

# Digital Intelligence

**BAE SYSTEMS**

## Sovereign Capability Development

### Cyber and Electromagnetic Activities



### Sovereign Capability Development

**Governments need to respond to emerging cyber and electromagnetic threats in days/weeks rather than months/years - and have full control over their CEMA investments' through-life so that they remain aligned to operational needs. It is therefore necessary to address the dependency on specialist skills and as far as possible avoid potentially export-controlled, proprietary technologies.**

Building a CEMA enterprise based on developing people, adopting suitable engineering practices, and defining common standards and architectures will support readiness and agility. A fast, localised development cycle allows mission feedback to be integrated into new capability quickly, avoiding the delays associated with export controls and interfacing with proprietary systems.

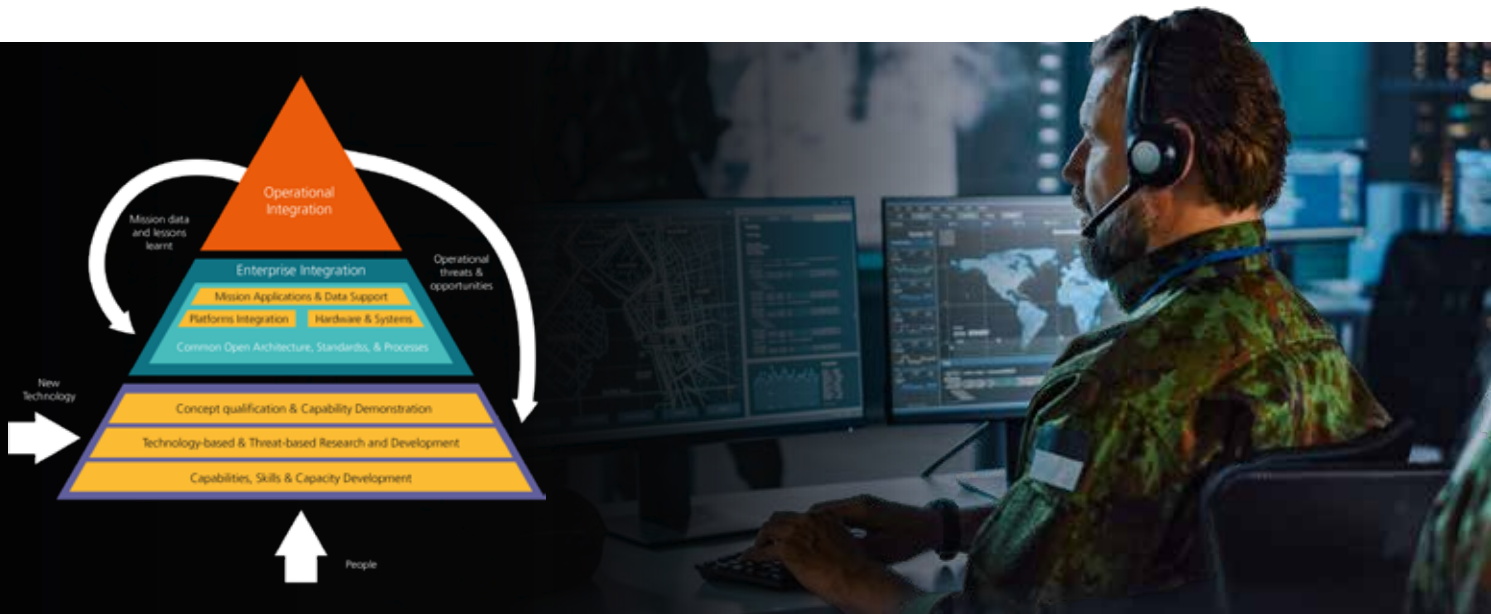
### Skills Development and Support

**BAE Systems offers support in developing operational cyber and electronic warfare capabilities: from delivering training courses in specific skills such as signal processing, to providing specialist operational analysis informing selection of standards and architecture, to working side-by-side with organisations' staff to develop new capabilities.**

Our CEMA Technical Academy is an excellent way to upskill technical staff to develop new cyber and electromagnetic capability. It equips attendees with the skills to address the challenges of both RF technology and software-defined radio development; working with the latest Xilinx RF System-on-Chip (RFSoc) devices, and teaching practical digital signal processing concepts. The enterprise challenges and architectures required to sustain capability are also addressed.

Following the delivery of the CEMA Technical Academy, we have worked side-by-side with our customers in shared development environments to rapidly build new capability, facilitated by common tooling and software libraries.

We have also helped many organisations transform their business processes and software development lifecycles. Our Cross Domain solutions can enable low/high working, providing access to suitable skillsets while complying with relevant security rules – while our Agile Coaches can assist in the transition of software development processes.



## Cyber and Electromagnetic Activities

The electromagnetic spectrum (EMS) underpins our daily lives, and modern warfare. It enables both communication and sensing. But as the demand placed on it continues to grow, it is increasingly both congested and contested. Cell phones use spectrum close to safety-critical radars, while in combat, commanders wish to deny their enemies' use of the EMS while guaranteeing their own. The increasing complexity and interconnection of wireless systems have blurred the traditional lines between 'cyber' and 'electronic warfare' (EW), leading to the concept of 'cyber and electromagnetic activities' (CEMA).

Increasingly, CEMA is being seen as a fifth domain of warfare. To maintain their defensive strength, states must ensure they have a CEMA enterprise that can operate with:



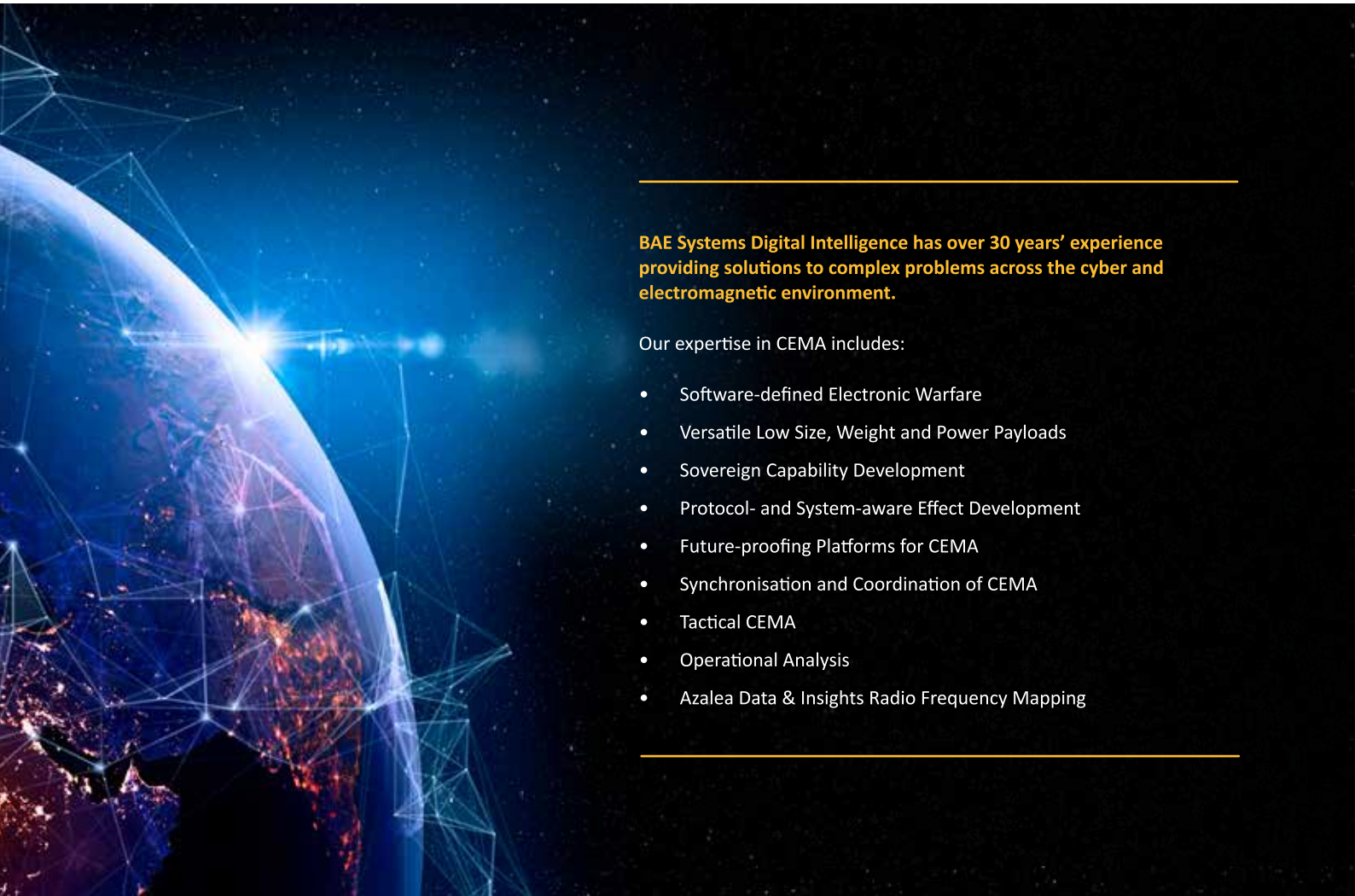
Speed



Agility



Versatility



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**BAE Systems Digital Intelligence has over 30 years' experience providing solutions to complex problems across the cyber and electromagnetic environment.**

Our expertise in CEMA includes:

- Software-defined Electronic Warfare
  - Versatile Low Size, Weight and Power Payloads
  - Sovereign Capability Development
  - Protocol- and System-aware Effect Development
  - Future-proofing Platforms for CEMA
  - Synchronisation and Coordination of CEMA
  - Tactical CEMA
  - Operational Analysis
  - Azalea Data & Insights Radio Frequency Mapping
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**BAE SYSTEMS**

To learn more about our CEMA integration capabilities, visit [baesystems.com/CEMAintegrator](https://baesystems.com/CEMAintegrator)

Europe & ME: +44 (0) 203 296 5900 | Americas: +1 877 277 22315 | Australia & NZ: +61 3 8623 4400 | Asia :+65 6714 2100

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