APPROPRIATE DEVICES TO KEEP TRACK OF DEFIBS

An interactive smartphone app that allows members of the public to take 'selfies' beside automated external defibrillators, and a national register set up by a network of community first responders, have been developed to map and keep track of such lifesaving devices throughout communities in Ireland. Report by Elaine O'Regan.

Since starting the 'Save a Selfie' campaign in April 2016 Dublin firefighter and paramedic Seán Peters' interest in the use of technology to support the emergency services has evolved further with the launch of his non-profit venture – the Emergency Mobile Alert & Information Network (EMAIN).

'Save a Selfie' started out as a crowdsourcing campaign last year, aimed at raising public awareness of the country's automated external defibrillators (AEDs). These portable medical devices are used to check heart rhythm and, where Sudden Cardiac Arrest is detected, deliver an electric shock to normalise the rhythm.

"I set up the campaign to help raise awareness of the location of defibrillators and other life-saving devices," says Peters. "It came about a year-and-a-half ago, where a young child unfortunately went into cardiac arrest at a school football match. When they got the team defibrillator out to treat the boy, they realised that the battery was dead.

"The app lets people take a selfie with a defibrillator. Once they upload it, it goes on to an online map, so we can plot its location with the GPS on the phone."

SAVE A SELFIE

Over a nine-month period, 2,800 photos were uploaded to the 'Save a Selfie' app. "It was very successful in that what I wanted to do was make defibrillators less scary and more

Promoting the 'Save a Selfie' App, DFB firefighter and paramedic Seán Peters is pictured far right of the group. The app is available from the App Store and the Google Play Store, and can be downloaded from **www.saveaselfie.org.**

EMAIN HAS FURTHER PLANS IN THE PIPELINE

Séan Peters' plans for the Emergency Mobile Alert & Information Network (EMAIN) are already moving beyond AEDs. Two local authorities (Dublin City Council and Wexford County Council) have supplied location information to EMAIN for data on lifesaving devices in their own regions, and on a national level Séan Peters estimates there are up to 800,000 lifesaving devices in Ireland, which includes first aid kits, fire hydrants, extinguishers, AEDs and life rings.

Also under the EMAIN umbrella, he is developing a 'Smart Ring Buoy' to help alert the emergency services to drowning incidents. Its aim will be to enable faster response times from rescue services and discourage the theft or vandalism of ring buoys.

"What we're really doing is looking at future technologies and how to make things easier for the emergency services, as we cannot work any harder than we're already doing," says Peters. "One way we can do that is by having real-time information, so the 'Life Ring' prototype has a GPS sensor attached to it, with a battery life of six to seven years.

"We hope to programme that software to alert us when a life ring is used. Just like when a fire or smoke alarm goes off, if someone takes a life ring off its stand and throws it into water, the alarm is activated and the emergency services can be activated in real-time within seconds."

Peters points out that in a situation where a person is drowning, someone will throw them a life ring, adding that it can take five to ten minutes for a call to come into the 999 centre.

"We want to make the service even faster than that, so that we know almost immediately when there is an issue, and we can reduce incidents of death by drowning using Internet of Things (IoT) technologies.

approachable," says Peters.

There are thought to be up to 10,000 AEDs around the country, according to Peters, but an estimated 10 per cent no longer work, due to dead batteries or the devices are out of date.

"People tend to stay away from them, so they don't necessarily realise they don't work. They think 'leave it, don't touch it', but we want people to familiarise themselves with the machine and to make sure it's working," he says.

"These machines are very robust. We use them every day in the emergency services and what we want to do is get that message over to general members of the public."

Séan Peters established the non-profit organisation – Emergency Mobile Alert & Information Network (EMAIN) – to develop smart technologies that can help the emergency services and the public work together.

Peters, who has a background in smartphone technology and emergency communications, has secured €10,000 in

funding from The Ryan Foundation and also received €5,000 last year from Social Innovation Fund Ireland's inaugural Animate Programme. Ireland's first non-profit accelerator, the Animate Programme supports early stage innovations, projects and organisations to get to the next stage of their development.

COMMUNITY ASSET PROGRAMME
EMAIN is developing a Community Asset Programme (CAP) using software that will help both communities and organisations alike to keep a better track of the usage and maintenance of automated external defibrillators.

CAP will also generate a heat map of the location of current devices with the aim of helping local communities to plan new locations for defibrillators to ensure the greatest coverage.

"Save a Selfie was an educational app, but I wanted to use the crowdsourced information I got from that as the starting point for a more detailed database of these devices and their location. That's really where the Animate Programme and Ryan Foundation funding came in," says Peters.

"We potentially have enough defibrillators around the country at the moment, but many are in the wrong place. A town such as Clonmel, for example, would be very proactive. They have about 20 public access defibrillators and, because it's run under one scheme, it's well thought-out and the machines are placed strategically around the Tipperary town."
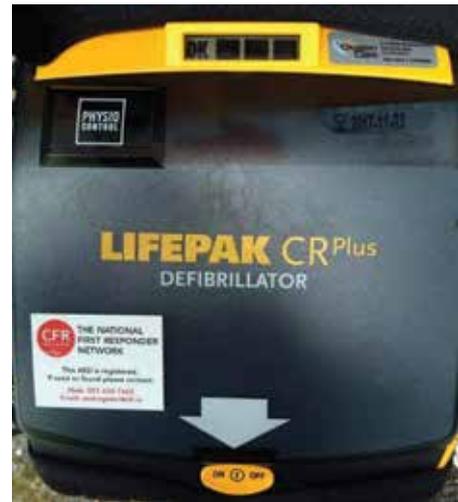
He says they want to help provide organisations and groups with additional information to help best locate devices. "So, you might find them in two shops right next to each other, which are then only available when the shops are open. We want to be able to generate a location map of these devices and to identify the black spots.

"If you have two on one side of the town, you might then look at fundraising for a third one on the other side of the town, to cover the different bases. By gathering all of the relevant information on one database, we can see where these assets are then located."

NATIONAL AED REGISTER
Under a separate scheme, Andy O'Toole, an advanced paramedic based in Wicklow, is heading up a Community First Responder (CFR) network to keep track of the number of AEDs in communities around Ireland.

Join The Registration Team
aedregister@cfr.ie

• Name & Contact Details
• County Location
• Organisation Affiliation

To register an AED with CFR Ireland, email Andy O'Toole at aedregister@cfr.ie

These range of AEDs are now registered on CFR Ireland's National First Responder Network.

O'Toole set up the National AED Register last year, following the publication of the December 2015 HIQA Report into the Public Access Defibrillation (PAD) scheme nationally, which found that there were about 9,000 AEDs around the country. *(See the report from 'Respond 2016' Conference in Issue 54 of Emergency Services Ireland).*

"We have a very enthusiastic volunteer workforce working on this for us around the country – certainly, in every large town. We've come across 425 AEDs in 12 months, so you have to wonder where that 9,000 figure came from," says O'Toole.

He is working with CFR volunteers to roll out the scheme, which he piloted in Wicklow in March 2016. His aim is to make accurate data regarding the location and quality of AEDs around the country available to the ambulance service.

"The idea with the AED registry is to let homeowners, schools, community groups and businesses register the device with ourselves. We have a commitment from the HSE National Ambulance Service that, if we can get the AED details, they will put it up on their system. There are loads of apps you can use to show you where an AED is, but when someone is in the throes of a cardiac arrest, you're not going to start using your app.

"In an emergency, when you ring 999 or 112, you want the person on the line to tell you where the nearest AED is."

AFTER-SALES SERVICE MODEL
During the course of rolling out the National AED Register, Andy O'Toole has encountered an unexpected problem regarding the quality and functionality of some AEDs around the country.

"This is a bit of a slow process at this stage, because if we put an AED up on the system and it's not fit for purpose, it could cause more confusion," he says.

"Some of these machines were purchased years ago during the Celtic Tiger when there was a lot of money around. Now, the pads on those machines are dated and the batteries are dead."

Adding to the problem is the large number of different AED makes and models that have been purchased around the country. O'Toole sees a need for a more proactive after-sales servicing model.

"We will have to approach the suppliers at some stage and ask them to step in, where someone is found to have a faulty

AED either on behalf of, or in partnership with CFR Ireland, to look after that piece of equipment without charging an extortionate amount," he says.

LINKING UP WITH LLOYDS PHARMACY
"The AED is expensive enough for people to buy in the first place. If they've had it for five or more years and they discover that it's useless, because the pads and battery are dead, it's a lot to ask them to fork out another €200 or €300 again."

The Wicklow paramedic has linked up with the Lloyds Pharmacy chain to register AEDs in all 92 of its Irish outlets. "Their internal newsletter, circulated to all of their stores, now includes our online registration form, and has highlighted that their AEDs should be registered with CFR Ireland," he says.

"They've since come back to us with a view to maybe doing some in-store advertising on what we're doing. At this stage, we really need to ensure that all of the AEDs in the country are on the system.

So, when someone calls an ambulance to report a suspected heart attack, they will be directed towards the nearest AED."

Andy O'Toole and RTE presenter Michael Lyster who attended the 'Respond 2016' Conference in Mullingar to discuss his own personal experience of cardiac arrest. Andy and his colleagues resuscitated Michael after his wife had provided the initial care.