1.1.2 Market size and outlook

<table>
<thead>
<tr>
<th>Segment</th>
<th>2017</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFC market size</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td>NFC chips market</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td>Contactless point of sale terminals size</td>
<td>XXX</td>
<td>XXX</td>
</tr>
<tr>
<td>Smartphone connections</td>
<td>4.44 billion</td>
<td>XXX</td>
</tr>
<tr>
<td>No. of cities with NFC-based mobile ticketing</td>
<td>XXX</td>
<td>XXX</td>
</tr>
</tbody>
</table>

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1.3.2 Current deployment of NFC-based mobile ticketing vs other fare media

No. of cities deploying different fare media

<table>
<thead>
<tr>
<th>Fare Media</th>
<th>Number of Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper tickets</td>
<td>XXX</td>
</tr>
<tr>
<td>Magnetic-stripe tickets</td>
<td>XXX</td>
</tr>
<tr>
<td>Contactless smartcards</td>
<td>XXX</td>
</tr>
<tr>
<td>Bank cards</td>
<td>XXX</td>
</tr>
<tr>
<td>NFC-based mobile ticketing</td>
<td>XXX</td>
</tr>
</tbody>
</table>

NFC-based mobile ticketing is slowly picking up pace.

Regional distribution of NFC-based mobile ticketing

- Europe: XX%
- Asia Pacific: XX%
- North America: XX%
- Middle East and Africa: 2%

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Key takeaways

- Of the XXX cities analysed by Global Mass Transit Research, XXX cities use NFC-based mobile ticketing for public transit payments. These include XXX cities in Europe, XXX in Asia Pacific, XXX in North America and XXX in the Middle East and Africa.
- Majority of the cities across the world still use XXX, XXX and XXX to collect fares.
- XXX continue to be the most favoured mode of payment and are currently deployed in XXX cities.
- XXX are used in only 31 cities globally and are slowly being phased out.
- XXX usage for public transport ticketing is currently limited to XXX cities. The fear of misuse or loss of value in case XXX gets lost or stolen is limiting the deployment of the fare media for transit payments.
1.5.3 Potential for NFC mobile ticketing (1/3)

- Global smartphone penetration stood at XXX in 2017 and is estimated to increase to XXX by 2025.
- XXX will be the leading handset type in all individual regions by XXX and in almost all individual countries by XXX.
- Growth will be driven by developing nations including XXX, XXX, XXX and XXX.
- By 2025, XXX of the global population will have mobile internet connection and XXX of the mobile phone subscribers will have internet connection.

**Smartphone adoption (%)**

Note: Europe does not include countries belonging to Commonwealth of Independent States
*Smartphone as a percentage of total mobile connections
Source: GSMA Mobile Economy 2018, Global Mass Transit Research

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1.6.3 Asia Pacific (1/2)

Global Mass Transit Research analysed a sample of XXX cities in Asia Pacific. Of the total, NFC-based mobile ticketing is present in XXX cities.

- **NFC-based mobile ticketing in Asia Pacific (cities)**
  - Tokens
  - Tickets
  - Contactless smartcards
  - Bank cards
  - Mobile ticketing

- **XXX dominate market and high level of integration**
  - XXX are a dominant media for transit fare payments in the region
  - XXX out of XXX major cities have adopted an entirely integrated ticketing system across transport modes and operators

- **XXX being introduced**
  - Of the XXX major cities, XXX are using XXX
  - Various cities in Asia Pacific are conducting pilots for XXX as well as XXX

- **Presence of other XXX**
  - Cities such as XXX, XXX, Kaohsiung, Seoul, XXX and XXX use devices such as XXX, XXX, etc. to pay fares

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