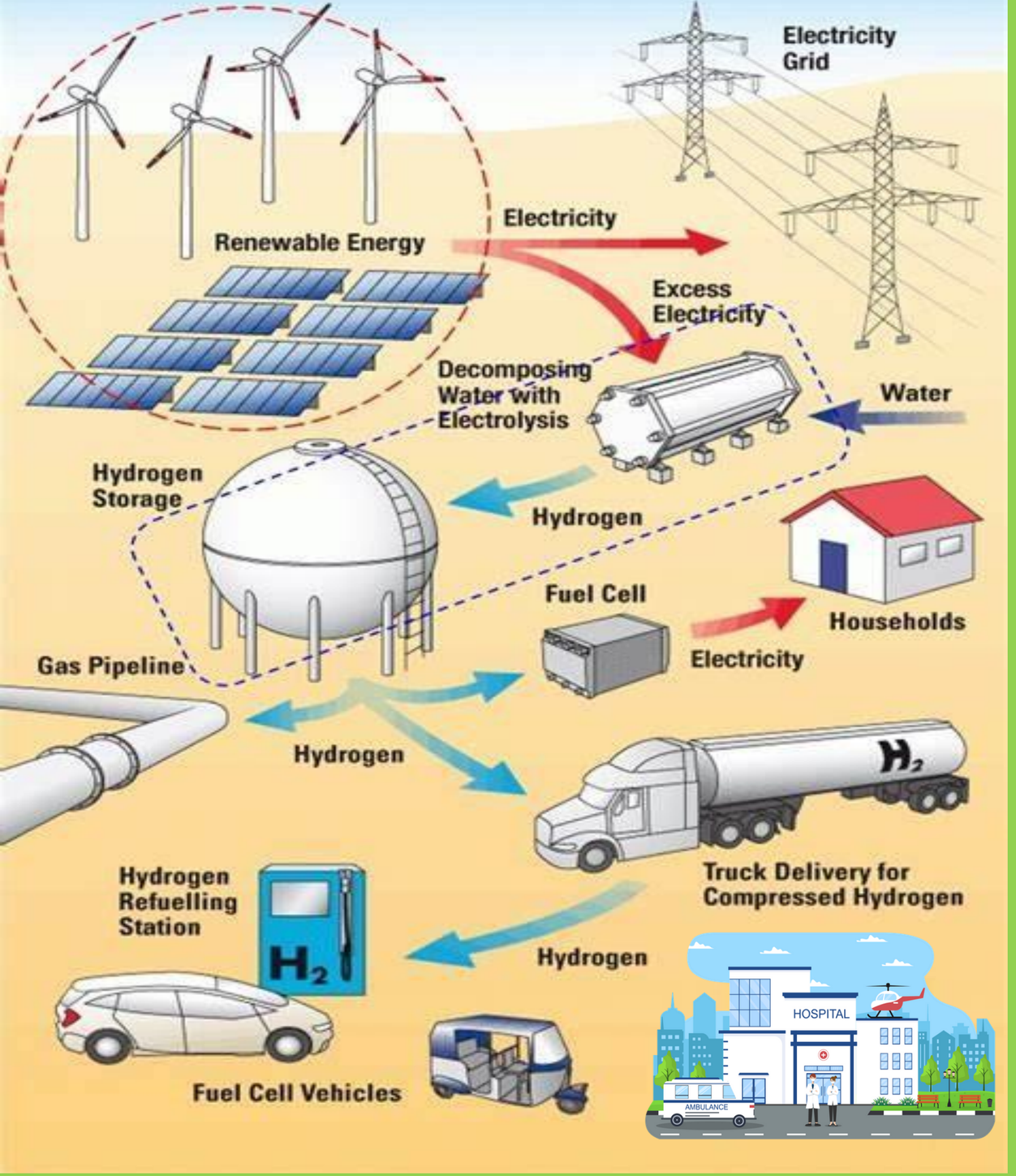

FDIA
HYDROGEN
ENERGY
STORAGE
H2
D2


Electric Bus
FDIA

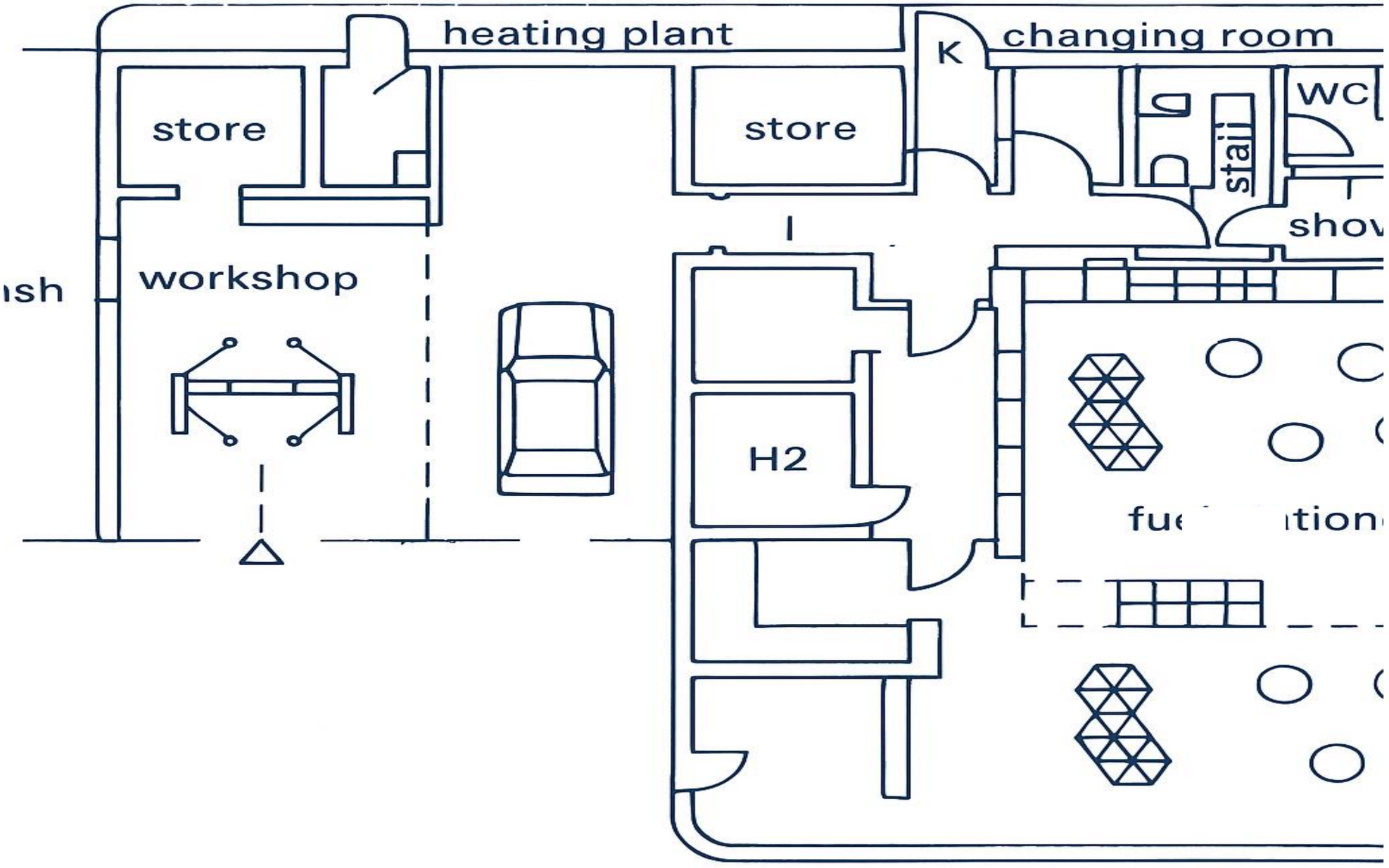

H2
H2
Hydrogen
FUEL CELL BUS

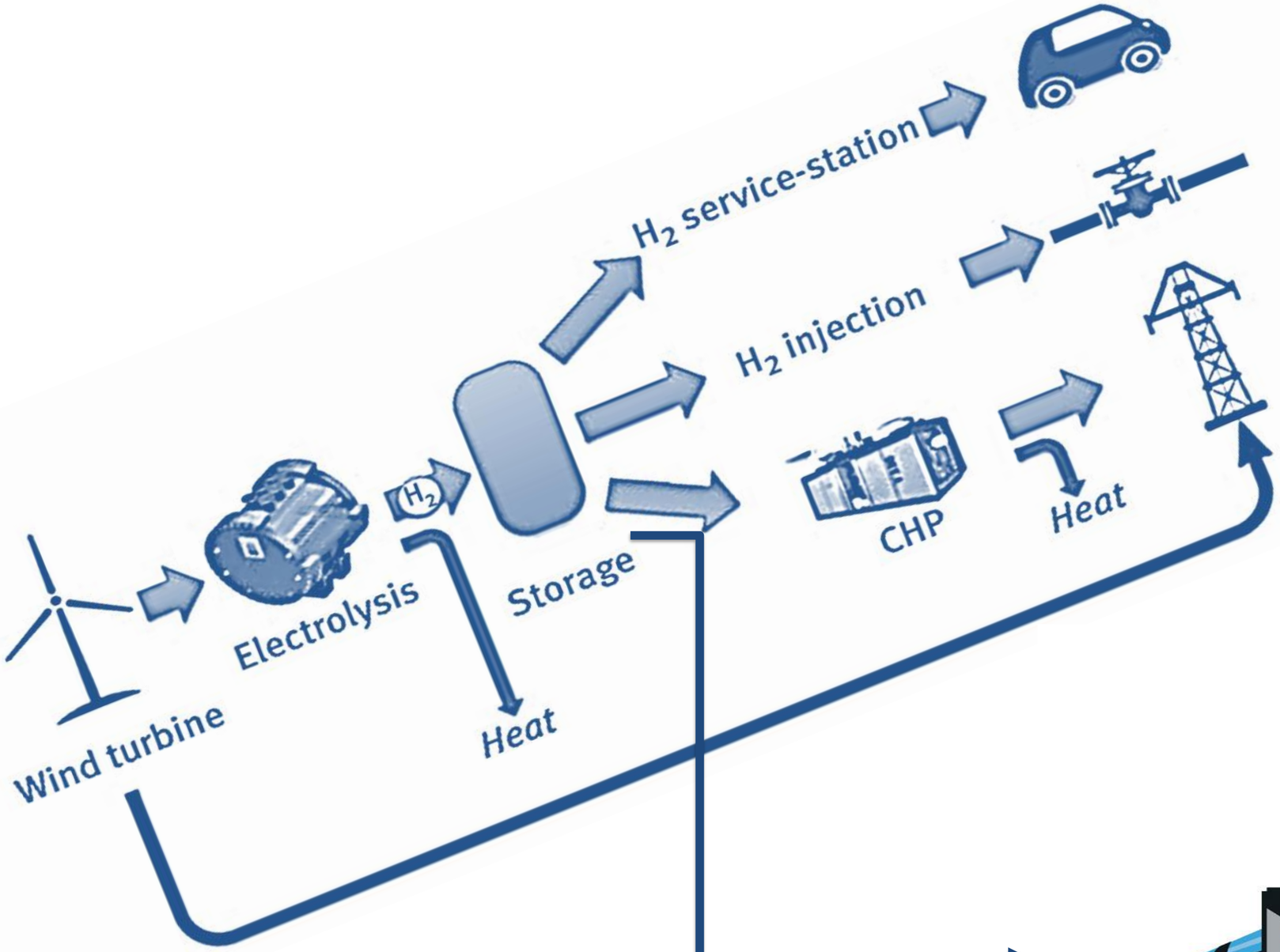

FDIA

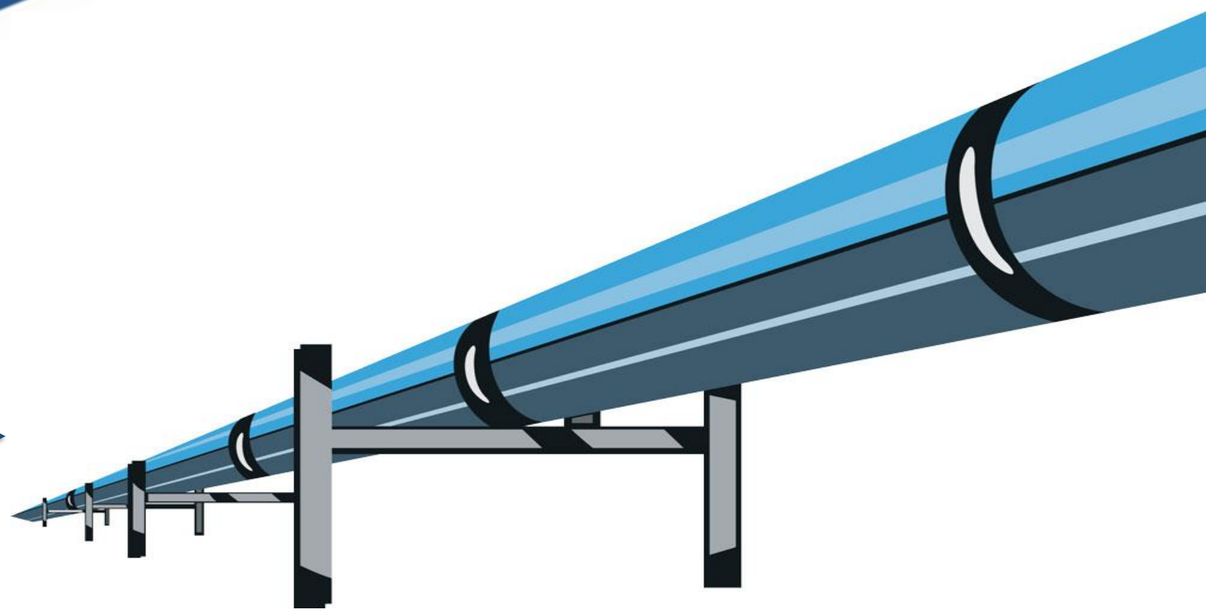

FDIA

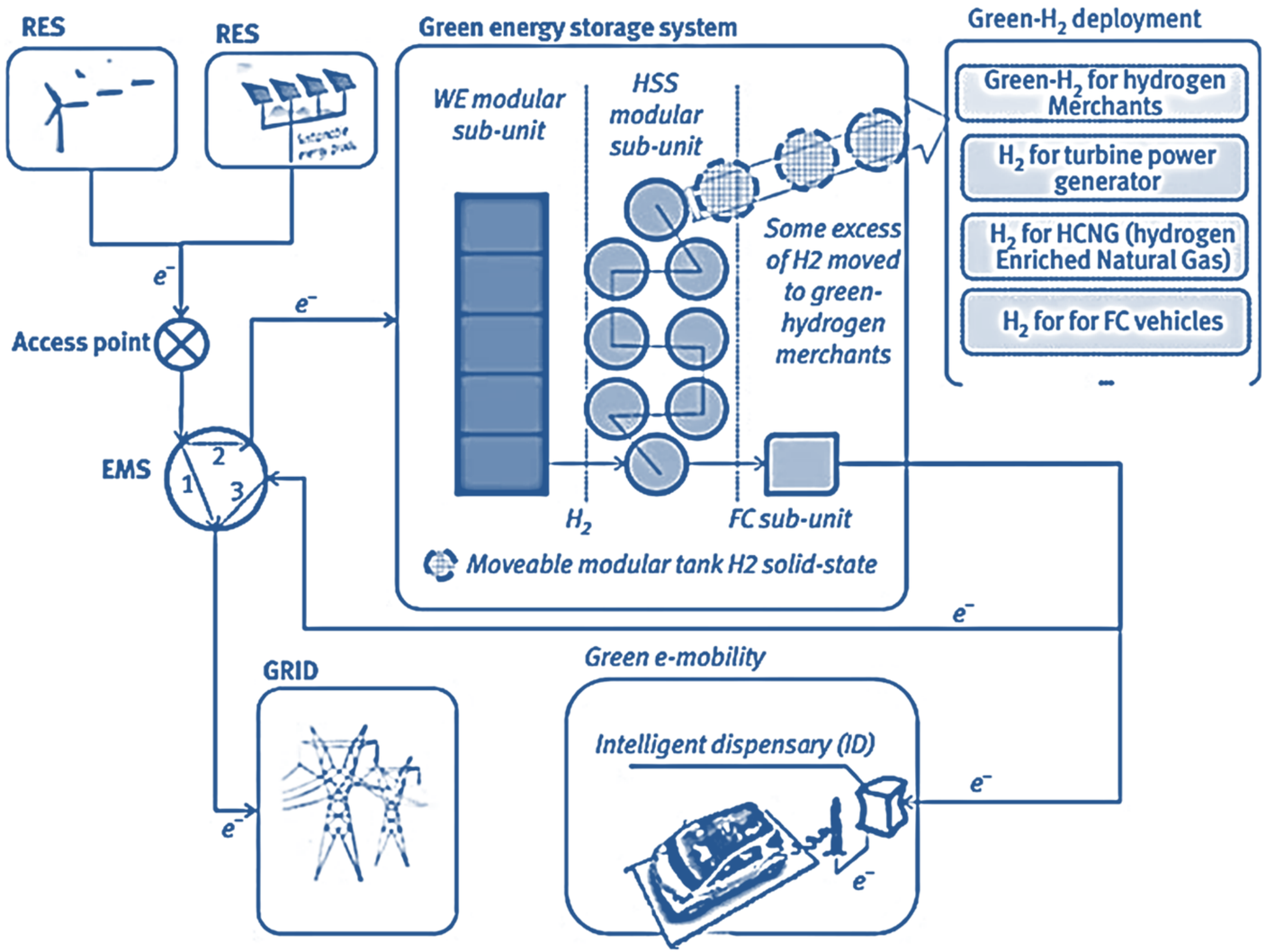


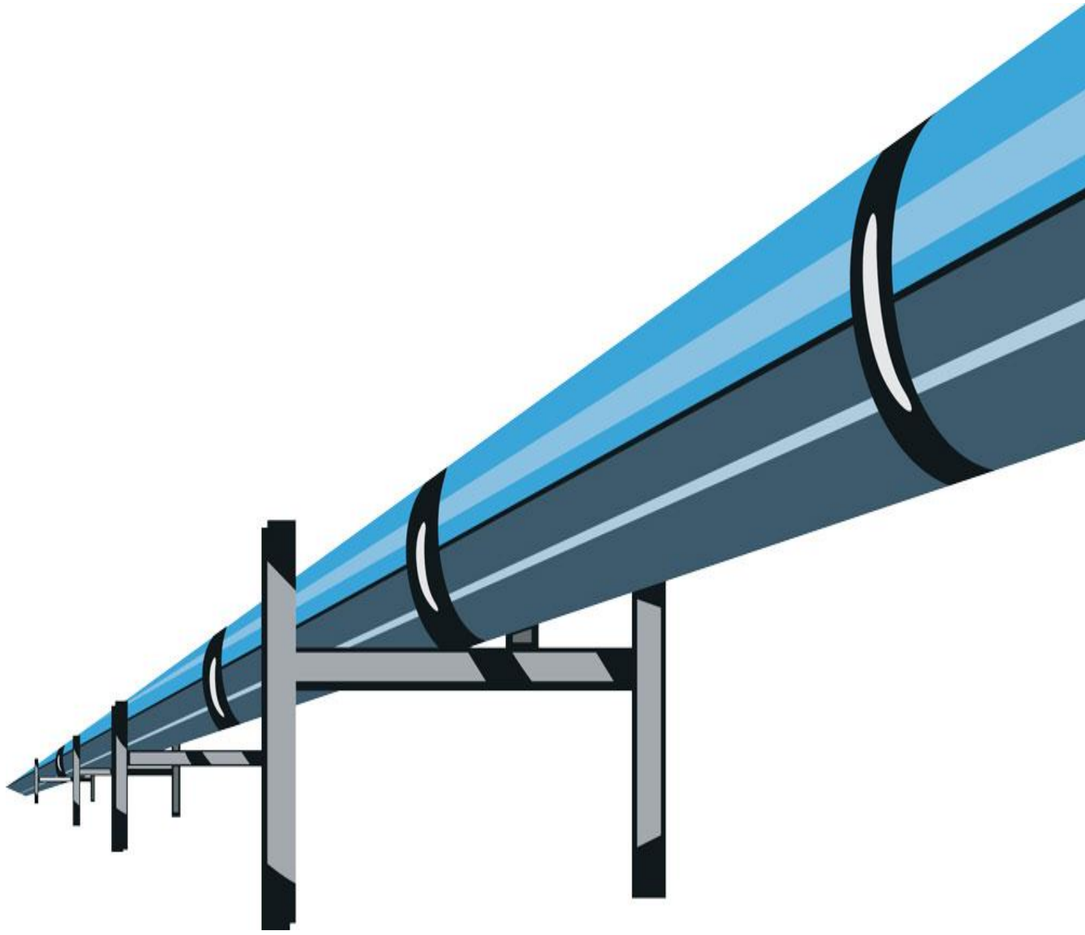
Converting electricity into a different form in order to store it is an alternative method to direct storage. This is the process of electrolysis, or the conversion of carbon to hydrogen and oxygen, which is why power-to-gas got its name.

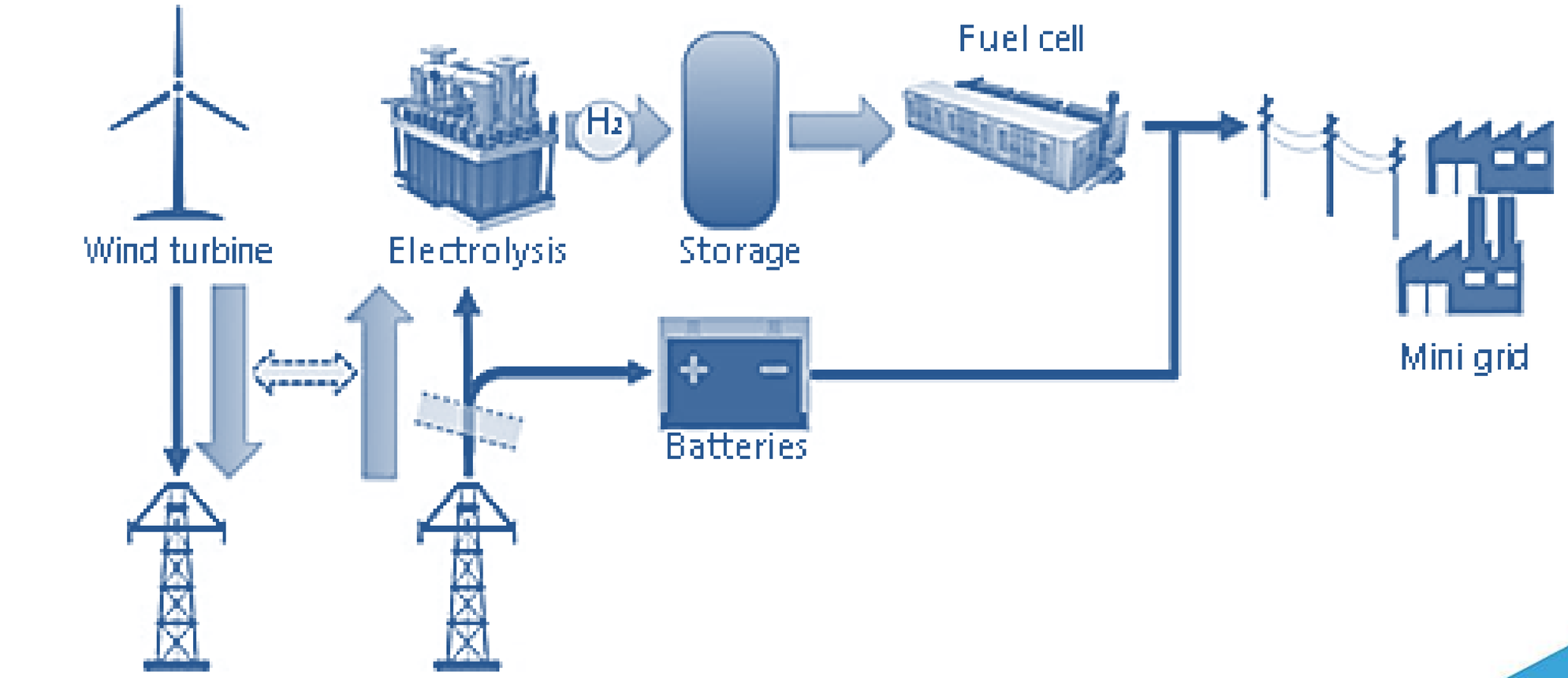

heating plant
store
store
K
changing room
WC
stair
workshop
H2


H_2 service-station
H_2 injection
CHP
Heat
Storage
Electrolysis
H_2
Heat
Wind turbine

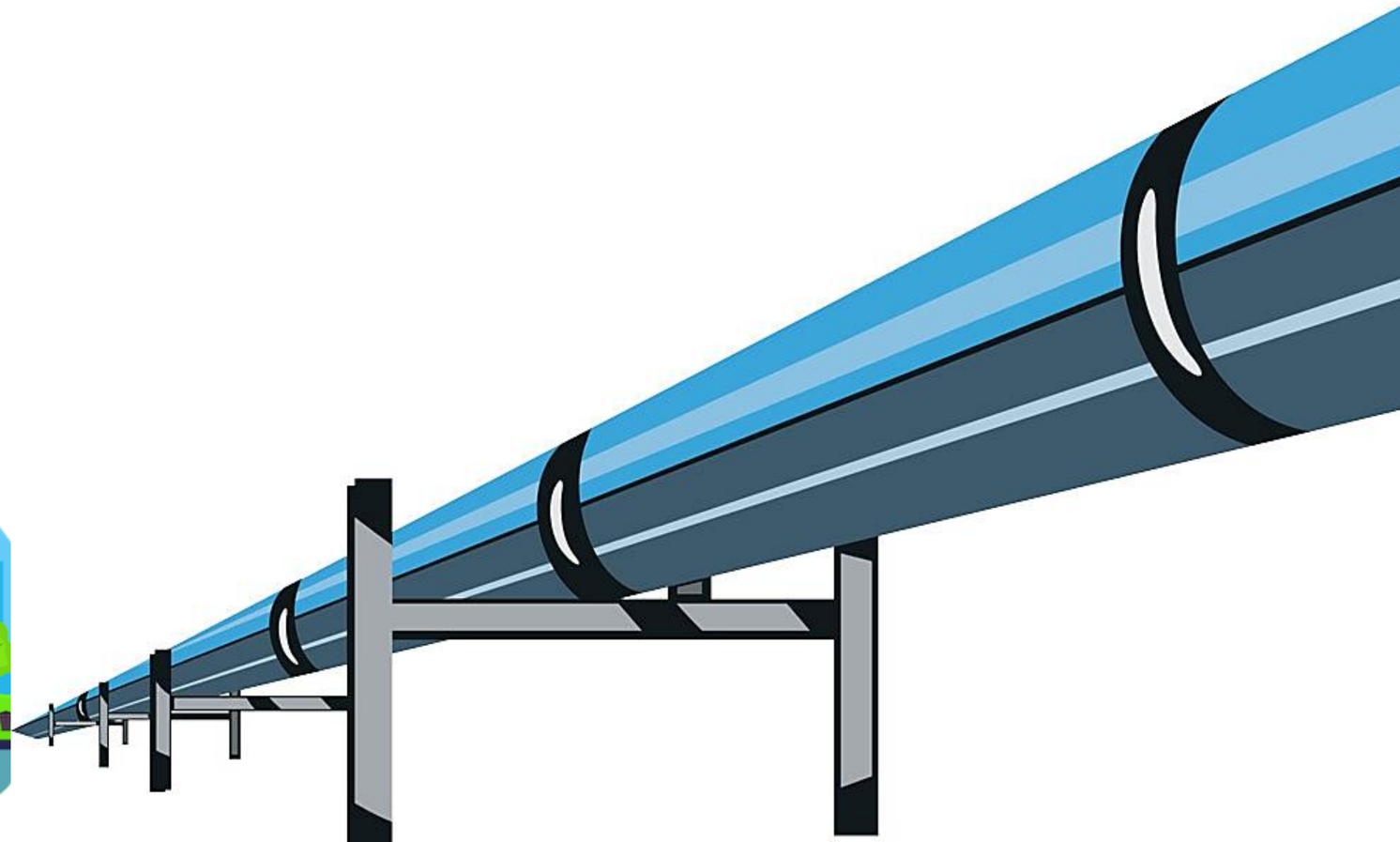


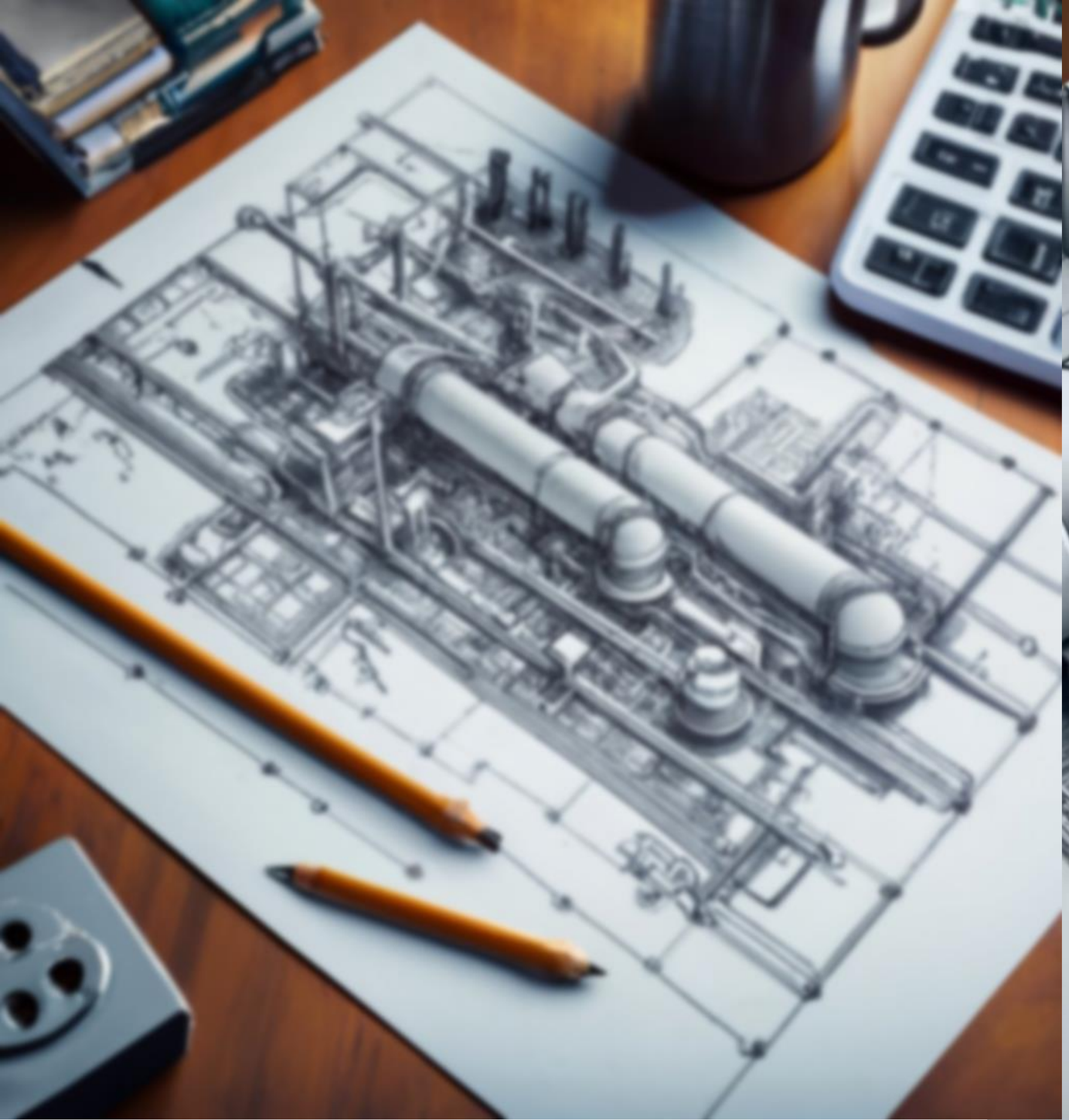

RES
RES
Green energy storage system
Green-H_2 deployment
WE modular sub-unit
HSS modular sub-unit
Some excess of H2 moved to green-hydrogen merchants
Green-H_2 for hydrogen Merchants
H_2 for turbine power generator
H_2 for HCNG (hydrogen Enriched Natural Gas)
H_2 for for FC vehicles
e^-
Access point
EMS
1
2
3
H_2
FC sub-unit
Moveable modular tank H2 solid-state
GRID
Green e-mobility
Intelligent dispensary (ID)

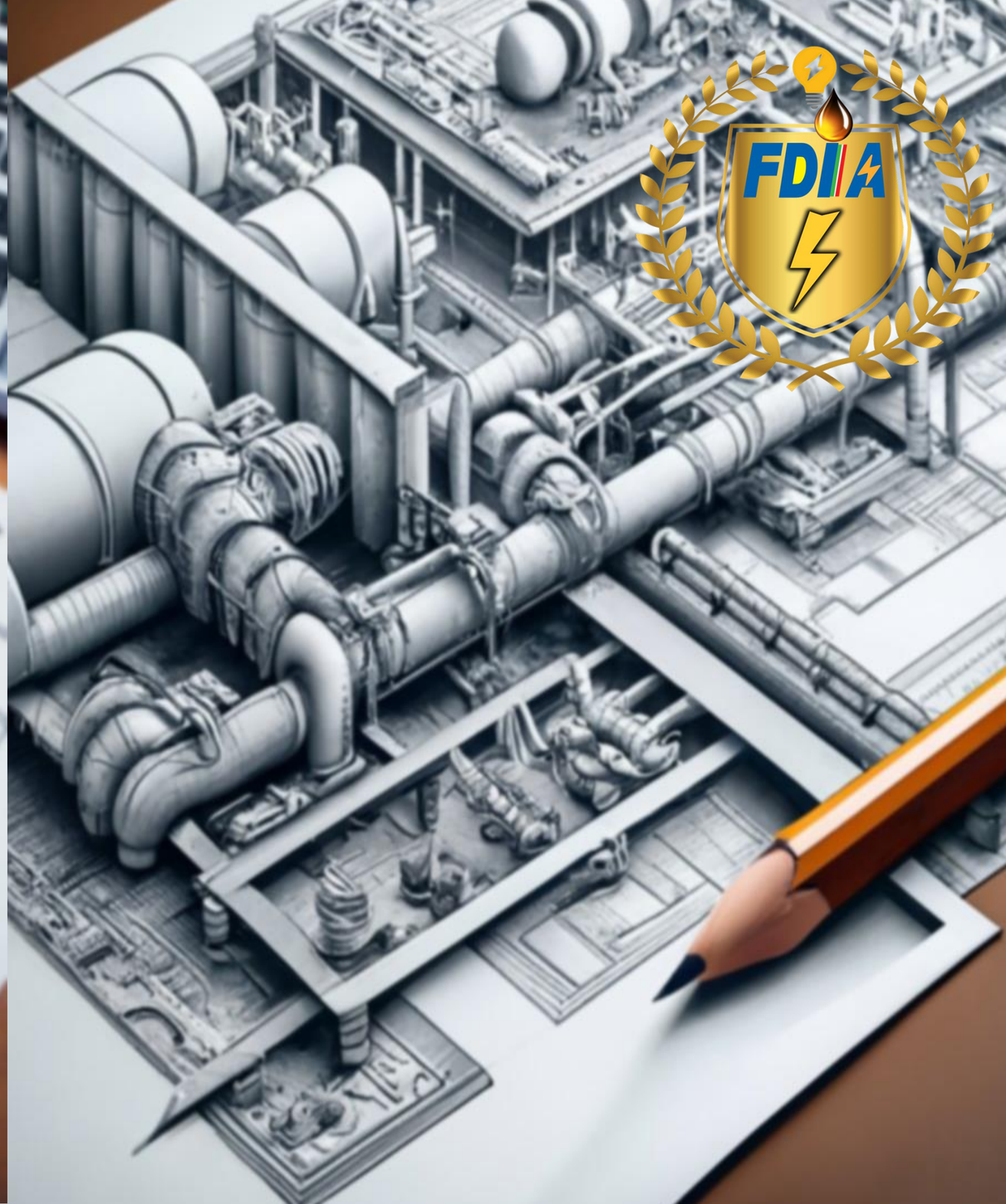


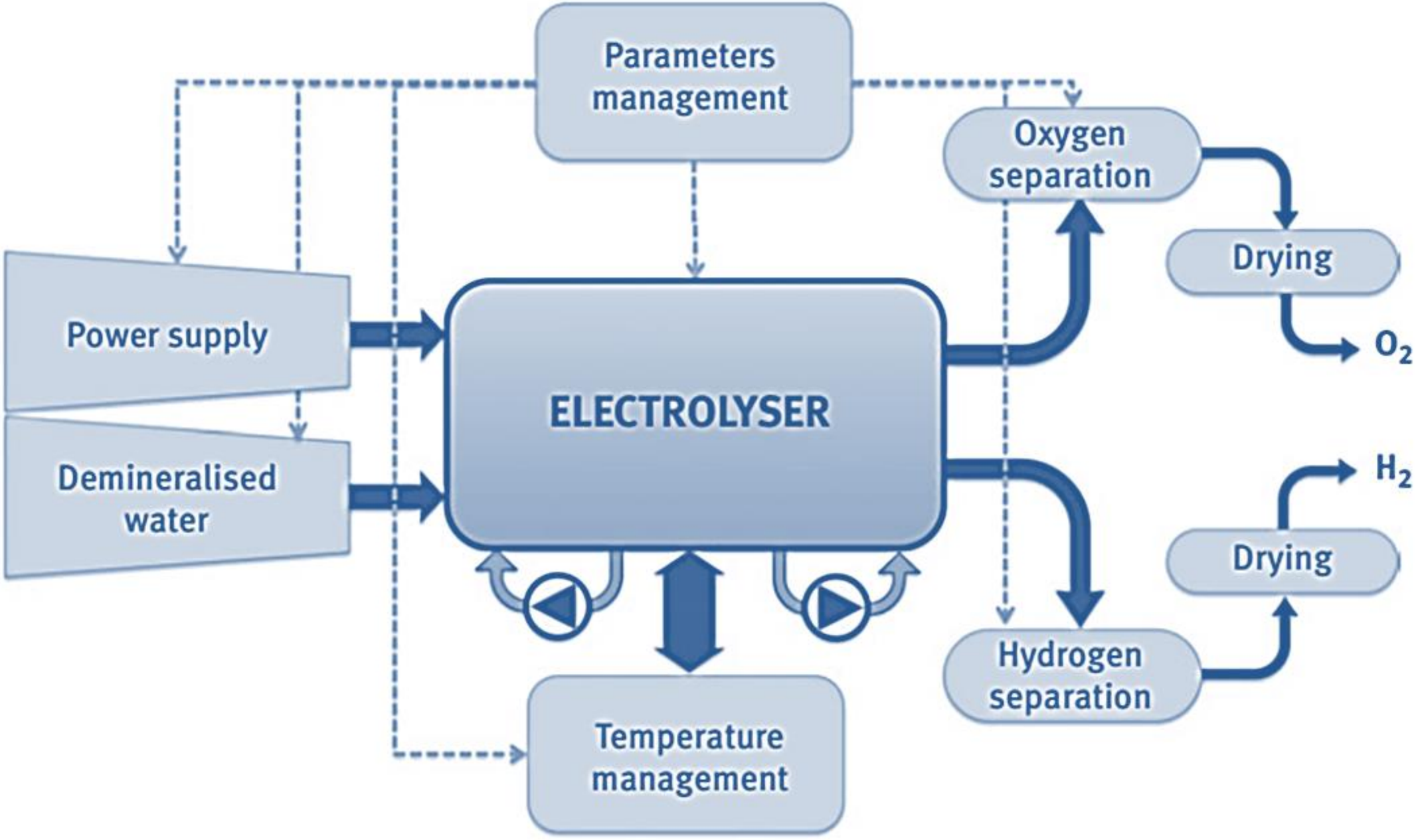

Fuel cell
H2
Wind turbine
Electrolysis
Storage
Mini grid
Batteries


HOSPITAL
AMBULANCE








Parameters management
Oxygen separation
Drying
O_2
Power supply
ELECTROLYSER
Demineralised water
H_2
Drying
Hydrogen separation
Temperature management


FDIA


TESLA
TESLA
TESLA
TESLA
TESLA


TESLA
TESLA
TESLA
TESLA


TESLA
TESLA
TESLA


ONE DISCOUNT
FDIA
DISCOUNT
DOCTOR

SUPPLIER/STARTUP INCUBATOR

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PROJECT OWNER/PROJECT DEVELOPER

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GENERAL DIRECTOR: DR. FABIO ROSATI,
WEB-SITE DESIGNER/PROJECT DESIGNER: DR. LUCA ROSATI

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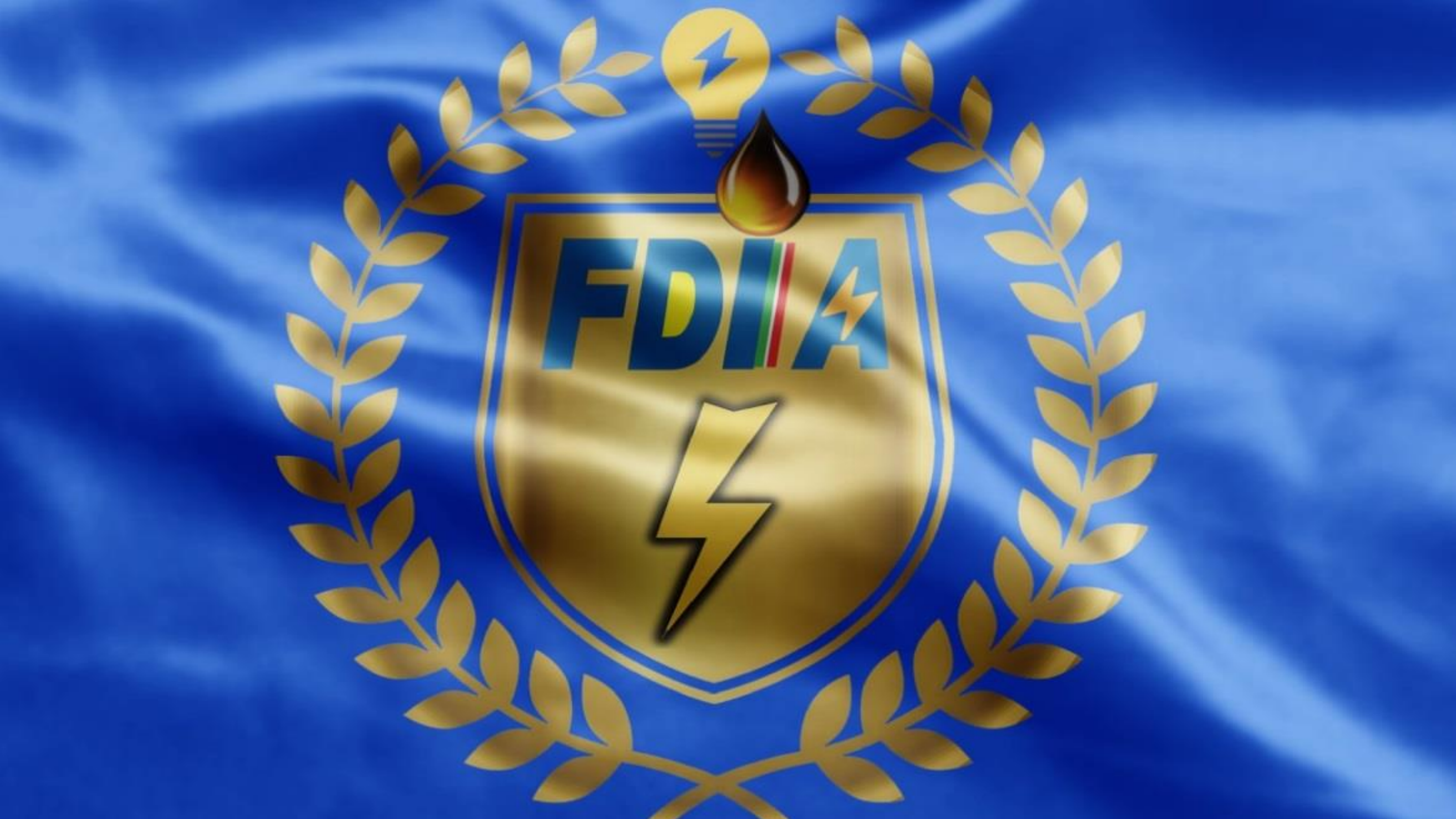
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