



**Need for Multi-Sensor
Data Fusion**
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Increase of Autonomy



- Increasing use of autonomous or partially autonomous weapon systems place new requirements on decision makers
- Usually operator remains in the loop to make final decisions on using or not using effectors
- This decision requires more information, and more actionable information – data fusion is one component in providing for these needs

Cyber as a New Environment



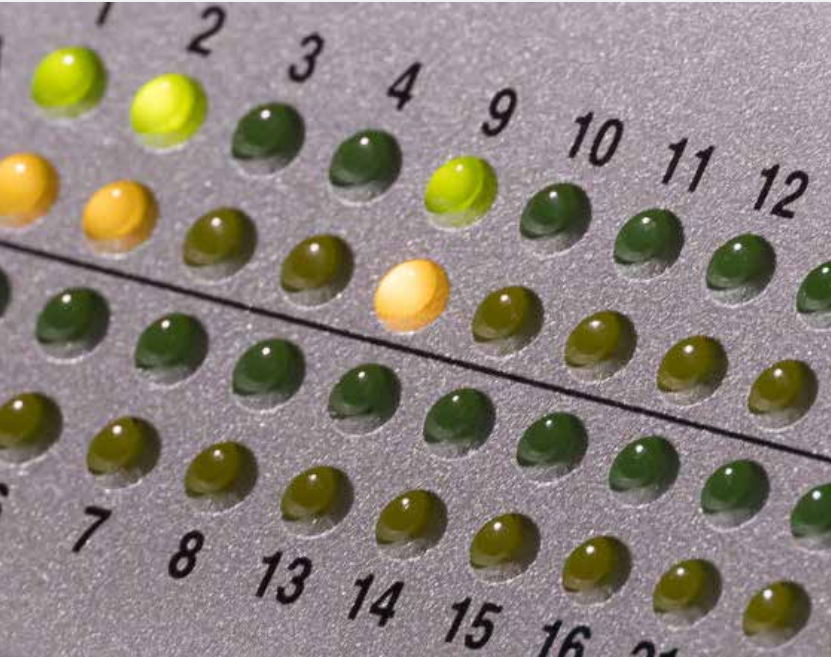
- Cyber-dimension as additional environment of operations drives need to add this theater to overall situational awareness
- Need to seamlessly fuse new kinds of information resulting from cyber-operations and sensors requires both new presentational means, and methods to effectively add this information to situation picture

Passive and Distributed Sensors



- New types of passive, bistatic, multistatic and distributed sensors require more data processing and analysis, both to gain information from them, and to configure them
- This requires both new processing methods, and sensor data fusion to get maximum real world performance from these new sensor systems

Coupling of Operational Networks



- Federated Mission Networking, and other initiatives increase direct connections between mission networks of various mission actors
- Further processing is required to create complete, single situation picture from the various situational awareness products each participating actor provides

Analytics and Historical Data

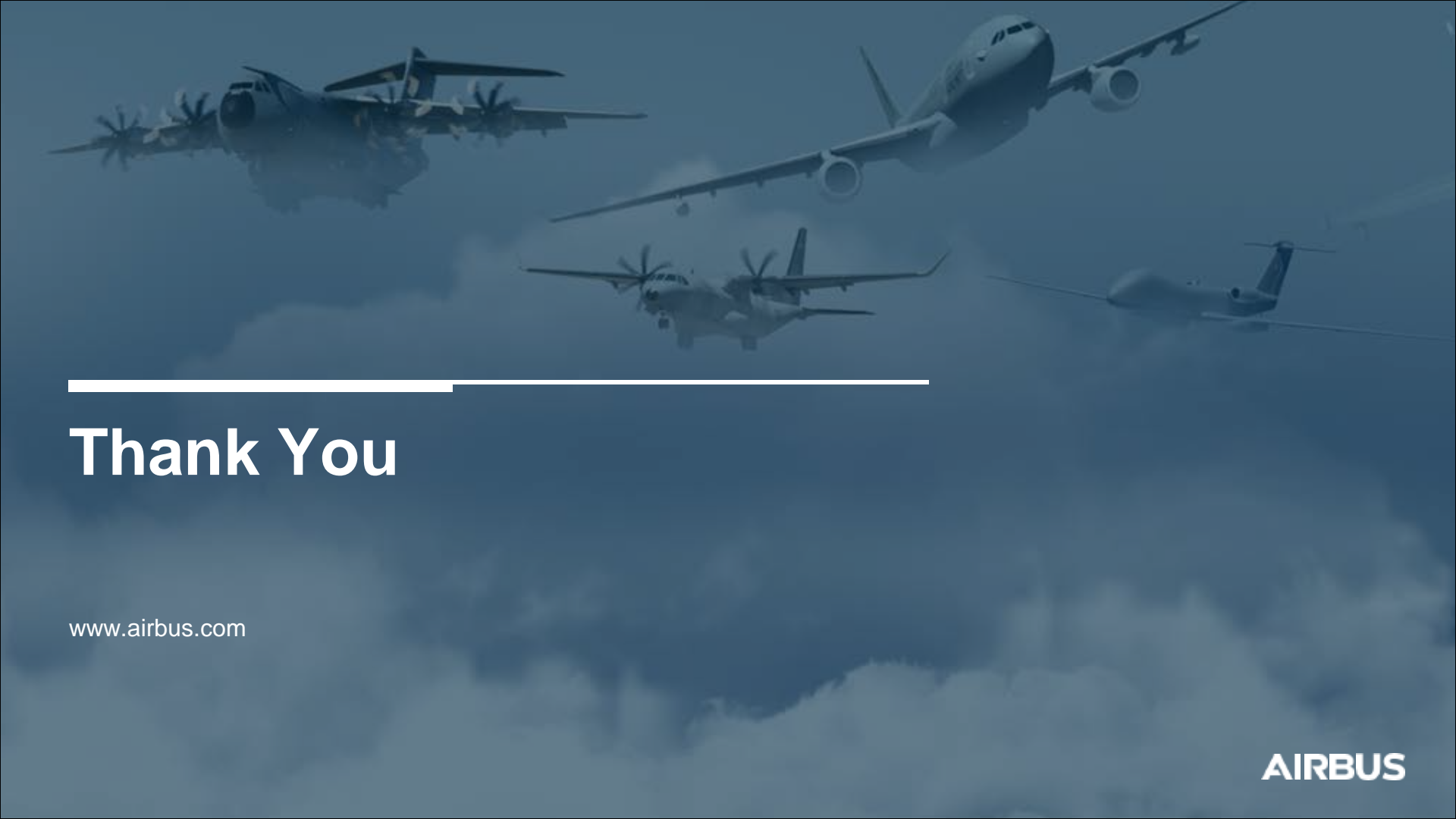


- Increased use of background, off-line analytics for historical data enables new forms of data exploitation for automatic functions in command and control systems
- Additional data fusion is required to effectively combine results of these analytics to real-time data to realize gains both for decision makers and autonomous systems utilizing the data

Summary



- More sources and systems, providing complex types of data require advanced methods to gain full benefits
- More networked operational environments and faster-paced situations increase the need to refine situational knowledge further
- More advantage to be gained from combining information effectively and leveraging automated analysis of history data



Thank You

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