The German National Aeronautics Research Programme

Integration of Aeronautics RTD on European national and regional level

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Motivation for Complementary Research

Federal Programme LUFO

Regional Programmes
Rationale for Complementary Research

**EU**
- enhancement of international competitiveness
- projects with socio-economic benefits for Europe
- projects with work-shares in different Member states

**National**
- Projects that focus on national core Competencies in industry and academia
- projects with socio-economic benefits for Germany
- joint projects with industry, SMEs and academia from different Länder

**Regional**
- enhancement of regional locations for industry and academia
- projects focused on the regional supplier base
- concentrating on SMEs and academia
### Status of Complementary Research

<table>
<thead>
<tr>
<th>EU</th>
<th>6. FWP, final call 3</th>
<th>closed</th>
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<tbody>
<tr>
<td></td>
<td>7. FWP, call 1</td>
<td>2007</td>
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</table>

| Federal           | LuFo III (2003-2007)               | closed |
|                   | LuFo IV (2007-2012), Call 1       | ongoing |
|                   | Call 2                             | 2008   |

| Länder            | Bayern dedicated Projects         | n/a    |
|                   | (no specific programme)           |        |
|                   | Hamburg Programme Aeronautics     | ongoing|
|                   | Technologies                       |        |
|                   | Brandenburg dedicated Projects    | n/a    |
|                   | Rheinland-Pfalz (no specific programme) | u.a.  |
Why national R&T for the small aeronautical industry sector in Germany (less than 1% of GNP)?

• Strategic sector with technological multiplier effects on other industry sectors

• Fully privatized industry with primarily SME structure

• High R&T expenditures (18% of turnover compared with 5-6 % e.g. in automotive sector)

• Level Playing field in relation to global competitors

• Societal Needs/Environment
European and national R&T-Programme Synchronisation

- 6 FWP
- 7 FWP
- LuFo III
- LuFo IV
- LuFo IV

<table>
<thead>
<tr>
<th>Year</th>
<th>Funding</th>
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<tr>
<td>2006</td>
<td>160 Mio. € (closed)</td>
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<tr>
<td>2007</td>
<td>Collaborative + JTI : ~ 2.000 Mio. € ??</td>
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<tr>
<td>2008</td>
<td>Call 1: 160 Mio. €</td>
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<tr>
<td>2009</td>
<td>Call 1: 130 Mio. €</td>
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<td>2010</td>
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<td>2011</td>
<td></td>
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<td>2012</td>
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<td>2013</td>
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Federal Government Civil Aeronautics Research

| Lufo I  | 1994-1998       | 300 Mio € |
| Lufo II | 1999-2002       | 120 Mio € + Länder Funding |
| Lufo III| 2003-2007       | 160 Mio € + Länder Funding |
| **Lufo IV** | **2007-2010** | **160 Mio € (1st Call)** |
| Lufo IV | 2009-2012       | 130 Mio € (2nd Call) |

dedicated to deliver answers to the challenges as defined in SRA II.

- Traffic Growth and Environmental Protection
- Safety and Passenger Friendliness
- Economic Efficiency and Market share

via cooperative and integrated projects carried out by industry, universities and research institutions
Regions with major aeronautical capabilities in Germany

Region Hamburg /Bremen/Niedersachsen
- Airbus Deutschland
- LH Technik
- Suppliers
- ~ 30,000 workforce

Region Berlin / Brandenburg
- MTU-BB, RR-D
- Lufthansa/Bombardier
- Suppliers
- ~ 3,000 workforce

Region München/Bayern
- EADS, Eurocopter
- MTU Aero Engines
- Suppliers
- ~ 27,000 workforce

Total aeronautics in Germany:
~ 70,000 workforce
~ 16 B € turnover
Complementary Research on Federal and Regional Level

**Federal Research Programmes (LuFo):**

- **LuFo III (2003 – 2007):** 194 Research Projects  
  160 Mio. € Funding

- **LuFo IV**

**Regional Programmes:**

- **Bavaria (since 1997):** 60 Research Projects

- **Hamburg (since 2001):** 40 Research Projects

- **Brandenburg (since 1999):** few Larger Research Projects
Complementary Research on Federal and Regional Level

• **Common Management** of Federal Programmes and larger Regional Programmes by Programme Management Office to assure harmonised Research Efforts

• **Programmatic Coordination** with Industry and Science via:
  - ACARE on EU-Level
  - National Research Council on National Level
  - Bund-Länder-Forum between Federal and Regional Level

• **Common EU-Notification** Framework of Regional and Federal Programmes
R&T - Funding Intensity

EU: $10^9€$ per Programme
$10^3$ potential Participants

National: $10^8€$ per Programme
$10^2$ potential Participants

Regional: $10^7€$ per Programme
$10^1$ potential Participants
Orchestrated Use of Aeronautics R&T Programmes