

EXPLORE FLIGHT

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World ATM Congress Virtual Panel: Collaborative Traffic Management in the Stratosphere

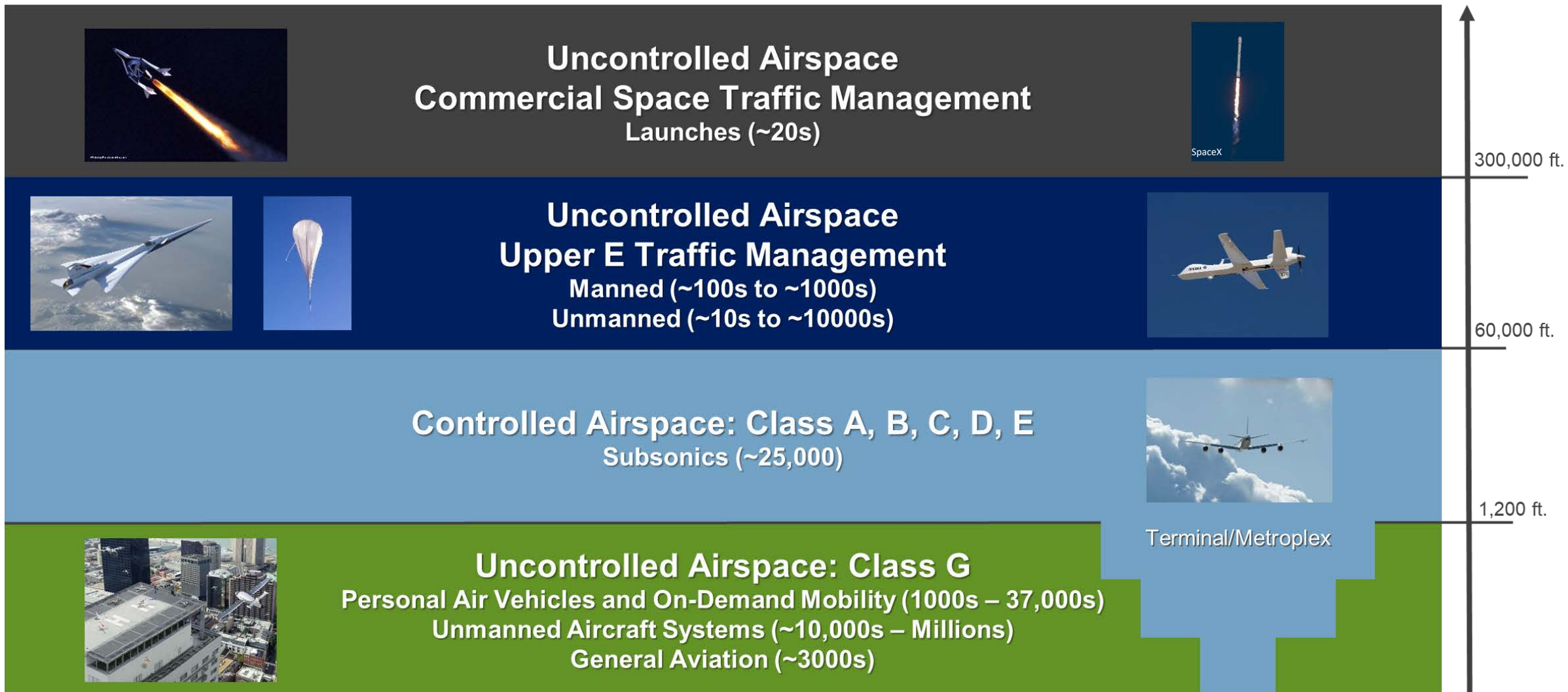


Upper Class E Traffic Management (ETM)

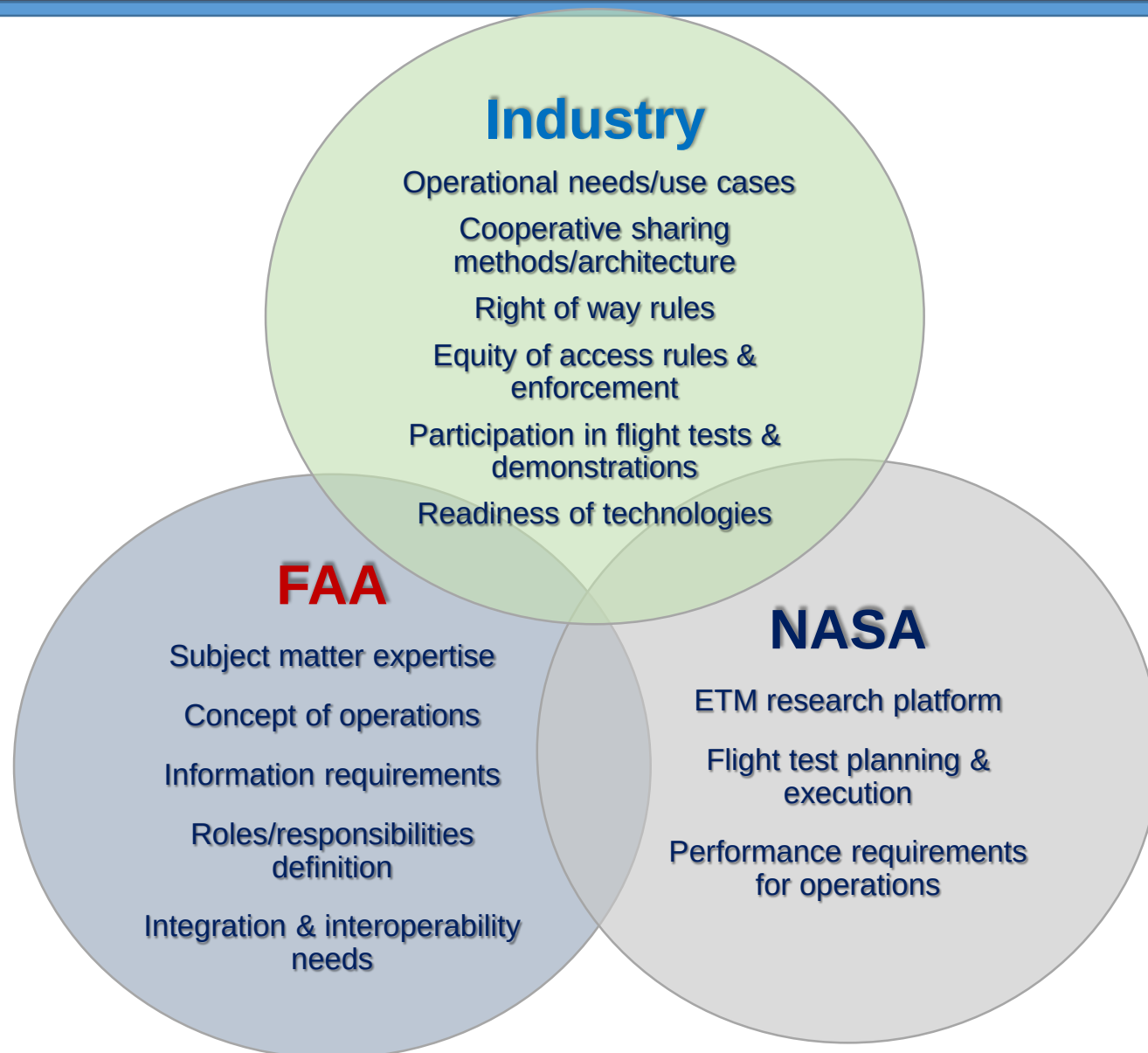
- **New types of operations**
 - Hypersonic flight, reintroduction of supersonic passenger flights, and very slow or on-station long endurance flights
- **ATM scalability**
 - Current manner of ATM service delivery cannot cost-effectively scale to meet the needs of the envisioned ETM environment
 - Current ATM services may not be desired in the ETM environment
- **Solutions are needed that**
 - Scale beyond current ATM infrastructure and manpower resources
 - Promote shared situation awareness among Operators
 - Include **Cooperative Separation** and **Provided Separation by ATC (where required)**



Cooperative Separation in Uncontrolled Airspace



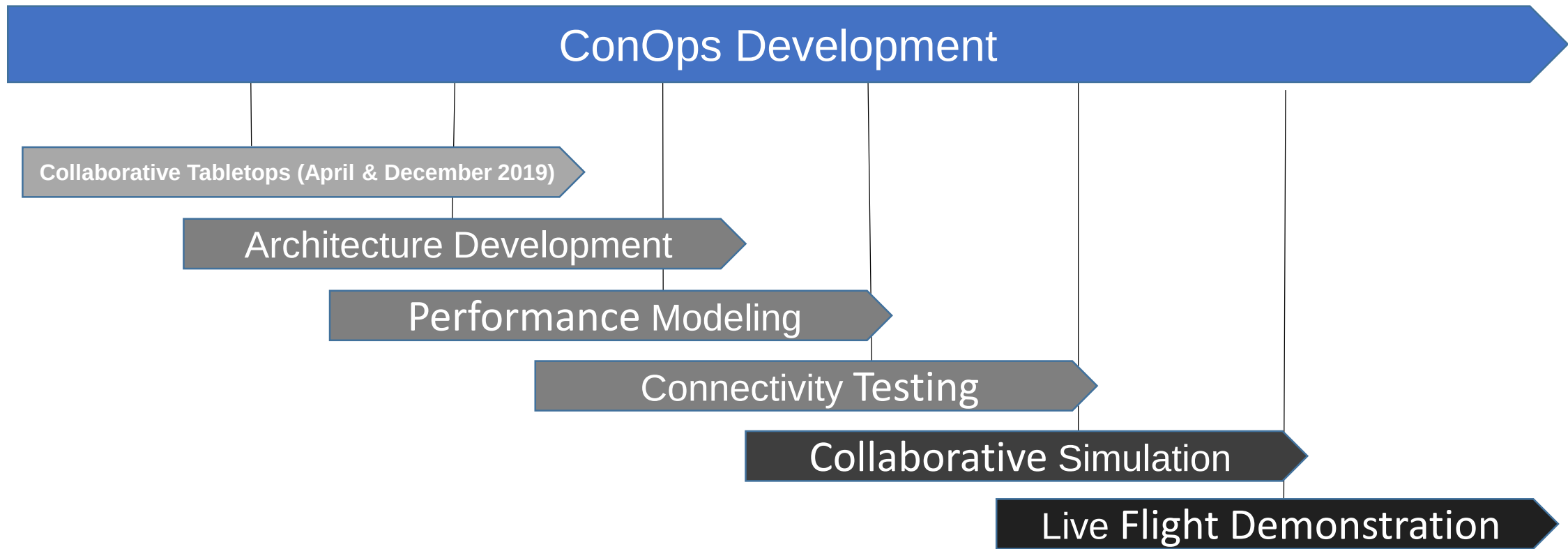
ETM Development Collaboration



- Cooperative
- Digital
- Intent-sharing
- Service-oriented architecture
- Third-party services
- Managed by exception



Next Steps



Summaries of collaborative tabletops are at <https://nari.arc.nasa.gov/>