

1.1 Overview (1/2)

- The report covers 1,000 upcoming rail projects (metrorail, rapid transit, subway, MRT, light metro, light-rail, tram, streetcar, monorail, automated people mover, tram-train, airport rail link, passenger rail, commuter rail, intercity rail, inter-country rail, HSR, etc.) in five regions, namely, North America, Latin America, Asia Pacific, Europe, and Middle East and Africa. These projects together cover a network of xx km and require an estimated investment of more than xx billion.
- Asia Pacific has the maximum number of projects coming up. Of the top 1,000 upcoming rail projects, xx projects, which will together span over xx km, are being developed in Asia Pacific.
- Metrorail/subway/rapid transit/light metro are the dominant modes of mass transit. The majority of these are being developed in Asia Pacific.

Region-wise analysis of projects

Region	No. of projects	Length (km)	Estimated cost (USD million)
North America	xxx	xxx	xxx
Latin America	xxx	xxx	xxx
Asia Pacific	xxx	xxx	xxx
Europe	xxx	xxx	xxx
Middle East and Africa	xxx	xxx	xxx

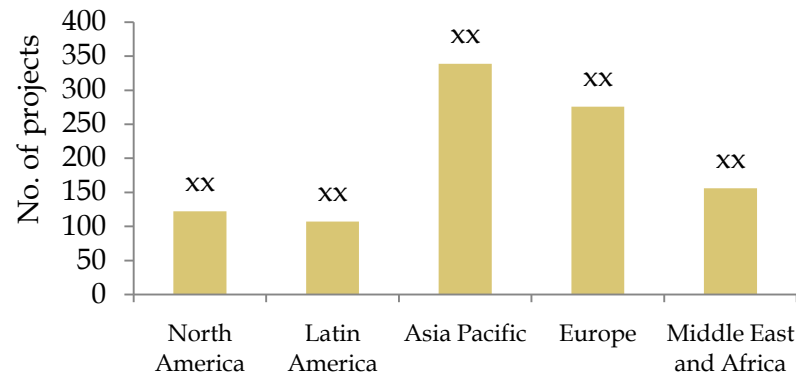
Mode-wise analysis of projects

Mode	No. of projects	Length (km)
Metrorail/ Subway/ Rapid transit/Light metro	xxx	xxx
Light rail/Streetcar/Tram	xxx	xxx
ARL	xxx	xxx
Monorail/APM	xxx	xxx
Commuter Rail/ Suburban Rail	xxx	xxx
Inter-city/Inter-country/Passenger rail	xxx	xxx
High speed rail	xxx	xxx

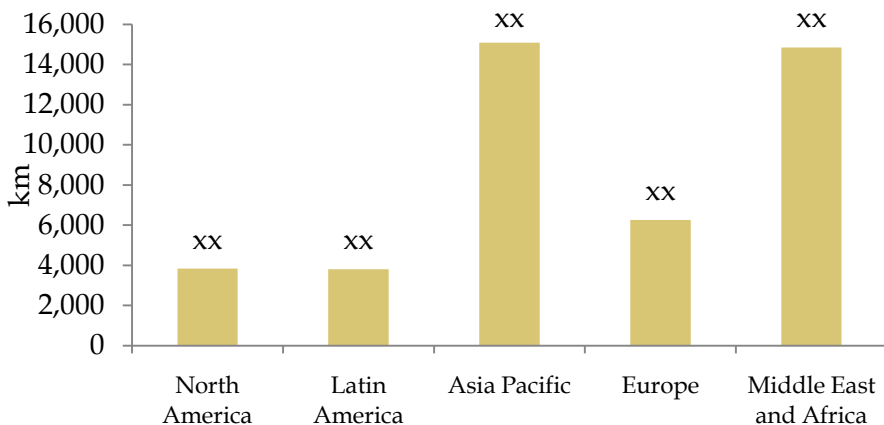
1.2.1 Introduction

- Asia Pacific has the maximum number of projects coming up. Of the top 1,000 upcoming rail projects, xx projects are being developed in Asia Pacific. A total length of over xx km will be developed in the region.
- Europe presents the second biggest opportunity in terms of number of projects. The report covers the top xx upcoming rail projects in Europe.
- Middle East and Africa, although a relatively recent entrant into the rail segment, presents the third largest opportunity with xx projects coming up. Middle East and Africa presents the biggest opportunity in construction of new network.

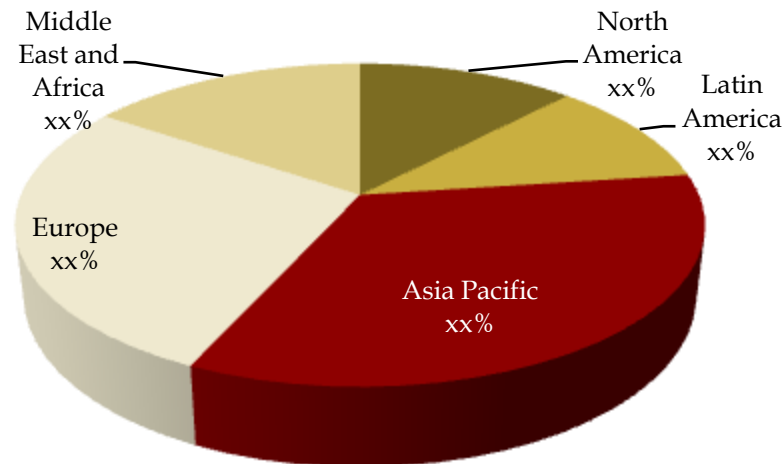
Distribution of number of projects by region



Distribution of length of projects by region



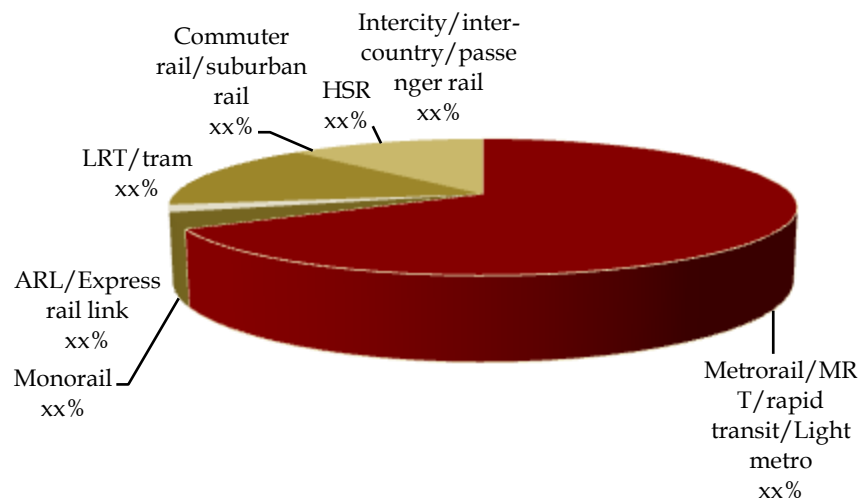
Share of projects by region



1.2.4 Projects in Asia Pacific (1/2)

- A total of xx rail projects spanning a length of around xx km and entailing a planned investment of over USDxx million have been covered in the report.
- The maximum opportunity lies in metrorail projects. A total of xx projects are planned, which will together span xx km.
- China has more than xx projects coming up. These projects will together span more than xx km and require an investment of USD xx million.
- India has more than xx projects coming up. These projects will together span xx km and require an investment of over USD xx billion.

Development of projects by mode



Longest upcoming projects

xx HSR: xx km

xx HSR: xx km

xx HSR: xx km

Xx Passenger Rail : xx km

xx HSR: xx km

Top 5 projects in terms of planned investment

xx HSR: USDxx million

xx HSR: USDxx million

xx HSR: USDxx million

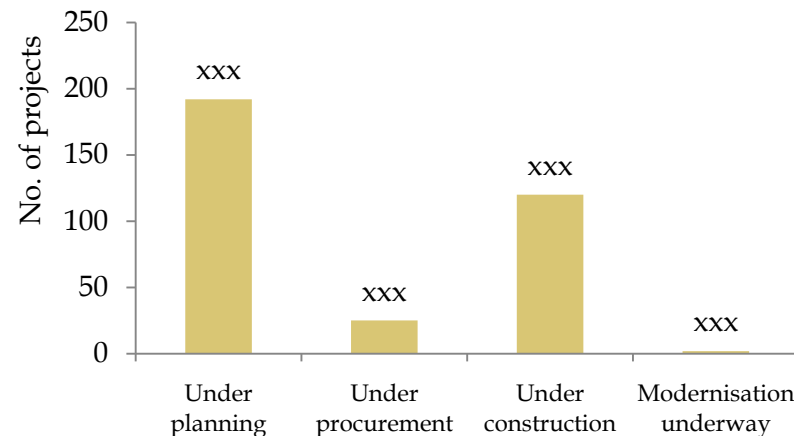
xx : USDxx million

xx : USDxx million

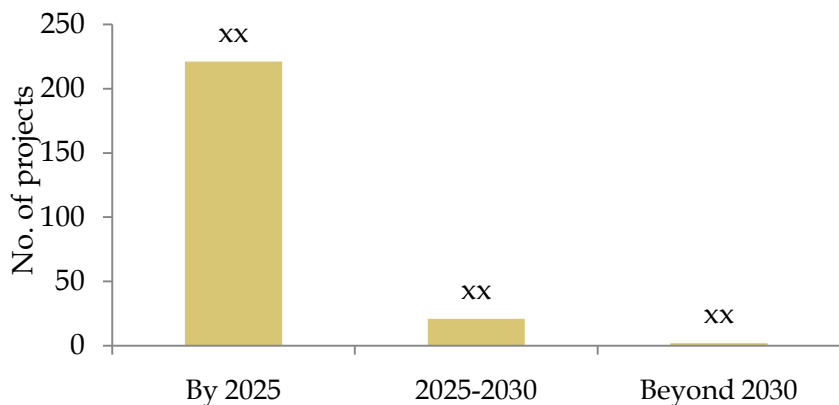
1.2.4 Projects in Asia Pacific (2/2)

- Majority of the projects in Asia Pacific are at the planning stage. A total of xx projects covering a length of xx km and requiring an estimated investment of over USDxx million are at the planning stage. Another xx projects covering a length of xx km and entailing an estimated investment of more than USDxx million are under construction.
- By 2025, xx projects spanning a length of over xx km are planned to be completed. Another xx projects spanning more than xx km will be completed during 2021-2030.

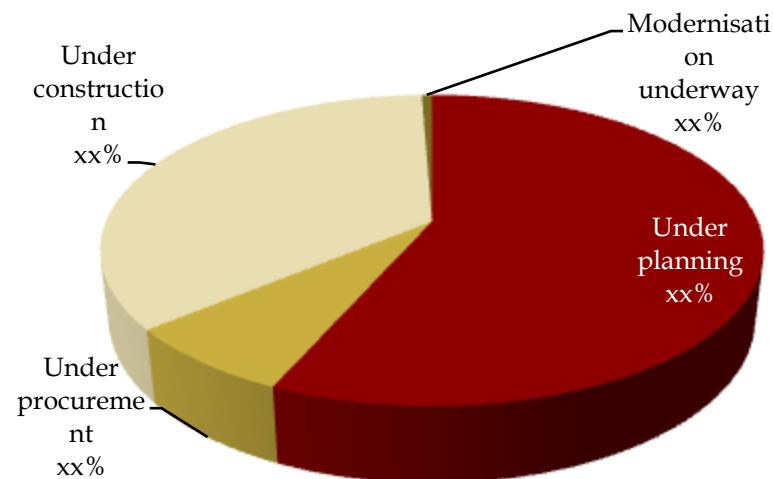
Distribution of projects by stage



Distribution of projects by date of opening



Share of projects by status



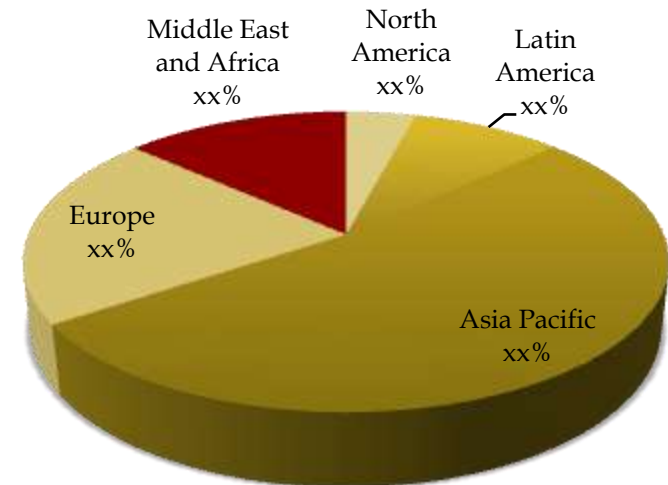
1.3.2 Metrorail/ Subway/ Rapid transit/Light metro



Metrorail/ Subway/ Rapid transit/Light metro

- A total of **xx metrorail/subway/rapid transit/light metro** projects spanning a length of around **xx km** have been covered in the report.
- Of these, **xx metrorail** projects covering around **xx km** are coming up in Asia Pacific. Majority of these investments are planned in China and India.
- A total of **xx projects** spanning a length of around **xx km** are being developed in Europe.
- The Middle East and Africa region is a relatively new entrant in the metrorail sector, but some of the most significant projects in the world have been launched there. The region has the third largest metrorail network under development with lines covering over **xx km**.

Development of projects by region



Longest upcoming projects

xx Metro Line 1: xx km

xx RRTS project : xx km

xx Metrorail project: xx km

xx RRTS Phase I- xx km

xx Line: xx km

Top 5 projects in terms of planned investment

xx : USDxx million

xx : USDxx million

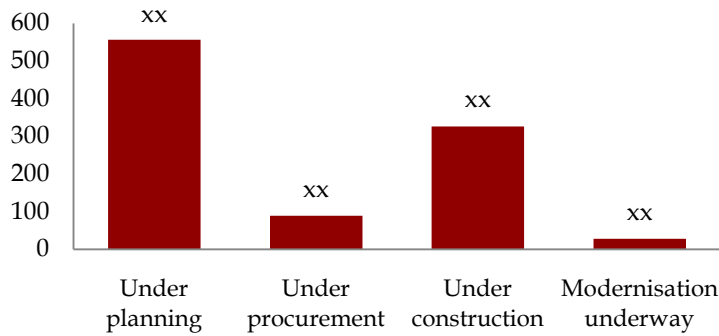
xx Metrorail: USDxx million

xx Metrorail project Phase I extensions: USDxx million

Xx: USDxx million

1.4.1 Introduction

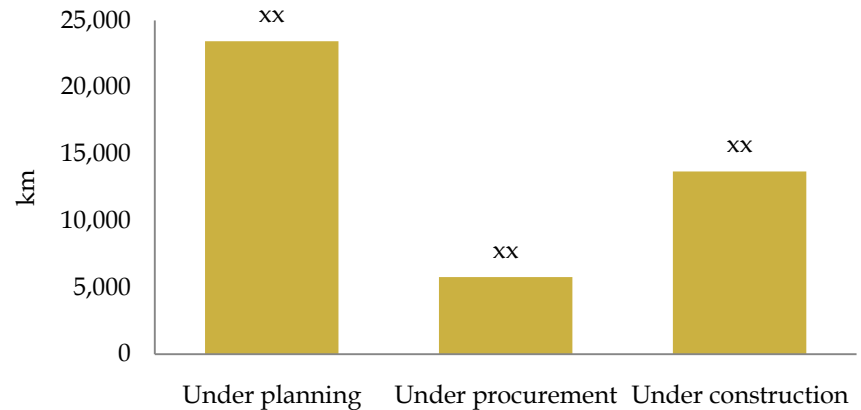
Distribution of number of projects by status



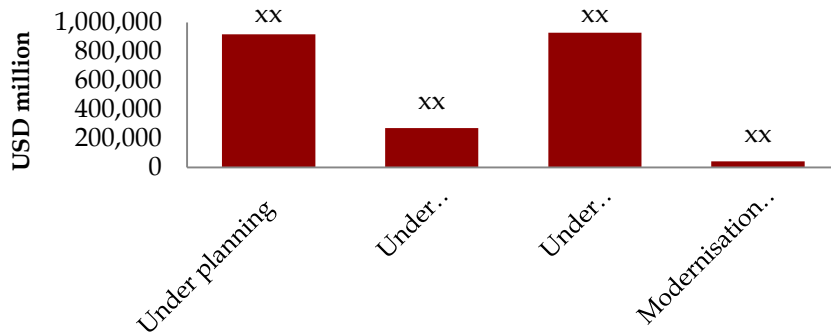
Of the 1,000 projects, xx% are under planning, xx% are under procurement, xx% are under construction and xx% are going through modernisation. The majority of projects are in the planning phase, representing significant investment opportunities for contractors/service providers across the urban rail transit value chain.

The 1,000 upcoming projects together cover more than xx km. The projects under planning together span more than xx km, which accounts for almost xx% of the total length.

Distribution of length of projects by status



Distribution of cost of projects by status

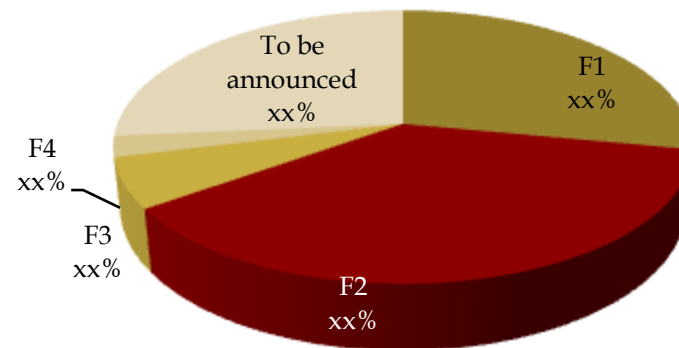


More than USDxx million is planned to be invested in public transport infrastructure. Of this, xx% of the projects are in the planning stage and xx% are under construction.

1.5.1 Analysis of fare systems (1/2)

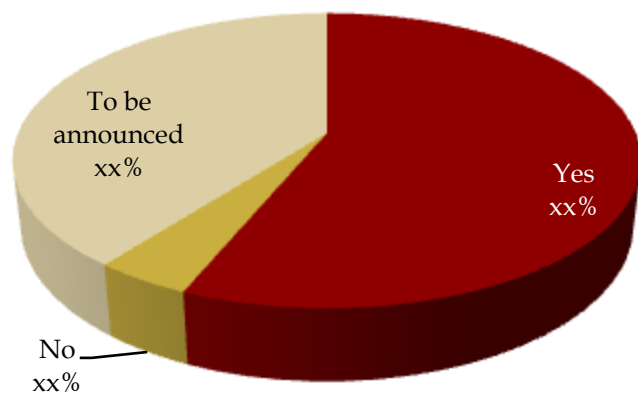
- Majority of the systems covered in the report will deploy more than one mode of fare payment. In this report, the fare systems have been classified into four categories: paper tickets, magnetic-stripe tickets, tokens and cash as category F1; smartcards (contactless/contact-based) and rechargeable magnetic-stripe cards as category F2; mobile ticketing as category F3; and bank cards as category F4.
- Of the 1,000 upcoming projects covered in the report, fare system information is yet to be announced for xx projects.

Share of upcoming projects by level of AFC deployment planned



Note: For line extensions, the existing level of fare collection technology has been assumed as expected to be deployed.

Share of upcoming projects by fare system integration planned



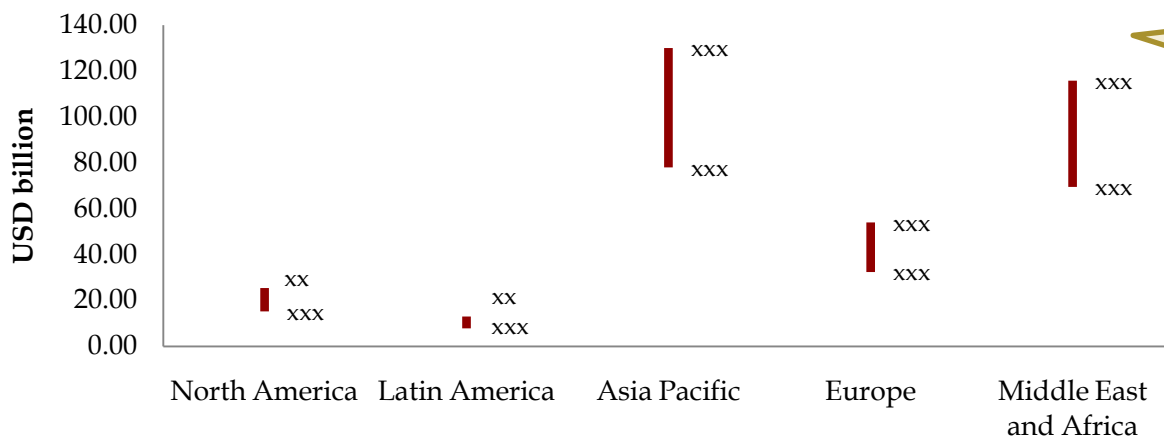
- The fare system will be integrated with other modes of transport for xx systems covered in this report. Interoperability between ticketing systems typically increases ridership by facilitating transfers in a single journey and enables use of a common fare card.
- Various transport operators in a city or region may be integrated under an umbrella system provided by the municipal or regional authority.
- Of the 1,000 upcoming projects covered in the report, information on fare system integration is yet to be announced for xx projects.

Note: Share calculated out of 711 projects for which information was available

1.5.2 Analysis of rolling stock

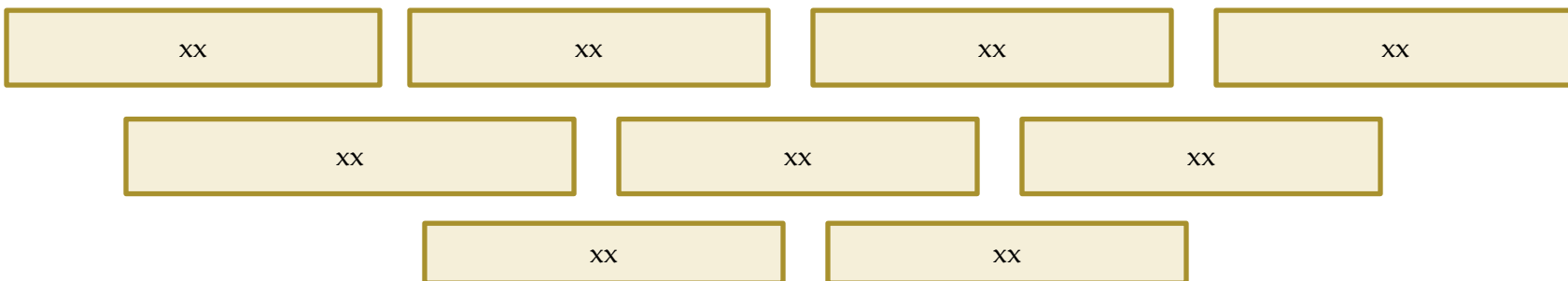
- The **market size of planned new rolling stock** for which the contracts are yet to be awarded ranges between **USDxxx billion** and **USDxxx billion**. Globally, rolling stock cost as a percentage of the total project cost (TPC) ranges between xx-xx%.
- Of the 1,000 upcoming projects covered in the report, majority involve procurement of rolling stock. Of these, contracts are yet to be awarded for xx projects.
- Majority of the opportunity lies in Asia Pacific, where contracts are yet to be awarded with xx projects, followed by Europe, where contracts are yet to be awarded for xx projects.

Market share of rolling stock contracts to be awarded by region



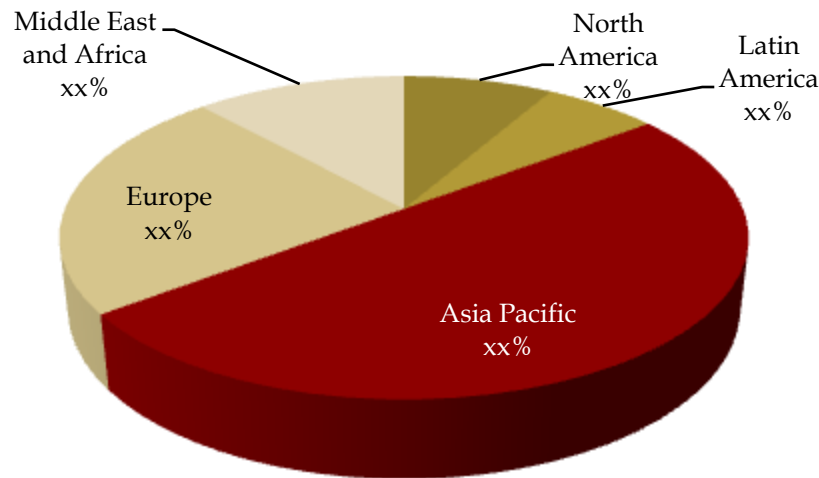
Asia Pacific presents the largest opportunity for rolling stock players, followed by Middle East & Africa and Europe.

Key players for rolling stock



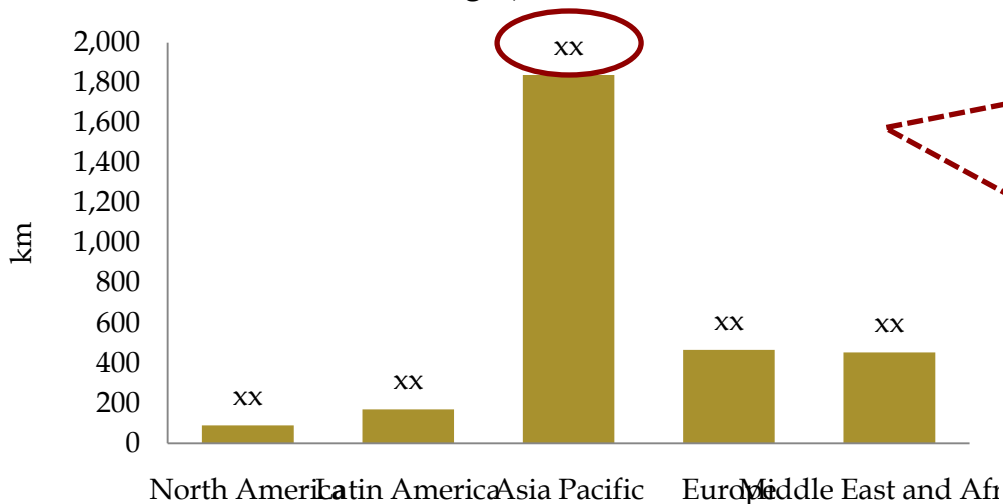
1.6.2 Underground rail projects

Share of planned projects with underground alignment by region (by number of projects)



- Underground alignment is typical for HSR, metrorail and subway projects which have higher operating speed and bigger budgets.
- The largest share of upcoming projects with underground alignment is planned in Asia Pacific, followed by Europe and the Middle East and Africa.
- Of the 1,000 upcoming projects covered in the report, information on planned length was available for xx. Of these, xx projects will be partially or completely underground, covering a network of xx km.

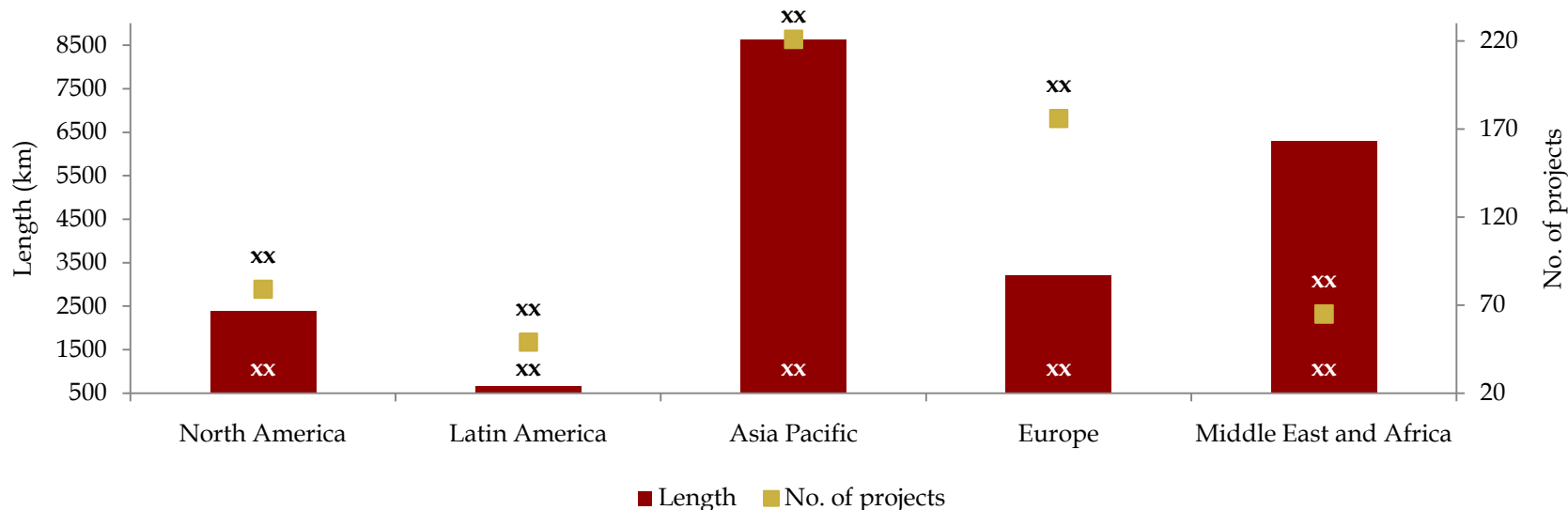
Planned projects with underground alignment by region (by length)



- Asia Pacific presents the largest opportunity for tunnelling players, with over xx km of underground rail lines planned.
- Although North America has a greater number of projects with underground alignments compared to Latin America, the total planned underground length in Latin America surpasses that in North America.

1.7.2 Projects expected to be completed by 2025

Distribution of projects to be completed by 2025



Region-wise analysis of projects to be completed by 2020*

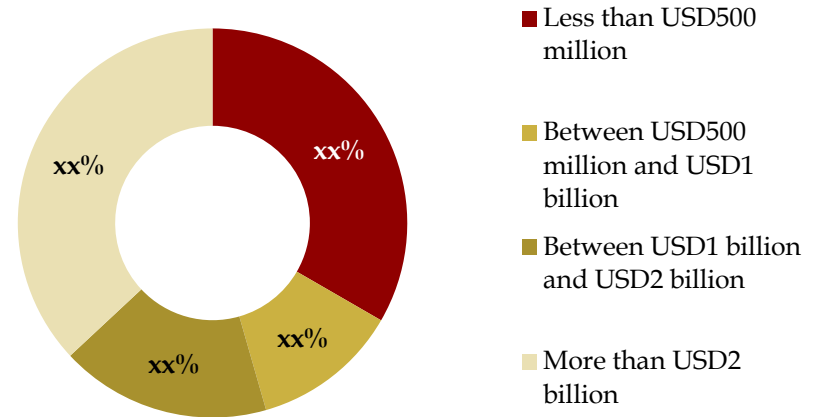
- Asia Pacific has the largest upcoming rail network, with over xx projects covering a length of over xx km. Of these, maximum projects are located in China and India.
- The Middle East and Africa has the second largest upcoming network. A total of xx projects (including three modernisation projects) spanning over xx km are planned to be developed. These include development of xx new lines and systems and three modernisation projects. The development of integrated transport plans by governments at multiple levels in the region has given a boost to the expansion of rail projects.
- Europe has the second highest number of project completions by 2025. These include xx modernisation projects.
- A total of xx projects spanning over xx km are expected to be complete in North America by 2025. These include xx modernisation projects.
- A total of xx projects spanning around xx km will be complete in Latin America by 2025. These include xx modernisation projects.

Note: Completion dates for xx projects are to be announced and xx projects are not available.

1.8.1 Introduction

- The report covers 1,000 projects. Of these, xx projects spanning over xx km, will require investment of less than USD500 million each.
- A total of xx projects, spanning around xx km, will require investment ranging between USD500 million and USD1 billion each.
- Further, xx projects, spanning over xx km, will require investment ranging between USD1 billion and USD2 billion each.
- Finally, a total of xx projects, spanning over xx km, will require investment of more than USD2 billion each.

Share of no. of projects by cost*



Projects with highest investment requirement by region

Region	Project	Cost (USD billion)	Length (km)	Expected year of completion
North America	xx	xx	xx	xx
Latin America	xx	xx	xx	xx
Asia Pacific	xx	xx	xx	xx
Europe	xx	xx	xx	xx
Middle East & Africa	xx	xx	xx	xx

Some of the largest projects, in terms of cost, involve development of new systems.

Note: *The planned investments for xx projects are either not available or yet to be announced.; ^- The project is expected to be complete within xx years.