The German Role in the Development of Trans-Atlantic Air Services 1928 - 1939

Concepts and Trials
Developments and Operations

*War is the father of all things.*

Heraclitus (535 BC – 475BC)
LZ-127 Graf Zeppelin
1928 - 1937

Resurrection of a Dream

590 Flights
German North Atlantic Catapult Airmail
1929 - 1935
New Improved Aircraft

^ 1930 - 1931

1932 - 1933

1934 - 1935 >
# German North Atlantic Catapult Airmail 1929 - 1935

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Distance</th>
<th>Year</th>
<th>Number</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>3</td>
<td>166</td>
<td>1929</td>
<td>4</td>
<td>550</td>
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<td>1930</td>
<td>11</td>
<td>424</td>
<td>1930</td>
<td>11</td>
<td>723</td>
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<tr>
<td>1931</td>
<td>15 *</td>
<td>774</td>
<td>1931</td>
<td>15</td>
<td>893</td>
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<tr>
<td>1932</td>
<td>18</td>
<td>848</td>
<td>1932</td>
<td>17</td>
<td>997</td>
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<tr>
<td>1933</td>
<td>17</td>
<td>1,024</td>
<td>1933</td>
<td>17</td>
<td>1,135</td>
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<tr>
<td>1934</td>
<td>18</td>
<td>1,263</td>
<td>1934</td>
<td>18</td>
<td>1,327 **</td>
</tr>
<tr>
<td>1935</td>
<td>17</td>
<td>1,360 ***</td>
<td>1935</td>
<td>17</td>
<td>1,216</td>
</tr>
</tbody>
</table>

* 2,487 flight not included  ** 8 night flights  *** 6 via Nantucket = 1,533
German North Atlantic Catapult Airmail 1929 - 1935

Supplementary Flight with Late Airmail to Ship at Cherbourg
Continuation Flight by Floatplane
Southampton - Bremen via Amsterdam, *mail air-dropped*
German Air - Sea - Air System in the South Atlantic
Deutsche Lufthansa - Hamburg-America Line - Condor
1930 - 1931

Only two of 14 planned trips completed

DISCONTINUED in 1931
LZ-127 Graf Zeppelin
1930 South America Flight
LZ-127 *Graf Zeppelin*
1931 South America Flights

**Three Flights**

Southbound
7,929 Km in 71:55
110.3 Km/Hr

Northbound
8,153 Km in 86:30
94.2 Km/Hr

3rd Flight: First acceptance of multi-weight and AO mail
LZ-127 Graf Zeppelin
1932 - 1933 South America Flights

Scheduled commercial flights, 9 each year

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours</th>
<th>Km</th>
<th>Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1932</td>
<td>South</td>
<td>71:50</td>
<td>8,025</td>
</tr>
<tr>
<td></td>
<td>North</td>
<td>85:45</td>
<td>8,164</td>
</tr>
<tr>
<td>1933</td>
<td>South</td>
<td>72:34</td>
<td>7,986</td>
</tr>
<tr>
<td></td>
<td>North</td>
<td>84:18</td>
<td>8,250</td>
</tr>
</tbody>
</table>

Graf Zeppelin: 3 - 3½ Days, March - October
Air France: 5 Days, Weekly

Only Brazil and Paraguay participated in 1933
Deutsche Lufthansa
1933 South Atlantic Trials

Catapult required for takeoff
Second support ship required
Dornier 10-ton Wal superior
Deutsche Lufthansa
1934 South Atlantic Airmail

February – May    DLH biweekly
May – July        Graf Zeppelin biweekly
July – October    DLH & Graf Zeppelin alternating weekly
November – March 1935  DLH weekly
Deutsche Lufthansa
1935 South Atlantic Airmail

March 22, 1935

**Deutsche Zeppelin Reederei**
DZR took airship flight operations from Luftschiffbau Zeppelin
Deutsche Lufthansa was represented
Reich Air Ministry had control

July 1, 1935

**DLH - Air France Cooperative Agreement**
Coordinated twice-weekly South Atlantic airmail service

**DLH Designated as German LC Airmail Carrier**

<table>
<thead>
<tr>
<th></th>
<th>Southbound</th>
<th>Northbound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graf Zeppelin</td>
<td>73:34</td>
<td>88:25</td>
</tr>
<tr>
<td>Deutsche Lufthansa</td>
<td>52:28</td>
<td>52:02</td>
</tr>
</tbody>
</table>
Deutsche Lufthansa
1935-1936 South Atlantic Airmail

Coordinated DLH - Zeppelin Flights

1935

April - June
Southbound  DLH with late airmail to Larache to connect with LZ
Northbound  LZ mail drop at Larache for DLH flight to Stuttgart
           arriving 12+ hours before LZ at Friedrichshafen

October - November
*Graf Zeppelin* used for regular airmail service to allow for servicing
and refit of DLH support ships.  Challenge: Maintain DLH schedule.
Two South America flights with mail exchange at Larache
Three Brazil - Gambia *Pendelfahrten* (Shuttle Flights) with
airmail exchange at Bathurst to preserve northbound schedule
Deutsche Lufthansa  
1935-1936 South Atlantic Airmail

Coordinated DLH - Zeppelin Flights

1936

**December 1935 - June 1936**  
Weekly DLH Flights

**July - November**  
Combined DLH - Zeppelin Flights

Duplication when both DLH and DZR flew SA route at the same time.

Zeppelins were integrated into DLH service for cost reduction.

<table>
<thead>
<tr>
<th>Route</th>
<th>DLH</th>
<th>Zeppelin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany - Seville</td>
<td>69:44</td>
<td>74:07</td>
</tr>
<tr>
<td>Seville</td>
<td>69:44</td>
<td>74:07</td>
</tr>
<tr>
<td>Lisbon</td>
<td>65:05</td>
<td>70:14</td>
</tr>
<tr>
<td>Las Palmas</td>
<td>58:20</td>
<td>64:38</td>
</tr>
<tr>
<td>Bathurst</td>
<td>47:08</td>
<td>61:46</td>
</tr>
</tbody>
</table>

Northbound airmail arrived at Frankfurt up to 22 hours before airship
DZR LZ-129 *Hindenburg* 1936 North America Flights

<table>
<thead>
<tr>
<th>Flight Direction</th>
<th>Hours</th>
<th>Km</th>
<th>Km / Hr</th>
<th>Mail, Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Westbound</td>
<td>64:36</td>
<td>7,117</td>
<td>110.2</td>
<td>134.0</td>
</tr>
<tr>
<td>Eastbound</td>
<td>51:40</td>
<td>6,577</td>
<td>127.3</td>
<td>151.2</td>
</tr>
</tbody>
</table>

10 North America Flights + 7 South America Flights
Deutsche Lufthansa
1936 North Atlantic Survey Flights

Eight Survey Flights
Lisbon - Azores - New York
with two via Bermuda
Deutsche Lufthansa
1937-1938 North Atlantic Trials

Trans-North Atlantic Flights
Between Horta and New York

1937  14 flights  1938  26 flights

1938

East
Ha-139A  16:08  14:58
Ha-139B  14:04  12:21

West
Deutsche Lufthansa
1937-1939 South Atlantic Airmail

Dornier Do-26 Seefalke

LAST FLIGHT SOUTH
August 24-25, 1939

MS Ostmark 1936 - 1939
Deutsche Lufthansa
Glimpse of a Trans-Atlantic Future

Focke-Wulf FW-200 Condor

<table>
<thead>
<tr>
<th>Year</th>
<th>Route</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>1938</td>
<td>New York – Berlin</td>
<td>24:36</td>
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<tr>
<td></td>
<td>Berlin – New York</td>
<td>19:55</td>
</tr>
<tr>
<td>1939</td>
<td>Frankfurt – Bathurst</td>
<td>19:14</td>
</tr>
<tr>
<td></td>
<td>Bathurst – Frankfurt</td>
<td>19:18</td>
</tr>
<tr>
<td></td>
<td>Ha-139B from Bathurst</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frankfurt – Natal</td>
<td>33:25</td>
</tr>
</tbody>
</table>
Deutsche Lufthansa & Zeppelin
Giants in Aviation Development

**Triumphs**
+ *Graf Zeppelin* 1928 - 1937
+ North Atlantic Catapult Airmail 1929 - 1935
+ DLH South Atlantic Airmail Service 1934 - 1939
+ Cooperation Agreement with Air France 1935 - 1939

**Tragedies**
- DLH Air-Sea-Air System in South Atlantic 1930 - 1931
- *Hindenburg* 1937 - End of an Era
- American Denial of DLH Landing Rights 1937 - 1938
- War 1939 - Achievements Abandoned
  Potential Future Lost