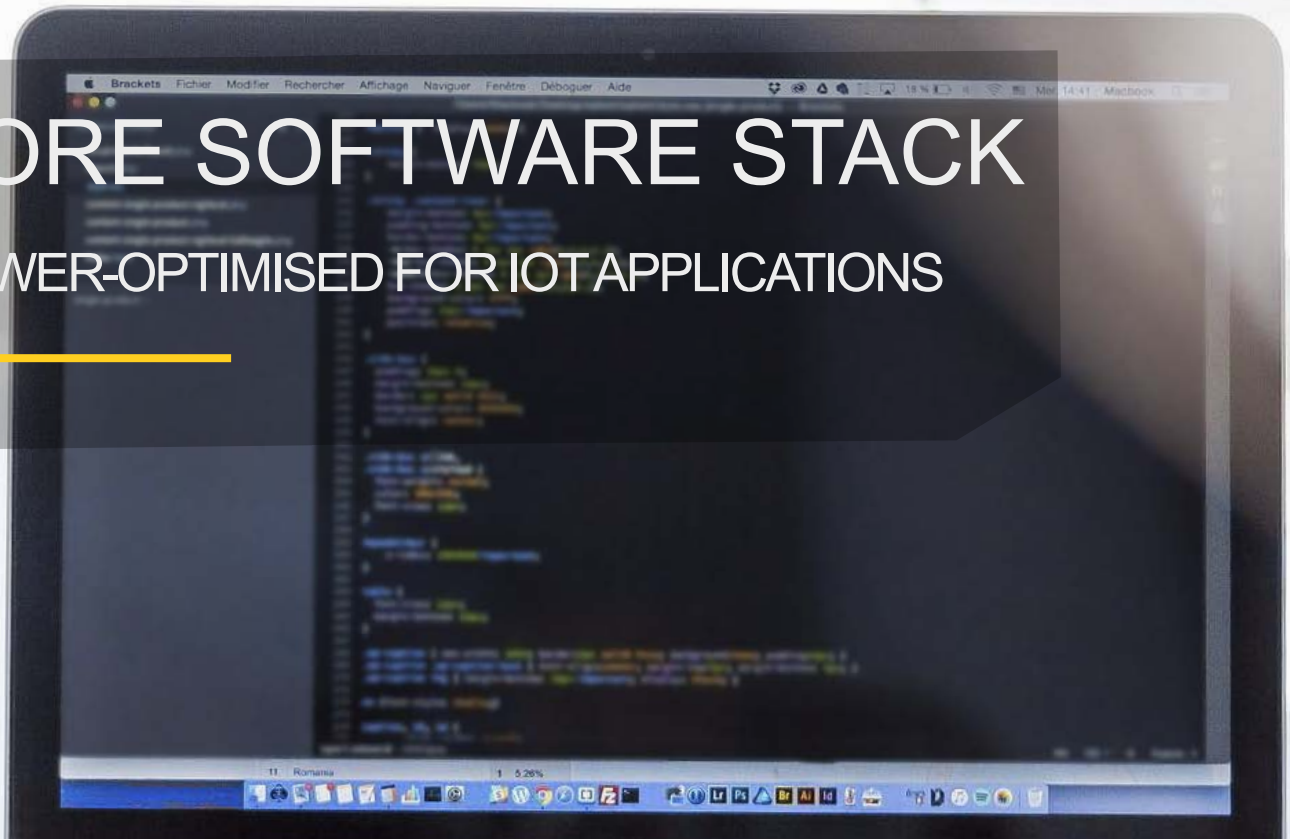CAPTEC

CORE SOFTWARE STACK

POWER-OPTIMISED FOR IOT APPLICATIONS

The core stack is a reusable set of software modules designed for power efficiency and ease of maintenance. They are available for use in low-power products using microcontrollers, typically using ARM Cortex M3, M4 and D0 cores.

Our multi-disciplinary approach combines high-power computing, wireless electronics, and embedded software within rugged electro-mechanical system design to support your technology in any environment.

The Requirements

- Develop software drivers for use in a reusable software stack architecture

- Full target hardware abstraction, optimised to use sleep modes

- Integrate cellular modem and TCP and UDP socket servers

- Binary transfer protocol

- TLS and MQTT client support

▶ "The core stack project has significantly enhanced our ability to deliver designs rapidly with high quality, maintainable and power-efficient software."

Steve Braithwaite, Electronics Team Leader

TRIED, TESTED & **TRUSTED**

The Solution

◥ An adaptable, reusable software stack supporting key IoT radio types

◥ Optimised for use in battery-operated, power-efficient designs

◥ Supports rapid and lower cost software development

◥ Maintainable software geared toward IoT sensor applications

◥ Support for delivering data to standard Cloud databases (e.g. AWS)
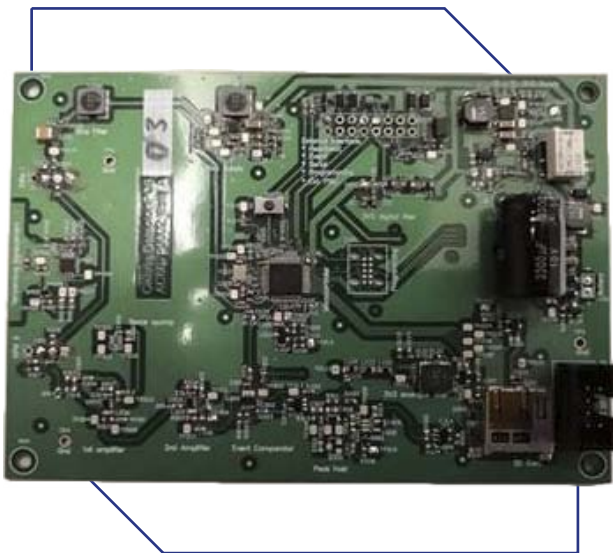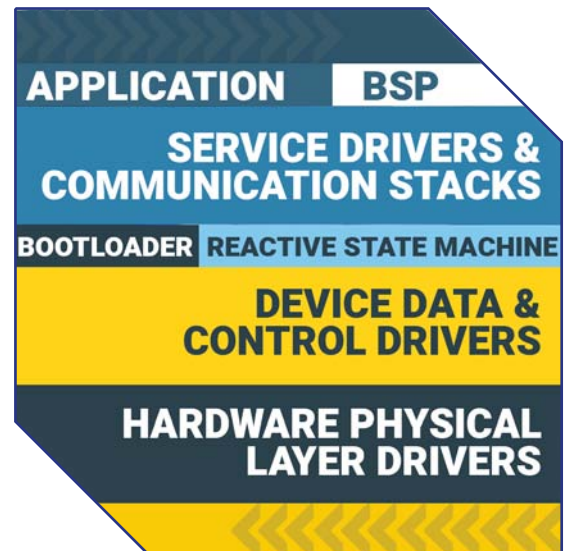
The Outcome

◥ The software has been utilised for the rapid development of a low-power gamma ray spectrometer (MCA)

◥ It has been used in the software upgrade (including over-the-air software updates) for the FloodFlash flood level meter

◥ The implementation of the software can also be seen in the KeLVN Linkswitch for controlling and monitoring under-pavement KeLVN link switches