



MINISTRY OF DEFENCE – IMPROVING SOLDIER WELFARE

⚠ THE PROBLEM

The British Army train personnel to conduct arduous operations across the world. Individual training must be thorough, demanding and representative of the situations people will find themselves in. Equally, however the Army have a duty of care and must ensure that training risks and personal safety are managed in an appropriate and proportionate manner.

For specific individual training, the Army currently employs an expensive satellite based tracking system which provides the location of trainees and enables two way text style message exchange between trainees and exercise directing staff. Insight on individual welfare is limited to visual observations every couple of hours. HQ Army approached BT who in turn approached SENSEi to develop and demonstrate an IoT based solution that matched existing capabilities at a lower operating cost and that would provide real-time transparency on the biometric welfare of personnel operating in remote and extreme environments.

✓ THE SOLUTION

SENSEi proposed and implemented a bespoke application of CONTX, delivering a modular open architecture platform that harvests positional, biometric, telematic and environmental data from wearable sensors, communicates data securely over a combination of localised IoT networking solutions and deployable 4G base stations, representative of EE's Emergency Services Network (ESN), to SENSEi's cloud based data analytics platform, and provides all stakeholders real-time dashboards and historic data views to continually assess individual soldier health.

📈 OUTCOMES

The solution was successfully demonstrated on a Proof of Concept field trial in the Brecon Beacons in front of VIP guests from BT, Army HQ and the wider MoD and subsequently trialled on a live Army selection exercise during which trainees marched a 23km route over the Brecons in inclement weather.

Medical grade biometric data and local environmental data was harvested from both proprietary and third-party sensors, then communicated via SENSEi smarthubs over rapidly deployed hybrid LoRa/LTE networks into the SENSEi cloud services. The SENSEiCORE cloud services environment was developed to run specific rule based data analytics and information was translated into meaningful views via a modified CONTX dashboard, designed to visualise information in a military context.

CONTX provided considerable improvements over the existing tracking solution, providing location updates five times more frequently at a fraction of the operating cost, mitigating extended periods of absent data and providing total transparency on personal welfare with near real-time alerts to observing officers when a trainees performance or welfare exceeded expected parameters.

All stakeholders have engaged in a program to look at a deliverable capability with extended functionality addressing a wider set of military usecases.