

# BAE Systems - Major programmes and markets presentation

## 12 November 2020



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# Agenda

- 14.00pm - Welcome and Introduction - Charles Woodburn
- 14.05pm - Business and market update - Brad Greve
- 14.10pm - Major programmes overview and video content
- 15.00pm - Break
- 15.10pm - Q&A panel session - moderated by Martin Cooper, Investor Relations Director
  - Charles Woodburn - CEO BAE Systems
  - Brad Greve - CFO BAE Systems
  - Tom Arseneault - President and CEO, BAE Systems, Inc.
- 16.10pm - Summary and close



# Charles Woodburn

## CEO BAE Systems

Welcome and introduction

## Positive outlook for the business

- Well-positioned defence portfolio
- Strong order backlog and programme visibility
- Major programmes either stable or growing with opportunities
- Defence and security – a key priority for Governments
  - Multi dimensional threat environment
  - Role to play in economic recoveries
  - Record UK Apprentice intake; investing in facilities for expansion
- Acquisitions - unique opportunity to accelerate technology strategy
- Operational performance improvement continues – drives future margin expansion
- Increasing cash conversion expected in coming years

Strong sustainable business - well placed for growth



## Our Response to COVID

# COVID Video



# **Brad Greve**

## CFO BAE Systems

Business and Market Update

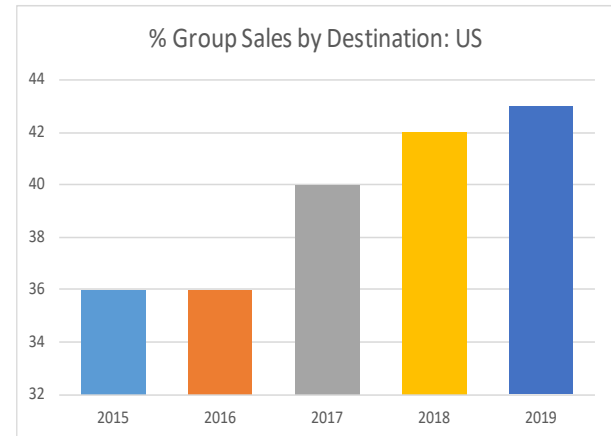
## Business Update

- Guidance for 2020:
  - Sales guidance unchanged
  - Underlying Earnings per share expected to be slightly higher than previous guidance
  - Cash flow guidance unchanged
- Orders up vs expectation to date
  - US business - order flow strong
  - £1.3bn German Typhoon order awarded
- Continue to deliver improved operational performance
- Acquisitions integration progressing smoothly & businesses performing in line with expectations
- Dividend will be paid as scheduled on 30<sup>th</sup> November

## Market Environment - United States

- US continues to represent the single largest defence market in the world, with BAE Systems a top ten US defence supplier
- Strong and increasing order book, adding further resilience to the portfolio
- Funded backlog for classified electronics work grew by over 10% in the first half
- Acquisitions of Airborne Tactical Radios and Military Global Positioning System businesses
  - Well positioned for growth
  - Helping to offset commercial declines
- Continuing Resolution in place whilst awaiting Fiscal Year 2021 defence appropriations legislation

Market outlook  
remains positive



**Well positioned against the stated priorities of military services**

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# Market Environment - United States

Market outlook remains positive ✓

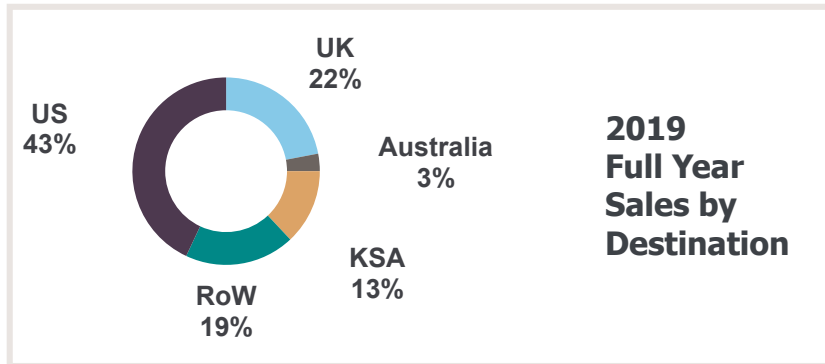
- Alignment to US National Defense Strategy priorities
- Defence programme positions underpinning good growth
- Key defence and national security programmes expected to remain stable under a new Administration

	National Defense Strategy/ Service Priorities	BAE Programs & Opportunities	
	<b>Next Generation Combat Vehicles</b>	New manned and robotic combat vehicles	P&S
	<b>Long Range Precision Fires</b>	Extended-range precision munitions and artillery, Long Range Anti-Ship Missile	
	<b>Air &amp; Missile Defense</b>	Seekers, Hypervelocity Projectile, missile defense system integration	ES
	<b>Unmanned &amp; Autonomous Vehicles</b>	Mission system autonomy, unmanned undersea vehicles	
	<b>Long Range / Survivable Strike</b>	B-21, F-35, F-15 EPAWSS, F-22	I&S
	<b>Space</b>	Space electronics, space resilience, ground systems	
	<b>Nuclear Modernization</b>	ICBM systems engineering	I&S

Well positioned against the stated priorities of military services



# Market Environment



## UK

- Defence and security remains a priority
- 2% GDP committed on defence spending
- Long-term contract positions – stable outlook
- Critical defence programmes
- Over 30,000 employed + supply chain
- Combat air strategy

## Qatar

- Major defence spending underway
- Typhoon, Hawk and MBDA contracts
- Future opportunities

## Saudi Arabia


- Defence and security remains a key priority
- Managing licence position
- 70%+ Saudi Nationals
- Long standing support contracts
- Continue to support Vision2030

## Australia

- Recommitted to defence budget growth
- 10 year investment in Defence Capability up from \$195bn to \$270bn AUD
- Business expected to grow significantly due to Hunter Class Frigate programme
- Further opportunities from increased budget

## Europe

- Defence spending increases in a number of countries - Germany, Sweden, Netherlands – towards NATO 2% commitment
- Germany Typhoon announced – further opportunities
- MBDA
- Land vehicle opportunities



## Major programmes overview

**Charles Woodburn**  
Chief Executive

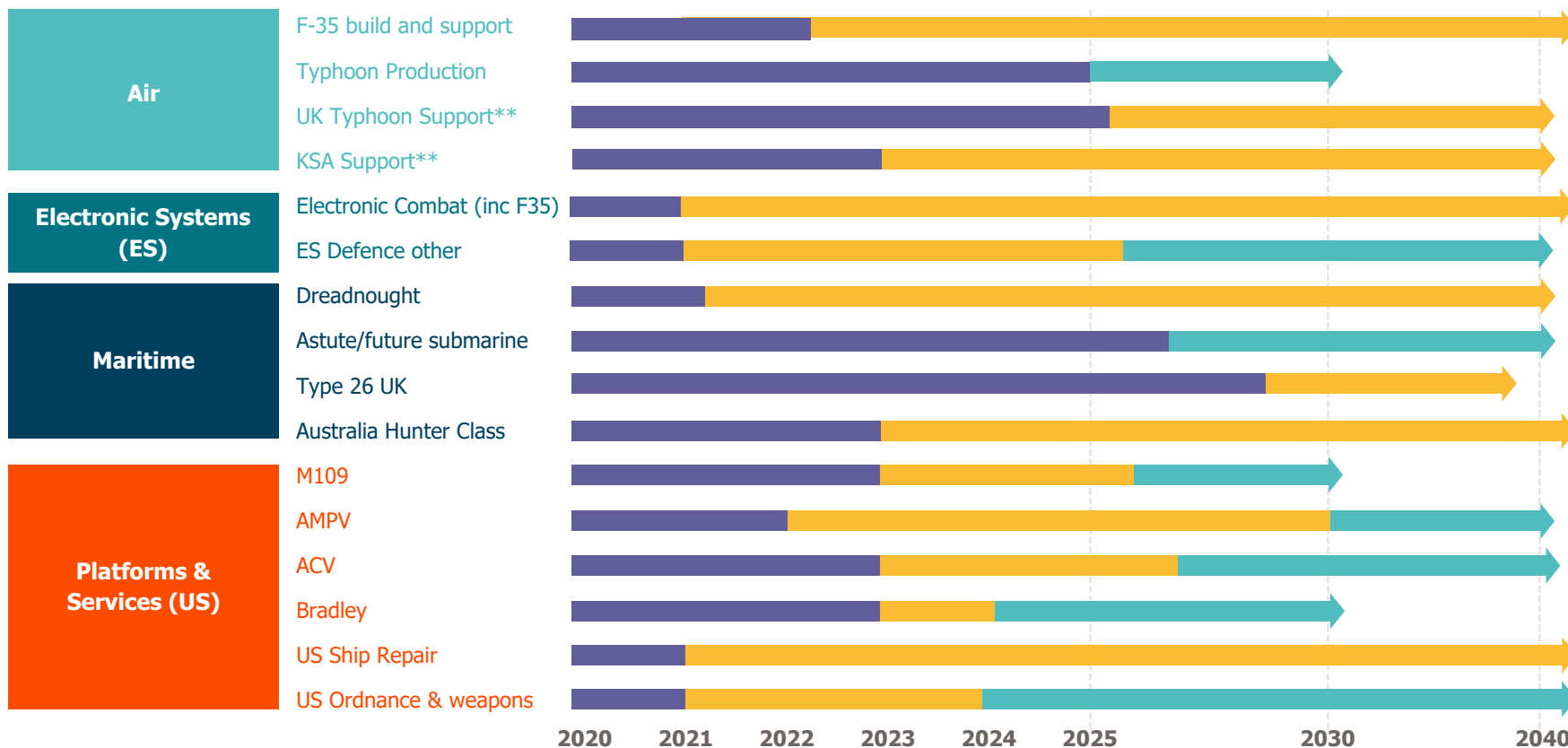
**Tom Arseneault**  
President and CEO, BAE Systems, Inc.

# Key Franchises and Programmes

– Illustrative timeline

£46.1bn\* Order Backlog; incumbent positions on key long term programmes; opportunities predominantly on aircraft sales and support, electronic systems and land vehicles

Key programmes - Order Backlog, Pipeline/incumbent position, Opportunity



(1) Dates reflect position at 1<sup>st</sup> January each year

\* As at 30 June 2020

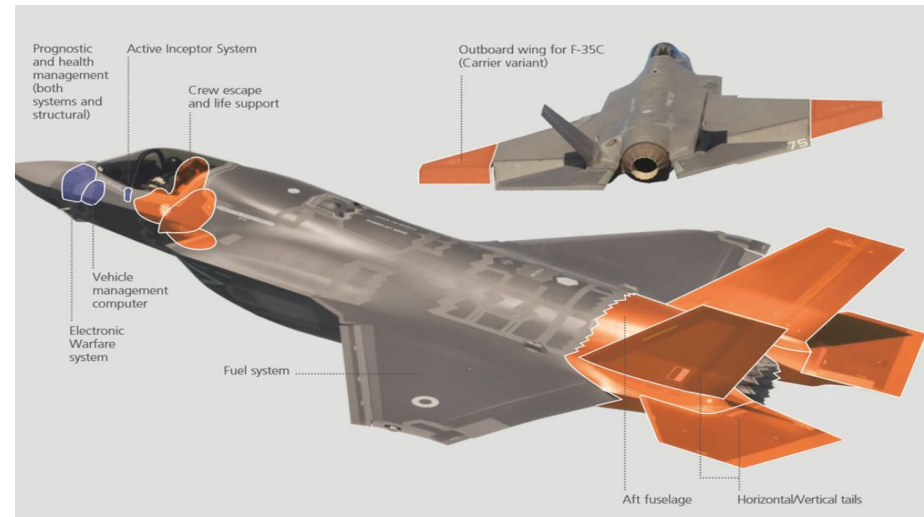
\*\* See Typhoon Support and Upgrade /KSA slides for detailed timelines



# F-35 – Key Facts

- Largest Defence Programme in the world
- As a Tier 1 partner, we're delivering up to 15% of each aircraft (excluding propulsion)
  - We run c.1 year ahead of Lockheed Martin
- Major role in our home markets
- Full rate production expected in 2021 then maintained for over a decade
- Electronic Warfare volumes expected to be above full rate driven by Block 4 Upgrade

## Illustrative BAE Systems workshare



- 3000+ aircraft in the programme of record
- 585+ aircraft delivered to date



# F-35 – build and support

## Sales growth driven by:

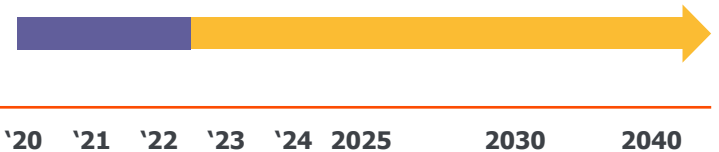
- Move to full rate levels
- Cycle of Electronic Warfare upgrades
- Sustainment revenues set to grow during the decade as the number of aircraft deployed and customer base increases
- When production levels out support and upgrades drive growth

## Opportunity:

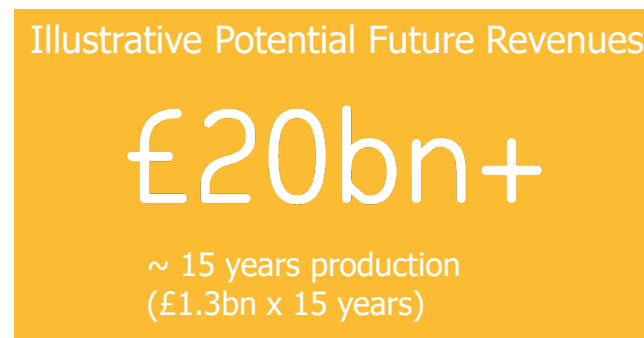
- Further international orders
- Positioning for international work as global sustainment ramps up

F-35 build and support  
(Air and Electronic Systems)

**Order Backlog, Pipeline/incumbent position**



(1) Dates reflect position at 1<sup>st</sup> January each year  
(2) \* Revenues reflect total from the Air Sector and Electronic Systems sector



 F-35 Video

# F-35 Video

## Typhoon Support and Upgrade

- We provide maintenance, support and training for aircraft in service
- Working with our air force partners to achieve an innovative efficient service
- We ensure operational requirements are met whilst driving value for money for our customers
- We provide Typhoon support services in KSA, Oman and will do in Qatar
- UK - 4 years in to our 10 year partnership agreement
- Typhoon expected to be a key platform for our customers until at least 2040
- We are developing capabilities in a more agile way, providing competitive advantage for our customers
- Radar contracts secured in 2020
- Our technology development on Typhoon is critical, underpinning the Combat Air Strategy



# Typhoon Support and Upgrade

## Sales growth driven by:

- Sustainment increasing as more jets enter into service
- Radar upgrade contracts secured in 2020

## Opportunity:

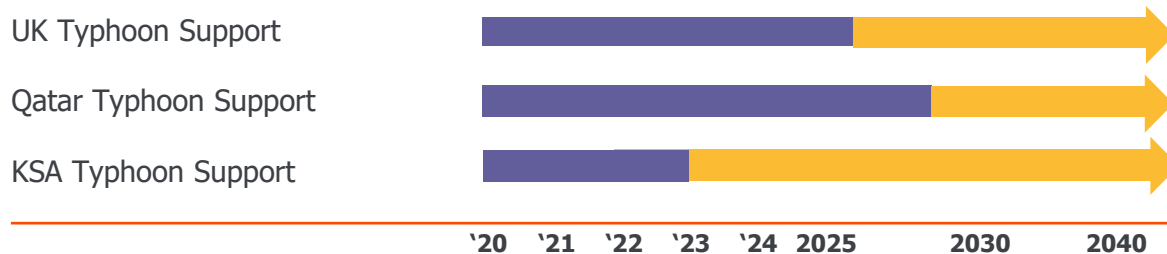
- Further partner & International orders - spiral upgrade cycle as migrate towards Tempest

UK Typhoon Support

Qatar Typhoon Support

KSA Typhoon Support

Order Backlog, Pipeline/incumbent position



(1) Dates reflect position at 1<sup>st</sup> January each year

Illustrative Potential Future Revenues

£36bn+

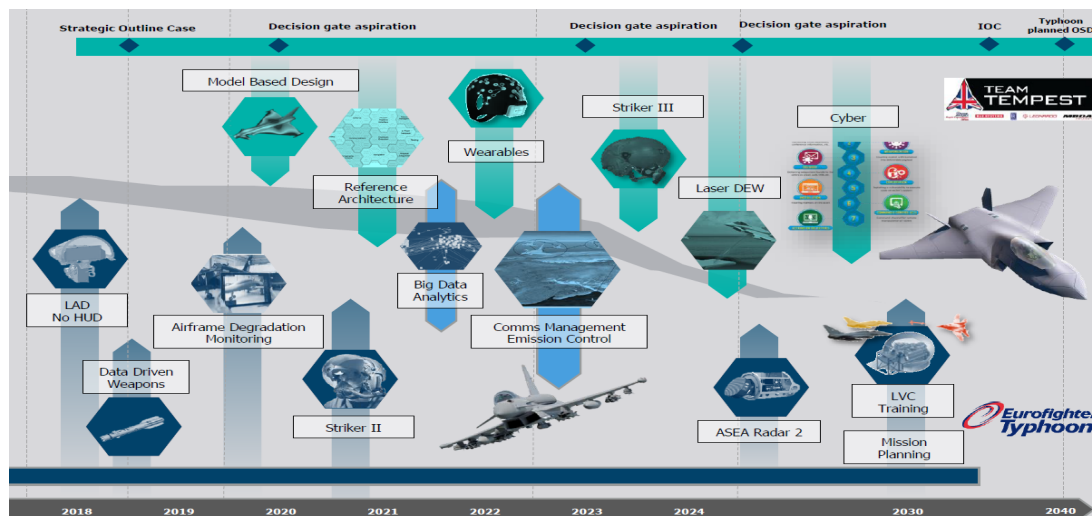
~ 20 years support  
(£1.8bn x 20 years)

2019 Group Revenues

£1.8bn



5 Year Sales outlook



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# Typhoon Production

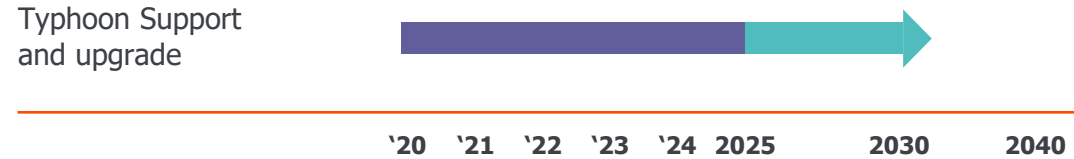
## Sales outlook driven by:

- Kuwait and Qatar in backlog
- Germany 38 announcement will extend backlog

## Opportunity:

- Further partner nation orders
  - Spain & Germany
- Further international orders
  - Opportunities in pipeline

## Order Backlog, Opportunity



(1) Dates reflect position at 1<sup>st</sup> January each year

2019 Group Revenues **£0.8bn** → 5 Year Sales outlook

	Country	Ordered	Delivered
Eurofighter Partner Nations (EPNs)	Germany	181*	143
	UK	159	159
	Italy	96	96
	Spain	73	73
Eurofighter Customer Nations	Austria	15	15
	KSA	72	72
	Oman	12	12
	Kuwait	28	0
	Qatar	24	0

580,000+ Flying Hours

**Ordered 660\***

**Delivered 570**

\* Including up to 38 aircraft for German Tranche 1 replacement - Quadriga



 Typhoon Support Video

# Typhoon Support Video

# KSA Support

## Sales outlook driven by:

- Incumbent defence programme support positions – Out of service dates 10 years +

### Opportunity:

- Further facilities and support programmes

## Illustrative Potential Future Revenues

**£15bn +**  
(£1.5bn x 10 +years)

## Order Backlog, Pipeline/incumbent position

KSA Support



'20 '21 '22 '23 '24 2025 2030 2040

(1) Dates reflect position at 1<sup>st</sup> January each year

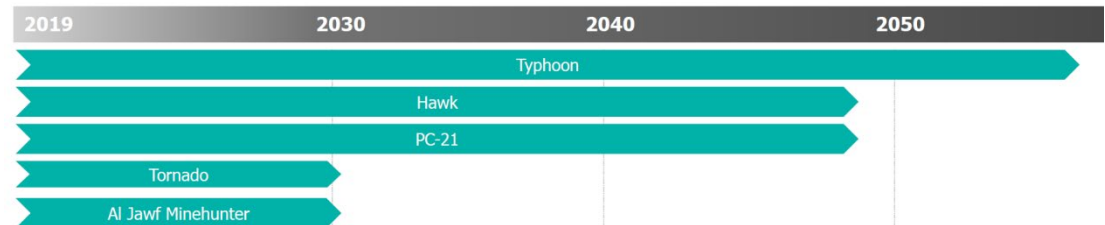
2019  
Group  
Revenues

£1.5bn\*



5 Year Sales  
outlook

KSA platform out of service dates



### Support

- End-to-end Pilot and Technician training
- Hawk in-Kingdom assembly and supply
- Hawk support
- Tornado support
- Naval minehunter support
- Weapons
- Spares, repairs and logistics
- Facilities

\* Excludes Typhoon Salam support as covered in Typhoon Support and Upgrade slides

# Submarine Build in the UK – Key Facts

## Dreadnought

- MoD budget £31bn for 4 boats
- Construction of the first two boats continues to advance
- First boat due to enter service in early 2030s
  - approx. 2 decades of production ahead
- Majority of scope currently cost plus under single source contract regulations (SSCR)

## Astute

- First four boats have been delivered to the Royal Navy
- Remaining three boats are at an advanced stage of construction

## Submarine build sovereign capability investment

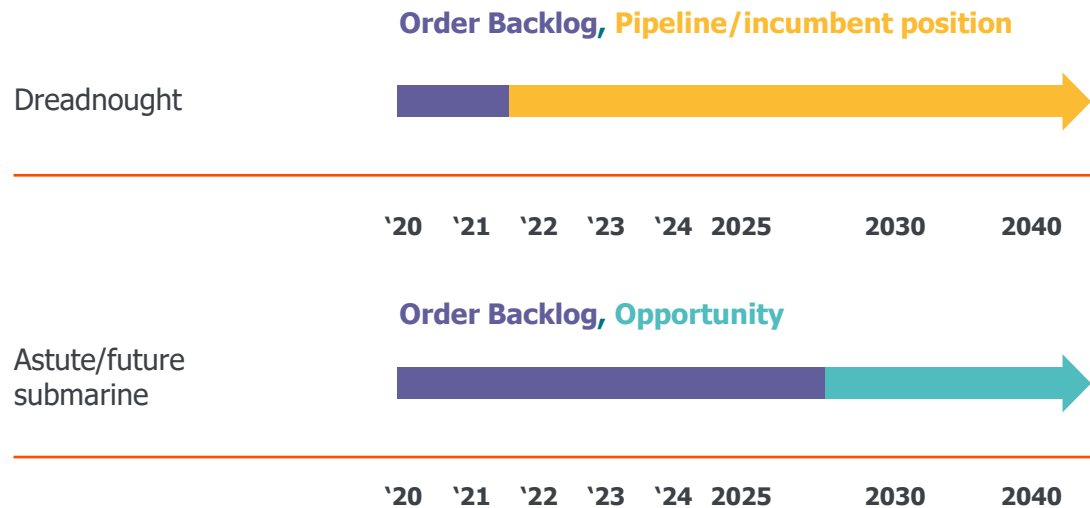
- £0.9bn invested in Barrow site redevelopment – customer funded
- Academy of Skills and Knowledge established
- Investment in advanced manufacturing technologies planned



# Submarine Build in the UK

## Sales outlook driven by:

- Contracted Astute and Dreadnought programmes
- As Astute boats delivered in coming years capacity transferred to Dreadnought programme



(1) Dates reflect position at 1<sup>st</sup> January each year

## Illustrative Potential Future Revenues

£20bn+

~ 15+ years build (£1.4bn x 20 years)

2019  
Group  
Revenues

£1.4bn



5 Year Sales  
outlook



## Submarine Video

# Submarine Video

# Global Combat Ships - Key Facts

Highly capable and versatile multi-mission warship;

All variants will share a common acoustically quiet hull and open systems architecture to support technological upgrades

## UK Type 26 – 8 ships

- First two ships, HMS Glasgow and HMS Cardiff under construction
- First of Class on track to be delivered to Royal Navy in mid-2020s
- £1bn+ invested in supply chain with over 100 suppliers worldwide
- Target cost incentive fee structure

## Australia Hunter Class – 9 ships

- ASC Shipbuilding integrated into our Australian business
- On track to start prototyping in December 2020
- Start of approx 2 decades of production from 2022
- Initial Design & Productionisation phase to 2022 costs plus fixed fee

## Canada – 15 ships

- BAE element Warship Designer Licence fee
- Engineering support
- Preliminary design phase underway
- Working with Lockheed Martin and Irving Shipbuilding
- Construction to start in early 2020s

## Global Support Opportunity

- High degree of commonality across GCS variants
- Unique opportunity for sustainment
- Potential for collaborative international approach
- Could yield through life savings and improvements in availability
- BAE Systems actively supporting GCS customers in exploring these opportunities

# Global Combat Ship build

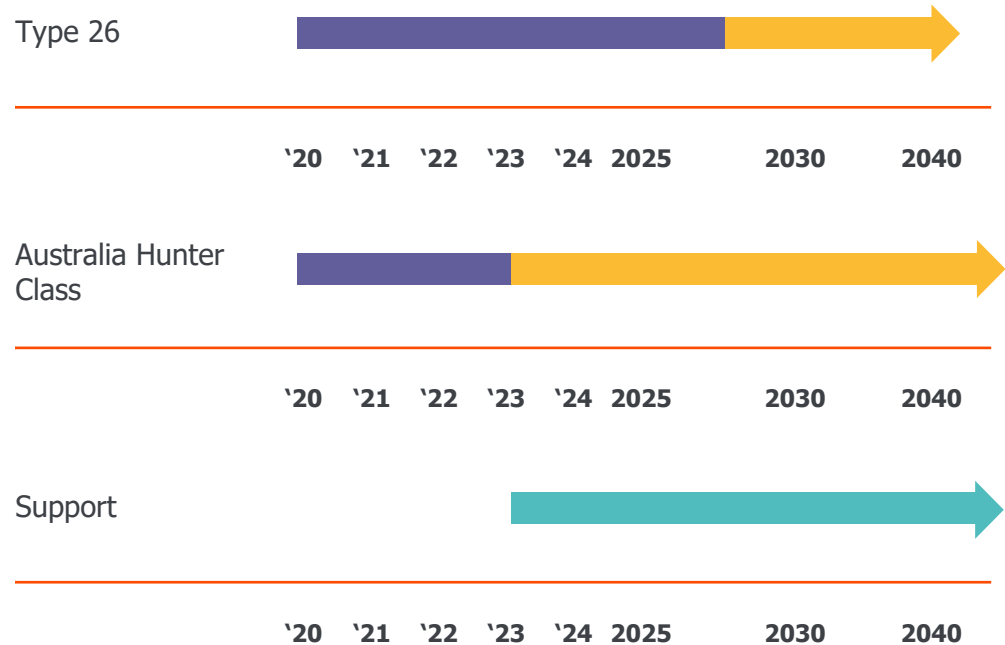
## Sales outlook driven by:

- UK (8) and Australia (9) – first ship mid 2020s – 2 plus decades of build
- Canada – Warship designer licence fee and engineering support
- Revenues expected to double in next 3 years as build programmes ramp

## Opportunity:

- Unique opportunity to develop global support offering

## Order Backlog, Pipeline/incumbent position, Opportunity



(1) Dates reflect position at 1<sup>st</sup> January each year

Illustrative Potential Future Revenues

£20bn+

15-20 years build (£1.2bn x 15 -20 years)

2019  
Group  
Revenues

£0.6bn



5 Year Sales  
outlook

 Global Combat Ship Video

# Global Combat Ship Video

# Electronic Combat Solutions

## Sales growth driven by:

- Decades of leadership in designing, delivering and sustaining electronic warfare systems for the world's most advanced aircraft
- Strong demand for capabilities and solutions to defeat increasingly sophisticated adversaries
- Growing market for affordable and effective electronic warfare systems
- Opportunity – further international orders and upgrades

2019  
Group  
Revenues

c.\$1.3bn\*



5 Year Sales  
outlook

\* Revenues reflect restated total following restructuring of Electronic Systems sector

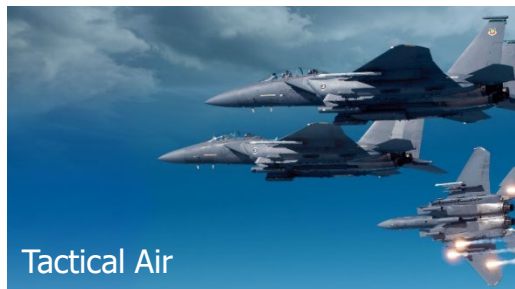
Small Form Factor  
Solutions



Low Observable  
Tactical Air



Tactical Air



**CLASSIFIED**

Advanced Integrated  
Electronic Warfare

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# Electronic Combat Solutions – Key Facts

## Critical capabilities

- Passive threat detection and situational awareness
- Autonomous and networked systems
- Full spectrum electronic warfare
- Precision geo-location and direction finding
- Platform agnostic architectures support rapid upgrades of modular and scalable systems
- Mission system integration with full life-cycle support

## Major programmes

- F-35 (AN/ASQ-239 EW/CM system)
- Eagle Passive/Active Warning Survivability System (AN/ALQ-250)
- Digital Electronic Warfare System (AN/ALQ-239 DEWS)
- Long Range Anti-Ship Missile (LRASM)
- F-22 (ALR-94)
- Classified programmes





## Electronic Combat Solutions Video

# Electronic Combat Solutions Video

# Military Global Positioning System (GPS) business acquisition

## Sales growth driven by:

- Leading provider of mission critical military GPS receiver solutions
- A pioneer in the market for more than 45 years
- Advanced, hardened and secure GPS products include next-generation M-Code technologies
- Solutions support increasingly critical role of precision guided munitions in military operations
- Expect continued customer demand for secure geo-positioning in the modern battlespace

Completed  
acquisition  
on 31 July for:

\$1.925bn



5 Year Sales  
outlook

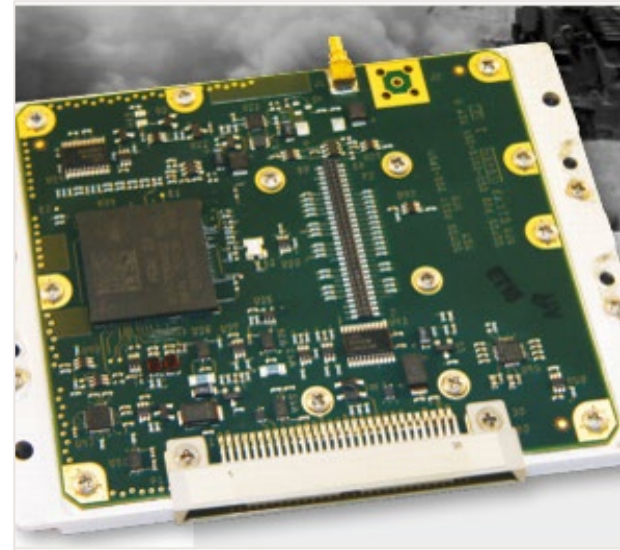


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## Military GPS business acquisition – Key Facts

- Integration proceeding, complementing Precision Strike & Sensing Solutions business within Electronic Systems
- Design and manufacture advanced GPS receiver technology for commercial and military devices
- Built-in functionality supports fielding across wide variety of weapon systems, ground, and airborne platforms resulting in a global installed base in excess of 1.5 million devices on more than 280 platforms
- Receivers are compliant with military M-Code, anti-jamming, and anti-spoofing requirements
- Specifically designed for reliable, high-performance operation in space-constrained, extreme physical and electromagnetic interference environments

Supports our priority growth area of precision guided munitions



## Military GPS Video content

# GPS Video

# US Ship Repair

## Sales outlook driven by:

- Incumbent positions as leading provider of non-nuclear ship repair, modernisation, overhaul and conversions across Atlantic and Pacific shipyards
  - San Diego, California
  - Norfolk, Virginia
  - Jacksonville, Florida
- US Navy maintains robust demand for ship repair and modernisation services

## Opportunity:

- Further leverage facilities and tandem docking capability to support US Navy's pursuit of increased utilisation levels and ship availability

## Order Backlog, Pipeline/incumbent position

US Ship Repair



'20 '21 '22 '23 '24 2025 2030 2040

(1) Dates reflect position at 1<sup>st</sup> January each year

2019  
Group  
Revenues

\$1.1bn



5 Year Sales  
outlook



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## US Ship Repair Video

# US Ship Repair Video

# Combat Mission Systems

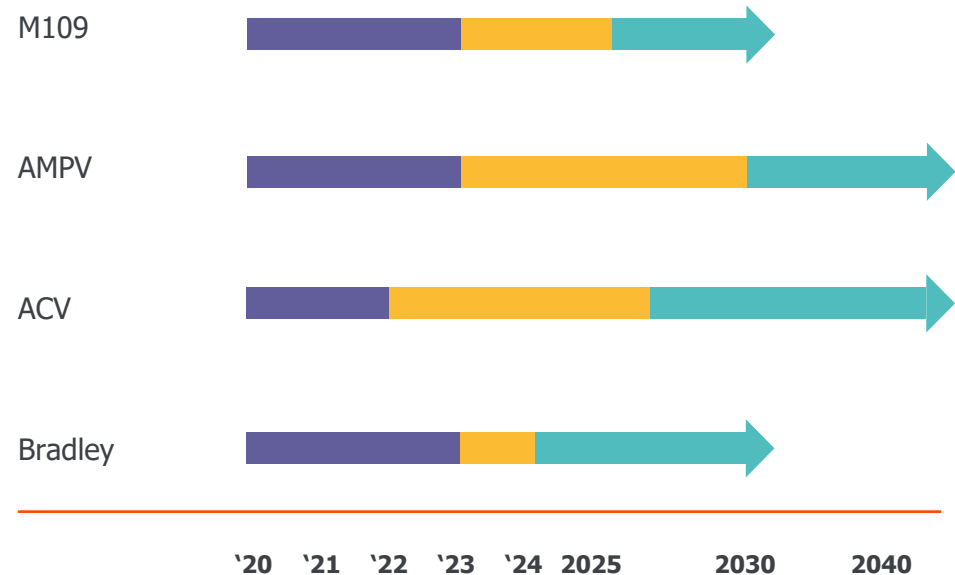
## Sales outlook driven by:

- c.1,350 vehicles in backlog with production continuing to ramp
- Operating under contracts for long term programmes: M109, AMPV, ACV, Bradley, M88
- AMPV and ACV expected to transition from LRIP deliveries to full rate in coming years
- Bradley upgrade volumes increase into 2021
- Investing in modernising facilities and implementing improved manufacturing technologies to meet increasing production volumes

## Opportunity:

- Mobile Protected Firepower, next-generation vehicles, exports

## Order Backlog, Pipeline/incumbent position, Opportunity



(1) Dates reflect position at 1<sup>st</sup> January each year

2019 Group Revenues

c.\$1.8bn\*

5 Year Sales outlook

\* Revenues reflect restated total following restructuring of Combat Vehicles sector



# Combat Mission Systems – Key Facts

## **M109 – Self-propelled Howitzer**

- Producing vehicles under 2020 Full Rate Production contract
- US Army acquisition plan of 689 vehicles

## **AMPV – Armored Multi-Purpose Vehicle**

- Low rate initial production underway, first LRIP vehicles delivered in second half of 2020
- 2015 US Army programme: c.\$10bn for c.2,900 vehicles

## **ACV – Wheeled amphibious vehicle for US Marine Corps**

- Initial vehicles delivered under LRIP awards for 116 vehicles
- Successfully completed USMC Initial Operational Test and Evaluation
- 2018 programme c.700 vehicles

## **Bradley**

- A4 Upgrades – 491 vehicles contracted to date
- Sustained programme with upgrade and international opportunities



## Combat Mission Systems Video

# CMS Video

# Technology

- We have a strong base and growth outlook from existing programmes
- Advancing our technology strategy through increased investment, M&A and partnerships
- Investing in and developing our technologies to provide a differentiating advantage
- To drive further growth and sustain the business into the future
- 3 case studies to highlight



**Delivering today – preparing for tomorrow**

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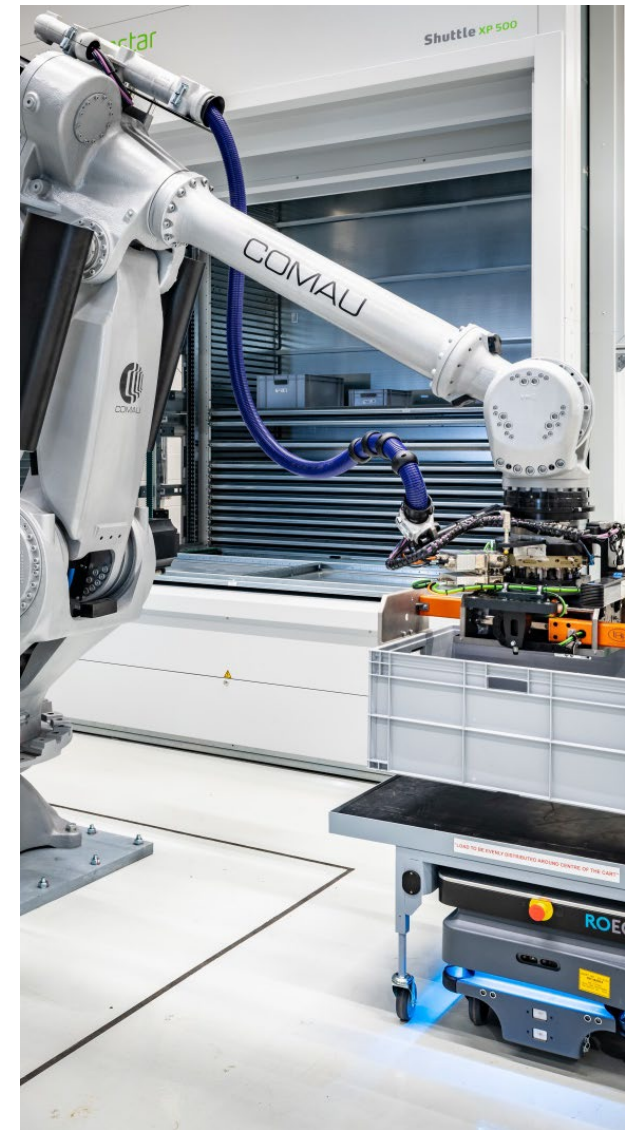
## Tempest – Key Facts

- 2018 UK Combat Air Strategy launch set out a bold vision for the UK future combat air capability
- Ambitious goal to create Tempest, a UK led International future combat air system
- Pioneering new technology and staying ahead of evolving threats
- Investing in people, skills, supporting the UK economy and preserving sovereign capability
- Team Tempest partners are currently working on more than 60 technology demonstrations
- £2bn UK Government investment committed to date
- Team Tempest BAE Systems, Rolls-Royce, Leonardo UK, MBDA and Royal Air Force
- Trilateral discussions started in Sept 2019 with Saab (Sweden) and Leonardo (Italy)
- Initial Operating Capability in 2035



## Factory of the Future – Key Facts

- Our people have designed a first-of-its-kind, fully connected, digital factory
- Created a connected, intelligent hub at our site in Warton, in the North West of England
- Demonstrates how military aircraft can be built in the future
- Recently started the manufacture of a demonstration front fuselage, using this robotic assisted assembly for first time
- Investing in people, skills
- Supporting the UK economy
- Preserving sovereign capability



## Tempest and Factory of Future Video

# Tempest and Factory of Future Video

# FAST Labs™ – Key Facts

FAST Labs collaborates to develop and implement discriminating technology capabilities in:

- Advanced Electronics
- Autonomy
- Cyber
- Electronic warfare
- Sensors and processing

## Commercial CTO Model

- Fuels innovation velocity
- External Technology Scouting – discovers and acquires future technology
- Portfolio Technology Strategy – defines future technology
- FAST Labs Internal Innovation – develops and transitions future technology

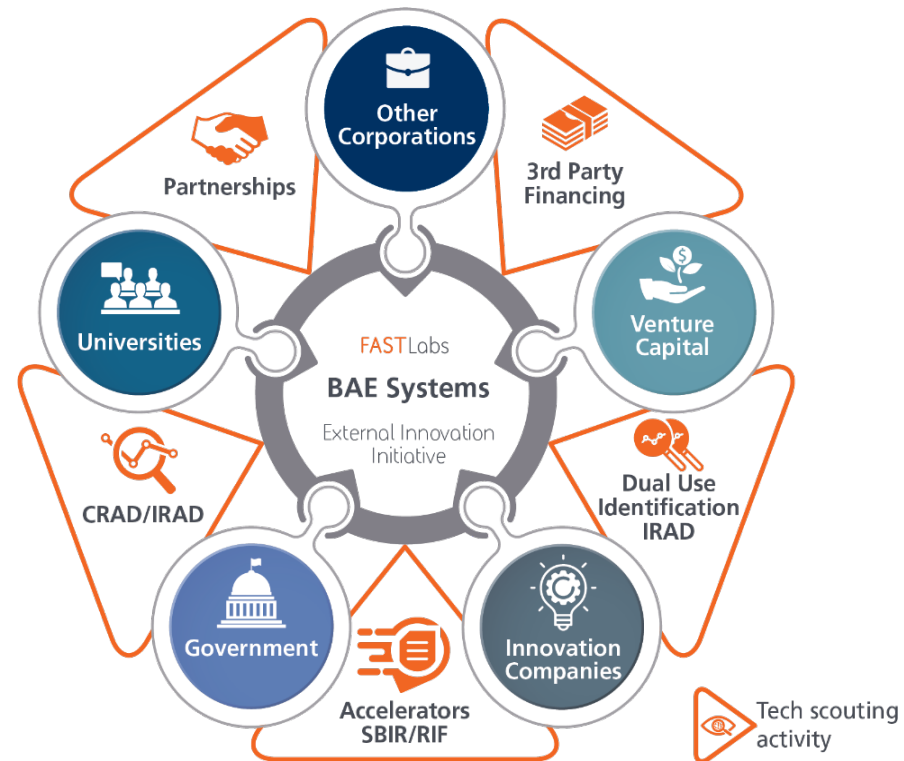


# FAST Labs™ – Leveraging external technologies through scouting and partnering with innovation ecosystem

- Accelerating the pace of innovation and technology transition with a dedicated technology scouting team
- Partnering with external innovation ecosystem drives rapid transition of disruptive capabilities:
  - Accelerators
  - Startups & small business
  - Universities
  - Government
  - Venture capital
  - Large corporations

## Model in Action:

- GenXComm
- Long Range Anti-Ship Missile Sensor





Break




## Questions and Answer Session

Panel:

**Charles Woodburn** – CEO BAE Systems

**Brad Greve** – CFO BAE Systems

**Tom Arseneault** – President and CEO, BAE Systems, Inc.



# Charles Woodburn

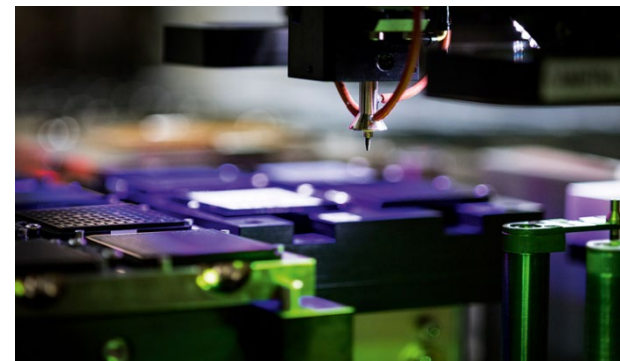
## CEO BAE Systems

Summary and Wrap Up

## Summary

- Defence business back to near normal activity levels
- Strong customer relationships in our key markets
- Defence and security remains a priority
- Investing in technology aligned to customer priorities
- Multi year growth visibility underpinned by order backlog
- Focus on strong programme performance
- Drives strong and profitable top line growth
- Increasing cash conversion expected

Free cash flow generation supports shareholder returns  
and sustainable value creation



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Thank you