THE Open GROUP

FACE™ Future Airborne Capability Environment

SOSA™ Sensor Open Systems Architecture

Welcome

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Sponsor

U.S. AIR FORCE

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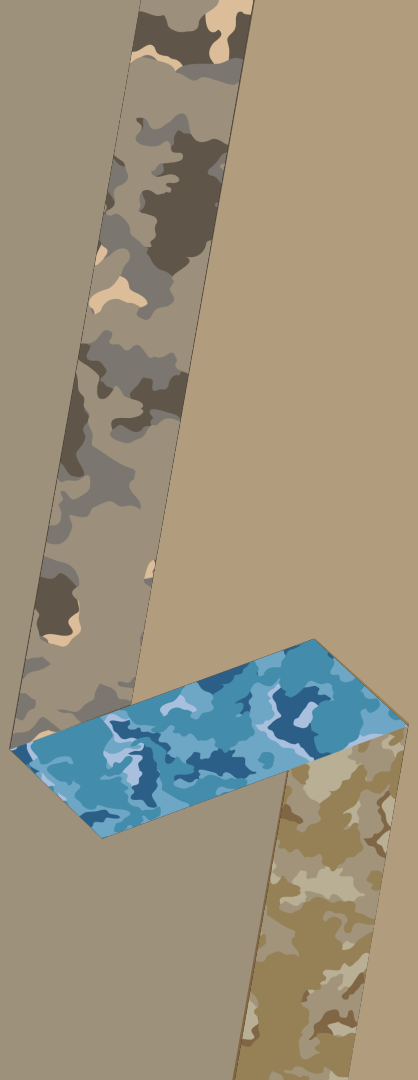
ELMA Your Solution Partner

LOCKHEED MARTIN



The FACE Consortium Overview

FACE Consortium

The Open Group Future Airborne Capability Environment™ (FACE) Consortium is a Government, Industry, and Academia collaboration that encourages innovation in:

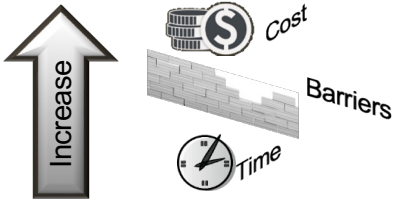
- refining business processes
- developing vendor-neutral open standards which enable software portability, reusability, and interoperability

Defines an architectural and a business approach to developing and procuring avionics software with both purposely aligned with modular open systems approach (MOSA) tenets

Current Landscape

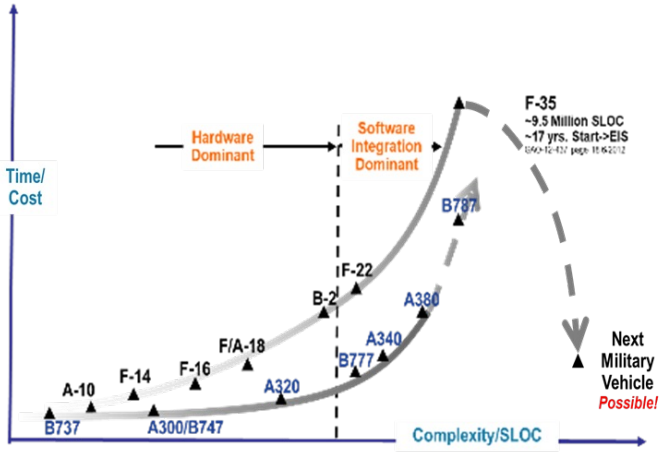
DoD airborne systems are typically developed for unique requirements by a single vendor

- Platform-unique designs limit reuse & increase cost
- Creates barriers to competition within and across platforms
- Long lead times, even for urgent needs



Current DoD acquisition structure does not sufficiently support reuse across different programs

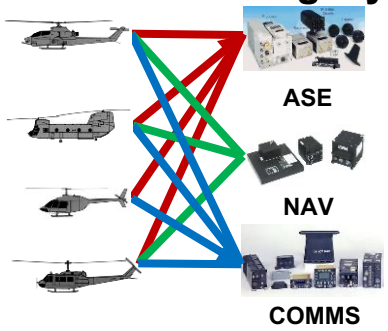
- Community has not adopted a common set open standards
- Community has failed to enforce conformance to existing open standards
- Platform PMAs are not funded or incentivized for multi-platform requirements



The FACE and SOSA Approaches are a *response* to the DoD aviation community's problems

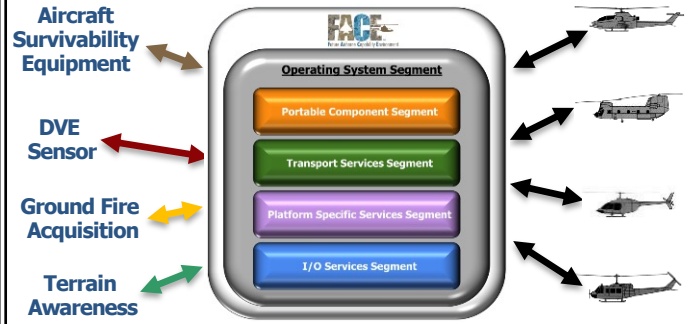
Why a FACE Initiative?

Traditional / Legacy



- Unique software capabilities per platform
- Limits software reuse & increases integration cost on other platforms
- Long integration cycle even when urgent

FACE



- Reuse capabilities across multiple platforms
- Leverage investment for the same capability for reuse across multiple platforms

Software reuse via the FACE Approach allows you to **do more with what you have!**

Software capability reuse means *more interoperable capabilities* to our Warfighters faster

Simple Open Systems Architecture Example: The Light Bulb

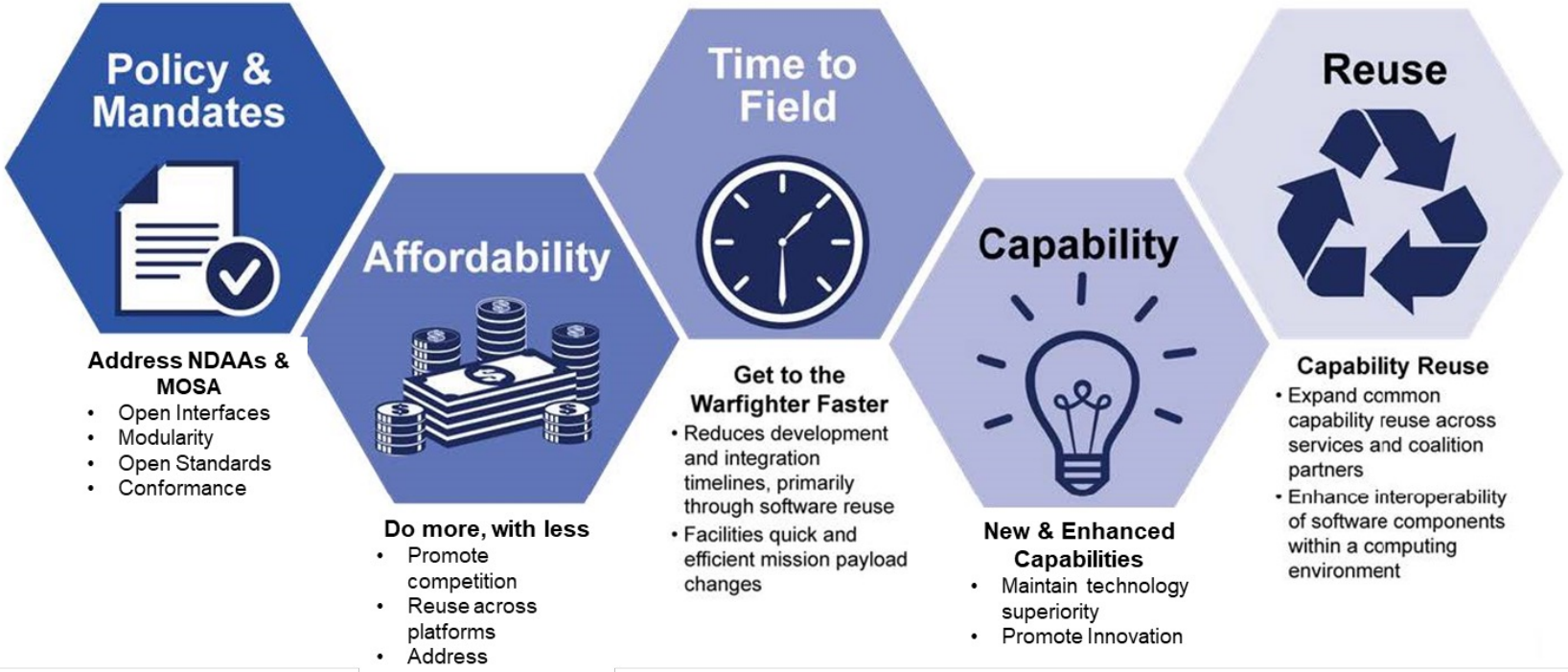
- Module:
  - Function: Emit visible light
  - Behavior: Upon application of electric voltage, begin emission, terminate upon removal of voltage
- Interface:
  - Based on Edison Screw – some US standards (120VAC) shown in image

Not specified by the Standard: How the light is generated (a design issue)

- Incandescent: Low cost, shorter life
- Compact Fluorescent: More efficient, higher cost
- LED: Much more efficient, very long life, much higher cost

Open Systems Architecture specifies the what – but does not specify the how

The Value to the Government



The Value to Industry

Satisfy the Customer

- Fulfills MOSA and FACE requirements on contracts
- Supports the government to MOSA principals
- Facilitates rapid technology insertions
- Aligns with customer product roadmaps

Grow the Business

- Increases competitive opportunities
- Reduce barriers and cost of entry into new contracts
- Opportunities on previously “closed” platforms
- Drives innovation
- Expand into new markets
- Integration Opportunities

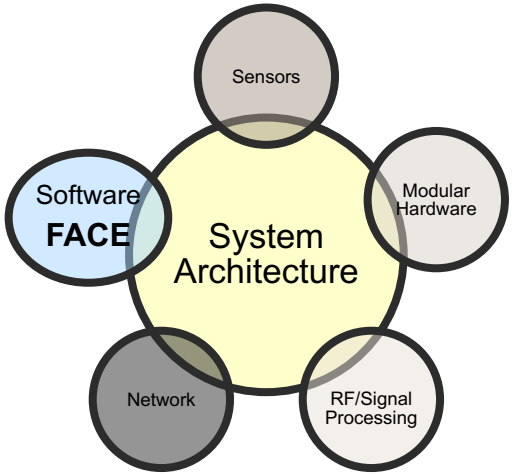
Improve Shareholder Value

- Increase opportunities for SW reuse across platforms
- Improve time to market by accelerating development time
- Create Software Product Line opportunities
- Increase opportunities of dual use commercial – gov’t products
- Improve ROI from investment in capability

The FACE Key Goals, Scope & Approach

Key Goals

- **Improve the affordability of capabilities**
- **Improve time-to-field, delivering new capabilities to the warfighter faster**



FACE Approach is the KEY Piece of the System Architecture Puzzle

FACE Approach

- **Business processes to adjust procurement and incentivize industry**
- **Technical practices to promote development of reusable software components**
- **A component-based software standard to promote the development of portable components between differing avionics architectures**

FACE Executive Overview

- **FACE Technical Standard is an open avionics standard for software developed by Government, Industry, and Academia**
- **FACE Approach defines a new architectural and business approach to developing / procuring avionics software**
- **The development of the FACE Technical Standard and business approach is managed by The Open Group**
- **FACE Consortium documents are published by the Open Group and free to download**

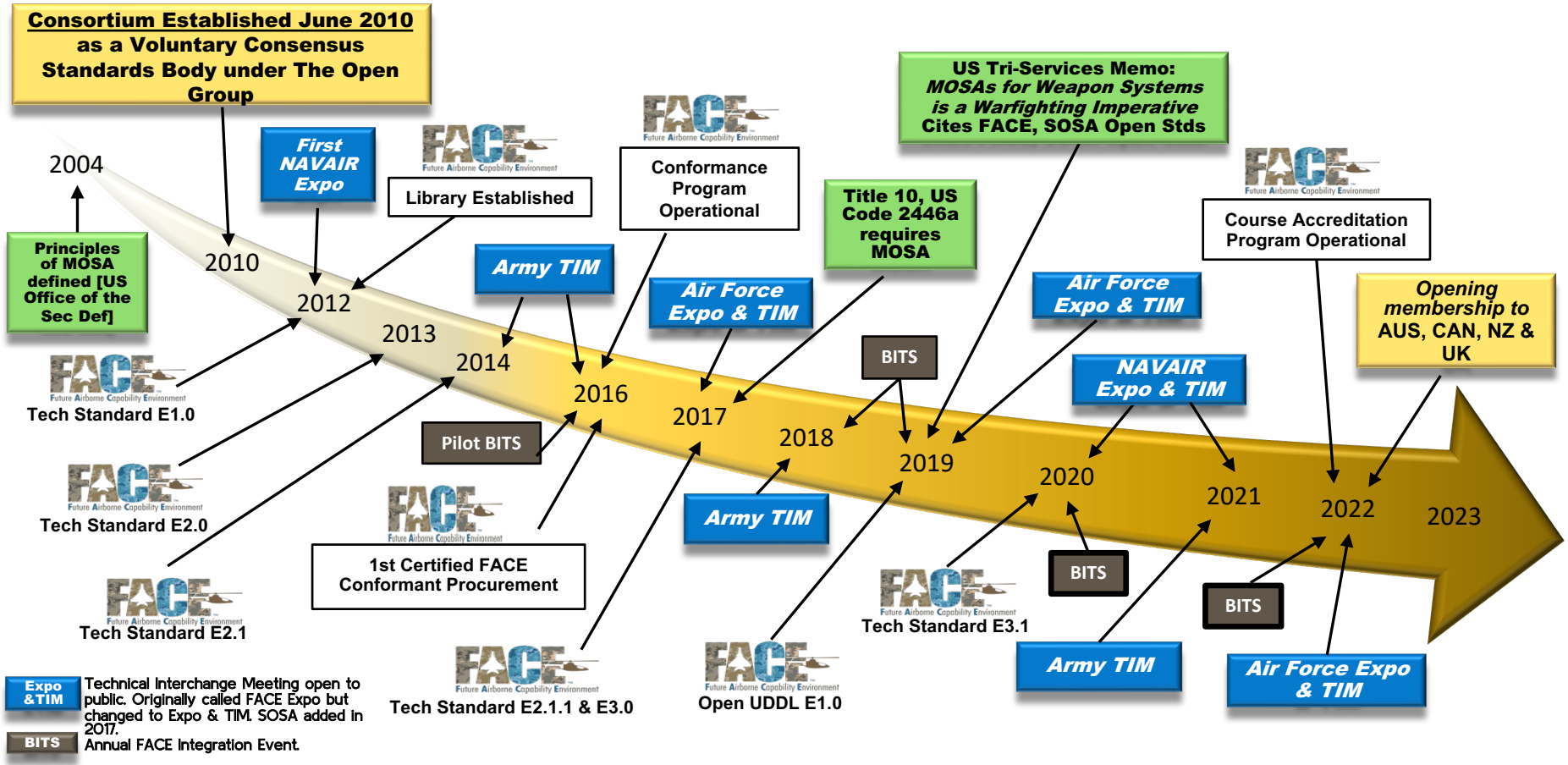
Get the best avionics software to the Warfighter faster

MOSA Principles & FACE Approach

Establish Enabling Environment	Technical Standard; Data Architecture, Tools, Examples: Training, Registry, Tailorable Contract Language
Employ Modular Design	FACE Reference Architecture & Data Architecture
Designate Key Interfaces	FACE Interfaces include OSS, IOSS and TSS
Use Open Standards	Leverages over 60 existing standards including ARINC 653, ARINC 661, OpenGL, POSIX
Certify Conformance	FACE Conformance Program with Policies & Procedures, Approved Verification Authorities and a Single Certification Authority

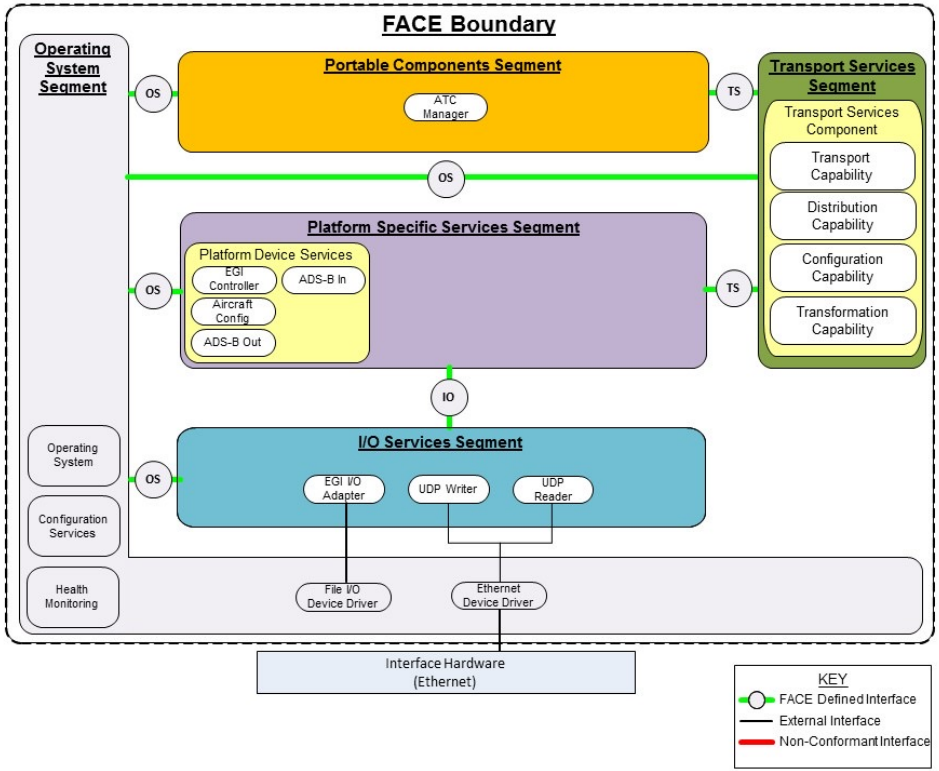
FACE Approach addresses all 5 Principles of MOSA

FACE Consortium Timeline



FACE Exhibitors and Technical Paper Presentations

FACE Reference Architecture



24 Technical Paper Presentations

14 from the FACE Consortium addressing business & technical aspects.

When: 10:00 am to 3:55 pm
Where: Jr. Ballroom, 1st Floor

When: 3:00 pm to 3:55 pm
Where: Theatre, 3rd Floor

Posted on FACE Consortium website after the TIM.

FACE™
Future Airborne Capability Environment

Thanks!