Eurofighter Typhoon

Aloysius Rauen – CEO Eurofighter GmbH
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The Programme
The Partnership
The Market
The Facts
Eurofighter Typhoon: The Product

Air to Air Combat
- Beyond Visual Range
- Close Combat

Air to Surface
- Close Air Support
- Counter Air Interdiction
- Maritime Attack
- Reconnaissance

Performance
- Mach 2, +9 g
- Unstable airframe - designed for extreme agility
- Brakes off to Mach 1.6 at 36,000 ft in 150 seconds
- Carefree handling
- Highly integrated human/machine interface

Cockpit – Main Features
- Helmet Mounted Display
- Wide Field-of-View Head-Up Display
- Multi-function colour Head-Down Displays
- Hands-On-Throttle-And-Stick controls
- Direct Voice Input
- Multifunction Data Entry
- Reversionary Flight Instruments
- Integrated voice warnings and status system
Eurofighter Typhoon: The Product

<table>
<thead>
<tr>
<th>Main Development Contract</th>
<th>Phase 1 Enhancements</th>
<th>Phase 2 Enhancements</th>
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</thead>
<tbody>
<tr>
<td>Concluded</td>
<td>Work in Progress</td>
<td>Proposal Submitted</td>
</tr>
<tr>
<td>Combat Ready</td>
<td>Simultaneous Swing-Role</td>
<td>More Reach</td>
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<tr>
<td>Air-to-Air/Air-to-Ground-Swing Role</td>
<td>Laser Designator Pod Enhanced GBU-16, Paveway IV</td>
<td>Taurus, Storm Shadow, Meteor, Supersonic Paveway IV, Small Diameter Bomb, Brimstone</td>
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<tr>
<td>Carefree handling Network Centric Operation</td>
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Eurofighter Typhoon replaces eleven aircraft types in Six Nations:

- F-5 (Air Surveillance)
- F-4 Phantom (Multi Role)
- MIG-29 (Air Superiority)
- F-104 Starfighter (Air Superiority)
- Mirage F1C (Air Superiority)
- Tornado IDS (Air-to-Surface)
- Tornado ADV (Air Superiority)
- Jaguar (Air-to-Surface)
- F-16 (Air Superiority)
- F/A-18 (Multi Role)
- Draken (Air Superiority)

The Swing-Role Fighter Air-to-Air & Air-to-Ground
Eurofighter Typhoon: The Programme

Recent achievements:

- Main Development Work concluded
- Basic Testing Helmet Assembly completed
- Tranche 2 Type Acceptance achieved
- Tranche 2 Weapons and Radar testing underway
- Long range flights over 6.5 hours, USA deployments
- Microwave Landing System testing completed

- 6158 test flights performed totalling 5952 flight hours
Eurofighter Typhoon: The Programme

Production Status

- 148 production aircraft delivered
  - Austria 9
  - GE 38+2
  - IT 27+1
  - SP 18+1
  - UK 49+3
- Tranche 1 deliveries completed
- 61 Tranche 2 aircraft in final assembly
- First Tranche 2 aircraft delivered 1 Febr 2008

Ten Air Force Units operate Eurofighter Typhoon

- Moron
- Grosseto
- Gioia del Colle
- Zeltweg
- Laage
- Neuburg
- No. 3, 11, 17 and 29 Sqdn, Coningsby

➢ Five Air Forces have accumulated over 44,500 flying hours
(August 2008)
The Eurofighter Typhoon: The Partnership

Ownership of Eurofighter GmbH

- Alenia: 21%
- BAE Systems: 33%
- EADS CASA: 13%
- EADS Deutschland: 33%

Development Workshare – Major System Design Responsibilities

- Alenia: Utilities Control System, Wing design, Navigation Sub-System, Armament Integration
- BAE Systems: Avionics Integration, ECM, Lightning, Electrical & Fuel System
- EADS CASA: Structure Technology, Wing design, Environmental Control System
- EADS Deutschland: Flight Control System, Attack & Identification, Radar Signature

The Eurofighter Typhoon: The Partnership

Production Workshare

<table>
<thead>
<tr>
<th>Company</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Alenia</td>
<td>19.5%</td>
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<tr>
<td>BAE Systems</td>
<td>37.5%</td>
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<tr>
<td>EADS CASA</td>
<td>13.0%</td>
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<tr>
<td>EADS Deutschland</td>
<td>30.0%</td>
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</table>
**Eurofighter Typhoon: The Partnership**

**The Technology Challenge:**
Maximum performance in intense combat scenarios demands complex leading-edge technology.

**Consequences:**
- High risk
- High cost
- Time to Maturity

**The Winning Formula:**
Meet the Technology Challenge through real Partnership

- Integrated teams
- Technology transfer
- Single Source
  - System Design Responsibility
  - Equipment Design Responsibility
  - Major Unit Production
- Risk and Cost sharing

Sharing advanced aerospace technologies sustains Europe’s Technology Base and offers a Choice in Procurement.
Eurofighter Typhoon: The Market

Highest Order Book in the Next Generation Fighter Competition

- 707 ordered by six Nations
  - 620 core programme
    - Tranche 1 deliveries concluded
    - Tranche 2 in production, deliveries start summer 2008
    - Tranche 3 in authorization process
  - 9 of 15 aircraft for Austria delivered
  - 72 aircraft for Saudi Arabia in production

➤ Eurofighter is Bestseller and Market Leader

The „Value Creator“

Total Five-Year Value of Production (2008-2012): $ 71.1 billion

Source: Forecast International / Aviation Week & Space Technology

Values (in billions of U.S. FY 08 dollars)

All percentages and numbers rounded
Eurofighter Typhoon: The Market

Requests For Proposal
- Responded to
  - India by EADS: up to 126 aircraft
  - Switzerland by EADS: up to 30 aircraft
- Expected from
  - Japan, to be responded by BAE Systems/Alenia: up to 50 aircraft
  - Romania, to be responded by Alenia: up to 48 aircraft

Request For Information
- Responded to
  - Bulgaria by EADS: Up to 15 aircraft
  - Croatia by Eurofighter GmbH: Up to 12 aircraft
  - Turkey by Alenia: Up to 40 aircraft
  - Romania by Alenia: Up to 48 aircraft
  - Brazil by Alenia: up to 30 aircraft
- Greece: Further decisions expected, up to 30 aircraft

Eurofighter Typhoon: The Facts

Pole Position
- Largest Order Book: 707 aircraft for 6 Nations
- In Service in five Nations’ Air Forces
- Over 50,000 hours flown in ten units and test fleet

Economic Significance
- 3.5 B € Revenues
- 19.1 B € Order Backlog
- 400 companies involved
- 100,000 jobs in eight nations

Proven Partnership
- Partnership means Ownership
- Transparency as a principle
- Technology access without constraints