

# 3D-printed hydrogen powered drone flight using solid state fuel cassettes first created and patented by Scott

- Awarded the Congressional contract and a historical suite of seminal patents in the Iraq War Bill, the technology is again proven in commercial use.

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London based H2GO Power has revealed it has completed the world's first successful test flight of a 3D-printed hydrogen-powered drone with Ballard Power Systems, Inc.



*Courtesy H2GO Power*

The Unmanned Aerial Vehicle (UAV) pilot took place in Boston in late August as part of a partnership with Ballard Unmanned Systems Inc. – the UAV arm of Ballard Power Systems.

Headquartered in the UK, H2GO Power is developing and delivering solid-state hydrogen energy storage for zero-emission, reliable and safe power supply. The company's drone application solution can increase the flight time of a drone's battery by up to 90 minutes, compared with less than 25 minutes for typical Lithium-ion battery systems.

The advanced design allows for up to 15% of total drone weight reduction and volume control - achieved by the 3D printed lightweight metal - as well as creating internal structures that optimise heat management into and out of the power system. This enables UAVs to travel three to five times further and carry heavier payloads.

The pilot is a testament to the company's unique, solid-state hydrogen storage technology which allows for clean, reliable and scalable energy storage for UAVs/ Drones as well as a wide range of commercial, industrial and residential applications including Plug & Play Storage Units, eVTOLs and commercial aircraft.



With extensive scope in its commercial application in the developing and developed world, H2GO Power's energy solution can be used for the faster delivery of medicines, quicker deployment of critical equipment, residential delivery, agriculture and environment monitoring. Solid-state hydrogen storage innovation that operates at such low pressures (1% of the pressures demonstrated in similar applications) significantly removes safety concerns of compressed hydrogen use.

Commenting on the pilot flight, Dr Enass Abo-Hamed, founder and CEO of H2GO Power said: "This is a hugely exciting development for our unique technology and brings us a step closer to delivering clean and sustainable energy delivery. The successful pilot flight demonstrates an innovative solution for the future of drones and its multiple commercial applications.

"With safety at the forefront of our decision-making process, our power system enables lightweight, scalable, clean energy storage that creates significant cost savings and is up to five times more efficient

than existing alternatives.

“We’re excited that our solid-state hydrogen solution will unlock commercial opportunities through its efficiency and safety.”

Phil Robinson, Vice President and General Manager of Ballard Unmanned Systems, added: “We’re excited to work with the H2GO Power team to demonstrate its innovative technology in real-world flight. It is through partnerships like this that we will achieve our vision of delivering fuel cell power for a sustainable planet.”