

State of the Aerospace Supply Chain

October 2020

CLARION CALL

The last ten years have
been a period of
enormous innovation in
aviation



PROBLEM

It has also been a period of enormous consolidation in the industry

Sources: Statista; United Technologies Annual Report, Meridian Capital

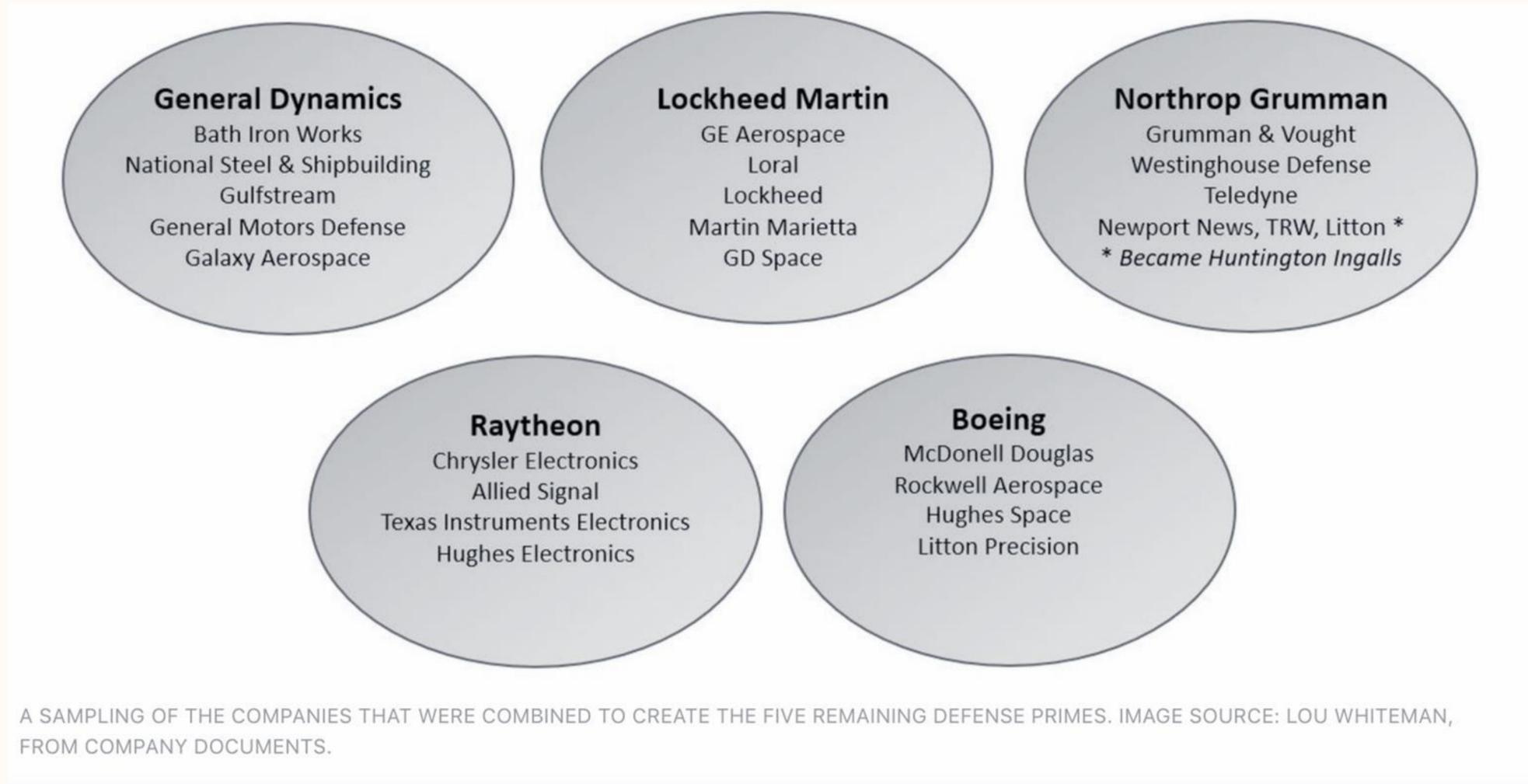
\$30B TOTAL DEAL VALUE 2018

290 TRANSACTIONS IN 2018

CONTEXT

... which has resulted in massive consolidation - especially in the OEM and Tier 1 & Tier 2 supply chain

Sources: Annual Reports, Motley Fool



CONTEXT

In commercial aviation,
the problem is worse



100 seats



Tier 1 suppliers



Engine Suppliers



CONTEXT

Which creates enormous margins for Tier 1 suppliers, but stifles innovation and competition



Why we care

CONTEXT

To build a scale system for urban air mobility, vehicle operating costs must come way down - otherwise UAM will be the purview of the wealthy

6 USD
per
minute

CONTEXT

Aircraft development costs run in the billions. There is insufficient capital to industrialize more than a few architectures, so we will end up with only a few OEMs ...



eVTOL Aircraft Market Inclinations ...
openpr.com



Vahana, the Self-Piloted, eVTOL ...
airbus.com



Bell Expands Air Taxi Play: AerOS ...
aviationtoday.com



SureFly Solves eVTOL Battery Capacity ...
ainonline.com



Boeing Partners with Kitty Hawk to ...
rotorandwing.com



Archer throws its hat into the ring ...
newatlas.com

OPPORTUNITY

... unless we radically rethink supply chain, and can spread subsystem development costs across multiple platforms

Mission:
 Payload: 800 lb
 Range: 100 nm



	Robinson R44	Single Rotor Fuel	Single Rotor Electric	Stopped Rotor	Tilt Rotor
Cruise Speed (mph)	125	150	150	150	150
Energy Type	Fuel	Fuel	Electric	Electric	Electric
Number of Rotors	1 + tail	1 + tail	1 + tail	8 + prop	8 tilting + 2 props
Rotor Diameter (ft)	33	26.4	33	9	7
Wing Span (ft)	n/a	n/a	n/a	36.5	39.2
Operating Empty Weight (lb)	1,505	1,597	2,670	2,910	3,130
Payload (lb)	818	800	800	800	800
Battery/Fuel Weight (lb)	177	108	1170	948	965
Gross Weight (lb)	2,500	2,505	3,470	3,710	3,930