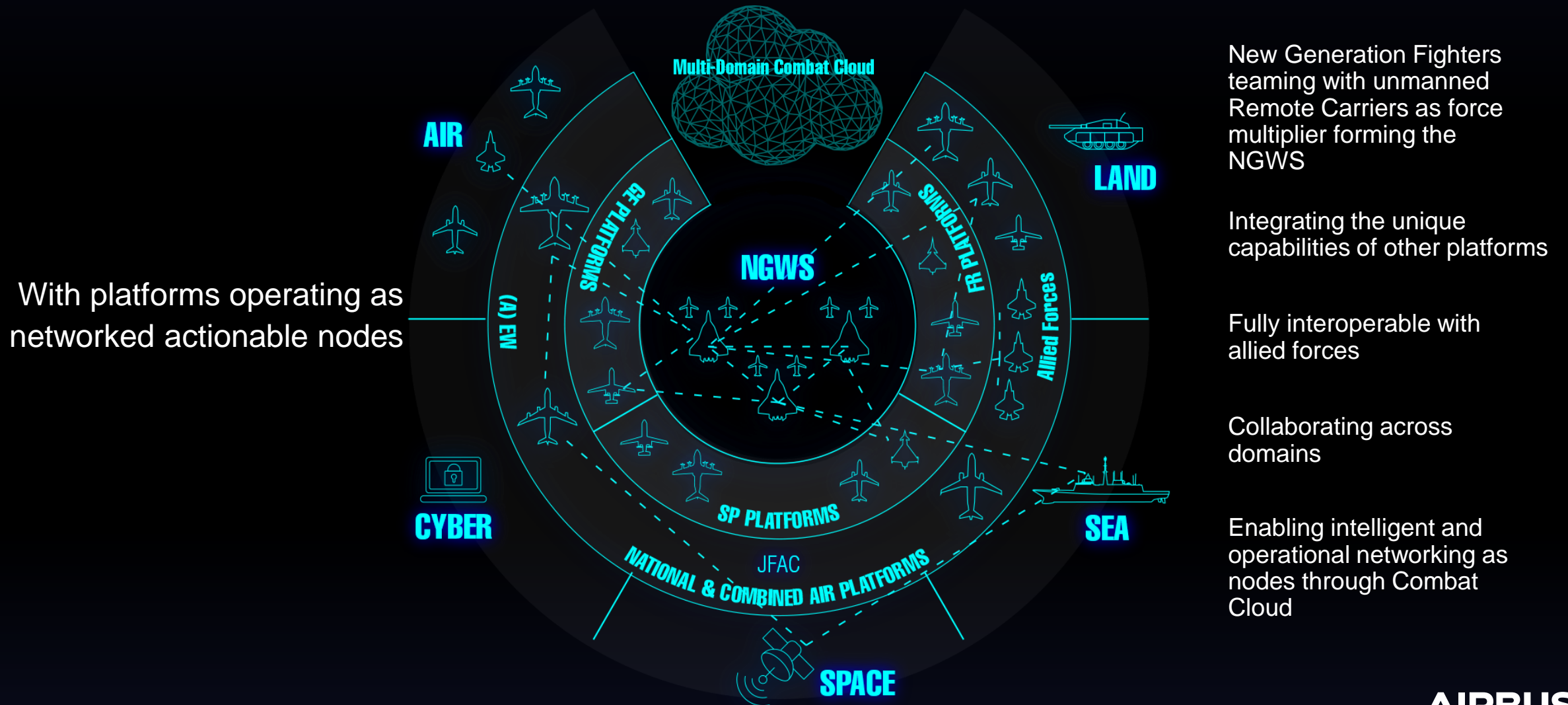


# Future Combat Air System

Bruno Fichfeux  
Head of FCAS Programme

# FCAS as a System of Systems

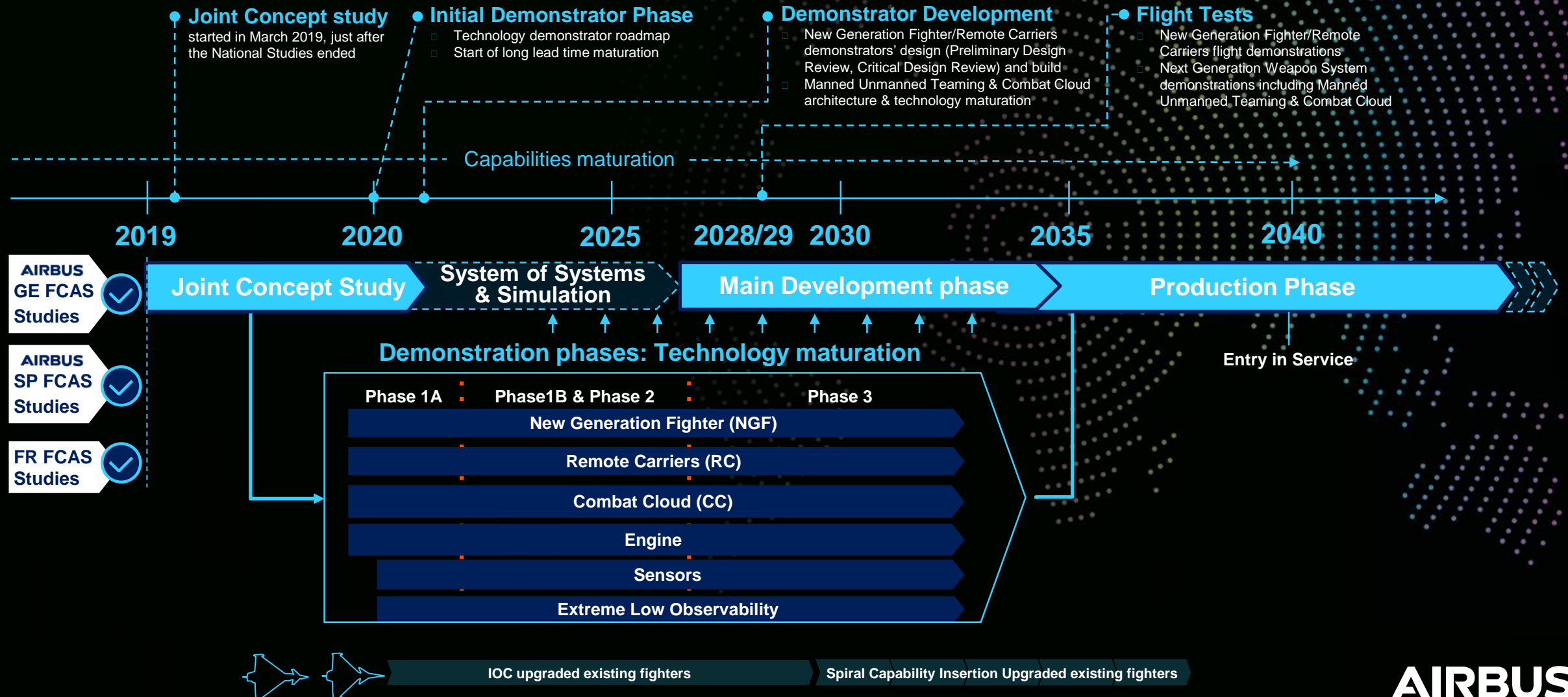
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# FCAS Development Journey

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# Demonstrator Phase 1B – Governance

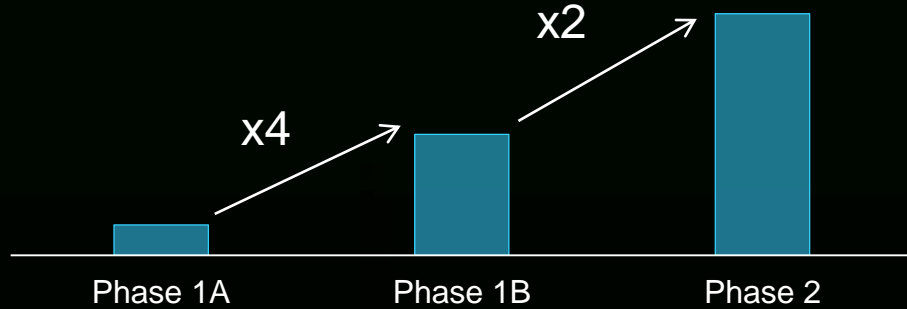
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WHY?	PILLARS	PRIME	MAIN PARTNERS	
De-risking		  		Defining operational NGWS architecture
Proof of concept				Managing NGWS SoS complexity & consistency
Technology maturation		 		Digital collaboration backbone, enabling industry, partners & customers to work seamlessly together in a secure digital ecosystem
Design				Optimising a piloted platform with ambitious low observability & flight qualities
		  	Defining collaborative architectures & underlying technologies	
		  	Defining cloud architecture & datalink concepts	
		 	Optimising the engine architecture design & developing underlying breakthrough technologies	
		  	Designing and developing the connected and distributed sensor & EW architecture and technologies	
		 	Developing innovative low observability concepts, materials & production methods	

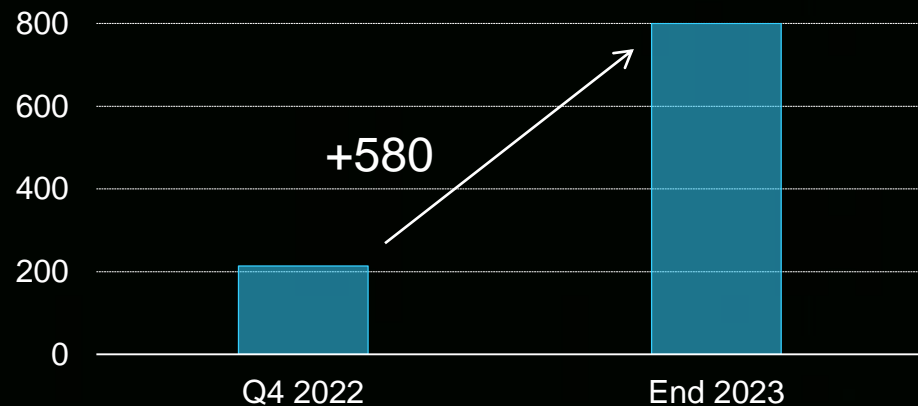
**AIRBUS**

## Demonstrator Phase 1B – Ramp-up

Increase in workload



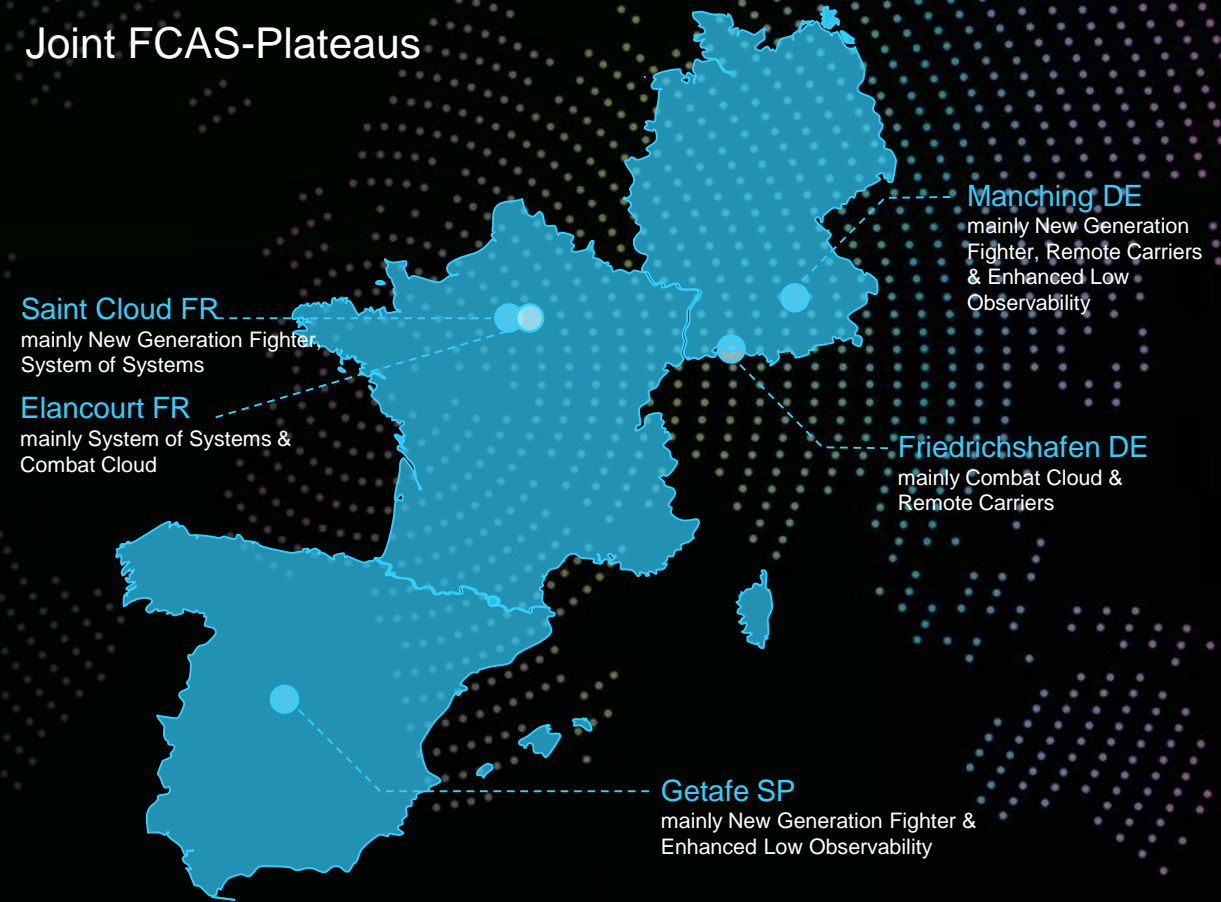
Airbus resources for Phase 1B



80% for Engineering  
Both internal and external

FTEs

Joint FCAS-Plateaus



Establishment of joint FCAS-Plateaus is in full progress

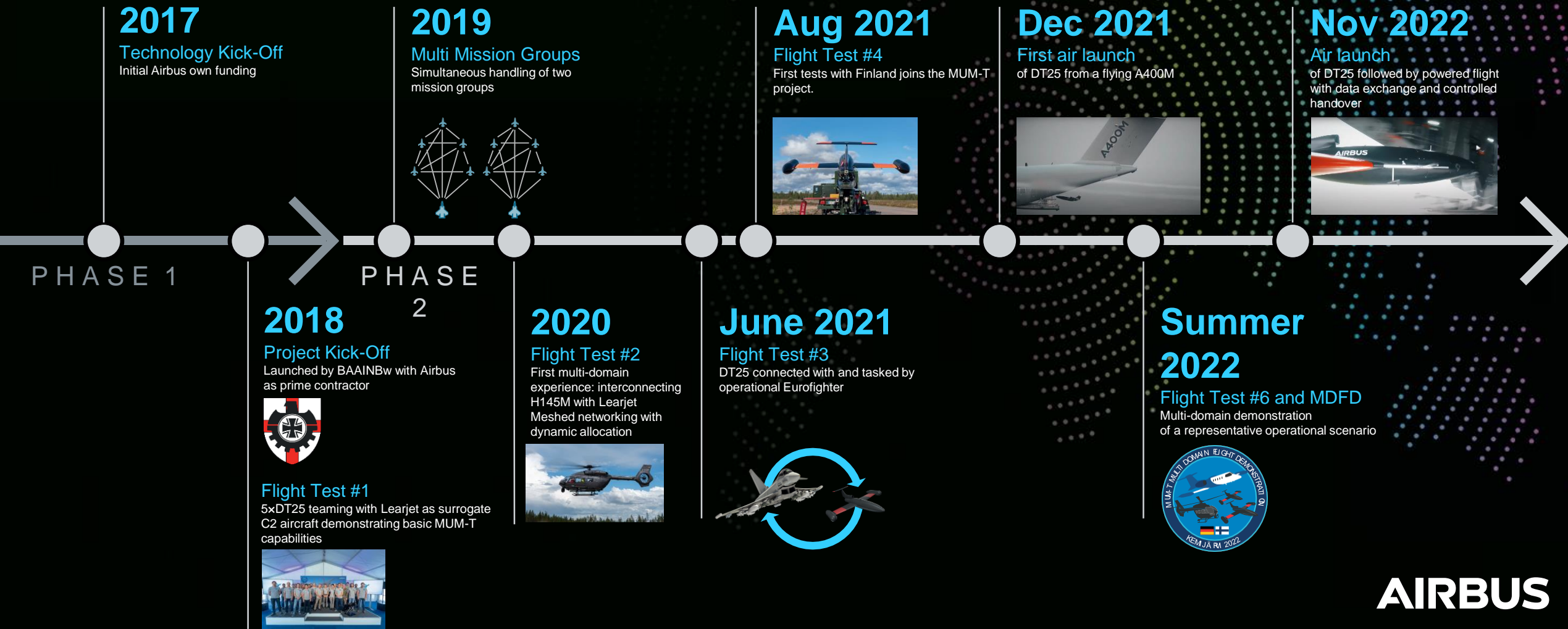


Remote carriers:  
Manned Unmanned-Teaming

# FCAS Manned-Unmanned Teaming Roadmap

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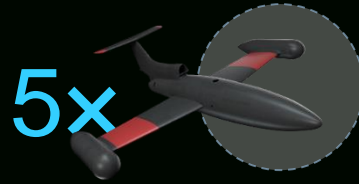
## Project Timeline





# European premiere: large-scale flight demo teams up fighters, helicopter and drones

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**DoDT-25-based Remote Carriers**  
Equipped with Electro-Optical and  
Electronic Support Measures sensors



**Modified Learjets (1 live & 1 simulated)**  
Emulating combat aircraft



**H145M helicopter**  
Close Air Support

**Live Tasking of Remote Carriers by Manned Aircraft**

## Objectives:

- Locate and identify enemy Air Defense Systems
- Provide Close Air Support for Special Operations Forces using H145M supported by Remote Carriers

## Demonstrated capabilities:

- Advanced teaming, including dynamic mission re-planning and re-tasking during execution
- Collaborative sensor data fusion across assets in the network
- Distributed sensor-oriented flying
- AI-based automatic target identification



# Remote Carriers

## DT25 A400M 2022 demonstration

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### Objectives:

- Providing multiple means to launch Remote Carriers is key to the FCAS vision
- Employing the A400M as a launcher will bring combat mass closer to the fight
- Not using the New Generation Fighter to do so will preserve its weapon loads, low observability and endurance

### Demonstrated capabilities:

- Testing A400M for a new future role in FCAS
- Launching of a Do-DT25 from flying A400Mt. After release, engines of Remote Carrier started with control handover to ground station who operated and performed the landing
- Rapid Prototyping & flight testing through a joint WTD61 and Airbus Defence and Space approach
- Flexible industrial setup and collaborative ways of working supported by BAAINBw
- First successful launch & operation of a Remote Carrier demonstrator from a flying A400M worldwide

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## Takeaways from the film

**AIRBUS**



# Takeaway #1 – Air launching

## Using multiple platforms to deliver Remote Carriers

- Launching Remote Carriers from a New Generation Fighter is an envisioned option
- For some operational contexts, the New Generation Fighter will be the best launch platform. However, a trade-off would need to be found between Remote Carriers & “classical” weapons
- When not using the New Generation Fighter to air launch Remote Carriers, weapon loads, low observability and endurance would be preserved
- Launching from an A400M will bring combat mass closer to the fight with 40-50 Light Remote Carriers or 8-12 Heavy ones
- Other platform types such as Eurofighters & Wingman can be considered



# Takeaway #2 – Light & Heavy Remote Carriers

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Enabling tactics to surprise, deceive,  
deter & saturate opponents

Beyond the tactical benefits, the following dimensions & associated trade-offs will shape the customers' needs:

- Cost per effect reduction
- Risk mitigation for crews
- Tactical effectiveness
- Force readiness
- Cross generational interoperability



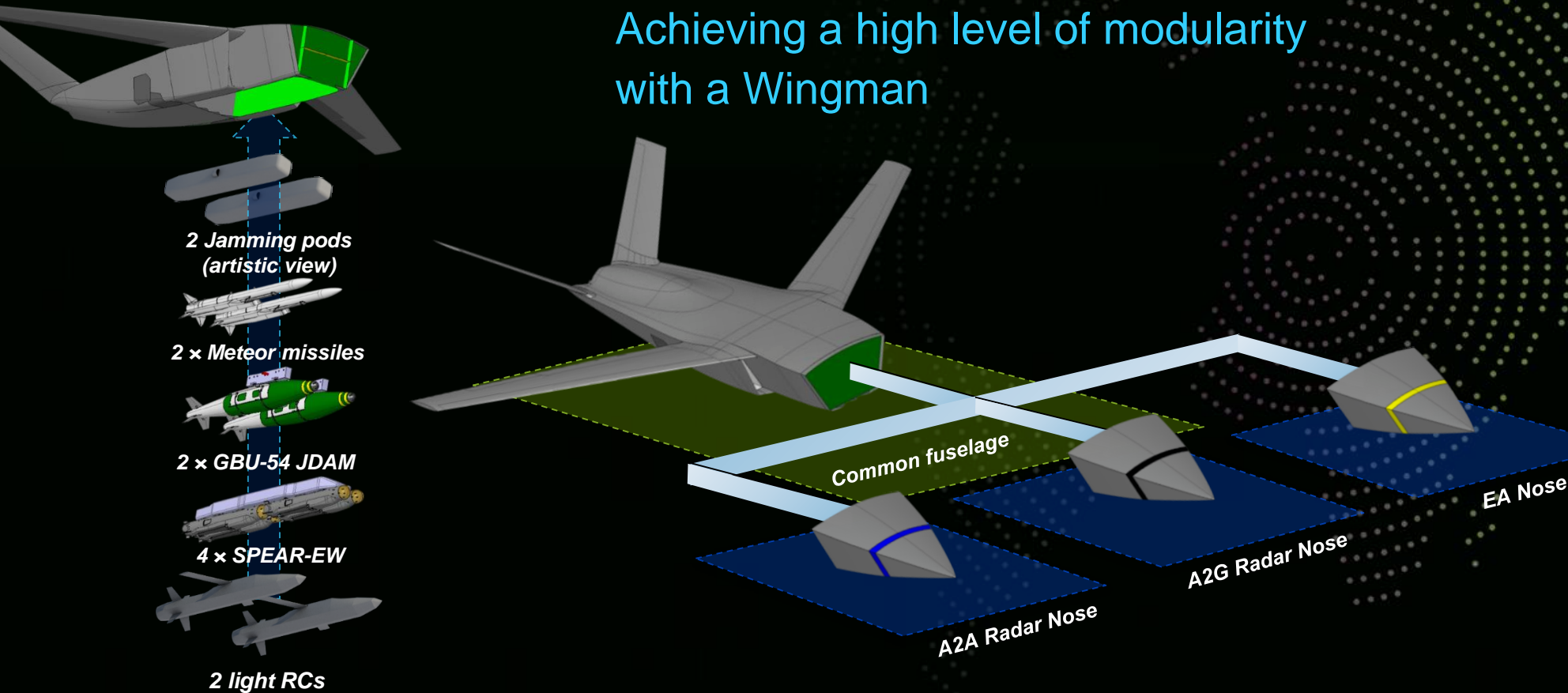
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# Takeaway #3 – Modular design

For greater reuse between a high number of variants

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- 3 main usages:  
Sensing, Effecting &  
Remote Carrier  
Dispensing
- Not using fighters to  
release Remote  
Carriers will preserve  
their ability to carry  
weapons

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