



**READYH2**

*Superior Hydrogen Fuel Solutions*

## OVERVIEW OF SERVICES

Using the MRXL 'micro-refueller' trailer, developed by IGX<sup>®</sup> and Doosan Mobility Inc.<sup>®</sup>, ReadyH2<sup>®</sup> can:

Deliver 350 bar, ultra-high purity, compressed hydrogen to UAV customer's site, allowing customers to:

- ✈ Stay on site for extended flight operations, ~ 40 tanks worth of fuel @ 2-hour flight time per tank
  - ✓ Pipeline inspections
  - ✓ Mass casualty events
  - ✓ Security for large crowd events

- 🔍 Allow customers to focus on their flight operations vs. locating H2

- 🕒 6 tank, simultaneous filling capability – ~12 hours of flight time



# CHALLENGES WITHIN THE H2 COMMERCIAL SPACE

- 1** The MRXL is a good, non-CDL solution, however, it still needs to be filled w/ high purity, high pressure H2
  - Tube trailer rental overhead costs
  - Cascade filling from 16 packs + onboard compressor
  - Partnerships with higher volume H2 users (not producers) being explored
- 2** ReadyH2 personnel are Hazardous Shipment Certified, allowing for:
  - Shipments of filled, DOT certified UAV tanks\*, to customers nationwide
    - Ideal for customers with smaller fleet or mission profiles
  - Return of tanks to RH2 from customers still poses a challenge
- 3** Local fire regulations for H2 vary
  - Some cities fire marshals have no experience with H2, even larger cities

## KEY TAKEAWAYS

The lack of availability of highly pure, high pressure H2 restricts wider adoption of fuel cell technology. Regulatory differences between cities, counties & states adds complexity to fuel delivery on site. Federal codes would be helpful.

*\*One of first fuel cell drone tank OEMs to achieve DOT certification, via DMI®*

# CUSTOMER'S H2 KNOWLEDGE

- 1 The general public usually fall into 2 categories:
  - Worried / concerned with H2 as a fuel for safety reasons (this was me 18 months ago)
  - Not worried at all due to lack of knowledge or experience using H2
- 2 Both above can be problematic
  - Those worried will need to be “converted” and trained
  - Those not worried will need to be trained to avoid negative consequences of apathy/carelessness when working with H2
- 3 Drone users will not be dealing directly w/ H2 per se, but handling, transport & storage of drone tanks requires training none the less.

## KEY TAKEAWAYS

Fuel Cell Drone users need training on handling COPVs / drone tanks.



# QUESTIONS?

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