

WITT Energy Awarded £350k MoD Contract

21st June 2021 (Gloucestershire, UK): WITT Limited, the South West of England based renewable energy tech company, has secured a £350k contract with the Defence and Security Accelerator (DASA) to develop energy harvesting technology for the subsea environment. DASA is a cross-Government organisation and part of the Ministry of Defence; it finds and funds innovation to support UK defence and security.

DASA put out its 'Open Call' last year for 'Rapid Impact' innovations that could quickly and effectively support the UK defence sector and WITT's successful contract award will be published on the gov.uk website later this month. The funds will be used to develop the WITT (Whatever Input to Torsion Transfer) energy capture and storage device specifically for subsea defence applications.

The WITT is a ground-breaking device that efficiently captures energy from all planes of movement and turns it into electricity that can be stored until needed - it has been hailed as the most exciting development in the renewable energy sector since the solar panel. In the subsea environment the WITT converts the vortex induced vibrations (VIV) created by ocean currents into usable electrical power and it is unique because it can do this with a waterflow of just 0.5 mtr/sec. The WITT is contained within a sealed vessel and provides a low maintenance source of off-grid power to remote and hard-to-reach locations.

Mairi Wickett, business development director and co-founder of WITT Limited, said: "Securing the funding from DASA has been a huge boost; it will facilitate additional development of the technology and enable us to investigate new applications for the system subsea - such as providing power for sensors, data gathering and mammal and temperature studies. It also further reinforces the WITT's credibility in the sector and puts us in a strong position for our next round of fundraising. The WITT is a clean, green power solution with countless applications, our main aim is to use our technology to revolutionise off-grid power generation and reduce global CO2 production."

Mike Madden, the DASA Innovation Partner for the South West of England, said: "It is great to see growing companies like this succeeding in getting DASA funding. This proposal was welcomed as a potential solution for an enduring problem for defence, for which limited options have been available. It is attractive that this idea also has potential cross-sector appeal in addition to the clear defence need. While the DASA funding has clearly been welcomed by the company, the benefits they will accrue as a result of this successful bid will include increased access to the defence user, and science and technology communities; it's hard to put a value on that, but it is not to be underestimated"

Based at Gloucestershire Science and Technology Park, WITT Limited has gone from strength to strength since the record-breaking Crowdfund raise in 2016 where it

attracted almost £2.4 million of investment and became the biggest ever crowdfunded equity raise by a clean tech company. Since then, the WITT has been granted patents worldwide including UK, USA, China and Europe and has patents pending in Korea, Brazil, Canada, India and Russia. The WITT has also been recognised by a series of high profile national and international awards since its inception, most recently this year it won the Solar Impulse Foundation/World Alliance Efficient Solution Label as one of the 1000 Best Clean Green Affordable Solutions to Protect the Planet and Reduce CO2.

WITT's renewable energy technology has recently been undergoing trials at Turnchapel Wharf, Plymouth, which is the UK's home of maritime autonomy. Ryan Bonney, site manager for Turnchapel Wharf, said: "We are pleased to be able to support WITT with their ground breaking development of green energy."

For more information about the technology and investment opportunities, visit www.witt-energy.com.

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What is a WITT?

Visit <https://www.witt-energy.com/sub-sea> for footage of the subsea WITT being tested at Solent University's tow tank.

Contained within a sealed unit, a WITT uses two pendulums connected to a flywheel to generate electricity. Movement causes the pendulums to swing, and they are attached to a shaft that then turns a flywheel in one direction. The flywheel is connected to a generator, which produces electricity. The unit harvests chaotic motion, turning it into usable power. Where most energy harvesting devices are taking up-and-down or side-to-side motion, the WITT captures energy from all 6 degrees of chaotic motion.

In the subsea environment the WITT converts the vortex induced vibrations (VIV) created by ocean currents into usable electrical power and is unique because it can do this from a waterflow of just 0.5 mtr/sec.

The amount of power produced by a WITT is dependent upon the size of the device and this can be scaled to the needs of the application, be it a small electronic sensor or a power hungry remotely operated vehicle (ROV).

Why is the WITT important?

The WITT is set to change the face of renewable energy forever with its ground-breaking energy harvesting technology and has been hailed as the most exciting development in the renewable energy sector since the solar panel. The WITT is the only device in the world that can capture energy from all movement and turn it into electricity, which can be stored and called upon when needed. WITTs can harvest power from Water (sea, river or tidal), Wind, Human or Animal motion. See how the WITT works here: <https://www.witt-energy.com/howitworks>

The WITT's multi award winning technology has been designed, manufactured and tested using world leading design and analytical software packages enabling reliable products to be deployed on customer sites.

The Defence and Security Accelerator (DASA)

The Defence and Security Accelerator (DASA) finds and funds exploitable innovation to support UK defence and security quickly and effectively, and support UK prosperity. Our vision is for the UK to maintain its strategic advantage over its adversaries through the most innovative defence and security capabilities in the world. DASA is a cross-Government organisation, part of the Ministry of Defence, launched in December 2016 by the Secretary of State for Defence.

WITT Limited Partners:

RS components - A Global omni-channel distributor and solutions partner to over one million industrial customers.

RS Components is supporting WITT Limited with product sourcing for design and prototyping, working with leading manufacturers from across the electronics and industrial supply base to bring in relevant expertise to the project. Alongside this, WITT Energy will be connecting with the DesignSpark engineering community to share the progress and evolution of WITT devices.

Solis Marine Engineering - Focused on sustainable technology development in the marine renewables and low carbon shipping sectors. Application of cutting edge design tools, working from initial concept development through to offshore deployment.

Solis is supporting WITT Limited with:

- Coupled fluid structure interaction models with vortex induced vibrations
- Hydrodynamic calculations to calculate WITT response, also feedback on system
- Deployment design support
- Scale testing support

FSG Tool and Die Ltd is a high value added manufacturing business that designs, builds and tests manufacturing systems for market leading manufacturers. Providing engineering solutions to a wide range of companies, FSG Tool and Die Ltd translates the voice of the customer and provides an innovative approach.

Prof Paul Byard, managing director, said: “The collaboration with WITT Limited has provided the unique opportunity to enhance our capabilities through computational development to share knowledge and apply expertise to the technical challenge. This development to effectively optimise the design/construction has created an engineered solution with improved performance for WITT customers.”

Awards

The WITT has been recognised by a series of high profile national and international awards, some of which are listed below:

- 2013 Winner of the prestigious Ocean Exchange (US) General Dynamics Gulfstream ‘Leap to Zero’ award, which included a cash prize of \$100,000
- 2014 Smart Grant winner from Innovate UK
- 2015 Shell Springboard Award Winner, picking up a prize cheque of £40,000.
- 2015 Frost & Sullivan USA awarded WITT the ‘Best Motion Energy Technology’ after its global researchers and analysts reviewed this sector
- 2015 HRH Duke of York made WITT technology his pitch@palace ‘Entrepreneur of the Week’
- 2017 The GREAT for Imagination Campaign featured the WITT as one of the 60 best patents ever filed. 10,000 patents are filed each year in the UK, this activity marked the 400th anniversary of the first patent.
- 2018 Climate Innovation Exchange (CLIX) exhibitor at the World Future Energy Summit
- 2019 Won an Innovate UK award, testing a sealed system at Solent University flow tank which proved that energy from all motions is harvested and turned into power.
- 2020 Marine Energy Alliance funding secured to fund testing and development in the marine renewables sector.
- 2020 Energy Catalyst 8 Award
- 2021 Solar Impulse Foundation/World Alliance, Efficient Solution Label awarded as one of the 1,000 solutions for clean green affordable solutions which will help reduce CO2 and protect the environment in a profitable way