Guardians of Factual Based Intelligence

IREPA INTERNATIONAL
An IoT Consultancy

Trusted IIoT, Industrial Cybersecurity Consultancy and System Integrator
IRI Value Proposition

Transportation | Agriculture | Factories | Warehouses | Office Buildings

Health, Safety, Sustainability

Humans, Machines, Things

MEP: Water/Waste Water, Heating, Cooling, Ventilation, etc.

Intelligent Microgrids (interconnected loads and distributed energy resources)

Green/Clean/Renewable Energy (Solar, Wind, H2 Fuel Cells, CH4, Ethanol, LFP Batteries, etc.)

IIoT and Industrial Cybersecurity (network packets, analog/digital signals, IoT sensor data, etc.)

- IIoT powered Energy Management System
  - Microgrid asset predictive/prescriptive maintenance, energy optimization/load balancing, emissions monitoring, etc. during generation process, transmission and distribution to the powered loads
  - Building Automation, Factory Automation, Agriculture Automation, Warehouse, Office Automation
    - Remote Monitoring, Predictive/Prescriptive Maintenance / Actuation, etc.
  - Intelligent Transportation
  - etc.
Example using IIoT in the manufacture of H2

Typical Methane to H2 Manufacturing Workflow Process

- Natural CH4
- Biomass CH4 (digester)
- H2O

Pre-Treatment

- H2S removal

Hi-Temp Section

- CO
- CO2
- CH4
- H2O
- H2

Lo-Temp Section

- H2 + CH4
- CO2
- H2O

Controller

- Solar PV Electricity
- Wind Electricity
- Battery Storage
- Grid Electricity

Fuel Cells

Storage Tanks

Compressors

Steam reformer

Heat exchanger

Battery Storage

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Questions?
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