

**BLACK SPACE
TECHNOLOGY**

CLOSING THE CARE GAP

TECHNOLOGY ENHANCED CASUALTY CARE

ONE DEVICE - MULTIPLE SCENARIOS

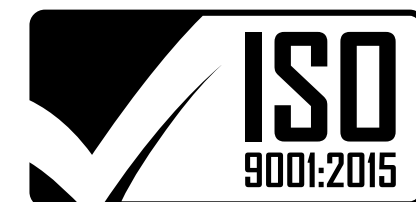
ABOUT BLACK SPACE TECHNOLOGY

Black Space Technology is a privately funded SME which specialises in scalable and future proofed mobile telemedicine and telehealth solutions. It is software focused; hardware agnostic and all its solutions are configurable to local service needs including language localisation.

All its products have full medical accreditation, GDPR compliance and have ISO 9001, 13485 (medical software), IASME IoT Gold, NHS Data Security and Protection Toolkit and Cyber Essential Plus accreditation. The solutions are currently used by IGOs and NGOs across the world.

The core Android digital platform is easily configurable to civil contingency medical needs including language localisation. The

solution provides enhanced multinational medical coordination improving operational readiness and interoperability in conflict-ridden regions and natural disaster management. The platform allows incremental data capture from point of injury using Android end user devices throughout the Operational Care Pathway facilitating data transfer between devices and integrated data flow into 3rd party platforms – **‘One Device – Multiple Scenarios’**



QUALITY
MANAGEMENT
SYSTEMS



QUALITY
MANAGEMENT
SYSTEMS
MEDICAL DEVICES

1. Rapid-EPR - A fully automated prehospital care electronic patient record (EPR) combined with wireless monitoring systems for the real-time management of emergencies. It allows incremental data capture from point of injury through to Role 4. There is optional low bandwidth high-definition videoconferencing as well as ultrasound and video laryngoscopy. The downloadable Android platform has the advantages of simpler deployment, easier maintenance, and multinational language interoperability. Increased operations in austere environments and longer evacuation times require light, scalable, modular and flexible equipment customised to the appropriate personnel with tactical and operational competencies.

2. Rapid-MCI – Mass Casualty Incident (MCI) is a medical incident ground control system with real time situational

awareness platform that can deal with humanitarian aid and disaster relief incidents. The Android based platform allows real time incident control and allocation of resources to improve scene management. It allows the rapid triage of multiple casualties and allows geo location of casualties to avoid 'left behind' scenarios with the ability to monitor multiple casualties. It matches real time availability of hospital resources with casualty demand to avoid surges and inappropriate transfers.

3. Rapid-ACE – The autonomous casualty evacuation (ACE) system is a casualty pod that can be attached to a heavy lift unmanned aerial vehicle. This UAV is equipped with a fully autonomous vital sign monitoring, defibrillator and ventilator system using COTS wearables and digital imagery to monitor and detect clinical deterioration in a casualty during any CASEVAC mission in remote environments.



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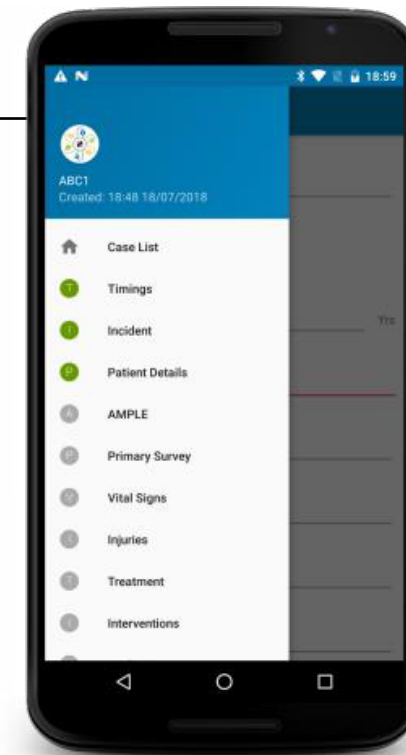
CLOSING THE CARE GAP

HOW IT WORKS

RAPID-EPR TECHNOLOGY ENHANCED CARE

HOW IT WORKS

1



Medical personnel are equipped with an air accredited light, portable Android tablet or smartphone with the Rapid-EPR software, plus wireless enabled equipment for capturing vital signs. The receiving medical centres have an easy access web-based portal to receive patient data.

The system can capture and transmit all vital signs via wireless peripherals to aid intelligent diagnosis including: 6/12 channel ECG, Blood Oxygen Saturation, Respiratory Rate, Blood Pressure, Blood Sugar, Pulse Rate, Peak Flow and Temperature with optional Defibrillator.

2



Ease of use is critical, and the system has been specifically designed for non-medically trained personnel. The device will guide the responder through a simple step-by-step process that will support diagnosis, and provide treatment instructions and advice, including easy and quick instructions on how to apply the key monitoring peripherals provided as part of the solution.

Single point of failure is avoided by monitoring devices having independent power supply and display screens, data entry can be wireless or manual and embedded knowledge supports remote clinical decision making.

3



The solution can be used in a remote clinic or emergency setting. The staff would power on the Rapid-EPR unit and simply follow the on-screen instructions. The system can be pre-configured with patient details, along with any pre-existing patient conditions which might be important in order to increase casualty safety.

HOW IT WORKS

4



The touch screen interface including short cuts, enables medical incidents and vital signs to be captured and transmitted 'real-time' via communication channel in a secure, encrypted format to a 24/7 medical centre.

The designated emergency department or trauma centre receives full patient details, including the vital signs and digital images. Specialist clinicians can then advise on interventions whilst receiving real time information on the patient's status, location and destination.

5



The system provides a wide range of data for clinical decision support at the scene. A comprehensive drugs database provides guidance on the type of drug, method of administration, dosage, units, interactions, contra-indications and warnings. All data including imagery and vital signs is transmitted to a cloud-based web-service which will allow any authorised users to gain access to the clinical information on any web browser. This also includes GIS localisation of the casualty and incident.

HOW IT WORKS

ESSENTIAL FEATURES & BENEFITS

ANY PLACE, ANY TIME ACCESS TO EXPERT MEDICAL SUPPORT

- Enables 24/7 access to expert emergency medical advice that means you get the best remote medical diagnosis and treatment in any remote environment.
- A built-in medical database provides access to immediate diagnosis.

EASY TO USE FOR NON-MEDICAL PEOPLE

- Intuitive user interface with touchscreen technology.

FAST CONNECTIVITY BETWEEN DEVICE AND PERIPHERALS

- Pre-paired wireless peripheral devices for automatic biometric data capture.
- Supports secure WiFi, GSM, satellite and MESH radio links to medical control centre.

ENHANCED CASUALTY SAFETY

- Provides powerful reassurance to casualties in any location.
- Can support and monitor multiple casualties simultaneously over prolonged periods of time.

SMALL, LIGHT AND POWERFUL DEVICE

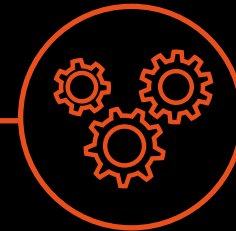
- Latest Android tablet and smartphone technology with integrated WiFi, GSM and Bluetooth.
- Two built-in cameras to allow both photography and video capture.

Rapid-EPR provides safe and effective support for any medical emergency in remote locations where medical facilities are inadequate. Delivering first class healthcare using technology in any environment



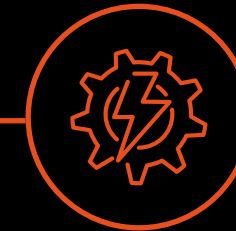
HOW IT WORKS

CORE COMPONENTS



- Android tablet or phone with Rapid-EPR application
- Wireless 6/12 channel ECG
- Wireless Blood Pressure Monitor
- Wireless Pulse Oximeter
- Wireless Capnometer
- Wireless Thermometer
- Wireless Glucometer
- Power pack
- Total weight of components and case 2Kg

CORE FUNCTIONS



- Real-time vital sign capture and transmission
- Real-time photo and video capture
- Comprehensive medical and drugs database
- Touch screen input
- Link to Remote Medical Support
- Print/USB option
- Optional Video Conferencing
- Optional Ultrasound
- Optional mixed reality smart glasses



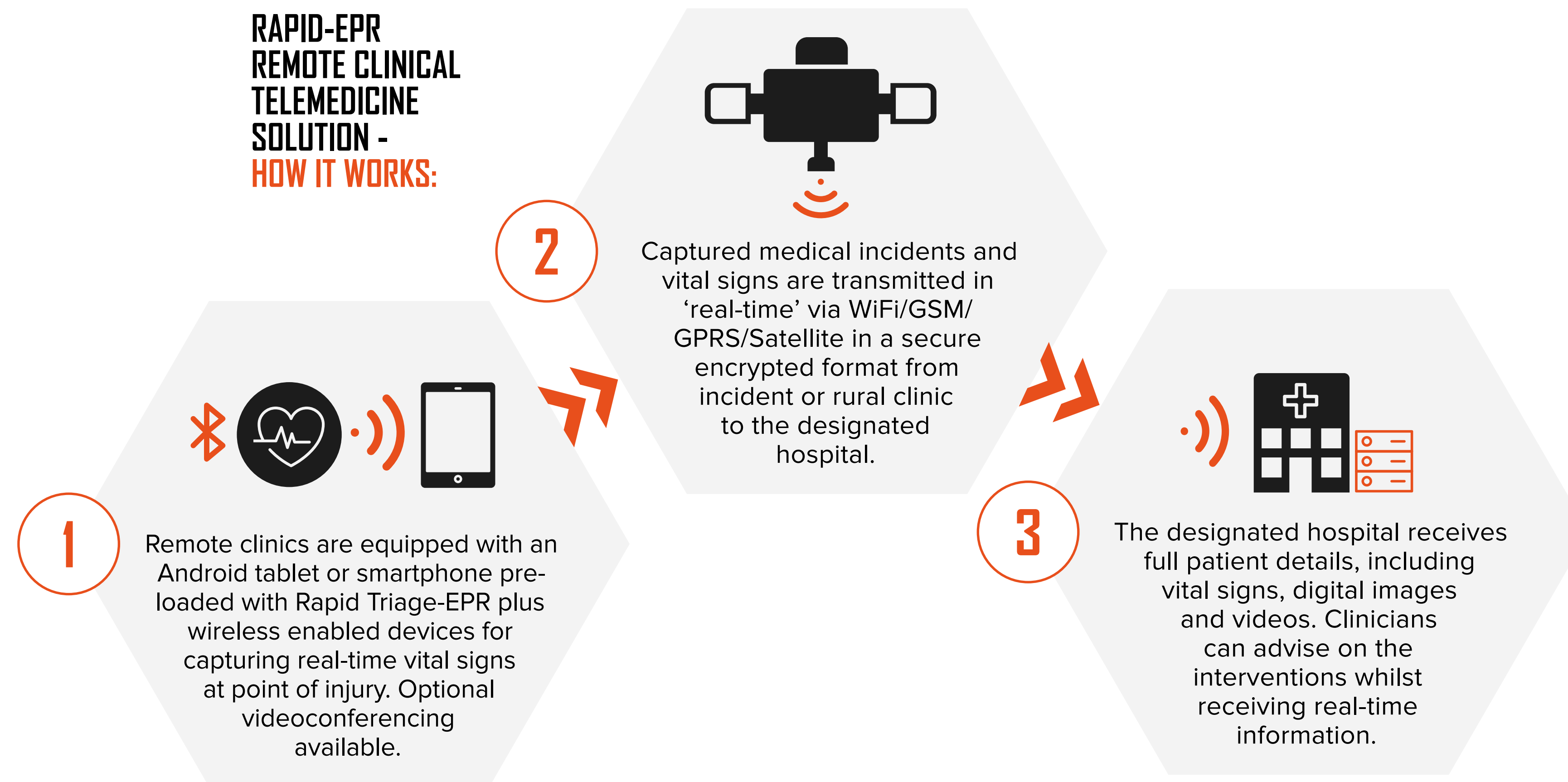
**RAPID-EPR FOR SOS CHILDREN'S VILLAGE
RURAL HEALTH CLINIC FOR MOTHERS AND CHILDREN IN BENIN, AFRICA**

CASE STUDY

Black Space Technology provides innovative telehealth and telemedicine solutions and services to NGOs and civilian clients in the UK and internationally.

RURAL HEALTH PROJECT

RAPID-EPR REMOTE CLINICAL TELEMEDICINE SOLUTION - HOW IT WORKS:



RURAL HEALTH PROJECT

SITE Benin – Africa: Rural Health Clinic for Mothers and Children

NGO SOS Childrens' Villages linking on-site medical teams to urban hospitals for real-time access to diagnostic expertise, for early identification of diseases

END USER FEEDBACK

- “This technology is a game changer for rural health in Africa.”
- “The reliability of the data connection meant that patient data could quickly and efficiently be shared with medical clinics from the village.”
- “The telemedicine kit enabled us to diagnose chronic illnesses amongst the men, women and children of these rural communities and refer them for immediate treatment.”
- “The solution worked so effectively in the assessment and treatment of patients in remote areas of Benin, who would normally have difficulty accessing specialist care.”
- “The programme identified more than 70 individuals with serious conditions that required immediate treatment, treatment that they would otherwise have been unable to access.”



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