Transformation of geospatial data into valuable solutions
Global traffic is growing massively!

e.g. Rio de Janeiro, Los Angeles, Istanbul, Mexiko City, Moskow...
## TomTom Traffic Index (200 cities >800k citizens)

<table>
<thead>
<tr>
<th>World rank</th>
<th>Filter rank</th>
<th>City</th>
<th>Country</th>
<th>Congestion Level</th>
<th>Morning peak</th>
<th>Evening peak</th>
<th>Highways</th>
<th>Non-highways</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Istanbul</td>
<td>Turkey</td>
<td>58%</td>
<td>76%</td>
<td>109%</td>
<td>79%</td>
<td>50%</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Mexico City</td>
<td>Mexico</td>
<td>55%</td>
<td>93%</td>
<td>89%</td>
<td>46%</td>
<td>59%</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Rio de Janeiro</td>
<td>Brazil</td>
<td>51%</td>
<td>72%</td>
<td>81%</td>
<td>49%</td>
<td>52%</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Moscow</td>
<td>Russia</td>
<td>50%</td>
<td>77%</td>
<td>103%</td>
<td>67%</td>
<td>45%</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Salvador</td>
<td>Brazil</td>
<td>46%</td>
<td>62%</td>
<td>75%</td>
<td>33%</td>
<td>50%</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Recife</td>
<td>Brazil</td>
<td>45%</td>
<td>81%</td>
<td>82%</td>
<td>37%</td>
<td>55%</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Saint Petersburg</td>
<td>Russia</td>
<td>44%</td>
<td>67%</td>
<td>96%</td>
<td>25%</td>
<td>46%</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>Bucharest</td>
<td>Romania</td>
<td>41%</td>
<td>78%</td>
<td>82%</td>
<td>28%</td>
<td>45%</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>Warsaw</td>
<td>Poland</td>
<td>40%</td>
<td>69%</td>
<td>75%</td>
<td>37%</td>
<td>42%</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>Los Angeles</td>
<td>United States</td>
<td>39%</td>
<td>60%</td>
<td>80%</td>
<td>36%</td>
<td>42%</td>
</tr>
</tbody>
</table>
TomTom GPS sources

Data taken from these sources to provide Real-Time traffic services in 46 countries
Significant probe data growth to maintain a leading position

Total GPS Devices
includes TomTom devices and Partner devices (Smartphone and OEM)

Note: Future probe sources subject to change (Q1 2016 and beyond are projections based on current information)
GPS Data Sources

TomTom PND data only

All data sources
Sample Probe Data Coverage - Europe

London

Paris

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Sample Probe Data Coverage - US
TomTom Traffic – Fusion engine
Advanced fusion engine, optimized since 2007

**VALIDATION**
Map-matching and filtering out invalid data, e.g. by comparing different sources

**FUSION**
Fusing all valid data into a real-time traffic state for entire road network

**DETECTION**
Generating traffic incidents for road stretches where significant delays are detected

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Real-time and Historical traffic information

**Real-time**

- **TOMTOM TRAFFIC**
  Regular updates of delays and incidents that are affecting normal travel times now

- **TOMTOM TRAFFIC FLOW**
  Regular updates on observed speeds on ALL roads of interest - regardless of whether congested or free flow

- **TOMTOM TRAFFIC ROUTE TIMES**
  Regular updates of travel times on routes, to inform road users and manage traffic to least congested alternative

**Historical**

- **CUSTOM TRAVEL TIMES**
  Detailed travel times and delays for each section of a specific route at selected days and times

- **CUSTOM AREA ANALYSIS**
  Highlight congestion and wide-area road network performance at selected days and times

- **SPEED PROFILES**
  Determine fastest route and accurate ETA at a specific moment of the week

- **CUSTOM PROBE COUNTS**
  Determine busiest roads (or areas) at selected days and times

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Real time traffic flow and incident information - London
Thank you!
Any questions?