MODULAR OPEN SYSTEMS ARCHITECTURE

UNLOCK THE POWER OF YOUR AVIONICS- SPEED UP CAPABILITIES IN THE BATTLEFIELD

Collins Aerospace

COLLINS' APPROACH TO MOSA

OUR CUSTOMERS WANT OPTIONS

UPGRADES AT THE "SPEED OF RELEVANCE"

SAFETY CRITICAL CERTIFICATION IS YOUR INSURANCE POLICY

PARTNERSHIP IS KEY

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- Our military is being driven by near-peer competitors that have evolved very rapidly over the past 10-20 years. As they change, we need to maintain overmatch and be just as fast - if not faster - in our response to those changing threat environments.
- What helps to keep us grounded is trying to consider how to best meet the intent of open systems. Ultimately, open-system architectures grant operators the flexibility to meet the requirements for their mission and how they want to meet them.
- **Our customers want options**
  - Military customers want to update a given capability, and don't want to go back to the same vendor or OEM.
  - they want to upgrade, add, remove, and modify software as dictated by the mission. They have that flexibility without having to go back to one vendor who makes only their own software.
- **Our Customers want upgrades "at the speed of relevance" to keep pace with technology growth and the rate of innovation of our adversaries.**
  - This requires new systems that allow for continuous improvements vs. long cycle block upgrade-style programs - That allows them to on-ramp new technologies as they emerge, which lowers the cost due to commercial commonality with other platforms while outpacing the threat brought by our adversaries
  - Open standards like SOSA, FACE, & OMS not only support system affordability but allow more prototypes with new products and technologies and result in faster system development.
  - Governments need new acquisition methods & industry will require new business models to incentivize rapid change
  - Old model looks at hardware as the fixed cost, software as the variable cost. Open systems may require software as the fixed cost.

- **Often times, safety-critical applications don't get enough attention until it's too late.**
  - These applications are your insurance policy. It takes a bit more effort to get them certified, but when you arrive at an airworthiness certification, safety-critical certifications will enable your success
  - Goal of safety certification is to protect against defects. Goal of Cybersecurity is to protect against exploitation of defects. These two goals are complimentary
  - How to successfully measure if a system can safety certified is a challenge now, but progress is being made
  - We look at the commercial industry and see that it's built on safety certification. As the government adopts more safety certifications and standards, we'll be able to comply with all of them.
  - All of this increases speed, safety and cybersecurity.
- **Partnership is key**
  - MOSA TO has been great to work and we are optimistic
  - We have already begun integration of MOSARC™ into our Huntsville CEC and other open system demonstrators to educate and help our customers evolve
  - We partner with suppliers and peers, but also a partnership with the Army and MOSA TO is paramount
  - Goal is to demonstrate modular open system architectures at the aircraft and sub-systems levels.
  - Aimed at helping military customers drive the long-term viability of enduring platforms
  - Software sustainment benefits from more frequent and rapid upgrades.
  - How to successfully measure if a system can safety certified is a challenge now, but progress is being made