

Gladiator



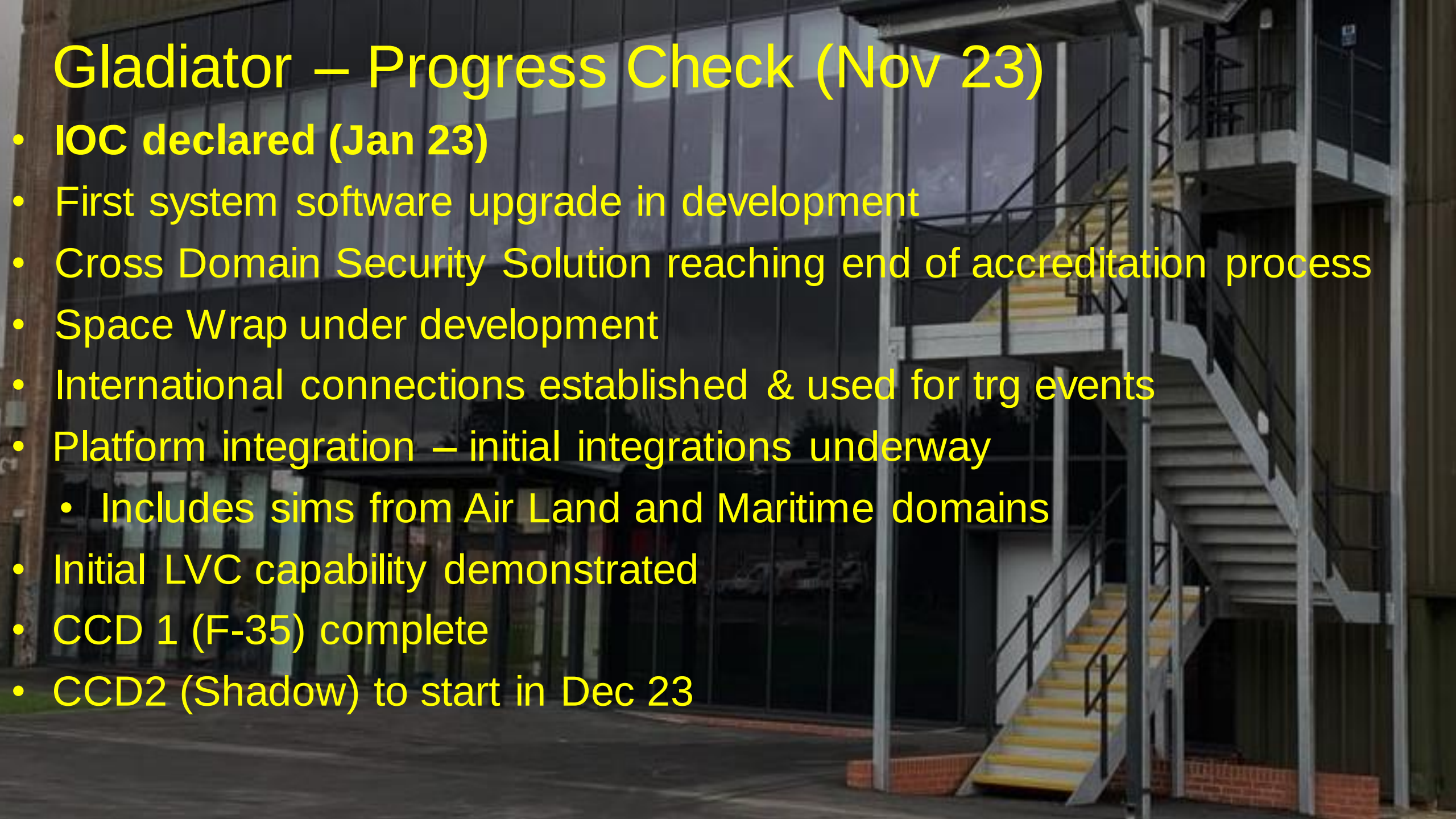
Delivering a paradigm shift in Air's
approach to Synthetic Training

What is Gladiator?

- Distributed synthetic Team and Collective MDO Training Capability
 - Hub and spoke capability connecting front-line simulators to a high fidelity, secure synthetic environment to enable multi-domain synthetic FGen and Op Trg activity
- Commercial off-the-shelf (COTS) standards-based system
 - Enhances interoperability and use of common data within UK
 - Avoids vendor lock-in, easy to update or replace components.
 - Maximises interoperability with other nations' DST systems
- Professional “White Force”
 - Provide expertise across Air and Space Power Roles
 - Facilitate training based on front-line requirements
 - Add Mass and Complexity to training scenarios

Gladiator – Progress Check (Nov 23)

- **IOC declared (Jan 23)**
- First system software upgrade in development
- Cross Domain Security Solution reaching end of accreditation process
- Space Wrap under development
- International connections established & used for trg events
- Platform integration – initial integrations underway
 - Includes sims from Air Land and Maritime domains
- Initial LVC capability demonstrated
- CCD 1 (F-35) complete
- CCD2 (Shadow) to start in Dec 23



Effects-Based Simulation CCD

- Mitigation against short-term inability to integrate F-35 FMS
- Disruptive experiment to investigate utility of COTS approach to development of targeted fidelity STE
- Pairs Gladiator SE with JPO own-ship emulation and COTS cockpits
 - Fixed base and deployable versions
 - DMaSC and Gladiator-compliant

Aims

- Confirm utility of Secret-level CT for 5Gen FE
- Confirm utility of targeted fidelity approach for CT
- De-risk and develop costed plan for delivery of an operational capability
- Identify potential for development of similar STE for other FE

Progress

- CCD complete with system endorsed by LF pers
- System accreditation underway
- RAF decision to develop operational capability from CCD
 - Ongoing system development to de-risk delivery



Military Use of COTS Technologies and Products – a Customer View

- Context
- The marketplace - COTS vs MOTS vs GOTS vs Bespoke
- Advantages and Disadvantages of a COTS approach vs the UK's traditional approach
- Why Use MAK?
- Lessons Learned from Gladiator
- Key Takeaways

Context

- The need for an agile approach
- Defence Direction
- The value argument

The Marketplace

- COTS – products and technologies available on the open market
- MOTS – OTS products developed or customised for specific military requirements
- GOTS – OTS products developed (or funded) by a govt agency
- Bespoke – products developed specifically for an individual requirement by a single supplier

The COTS Approach – Pros and Cons

Pros

- Self-determination
- Agility
- Cost
- Product Range
- Speed of delivery
- Continuous product development
- Mutually beneficial?

Cons

- Lack of operational expertise within software OEMs
- Lack of military experience with COTS / Agile approaches
- Company requirements and other customers' requirements
- Managing product update timelines and SoS impacts
- Product range and capability shortfalls

Gladiator Lessons Learned

- Communication and team building
 - Stakeholder engagement and management
 - Requirement development and articulation
- Be an intelligent customer, and work with intelligent suppliers
 - Ask, and answer questions carefully
 - Respect expertise
- Collaboration is mutually beneficial
 - Individual customer and supplier
 - Wider stakeholder group
- Secure OEM support for key integration activities
- MAK's approach is a good example of intentional interoperability
 - Significantly simplifies system integration process.
- An appropriate commercial mechanism is vital

Key Takeaways

- Each approach has its place
- Be an intelligent customer / supplier
- Be patient and invest time in relationship building
- Use OEM expertise
- Make commercial work for everyone
- Start small, get it right and be prepared to scale