

[MAIB to carry out investigations on behalf of Red Ensign Group Cat 1 registries](#)

News story

Memorandum of Understanding agreed between the MAIB and the Category 1 registries of the Red Ensign Group.



The Marine Accident Investigation Branch has reached an agreement with the Red Ensign Group (REG) and as of this month will now carry out investigations into Very Serious Marine Casualties for the Red Ensign Group Category 1 registries of Bermuda, Cayman Islands, Gibraltar and the Isle of Man.

This is an important development for the MAIB that will not only benefit the wider REG, but will also ensure that safety investigations remain independent of marine regulation. Additional resources have been brought into the Branch to take on this important work, including the recruitment of two new inspectors.

The full MOU can be read [here](#).

Published 10 July 2020

[eAlert: 10 July 2020 – Helping tree nurseries recover from the impact of](#)

coronavirus

Help us improve GOV.UK

To help us improve GOV.UK, we'd like to know more about your visit today. We'll send you a link to a feedback form. It will take only 2 minutes to fill in. Don't worry we won't send you spam or share your email address with anyone.

Email address

Send me the survey

BuffaloGrid

We rely on mobile phones in the developed world. We do business with them, pay for goods and services, connect with culture and promote our wellbeing. And yet it goes much further. The United Nations sees improved mobile connectivity as key to ending poverty, halting climate change and fighting injustice and inequality across the world by 2030.

Increased smartphone use is having a major impact in the developed world, helping to create and power new business services, improving communication in remote areas, and connecting people to education and health services. But smart devices rely on power and it is estimated that 700 million people with access to a smartphone do not have power, including 300 million in India alone.

Daniel Becerra, founder of BuffaloGrid, said: "The mobile phone is the most significant tool for people living in developing regions. They are known as 'smartphone-first users'. They don't have laptops, they don't have PCs. All their work, all their entertainment, everything goes through their mobile device. The first barrier to internet adoption is power."

BuffaloGrid has developed a smartphone charging hub with support of Innovate UK funding. The device has an internet connection and can charge many phones at one time with power supplied by solar panels.

The prototype BuffaloGrid hub is being used in mobile operator shops in rural parts of India where electricity is unreliable and intermittent, meaning customers can charge their phones for free when the electricity supply is down. The company is planning to commercially supply hundreds of new hubs in the next 12 months.

BuffaloGrid also won support from Innovate UK's Energy Catalyst to prototype a portable version of the hub, the Buffalito, that users can take home. A further Energy Catalyst project is now helping the company to take the Buffalito through to commercialisation.

Daniel added: "We are starting to look at different markets. We are working with the High Commissioner for Refugees for an incoming trial in a refugee camp in Uganda. We also have interest from Papua New Guinea, Haiti and Rwanda.

"Working with Innovate UK has been very effective for us. It has given us the opportunity to keep innovating and developing our technology. We started with a bicycle generator and now have an internet-enabled solar-powered hub that works on a subscription model paid for by network operators and is free to the user."

Daniel started BuffaloGrid in 2011 and the company now employs people in the UK and India. He said: "What we often forget is that one in two people in the world do not experience the internet. Our vision is to connect the next one billion people. Connectivity is the stepping stone to a more productive, healthy and enhanced life."

[Deos: delivering faster and better mobile medical screening](#)

The turnaround time of 14 days for women to receive breast cancer screening results has not changed since the day the national breast screening service opened in 1988.

Mobile medical screening involves the collection of digital images and their physical transportation to a centre where they can be processed and viewed.

Taunton-based Deos Consultancy and its partner WH Bence Coachworks, of Bristol, have developed a new mobile screening service based on digital communication that could speed up mobile screening for breast cancer and other diseases.

Viv Barrett, director of Deos, said, "We can get images back to the hospital in three minutes. It massively improves the turnaround of clinical information. It also improves the security of the information as it reduces the number of people processing it.

"It speeds up the results and frees up time for staff to do more screening. Patients can get their results quicker. If it is bad news, they get their treatment quicker.

“It also reduces that period of anxiety between a test and a result. You could have somebody sitting at the end of the line reporting the results live before the patient has left the van.”

Viv, a radiographer, used to run Nuffield Health’s nationwide mobile breast screening programme. In 2015 she set up Deos to work with WH Bence, a builder of specialist vehicles for health and emergency services, on developing mobile communications for breast screening services.

WH Bence Coachworks provides the trailer and added satellite technology so that results can be sent digitally to the receiving hospital.

Deos was initially based at the European Space Agency’s Business Incubation Centre in Harwell, Oxfordshire, where it worked with the Satellite Applications Catapult on its satellite-based connectivity.

Four NHS customers have been using mobile communication systems developed by Deos and WH Bence for more than five years.

Deos and WH Bence have now, with the support of an Innovate UK grant, developed a safe, secure and reliable mobile screening service that sends images back to the hospital and can integrate with hospital communication and patient systems. It is based on cheap 3G and 4G technology, and satellite communications where necessary, and can be applied to any screening service.

Viv added, “It was obvious Innovate UK wanted us to be successful. They helped us to keep fully focused, on target and on budget. I’ve learnt a huge amount about planning a large-scale project.

“We are now looking to roll out what we have developed to more screening services rather than just breast screening. We are looking at CT scanning units for lung cancer, retinal screening and possibly MRI scanning.”

Gravitricity

Edinburgh company Gravitricity is developing a system that uses mine shafts to store and supply energy to the National Grid.

The system is the brainchild of serial inventor and technical director Peter Fraenkel. Peter previously worked with Gravitricity’s chairman Martin Wright when developing similarly innovative work for Marine Current Turbines.

Managing director Charlie Blair joined Gravitricity in 2015 after leaving the Carbon Trust. He was looking for a low-carbon innovation to help lower emissions more directly.

Charlie said: “Using gravity to store energy is already commonplace in pumped hydro, but using a solid weight has many advantages. There are a few

companies out there that are using weights, but Peter is really great at simplifying things.”

Peter Fraenkel’s innovation was to hoist and suspend weights over disused mine shafts then use the power generated by lowering the weight inside the shaft to rebalance supply quickly.

Charlie added: “We’re responding to second-by-second or minute-by-minute imbalances on the Grid, which is more valuable. Our system has a lot of versatility, focusing initially on power.”

Independent analysis by Imperial College London supported the company’s claim that gravity energy storage was more cost-effective than current alternatives as well as being cleaner and having greater longevity.

Like many heavy engineering projects, Gravitricity has a timeline of five to six years before it can begin to recoup cost. The initial grant of £175,000 from Innovate UK solidified the concept in 2017.

“We had put a patent in, but there wasn’t really any push to do anything,” said Charlie. “The funding from Innovate UK enabled us to employ a couple of people and get moving.”

More mechanical engineers led to further innovation, including the development of a multi-weight concept that increases the flexibility and power of a single system.

Project development manager Chris Yendell started working for Gravitricity after the second Innovate UK grant of £650,000 was awarded in 2019. His work is currently focused on the company’s scale 250kW concept demonstrator, which will be installed in Edinburgh; later he will begin developing a full-scale prototype.

Chris said: “Working at Gravitricity, we’re really motivated by the cause. It’s more than ‘just a job’. The end goal is something we all believe in.”

The company has also built a strong working relationship with Dutch company Huisman Equipment BV to help Gravitricity develop its winches. Gravitricity is also building relationships in Eastern and Central Europe, and South Africa. Partnering with countries who still have working mines enables the company to work with mining specialists, which gives them an indication of where Gravitricity might go in the long term.

“The initial plan is to deploy in existing mine shafts,” said Chris, “but we’ve done feasibility on sinking new shafts and deploying where it’s needed, which includes right in the middle of a city or near a wind farm. We’ll carry on doing R&D work on that and hopefully work with Innovate UK to achieve it.”