



Building Resilient Aerospace Supply Chain

Background

Many original equipment manufacturers (OEMs) are concerned about the lack of strength and resiliency of the aerospace supply chain network. Often, these challenges include limited suppliers, access to raw material, and availability of talent/skills at all levels of production.

Goal

The overall goal is to ensure that the aerospace supply chain will meet demands of both current and future needs in terms of readiness, resiliency, production targets, and competitiveness in the entire life cycle.

In order to meet this goal, an assessment of current state-of-art of aerospace production system, supply chain, and maintenance is required. In addition, a gap analysis is needed to ensure a strong and resilient supply chain ecosystem will meet future and emerging needs. Also, examination of future talent/skills to support the evolving aerospace industry is needed.

In order to strengthen the supply chain network, three areas of improvement have been identified: developing capability to analyze and predict future needs, building a frictionless electronic platform for credentialed suppliers and OEMs, and cultivating talent and skills.

Specific Products

Modeling and Simulation Capability

To assess readiness, U.S. competitiveness, and expected demand, NASA Aeronautics Research Institute (NARI) and Agility Prime will collaborate to build a modeling and simulation capability for industry as well



Setting up a resilient aerospace supply chain will require assessment by modeling and simulation, an electronic exchange platform, and a well-trained talent pool.

as government use. This capability will enable parametric sensitivity analysis of various demand profiles and their effects on the supply chain—from systems and parts to raw materials. This will also allow baselining of current aerospace supplier capacities to identify gaps and changes to maintain a healthy aerospace supply chain for future needs. The aircraft types for this capability will include: eVTOLs, general aviation, supersonics, hypersonic, electric, autonomous, drones of all sizes, and different types of subsonic flight aircraft and demonstrators. The initial minimum viable product will focus on eVTOL/ advanced air mobility and small unmanned aircraft systems (sUAS).

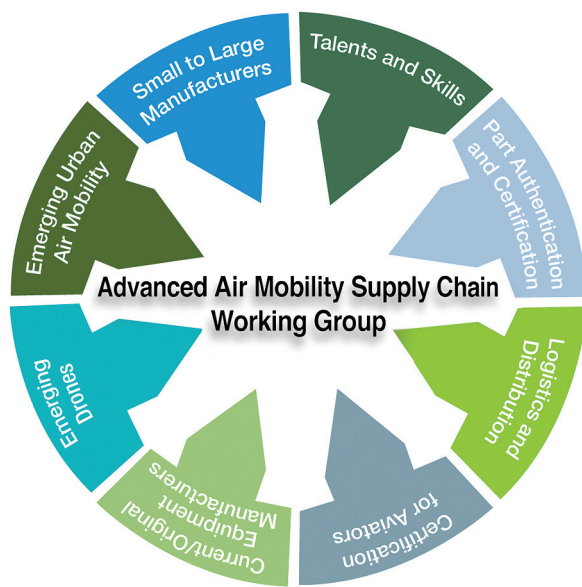
Electronic Exchange Platform

To connect OEMs and tiered suppliers, an electronic exchange platform will simplify processes for current suppliers and ease the way for new suppliers who want to gain entrance into the emerging aerospace market. The electronic platform will promote aerospace supply needs in

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all phases of development from—prototype to mass production; offer a frictionless location for bidding, tracking, and design updates between suppliers and OEMs, NASA, and DoD; and ensure credentialed and production-certified suppliers are identified. The initial minimum viable product will focus on eVTOL/advanced air mobility and sUAS applications and will be developed collaboratively between NARI and Agility Prime with strong participation from industry.



Education Development

Development of educational material, curricula, courses, and programs for all levels of the education system—from community colleges to graduate schools—will ensure there is an adequate talent pool for future needs. Materials will be created for different disciplines, including design, engineering, supply chain, production, maintenance, overhaul, and repair of aircraft and infrastructure. The initial focus will be on eVTOL/advanced air mobility and sUAS. An aerospace supply chain working group is being formed. The purpose of the working group is to develop strategies related to achieving the goal of building a strong and resilient aerospace supply chain. You can sign up to join the group at <https://nari.arc.nasa.gov/aamsupplychain>

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