# INJECTING FORMAL METHODS INTO THE MAINSTREAM

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FM@SCALE
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**Collins Aerospace**

# INJECTING FORMAL METHODS INTO - COLLINS

**Formal Methods code words**

- **Model based engineering**
- **Architectural modeling and analysis**
- **Qualified tools**
- **Trusted component generation**
- **Compositional reasoning**
- **Formally proved partitioning kernels**
- **Trusted MLS software and systems**
- **Software analysis and generation**
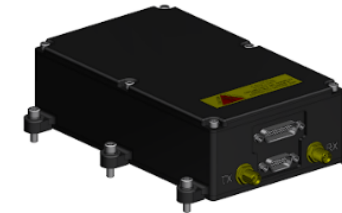- **Model based safety analysis**
- **Automated test case generation**



CH-47F
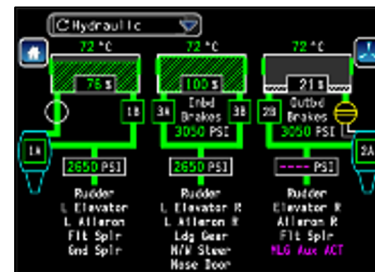


Manned-Unmanned Teaming



Air Transport



Future Vertical Lift



Networked Radios



CAAS Flight Deck



Unmanned Air Vehicles



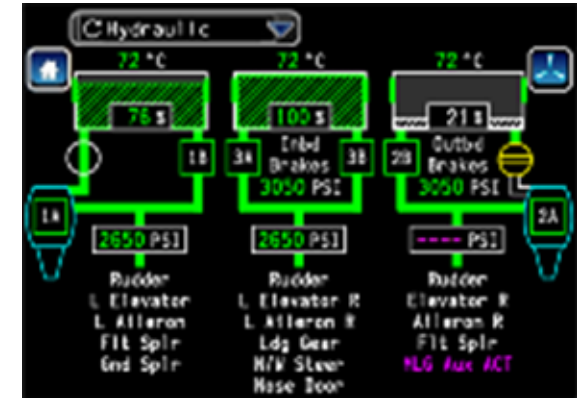Crew Alerting Systems



Experimental Vehicles

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# HOW DO WE INJECT FORMAL METHODS INTO A DEVELOPMENT?

**We use five arguments.**

**1. It's better.**

**2. It's cheaper.**

**3. The other guys are doing it.**

**4. The other guys can't do it.**

**5. The customer is making us.**
- **Regulation**
- **Customer-led Technology Demonstrations**
- **Requirements**

**Crew Alerting System**