Corporate Presentation
100 Years of Experience
Fokker has a rich history as integrator and leaving its signature on the A&D market through breakthrough innovations.

- 1890: Anthony Fokker born in Java Indonesia
- 1911: 1st flight in the Netherlands in his home-built aircraft “Spider”
- 1910: Foundation of the Dutch Fokker Factory
- 1919: G1 fighter and other military aircraft
- 1939: F-27 Friendship maiden flight
- 1955: F-28 Fellowship maiden flight
- 1967: Launch Fokker 50 and Fokker 100
- 1983: Consortium partner in NH90
- 1990: Glenn development
- 1995: Transformation to specialist supplier
- 1996: Thermoplastic wing leading edge
- 2000: F-35 Doors, wiring
- 2002: Gulfstream G650 tail
- 2008:
Fokker and GKN Aerospace

- Lead in our chosen markets
- Leverage our global footprint
- Technology driving margin
- Operational excellence
- Sustain above market growth
GKN: A global engineering group

Every day at GKN...

- We drive the wheels of hundreds of millions of cars...
- We help thousands of aircraft to fly...
- And we deliver the power to harvest crops and move earth.

In numbers
- 56,000 employees
- Locations in more than 30 countries
- £8bn sales

Sales by division
- Driveline (46%)
- Aerospace (33%)
- Powder Metallurgy (12%)
- Land Systems (9%)
The leading global Tier 1 aircraft supplier

GKN AEROSPACE OVERVIEW

- Number of employees: 17,000
- 2015 sales: £3 billion
- Number of locations: 62 in 15 countries

Key Locations:
- Mexico (4 locations)
- USA (26 locations)
- Netherlands (7 locations)
- Belgium (1 location)
- United Kingdom (8 locations)
- Sweden (4 locations)
- Romania (2 locations)
- Turkey (1 location)
- India (2 locations)
- China (2 locations)
- Thailand (1 location)
- Singapore (1 location)
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- Norway (1 location)

Product Lines:
- Engine Systems
- Transparencies and Special Products
- Aerostructures
- Landing Gear
- Electrical and Wiring
- Services
- Engine Systems
- Transparencies and Special Products

2015 sales include Fokker.
Widest capabilities of any Tier 1

AEROSTRUCTURES
- Fuselage, wing, nacelle & pylon
- Inflight opening doors and empennage

ENGINE SYSTEMS
- Static & rotating structures
- Titanium engine inlet parts

SPECIAL PRODUCTS
- Transparencies
- Ice protection systems
- Lightweight missile canisters

WIRING INTERCONNECT SYSTEMS
- Electrical Wiring Interconnection Systems (EWIS) for aircraft and aircraft engines

LANDING GEAR
- Helicopter landing gear
- Composite load carrying landing gear components (drag brace)

GLOBAL SERVICES
- Availability services, MRO, conversion and completion for mature and legacy aircraft
GKN Aerospace - structure

CEO GKN Aerospace
Kevin Cummings

Aerostructures
North America
CEO Aerostructures North America
Mike Grunza

Aerostructures
Europe
CEO Aerostructures Europe
John Pritchard

Engine
Systems
CEO Engine Systems
Mike McCann

Special
Products
Senior Vice President Special Products Group
Gavin Wesson

Fokker Technologies
CEO Fokker Technologies
Hans Büthker
GKN Aerospace in summary

- £3bn global business: 62 sites in 15 countries, employing 17,000 people
- Leader in structures, engine systems, wiring, transparencies, landing gear and servicing/MRO
- Invests in leading edge technologies to bring customer-valued innovation to market
- Global footprint – close to customers and low-cost sourcing

THANK YOU
Fokker operating companies

- Lightweight aerostructures & components
  Fokker Aerostructures

- Electrical wiring interconnections systems
  Fokker Elmo

- Fokker Landing Gear
  Landing gear systems

- Fokker Services
  Independent aerospace services provider
Balanced portfolio
Business Jets, large commercial and defense

2014:
- Business Jets: 36%
- Large commercial: 47%
- Defense: 17%

2015:
- Business Jets: 34%
- Large commercial: 40%
- Defense: 26%
Program portfolio
75 aircraft platforms from design through lifetime support
Recognised Technology Leader

Building on 100 years of unique and proprietary technologies that support our customers in developing and operating more competitive and reliable aircraft

- Inflight opening doors
- Flaperon
- Engine wiring system
- Composite Drag Brace
- Arresting hook system
- Engine pylon wiring
- Engine wiring system
- GLARE D nose
- Thermoplastic J nose
- GLARE fuselage panels
- Wiring for cockpit instrument panels
- Wirig for cockpit instrument panels
- Wirig for cockpit instrument panels
- Future MRO and parts
- Titanium engine parts

- Commercialised technology leadership with relevant specialist positions on leading aircraft platforms
- Increasingly leveraging multi-technology solutions across platforms through strategic account management links strategy to technology and new business development
- Benefitting from strong concept and design build engineering capabilities across life time of the program positions
- Composites are a major part of total aerostructures sales
Specialist position in rotorcraft

- NH90 is an innovative European Multi-role Helicopter, selected by 14 nations.
- NH90 is a collaboration between Airbus Helicopters, Leonardo Helicopters and Fokker.
- The AH-64 Apache is the most advanced multi-role combat helicopter for the U.S. Army and a growing number of international defense forces amongst which the RNLAF.
- Fokker is a Boeing supplier since 1996.
Number 1 position in empennages for advanced business Jets

Market leader in Business Jet empennages:
- Cessna CJ3 and CJ4
- Dassault F5X
- Gulfstream G550 and G650
- HondaJet
**Innovation**
Our award winning technology helps our customers to reach their goals

<table>
<thead>
<tr>
<th>Carry more passengers</th>
<th>Shorter production time</th>
<th>Improves reliability and length of useful service</th>
<th>Better for people and planet</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Airplane" /></td>
<td><img src="image2.png" alt="Plane in hangar" /></td>
<td><img src="image3.png" alt="Engine" /></td>
<td><img src="image4.png" alt="Shadow" /></td>
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</tbody>
</table>
Our Mission

Our signature on every advanced aircraft
Aerostructures Presentation
Fokker Aerostructures

Number of employees
2,200+

Design, development and production of smart, lightweight aerostructures: empennages, fuselages and wing movables

Mexico 1 location
USA 2 locations
Netherlands 2 locations
Romania 2 locations
Fokker Aerostructures
Targeted Segments

Large Commercial Aircraft

- Recognized position in design-build, composites and assembly
- Product position concentrated on wing components/movables and fuselage panels
- Global Supply Chain (bridge supplier model) developer

Business jets

- Leading company for design and manufacturing of major integrated structures
- Tail sections (fully stuffed tail & Thermoplastic control surfaces)
- Wing movables, Fuselage Panels (Metal Bonding) and Floor Boards (Thermoplastics)

Defense (US/EU/SP/LG)

- # 1 Dutch defense company
- Key defense customers (Boeing, Lockheed Martin, Raytheon)
- Global production footprint
- Operation excellence in design & development, composite manufacturing and complex assembly
## Main Customers - Programs

Main customers & production programs (note: not a complete list of customers & products)

<table>
<thead>
<tr>
<th>OEM</th>
<th>Aerostructures</th>
<th>Technology</th>
<th>Value Proposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airbus</td>
<td>A380 Glare fuselage panels</td>
<td>Glare</td>
<td>D&amp;B</td>
</tr>
<tr>
<td></td>
<td>A380 TP leading edge, and Glare tail leading edges</td>
<td>Thermoplastics/Glare</td>
<td>D&amp;B</td>
</tr>
<tr>
<td></td>
<td>A350 outboard flap</td>
<td>Thermoset</td>
<td>D&amp;B</td>
</tr>
<tr>
<td>Boeing</td>
<td>Apache  Forward Avionic Bays</td>
<td>Composite</td>
<td>BtP (Offset)</td>
</tr>
<tr>
<td></td>
<td>Chinook fuselage section</td>
<td>Metal</td>
<td>BtP (Offset)</td>
</tr>
<tr>
<td>Honda</td>
<td>HA-420 Empennage</td>
<td>Metallic</td>
<td>BtP Transfer</td>
</tr>
<tr>
<td>Dassault</td>
<td>F7X / F8X wing moveables</td>
<td>Metal Bonding, Thermoset,</td>
<td>D&amp;B</td>
</tr>
<tr>
<td></td>
<td>F5X Empennage</td>
<td>Honeycomb, Thermoset &amp;</td>
<td>D&amp;B</td>
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<td></td>
<td></td>
<td>Thermoplastics</td>
<td></td>
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<tr>
<td>Gulfstream</td>
<td>G650 Empennage, fuselage panels, floor boards,</td>
<td>Thermoset, Thermoplastics</td>
<td>D&amp;B (BtP for</td>
</tr>
<tr>
<td></td>
<td>G550 Empennage, floor boards</td>
<td>Metal Bonding and</td>
<td>fuselages)</td>
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<tr>
<td></td>
<td></td>
<td>Metal Bonding</td>
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<td>Thermostat</td>
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<tr>
<td>Lockheed</td>
<td>F-35 Flaperons</td>
<td>Composite - Metal</td>
<td>D&amp;B (Offset)</td>
</tr>
<tr>
<td>Martin</td>
<td>F-35 Iod</td>
<td>Composite - Metal</td>
<td>D&amp;B (Offset)</td>
</tr>
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<td></td>
<td>F-16 Flaperons</td>
<td>Metal</td>
<td>BtP (Offset)</td>
</tr>
<tr>
<td></td>
<td>PAC-3 Canisters</td>
<td>Filament winding</td>
<td></td>
</tr>
<tr>
<td>NHI</td>
<td>Doors, sponsons, empennage/tail</td>
<td>Thermoset</td>
<td>D&amp;B (5% consortium)</td>
</tr>
<tr>
<td>Cessna</td>
<td>CJ3 Vertical</td>
<td>Metallic</td>
<td>BtP (transition)</td>
</tr>
<tr>
<td></td>
<td>CJ4 Empennage</td>
<td>Metallic</td>
<td>BtP (transition)</td>
</tr>
<tr>
<td></td>
<td>Sovereign Empennage</td>
<td>Metallic</td>
<td>BtP (transition)</td>
</tr>
</tbody>
</table>
Product-Technology Combinations
Available and applied technologies by Fokker Aerostructures

- **Winglets**
  - Thermoset
  - Thermoplastic

- **Fuselage**
  - Bonded Metal
  - Glare®
  - Thermoplastic

- **Fully Stuffed VTP & HTP**
  - Thermoset
  - Metal
  - Thermoplastic
  - Wiring

- **Wing Leading Edge**
  - Thermoplastic Fixed Leading Edge

- **Rudder & Elevators**
  - Thermoplastic
  - Thermoset

- **Flaps, Ailerons, Spoilers**
  - Thermoset
  - Bonded Metal
  - Thermoplastic
Key Technologies
Thermoplastics

Benefits
- Weight reduction (integrated design)
- Inspection, Repair, Maintenance
- Recyclable
- No Clean Room or Cooled Storage
- High Toughness, chem / fuel resist
- Excellent Fire, Smoke, Toxicity prop
- Unique Processing (Melt / Cool)

Applications
- Gulfstream G650 Rudder & Elevators & Floor Boards
- Dassault F5X Rudder & Elevators
- Airbus A380 Wing Fixed Leading Edge
- AW169 Horizontal Tail Plane

Current Development Projects
- TAPAS (Thermoplastic Affordable Primary Aircraft Structures)
- Automation (Advanced Fiber Placement, new welding technology/tooling)
Key Technologies
Fiber Metal Laminate (FML)

- **Benefits**
  - Weight up to -30%
  - Strength up to 2x
  - Fatigue up to 100x
  - Damage Tolerance up to 2x
  - Impact Resistant up to 2x
  - Flame Resistant up to 50x
  - Corrosion Resistance up to 3x
  - Reparability & Maintenance

- **Applications**
  - Airbus A380 (production) Fuselage Panels / Leading Edge HTP & VTP

- **Current Development Projects**
  - FML automation
Key Technologies
Metal Bonding

- **Benefits**
  - Robust proven technology
  - Lower weight and cost
  - Improved fatigue properties
  - Improved buckling properties
  - Smoother surface

- **Applications**
  - Gulfstream G650  Fuselage Panels
  - Dassault F8X  Airbrakes / Spoilers
  - Airbus A380  Metal Bonding of doublers on GLARE

- **Current Development Projects**
  - **Rivet-less bonding**
Thank you for Your attention