



Independent  
**AIRCRAFT MODIFIER ALLIANCE**

AN EDUCATIONAL WHITE PAPER BY **IAMA**  
**Public Abstract Version**



# Considerations about the prototyping phase of a supplemental type certificate



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# INTRODUCTION

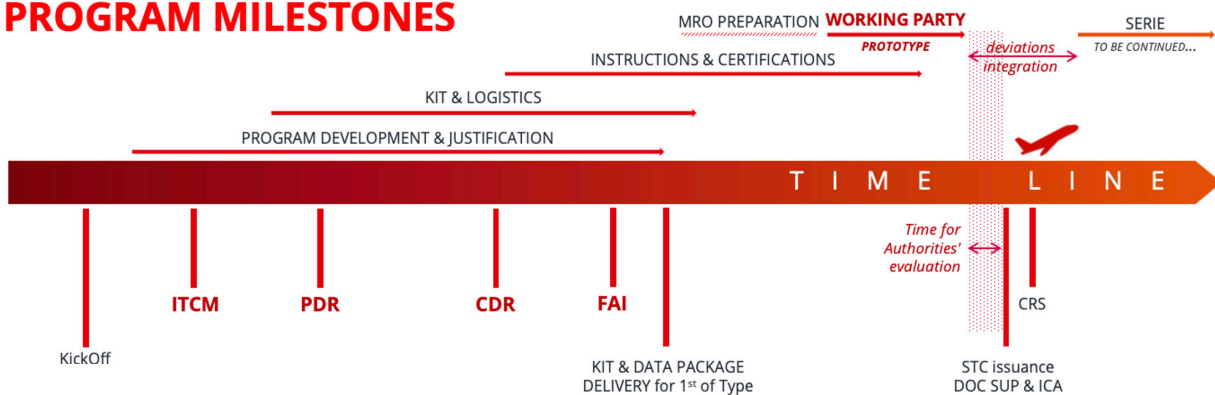
The scope of this document is to describe the significant activities and their purpose during the prototyping phase of an aircraft minor or major modification.

**The “First of Type” aircraft is the platform to demonstrate that all the chosen concepts are functional, operable, installable, and integrable – and thus certifiable – to the designated aircraft type.**

In that case, the aircraft will be a platform to:

- Validate all the technical assumptions made during design conception, and verify complete correctness of design and its functionality once installed
- Verify completeness of installation design and instructions
- Assess the outcome of all the hypotheses taken in the absence of reliable input data (they generally lead to partial knowledge of current aircraft configuration, which results in high occurring potential issues during installation).
- Correct and improve the documentation (e.g. installation/maintenance/manuals supplements/ Service Bulletin).
- Verify and improve the industrialization plan.

## PROGRAM MILESTONES



**ITCM** : Initial Technical Review Meeting  
**PDR** : Preliminary Design Review  
**CDR** : Critical Design Review  
**FAI** : First Article Inspection  
**CRS** : Certified Release to Service

# CONCLUSION

The prototyping phase is an essential milestone in an aircraft modification project. This phase is crucial because the design & engineering work is physically confirmed and proven on the “First of Type” aircraft by the Supplemental Type Certificate (STC) initiator/holder. Each modification project has its unique challenges and risks. Not only a clear understanding and anticipation of those risk areas but also appropriate schedule-, risk- and deviation-management are crucial for a cost-efficient, hassle-free, and successful modification.

# FOR MORE CONTENT

Would you like to read more considerations about the prototyping phase of an Supplemental Type Certificate?

As an airline or lessor, you can receive our educational content upon request and through a free subscription to IAMA. To request access please send us an email to [info@iamalliance.aero](mailto:info@iamalliance.aero).

If you are not an airline or a lessor, you can become an IAMA member to receive our educational content. IAMA is open to all aviation market participants including aircraft manufacturers, airlines, suppliers and lessors. Members have access to specific benefits depending upon their role in the aviation ecosystem, and their membership level. Full and Basic memberships are for organizations with STC capabilities, while Advisory memberships are for airframe and system OEMs (Original Equipment Manufacturers). Get your application [here](#)

# ABOUT US

We at IAMA, the Independent Aircraft Modifier Alliance, are advocates and supporters of member companies in the aircraft retrofit modification market. We are educators, identifying and highlighting value of Supplemental Type Certificates (STCs) within the aircraft lifecycle. We collaborate to develop standards that streamline communications and documentation within approved STC modification projects. To ensure that effective modernizations meet aircraft operator and owner requirements, we endorse STC-approved solutions. Founded by retrofit market leaders, we believe an independent, transparent market is a strong market that will benefit everyone.

To learn more and join, visit: [iamalliance.aero](https://iamalliance.aero)

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# THANKS TO OUR MEMBERS FOR MAKING THIS WHITE PAPER POSSIBLE



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