Main Results of Global Air Transport Supply Analysis and Outlook

Background:
- Covers about 3,500 airports worldwide
- Covers about 850 airlines worldwide
- Air transport supply of 2014: More than 33 M flights (non-stop) worldwide, new record value
- Busiest month 2014: July with 2.96 M flights
- Air traffic increases slowly since April 2013
- Forecasting methodology: Time series analysis

Analysis: January 2014 – December 2014

Global
- December 2014: 2.71 M flights supplied (+2.5%)
- About 5% growth per year before financial crisis 2008/2009, then a rapid decline of more than 9% between February 2008 and February 2009, followed by a rather slow recovery until 2011 (7.2% increase between February 2009 and February 2011). Since 2011, the number of flights grows only very slowly; stagnation between September 2012 and March 2013, small growth rates since April 2013
- Airports: Heterogeneous development of no. of flights offered; strong growth at Shanghai Pudong (+16.1%)
- Airlines: Heterogeneous development of no. of flights offered; strong growth of AVIANCA

World Regions, Europe
- Overall small increase since April 2013; in Europe, small traffic increase since July 2013; in Asia continued growth; no growth in North America
- Airports: Heterogeneous developments of no. of flights offered; strong increase at Istanbul Sabiha Gökçen and Brussels however decline at some airports, e.g. Vienna and Oslo
- Airlines: Heterogeneous developments of flights, some airlines, e.g. Aeroflot with strong growth, some growth in the low cost segment, e.g. Wizz, germanwings and Vueling (former Lufthansa flights in Germany and Europe are now operated by germanwings except at Frankfurt and Munich), some airlines, e.g. Air France with decrease; startup of HOP! from several former regional carriers of Air France

Germany
- Airports: Some airports, e.g. Berlin Schoenefeld, with traffic growth; some German airports with downward trend, e.g. Niederrhein
- Airlines: Heterogeneous developments of number of flights offered; strong growth of germanwings, and Etihad Regional (operated by Darwin Airline); some airlines, e.g. Swiss and Air France, with decreasing traffic

Outlook: January 2015 – March 2015

Global
- For the next few months, a small traffic growth of 1-3% is expected

World Regions, Europe
- For the next few months, a small traffic growth of 1-2% is expected

Germany
- For the next few month, a small traffic growth of 1-3% is expected
### Rank Airport 12/2014 Growth rate

**Tab. 1: Number of monthly Take-offs at the biggest Airports in the World**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Airport</th>
<th>12/2014</th>
<th>Growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chicago O’Hare International</td>
<td>35,337</td>
<td>1.5</td>
</tr>
<tr>
<td>2</td>
<td>Atlanta-Hartsfield-Jackson Intl</td>
<td>34,530</td>
<td>-3.3</td>
</tr>
<tr>
<td>3</td>
<td>Dallas/Fort Worth Intl</td>
<td>28,657</td>
<td>3.1</td>
</tr>
<tr>
<td>4</td>
<td>Los Angeles International</td>
<td>25,272</td>
<td>1.6</td>
</tr>
<tr>
<td>5</td>
<td>Beijing Capital</td>
<td>25,038</td>
<td>2.8</td>
</tr>
<tr>
<td>6</td>
<td>Denver Intl</td>
<td>22,422</td>
<td>-5.1</td>
</tr>
<tr>
<td>7</td>
<td>Charlotte</td>
<td>21,555</td>
<td>-1.0</td>
</tr>
<tr>
<td>8</td>
<td>Houston George Bush Intercontinental</td>
<td>20,502</td>
<td>2.1</td>
</tr>
<tr>
<td>9</td>
<td>London Heathrow</td>
<td>18,694</td>
<td>0.3</td>
</tr>
<tr>
<td>10</td>
<td>Shanghai/Pudong International</td>
<td>18,313</td>
<td>16.1</td>
</tr>
<tr>
<td>11</td>
<td>Tokyo Haneda</td>
<td>18,187</td>
<td>7.2</td>
</tr>
<tr>
<td>12</td>
<td>New York J F Kennedy International</td>
<td>17,395</td>
<td>5.6</td>
</tr>
<tr>
<td>13</td>
<td>Istanbul Ataturk</td>
<td>17,380</td>
<td>7.5</td>
</tr>
<tr>
<td>14</td>
<td>Paris Charles de Gaulle</td>
<td>17,348</td>
<td>1.1</td>
</tr>
<tr>
<td>15</td>
<td>Jakarta Soekarno-Hatta</td>
<td>17,337</td>
<td>0.0</td>
</tr>
<tr>
<td>16</td>
<td>Guangzhou</td>
<td>17,259</td>
<td>3.6</td>
</tr>
<tr>
<td>17</td>
<td>San Francisco International</td>
<td>16,837</td>
<td>1.5</td>
</tr>
<tr>
<td>18</td>
<td>Toronto Lester B Pearson Intl</td>
<td>16,503</td>
<td>3.6</td>
</tr>
<tr>
<td>19</td>
<td>Frankfurt International</td>
<td>16,501</td>
<td>-2.4</td>
</tr>
<tr>
<td>20</td>
<td>Mexico City Juarez International</td>
<td>16,437</td>
<td>5.8</td>
</tr>
<tr>
<td>21</td>
<td>Newark Liberty International</td>
<td>16,301</td>
<td>-0.9</td>
</tr>
<tr>
<td>22</td>
<td>Amsterdam</td>
<td>16,258</td>
<td>3.0</td>
</tr>
<tr>
<td>23</td>
<td>Hong Kong International</td>
<td>16,256</td>
<td>2.1</td>
</tr>
<tr>
<td>24</td>
<td>Phoenix Sky Harbor Intl</td>
<td>16,208</td>
<td>0.2</td>
</tr>
<tr>
<td>25</td>
<td>Dubai</td>
<td>16,020</td>
<td>4.4</td>
</tr>
</tbody>
</table>

**Tab. 2: Number of monthly Take-offs on the biggest Airports in Europe**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Airport</th>
<th>12/2014</th>
<th>Growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>London Heathrow</td>
<td>18,694</td>
<td>0.3</td>
</tr>
<tr>
<td>2</td>
<td>Istanbul Ataturk</td>
<td>17,380</td>
<td>7.5</td>
</tr>
<tr>
<td>3</td>
<td>Paris Charles de Gaulle</td>
<td>17,348</td>
<td>1.1</td>
</tr>
<tr>
<td>4</td>
<td>Frankfurt International</td>
<td>16,501</td>
<td>-2.4</td>
</tr>
<tr>
<td>5</td>
<td>Amsterdam</td>
<td>16,258</td>
<td>3.0</td>
</tr>
<tr>
<td>6</td>
<td>Madrid Barajas</td>
<td>13,295</td>
<td>5.9</td>
</tr>
<tr>
<td>7</td>
<td>Munich International</td>
<td>13,117</td>
<td>0.7</td>
</tr>
<tr>
<td>8</td>
<td>Rome Fiumicino</td>
<td>11,388</td>
<td>3.9</td>
</tr>
<tr>
<td>9</td>
<td>Moscow Domodedovo</td>
<td>9,673</td>
<td>-1.3</td>
</tr>
<tr>
<td>10</td>
<td>Moscow Sheremetyevo International</td>
<td>9,567</td>
<td>1.9</td>
</tr>
<tr>
<td>11</td>
<td>Barcelona</td>
<td>9,117</td>
<td>-1.4</td>
</tr>
<tr>
<td>12</td>
<td>Paris Dfly</td>
<td>9,072</td>
<td>0.2</td>
</tr>
<tr>
<td>13</td>
<td>London Gatwick</td>
<td>8,867</td>
<td>3.2</td>
</tr>
<tr>
<td>14</td>
<td>Zurich</td>
<td>8,775</td>
<td>2.8</td>
</tr>
<tr>
<td>15</td>
<td>Vienna</td>
<td>8,224</td>
<td>-4.4</td>
</tr>
<tr>
<td>16</td>
<td>Copenhagen</td>
<td>8,168</td>
<td>-2.8</td>
</tr>
<tr>
<td>17</td>
<td>Oslo</td>
<td>7,870</td>
<td>-3.6</td>
</tr>
<tr>
<td>18</td>
<td>Brussels</td>
<td>7,492</td>
<td>10.0</td>
</tr>
<tr>
<td>19</td>
<td>Stockholm Arlanda</td>
<td>7,427</td>
<td>0.2</td>
</tr>
<tr>
<td>20</td>
<td>Dusseldorf International</td>
<td>6,967</td>
<td>6.8</td>
</tr>
<tr>
<td>21</td>
<td>Istanbul Sabiha Gokcen</td>
<td>6,679</td>
<td>18.1</td>
</tr>
<tr>
<td>22</td>
<td>Berlin Tegel</td>
<td>6,537</td>
<td>3.7</td>
</tr>
<tr>
<td>23</td>
<td>Dublin</td>
<td>6,395</td>
<td>8.8</td>
</tr>
<tr>
<td>24</td>
<td>Lisbon</td>
<td>5,898</td>
<td>7.7</td>
</tr>
<tr>
<td>25</td>
<td>Geneva</td>
<td>5,772</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Source: OAG 2013/14, DLR 2013/14

### Rank Airport 12/2014 Growth rate

**Tab. 3: Number of monthly Take-offs at the biggest Airports in Germany**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Airport</th>
<th>12/2014</th>
<th>Growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Frankfurt International</td>
<td>16,501</td>
<td>-2.4</td>
</tr>
<tr>
<td>2</td>
<td>Munich International</td>
<td>13,117</td>
<td>0.7</td>
</tr>
<tr>
<td>3</td>
<td>Dusseldorf International</td>
<td>6,967</td>
<td>6.8</td>
</tr>
<tr>
<td>4</td>
<td>Berlin Tegel</td>
<td>6,537</td>
<td>3.7</td>
</tr>
<tr>
<td>5</td>
<td>Hamburg</td>
<td>5,067</td>
<td>9.9</td>
</tr>
<tr>
<td>6</td>
<td>Stuttgart</td>
<td>3,192</td>
<td>6.2</td>
</tr>
<tr>
<td>7</td>
<td>ColognеМonn K.A.</td>
<td>2,885</td>
<td>5.7</td>
</tr>
<tr>
<td>8</td>
<td>Berlin Schoenefeld</td>
<td>2,040</td>
<td>10.6</td>
</tr>
<tr>
<td>9</td>
<td>Hanover</td>
<td>1,633</td>
<td>-2.6</td>
</tr>
<tr>
<td>10</td>
<td>Nuremberg</td>
<td>1,285</td>
<td>-5.4</td>
</tr>
<tr>
<td>11</td>
<td>Bremen</td>
<td>914</td>
<td>1.0</td>
</tr>
<tr>
<td>12</td>
<td>Dresden</td>
<td>793</td>
<td>31.3</td>
</tr>
<tr>
<td>13</td>
<td>LelzioglHalle</td>
<td>786</td>
<td>12.6</td>
</tr>
<tr>
<td>14</td>
<td>Frankfurt Hahn</td>
<td>621</td>
<td>11.7</td>
</tr>
<tr>
<td>15</td>
<td>Dortmund</td>
<td>500</td>
<td>4.0</td>
</tr>
<tr>
<td>16</td>
<td>Dusseldorf Niedernheim</td>
<td>354</td>
<td>-13.0</td>
</tr>
<tr>
<td>17</td>
<td>Munchter</td>
<td>278</td>
<td>6.1</td>
</tr>
<tr>
<td>18</td>
<td>Friedrichshafen</td>
<td>240</td>
<td>3.0</td>
</tr>
<tr>
<td>19</td>
<td>Karlsruhe/Baden Baden</td>
<td>224</td>
<td>9.9</td>
</tr>
<tr>
<td>20</td>
<td>Saarbrucken Ensheim</td>
<td>222</td>
<td>10.4</td>
</tr>
<tr>
<td>21</td>
<td>Paderborn</td>
<td>164</td>
<td>-4.7</td>
</tr>
<tr>
<td>22</td>
<td>Memmingen</td>
<td>154</td>
<td>2.0</td>
</tr>
<tr>
<td>23</td>
<td>Mannheim</td>
<td>74</td>
<td>---</td>
</tr>
<tr>
<td>24</td>
<td>Rostock-Laage</td>
<td>42</td>
<td>20.0</td>
</tr>
<tr>
<td>25</td>
<td>Augsburg</td>
<td>38</td>
<td>12.5</td>
</tr>
</tbody>
</table>
### Tab. 4: Number of monthly Take-offs by the biggest Airlines in the World

<table>
<thead>
<tr>
<th>Rank</th>
<th>Airline</th>
<th>12/2014</th>
<th>Growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Delta Air Lines</td>
<td>148.155</td>
<td>0.4</td>
</tr>
<tr>
<td>2</td>
<td>United Airlines</td>
<td>146.242</td>
<td>-7.9</td>
</tr>
<tr>
<td>3</td>
<td>American Airlines</td>
<td>108.082</td>
<td>-0.6</td>
</tr>
<tr>
<td>4</td>
<td>Southwest Airlines</td>
<td>102.326</td>
<td>7.8</td>
</tr>
<tr>
<td>5</td>
<td>US Airways</td>
<td>90.596</td>
<td>-1.1</td>
</tr>
<tr>
<td>6</td>
<td>China Southern Airlines</td>
<td>57.260</td>
<td>5.3</td>
</tr>
<tr>
<td>7</td>
<td>China Eastern Airlines</td>
<td>49.911</td>
<td>3.8</td>
</tr>
<tr>
<td>8</td>
<td>Air Canada</td>
<td>46.573</td>
<td>3.0</td>
</tr>
<tr>
<td>9</td>
<td>Lufthansa German Airlines</td>
<td>37.958</td>
<td>-13.1</td>
</tr>
<tr>
<td>10</td>
<td>Ryanair</td>
<td>36.751</td>
<td>13.1</td>
</tr>
<tr>
<td>11</td>
<td>Air China</td>
<td>34.770</td>
<td>3.3</td>
</tr>
<tr>
<td>12</td>
<td>Turkish Airlines</td>
<td>34.643</td>
<td>7.0</td>
</tr>
<tr>
<td>13</td>
<td>All Nippon Airways</td>
<td>34.212</td>
<td>-0.2</td>
</tr>
<tr>
<td>14</td>
<td>easyJet</td>
<td>32.924</td>
<td>2.6</td>
</tr>
<tr>
<td>15</td>
<td>Air France</td>
<td>29.884</td>
<td>-7.7</td>
</tr>
<tr>
<td>16</td>
<td>Gol Transportes Aereos</td>
<td>29.254</td>
<td>3.9</td>
</tr>
<tr>
<td>17</td>
<td>Alaska Airlines</td>
<td>27.634</td>
<td>7.3</td>
</tr>
<tr>
<td>18</td>
<td>Lion Air</td>
<td>27.274</td>
<td>5.3</td>
</tr>
<tr>
<td>19</td>
<td>British Airways</td>
<td>27.239</td>
<td>1.3</td>
</tr>
<tr>
<td>20</td>
<td>JetBlue Airways Corporation</td>
<td>26.855</td>
<td>5.3</td>
</tr>
<tr>
<td>21</td>
<td>Azul</td>
<td>24.412</td>
<td>-0.6</td>
</tr>
<tr>
<td>22</td>
<td>TAM Linhas Aereas</td>
<td>23.734</td>
<td>0.2</td>
</tr>
<tr>
<td>23</td>
<td>AVIANCA</td>
<td>23.122</td>
<td>65.4</td>
</tr>
<tr>
<td>24</td>
<td>Qantas Airways</td>
<td>23.061</td>
<td>0.6</td>
</tr>
<tr>
<td>25</td>
<td>Japan Airlines International</td>
<td>22.902</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: OAG 2013/14, DLR 2013/14

### Tab. 5: Number of monthly Take-offs by the biggest Airlines in Europe from European airports

<table>
<thead>
<tr>
<th>Rank</th>
<th>Airline</th>
<th>12/2014</th>
<th>Growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ryanair</td>
<td>36.110</td>
<td>13.4</td>
</tr>
<tr>
<td>2</td>
<td>Lufthansa German Airlines</td>
<td>34.703</td>
<td>-13.5</td>
</tr>
<tr>
<td>3</td>
<td>easyJet</td>
<td>31.786</td>
<td>2.8</td>
</tr>
<tr>
<td>4</td>
<td>Turkish Airlines</td>
<td>29.900</td>
<td>6.7</td>
</tr>
<tr>
<td>5</td>
<td>Air France</td>
<td>25.848</td>
<td>-9.1</td>
</tr>
<tr>
<td>6</td>
<td>British Airways</td>
<td>22.079</td>
<td>2.9</td>
</tr>
<tr>
<td>7</td>
<td>SAS Scandinavian Airlines</td>
<td>20.222</td>
<td>0.4</td>
</tr>
<tr>
<td>8</td>
<td>Aeroflot Russian Airlines</td>
<td>19.064</td>
<td>38.2</td>
</tr>
<tr>
<td>9</td>
<td>KLM-Royal Dutch Airlines</td>
<td>15.490</td>
<td>0.1</td>
</tr>
<tr>
<td>10</td>
<td>Flybe</td>
<td>13.378</td>
<td>10.4</td>
</tr>
<tr>
<td>11</td>
<td>Iberia</td>
<td>13.343</td>
<td>3.4</td>
</tr>
<tr>
<td>12</td>
<td>Air Berlin</td>
<td>13.030</td>
<td>6.5</td>
</tr>
<tr>
<td>13</td>
<td>Air Berlin</td>
<td>12.725</td>
<td>2.0</td>
</tr>
<tr>
<td>14</td>
<td>Norwegian Air Shuttle</td>
<td>11.569</td>
<td>-4.7</td>
</tr>
<tr>
<td>15</td>
<td>germanwings</td>
<td>11.380</td>
<td>64.5</td>
</tr>
<tr>
<td>16</td>
<td>Widerøe’s Ryfylskap</td>
<td>10.500</td>
<td>3.0</td>
</tr>
<tr>
<td>17</td>
<td>Swiss</td>
<td>10.474</td>
<td>-3.5</td>
</tr>
<tr>
<td>18</td>
<td>Vueling Airlines</td>
<td>10.442</td>
<td>21.5</td>
</tr>
<tr>
<td>19</td>
<td>Pegasus Airlines</td>
<td>9.621</td>
<td>8.6</td>
</tr>
<tr>
<td>20</td>
<td>TAP Air Portugal</td>
<td>8.146</td>
<td>-5.3</td>
</tr>
<tr>
<td>21</td>
<td>Austrian Airlines AG</td>
<td>8.013</td>
<td>-8.9</td>
</tr>
<tr>
<td>22</td>
<td>Wizz Air</td>
<td>7.916</td>
<td>24.3</td>
</tr>
<tr>
<td>23</td>
<td>Finnair</td>
<td>7.046</td>
<td>5.3</td>
</tr>
<tr>
<td>24</td>
<td>Air Lingus</td>
<td>6.731</td>
<td>-6.1</td>
</tr>
<tr>
<td>25</td>
<td>Hopi</td>
<td>6.304</td>
<td>-11.0</td>
</tr>
</tbody>
</table>

Source: OAG 2013/14, DLR 2013/14

### Tab. 6: Number of monthly Take-offs by the biggest Airlines in Germany from German airports

<table>
<thead>
<tr>
<th>Rank</th>
<th>Airline</th>
<th>12/2014</th>
<th>Growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lufthansa German Airlines</td>
<td>22.976</td>
<td>-13.2</td>
</tr>
<tr>
<td>2</td>
<td>Air Berlin</td>
<td>21.566</td>
<td>3.6</td>
</tr>
<tr>
<td>3</td>
<td>Lufthansa German Airlines</td>
<td>14.614</td>
<td>-13.8</td>
</tr>
<tr>
<td>4</td>
<td>easyJet</td>
<td>19.359</td>
<td>16.5</td>
</tr>
<tr>
<td>5</td>
<td>Ryanair</td>
<td>1.696</td>
<td>5.1</td>
</tr>
<tr>
<td>6</td>
<td>KLM-Royal Dutch Airlines</td>
<td>1.208</td>
<td>-1.5</td>
</tr>
<tr>
<td>7</td>
<td>Turkish Airlines</td>
<td>1.181</td>
<td>11.7</td>
</tr>
<tr>
<td>8</td>
<td>British Airways</td>
<td>1.155</td>
<td>3.0</td>
</tr>
<tr>
<td>9</td>
<td>Air France</td>
<td>1.107</td>
<td>-15.4</td>
</tr>
<tr>
<td>10</td>
<td>Condor Flugdienst</td>
<td>0.952</td>
<td>18.9</td>
</tr>
<tr>
<td>11</td>
<td>Swiss</td>
<td>0.938</td>
<td>-3.9</td>
</tr>
<tr>
<td>12</td>
<td>SAS Scandinavian Airlines</td>
<td>0.880</td>
<td>5.3</td>
</tr>
<tr>
<td>13</td>
<td>Aeroflot Russian Airlines</td>
<td>0.733</td>
<td>38.8</td>
</tr>
<tr>
<td>14</td>
<td>Austrian Airlines AG</td>
<td>0.732</td>
<td>-0.3</td>
</tr>
<tr>
<td>15</td>
<td>TUIfly</td>
<td>0.470</td>
<td>-3.1</td>
</tr>
<tr>
<td>16</td>
<td>Air Dolomiti</td>
<td>0.452</td>
<td>32.2</td>
</tr>
<tr>
<td>17</td>
<td>Wizz Air</td>
<td>0.443</td>
<td>47.7</td>
</tr>
<tr>
<td>18</td>
<td>Luxair</td>
<td>0.439</td>
<td>4.5</td>
</tr>
<tr>
<td>19</td>
<td>Ethiad Regional</td>
<td>0.361</td>
<td>301.1</td>
</tr>
<tr>
<td>20</td>
<td>Iberia</td>
<td>0.350</td>
<td>31.1</td>
</tr>
<tr>
<td>21</td>
<td>Flybe</td>
<td>0.349</td>
<td>50.4</td>
</tr>
<tr>
<td>22</td>
<td>Norwegian Air Shuttle</td>
<td>0.344</td>
<td>21.7</td>
</tr>
<tr>
<td>23</td>
<td>SunExpress</td>
<td>0.344</td>
<td>5.5</td>
</tr>
<tr>
<td>24</td>
<td>United Airlines</td>
<td>0.340</td>
<td>-3.1</td>
</tr>
<tr>
<td>25</td>
<td>Emirates</td>
<td>0.329</td>
<td>-2.4</td>
</tr>
</tbody>
</table>
Fig. 1: Development of the Global Air Transport Supply

Fig. 2: Changes in the Global Air Transport Supply
Fig. 3: Development of the German Air Transport Supply

Fig. 4: Changes in the German Air Transport Supply

Authors:
Dr. Peter Berster  Dr. Marc Gelhausen  Holger Pabst  Dieter Wilken
DLR  DLR  DLR  DLR
Flughafenwesen und Luftverkehr  Flughafenwesen und Luftverkehr  Flughafenwesen und Luftverkehr  Flughafenwesen und Luftverkehr
D-51147 Köln  D-51147 Köln  D-51147 Köln  D-51147 Köln
E-Mail: peter.berster@dlr.de  E-Mail: marc.gelhausen@dlr.de  E-Mail: holger.pabst@dlr.de  E-Mail: dieter.wilken@dlr.de