



FC BISA: Fire Control Battlefield Information System Application

At best a battlefield is a complex place. At worst it can be confusing and disorienting. Soldiers have to constantly deal with unpredictable threats – especially in a world where the borders of the traditional battlefield have been blurred by organised crime and terrorism.

The challenge

How can information help soldiers be more effective in this ever-changing environment? How can technology help to make every round of artillery or mortar count? The Ministry of Defence (MOD) wants to use information and technology to give its soldiers every advantage. CGI's technology is delivering this critical capability for soldiers involved in Indirect Fire Support (IFS).

Our approach

Command, control and information enabled capability

Technology-enabled command and control allows forces to automate many tasks; this, supported by timely, trusted, information, allows commanders to make better decisions faster. CGI's indirect fire support system has three main components:

- Fire Control Application (FCA)
- Fire Control Battlefield Information System Application (FC BISA)
- FC BISA Interface Unit (FC BISA IU)

Key benefits

- Distributed IFS command and control system
- Plan, prepare and conduct fire missions
- Allocate indirect fire resources
- Digital data passed quickly between operational cells
- Track and account for ammunition
- Publish and subscribe service for MET messages
- Comprehensive activity log files
- Safety certified for IFS
- Intuitive GUI cuts training time
- Allows any fire support



Fire control application

CGI took the FCA Mk1 from a development system to fielding units in 11 months. The British Army has been using this lightweight rugged handheld device to plan and execute fire missions operationally since October 2003. The Royal Artillery, Infantry and Royal Marines depend on the FCA for accurate computing and safe ballistic firing solutions – for weapons systems such as AS90, Light Gun, 81mm & 60mm mortars, and L1 trainer. The latest version of the FCA, the Mk2 will be deployed on the GRiDCase 1510 platform.

Features and benefits

- calculates location information to 1m precision using 6 coordinate systems
- displays location height through fast altitude resolution and using a digital terrain database
- has advanced safety features like digital crest assessment and safety arcs
- fire support coordination measures
- handles multiple simultaneous fire missions alongside targets
- increases efficiency and effectiveness of operations

Fire control battlefield information system application

The MOD's battlefield information system applications are deployed on a tactical network. They are a set of applications that support the forces with specific tasks like:

- Indirect Fire Support (FC BISA)
- Combat engineering
- Air defence

FC BISA gives the Royal Artillery and the Infantry a world-class fire control system. It is a distributed command and control system tailored to meet the specific requirements of indirect fire support. It enables commanders at all levels to prepare, plan and execute fire missions. Information can be controlled between operational cells or allowed to flow automatically between them. Comprehensive activity logs are maintained for after action review.

Two innovative approaches set the solution apart:

- The FC BISA runs on a single IT platform and serves both artillery and infantry mortar indirect fire support requirements.
- The NATO Armaments Ballistic Kernel (NABK) (also embedded in FCA) makes ballistic calculations faster and more accurate.

FC BISA features

- open architecture and component based design that grows with changing needs
- user interface tailored to the individual fire support cell's function that minimises training time and reduces operational tasks
- integrated and better distributed fire safety functionality
- interoperable with current and future allied munitions
- NATO approved ballistic computations provided by the embedded NABK
- enables integration with external systems such as surveillance and target acquisition assets and weapon locating radars to facilitate robust and secure information exchange
- integrated with Bowman digital messaging and communications services

FC BISA IU

A powerful processing platform, it transfers data between the FC BISA and external systems almost instantly. Its network sensor links different platforms during tactical communications. It can also be configured to act as an IFS gateway to coalition forces.





Why CGI?

We understand your world. We've been at the forefront of the digital revolution since it began. So we have the people, experience and knowledge our clients needed for successful projects like FC BISA, Skynet 5, JAMES, Watchkeeper and DMICP. We understand what it takes to integrate diverse software in the Land environment. Our flexible and innovative approach to programme delivery, systems engineering and software development can help you be successful now and in the future.

About CGI

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world. We are insights-driven and outcomes-based to help accelerate returns on your investments. Across 21 industry sectors in 400 locations worldwide, our 76,000 professionals provide comprehensive, scalable and sustainable IT and business consulting services that are informed globally and delivered locally.

We are an IT Systems Integrator working to advise, build and operate bespoke, technically complex, mission-critical information systems. Bringing innovation to our clients using proven and emerging technologies, agile delivery processes and our expertise across space, defence, intelligence, aerospace and maritime, all underpinned by our end-to-end cyber capability.

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