



NEWS RELEASE

# U.S. Department of Defense Selects Advent's Wearable Fuel Cell for 2021 Validation Program

3/31/2021

Power system developed by Advent subsidiary UltraCell is the only fuel cell solution selected for this year's DOD program

BOSTON--(BUSINESS WIRE)-- Advent Technologies Holdings, Inc. (NASDAQ: ADN) ("Advent") and its subsidiary, UltraCell, today announced that UltraCell's 50 W Reformed Methanol Wearable Fuel Cell Power System ("Honey Badger") has been selected by the U.S. Department of Defense's National Defense Center for Energy and Environment ("NDCEE") to take part in its demonstration/validation program for 2021. The NDCEE is a Department of Defense program that addresses high-priority environmental, safety, occupational health and energy technological challenges that are demonstrated and validated at active installations for military application. UltraCell's "Honey Badger 50" fuel cell is the only fuel cell that is part of this program which supports the U.S. Army's goal of having a technology-enabled force by 2028.

UltraCell's newly developed Honey Badger 50 Fuel Cell System is optimized to operate on a soldier-worn plate carrier or ruck carried for "on the move" battery charging. Under the program, led by the U.S. Army DEVCOM C5ISR Center, the Honey Badger will undergo rapid design spirals over two years applying user feedback gained during soldier touch points. The Honey Badger system is designed to integrate with materials already in the U.S. Army supply chain.

The portable Honey Badger is breaking new ground in several areas to push forward the renewable energy transition – including moving away from polluting generators and disposable primary batteries. Most importantly, unlike generators with noxious exhaust, the Honey Badger system can be used indoors or operate in the field for soldiers while on the move. By offering advanced technology to create a versatile, lightweight option for users, this



innovative fuel cell represents a major step forward.

Some of the many features of the Honey Badger 50 system include:

- Fueled by a NSN 6850-00-926-2275 Cleaning Compound, Windshield (CCW) which is ~70% methanol and water;
- Its material is already in the arsenal with proven supply chain and minimal safety concerns, compared to JP8 fuel;
- Compared to generators, the Honey Badger is very quiet at only 40-45 dBA vs. 90+ dBA.

Dr. Vasilis Gregoriou, Advent Technologies CEO & Founder, commented: "This award by the DoD demonstrates the ability of Advent's 'Any Fuel, Anywhere' technology to deliver innovative, mobile solutions that are at the forefront of the energy transition. UltraCell's new fuel cell technology will be instrumental in allowing soldiers to be self-sustained over 72- and 96-hour dismounted missions."

Ian Kaye, UltraCell Founder & General Manager, added: "We are pleased the U.S. Army sees the value that Honey Badger offers the warfighter. After several years of concept development and field trials, we optimized the Honey Badger to address the main concerns that we had observed by U.S. Army Soldiers such as that single-use batteries are not sustainable in the field, and generators are too loud and toxic for close combat operations."

Just last month, Advent Technologies acquired UltraCell, the fuel cell division of Bren-Tronics, Inc. ("Bren-Tronics"). UltraCell's technology can use hydrogen or liquid fuels to deliver reliable power at a fraction of the weight of batteries. An UltraCell system is 3x-25x lighter in weight than the equivalent battery solution (depending on the application and use case). The systems have been deployed with excellent performance in stringent and challenging conditions and climates.

### About Advent Technologies Holdings, Inc.

Advent Technologies Holdings, Inc. is an innovation-driven company in the fuel cell and hydrogen technology space. Our vision is to accelerate electrification through advanced materials, components, and next-generation fuel cell technology. Our technology applies to electrification (fuel cells) and energy storage (flow batteries, hydrogen production) markets, which we commercialize through partnerships with Tier1s, OEMs, and System Integrators. For more information on Advent Technologies Holdings, Inc., please visit the company's website at <https://www.advent.energy/>

Advent subsidiary UltraCell is a leader in lightweight fuel cells for the portable power market with mature products and cutting-edge technology. The portable battery chargers produced by UltraCell are the only "Made in USA" fuel cell products approved by the North Atlantic Treaty Organization (NATO), and one of the only two manufacturers

across NATO. UltraCell units are already deployed in the field by U.S. military and security agencies. Three additional NATO allies are currently testing UltraCell systems. UltraCell's fuel cell products have also been recognized and presented in multiple global NATO events. For more information, visit [www.ultracell-llc.com](http://www.ultracell-llc.com)

Advent Technologies

Elisabeth Maragoula

**[emaragoula@advent.energy](mailto:emaragoula@advent.energy)**

Sloane & Company

Joe Germani / Alex Kovtun / James Goldfarb

**[jgermani@sloanep.com](mailto:jgermani@sloanep.com) / [akovtun@sloanep.com](mailto:akovtun@sloanep.com) / [jgoldfarb@sloanep.com](mailto:jgoldfarb@sloanep.com)**

Source: Advent Technologies Holdings, Inc.