

INDUSTRIES & MARKETS

Transportation: market data & analysis

Market Insights report

Market Insights
by statista 

March 2024



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10
sectors

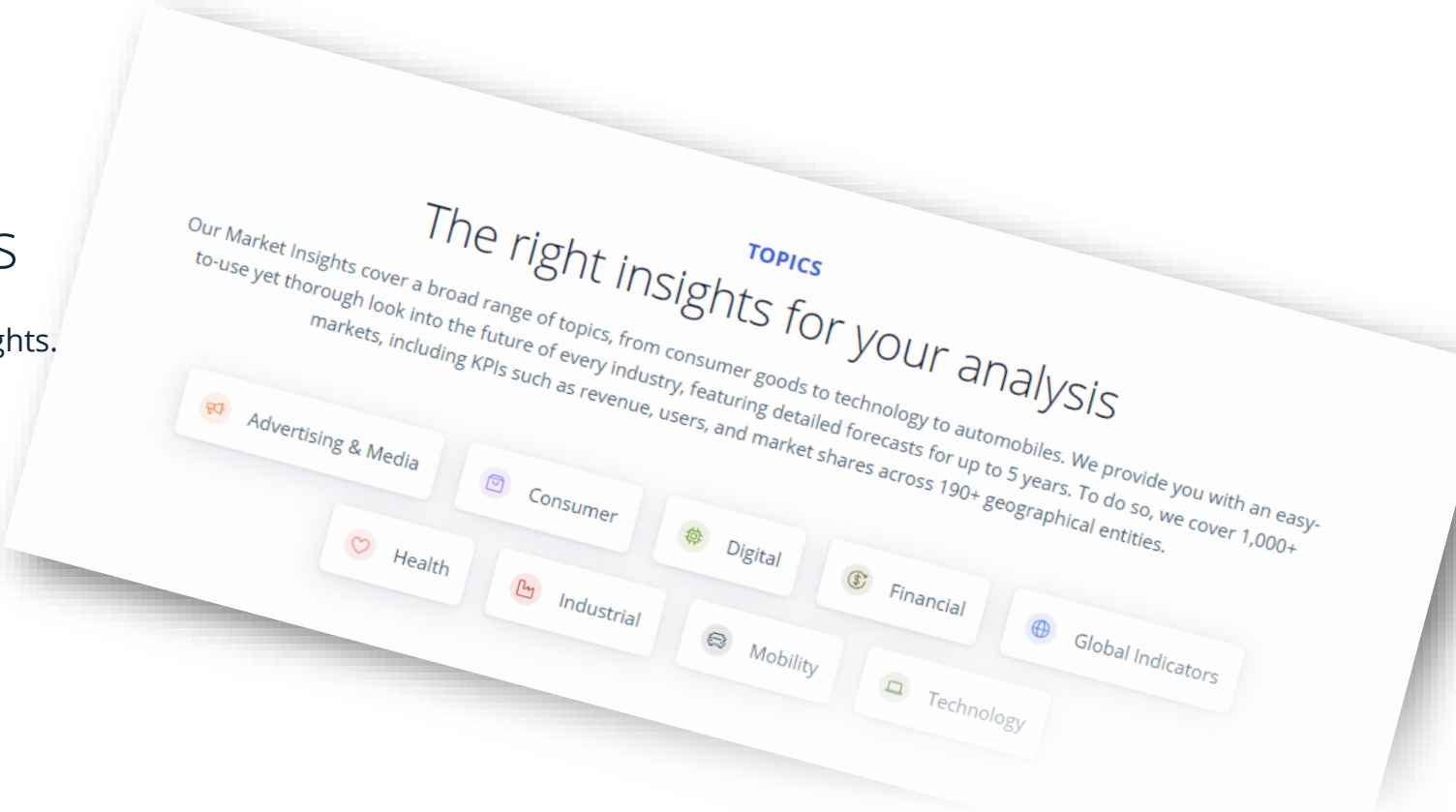
190+
geographical
entities

1,000+
markets

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reports

Market Insights – market data, forecasts, and qualitative insights

The Transportation market is part of the Industrial Market Insights.



Go to Transportation market

Find out more on: [Transportation](#)



10
sectors



190+
geographical
entities



1,000+
markets



400+
reports

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CHAPTER 1

Overview



The Transportation market plays a vital role in global supply chains

Overview: Summary

Summary

The Transportation market is significant as it is vital to global supply chains, facilitating the efficient movement of goods and materials between businesses. The market contributes to economic growth and competitiveness and is an integral part of international trade, supporting the exchange of goods. It also plays a crucial role in the development and maintenance of transportation infrastructure.

The Transportation market faces various challenges, including supply chain disruptions due to geopolitical conflicts and natural disasters, which can lead to delays and increased costs; regulatory compliance and safety standards; constantly evolving customer expectations; and emerging technologies that require ongoing investment in digitalization and sustainable transportation solutions.

The Transportation market has experienced significant growth in demand for e-commerce and supply chain logistics, driven by changes in consumer behavior and the rise of online shopping. This was clearly observed during the COVID-19 pandemic. The freight transportation and e-commerce logistics sectors experienced increased demand as businesses adapted to new distribution patterns. In addition, the pandemic had a significant impact on the Transportation market as it led to disruptions in global supply chains and shifts in transportation priorities.

Recent events such as the war in Ukraine have also had a significant impact on the Transportation market, disrupting key trade routes and causing delays and increased costs for businesses that rely on connections between Eastern and Western Europe. The conflict has created geopolitical uncertainty, affecting investment and supply chain decisions.

A comprehensive guide to the Transportation market across land, water, and air

Overview: Market Definition

Market definition

The Transportation market is central to the movement of goods and materials between businesses, with a primary focus on cargo and freight. The market has both a global and domestic impact, facilitating trade, including cross-border shipments and logistics coordination.

The Transportation market is made up of three distinct markets. The Land Transportation market encompasses three submarkets; road transportation, which relies on trucks; rail transportation, which involves the transport of goods over long distances; and pipeline transportation, which primarily involves the transfer of liquids and gases. The Water Transportation market includes goods that are transported via sea routes, rivers, and canals. Lastly, the Air Transportation market offers rapid cargo services.

The Transportation market comprises port and airport rankings, CO2 emissions, value added to GDP, freight volume moved and transportation efficiency as key performance indicators. The market only displays B2B values.

The Transportation market is forecasted to move 45.55tn TKM of goods in 2023

Overview: Key Takeaways and in scope / out of scope

Key Takeaways

Value added in the Transportation market is projected to amount to 4.06 trillion US\$ in 2023.

Volume of goods transported in Transportation market is projected to amount to 45.55 trillion TKM in 2023.

Transportation intensity in the world is projected to amount to 0.43 TKM/GDP.

In scope

This market includes:

- Road transportation
- Rail transportation
- Water transportation
- Air transportation
- Pipeline transportation

Out of scope

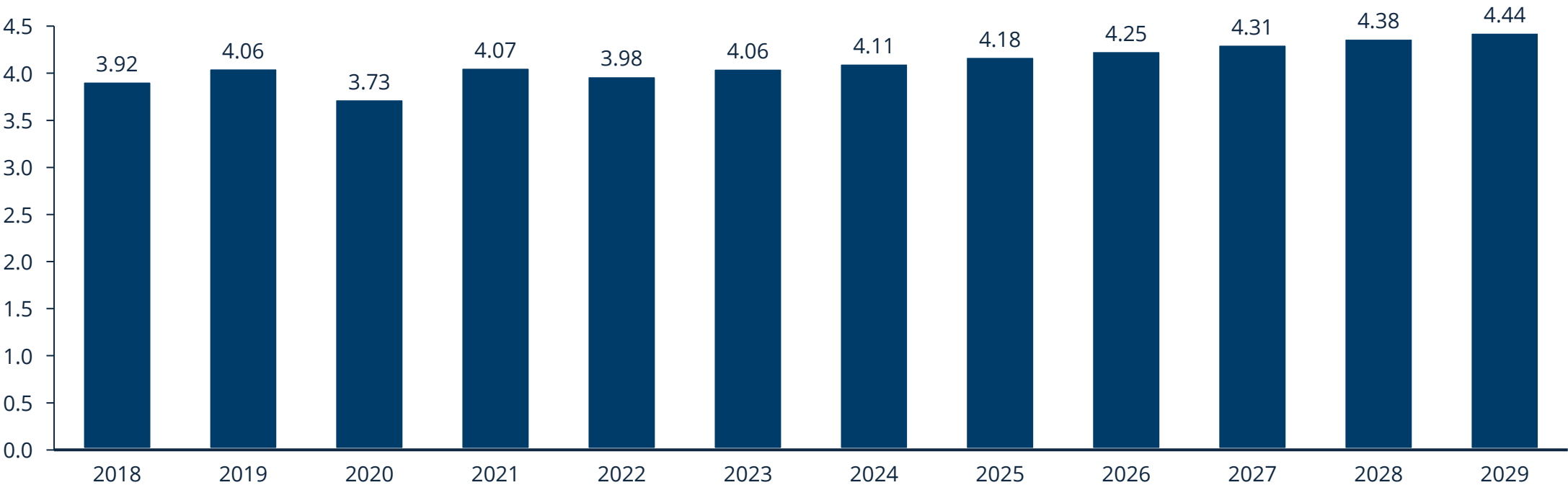
This market excludes:

- Passenger transportation
- Infrastructure development
- Support services

There is a projected growth for transportation value added from 2018 to 2029

Market Size: Global

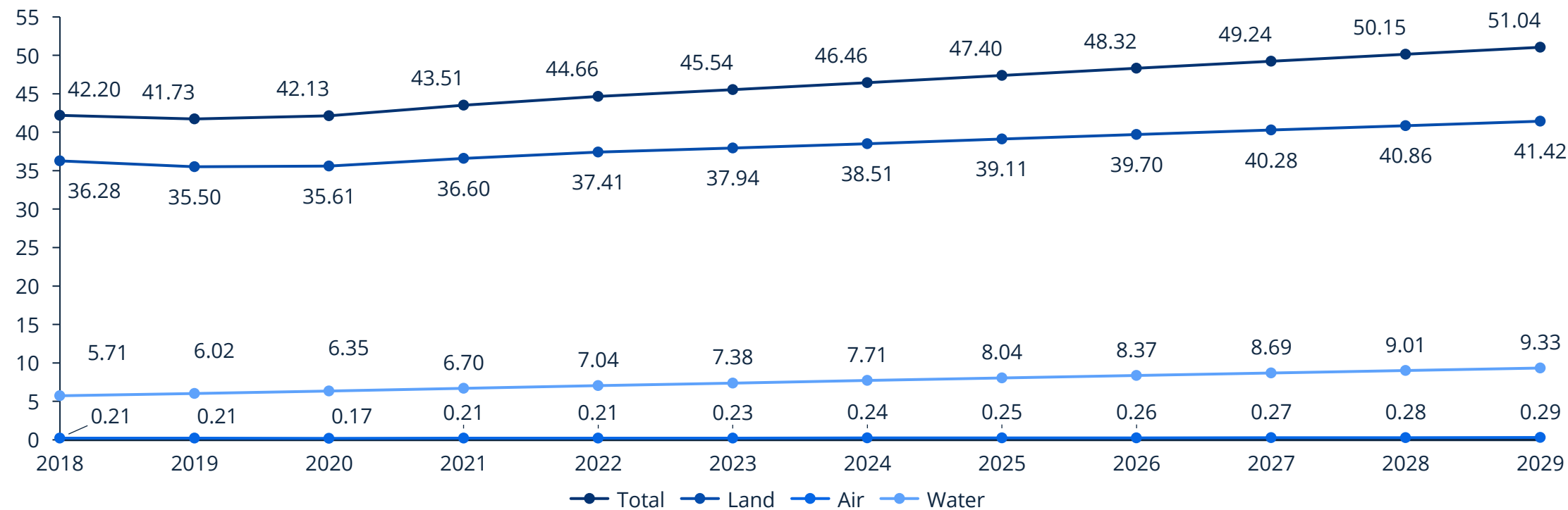
Transportation value added forecast in trillion USD



The freight transported from 2018 to 2029 is expected to grow globally

Market Size: Regional Comparison (1/3)

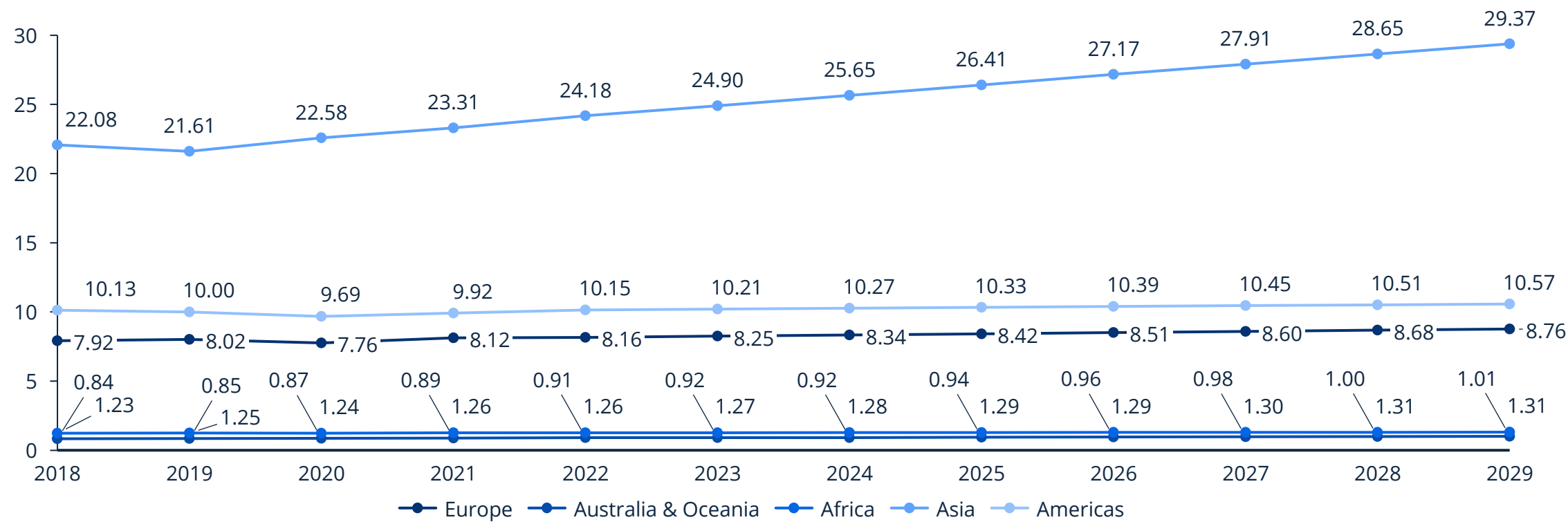
Freight transported forecast in trillion ton-kilometres



With 29.37 trillion TKM, Asia is expected to lead the freight transport market in 2029

Market Size: Regional Comparison (2/3)

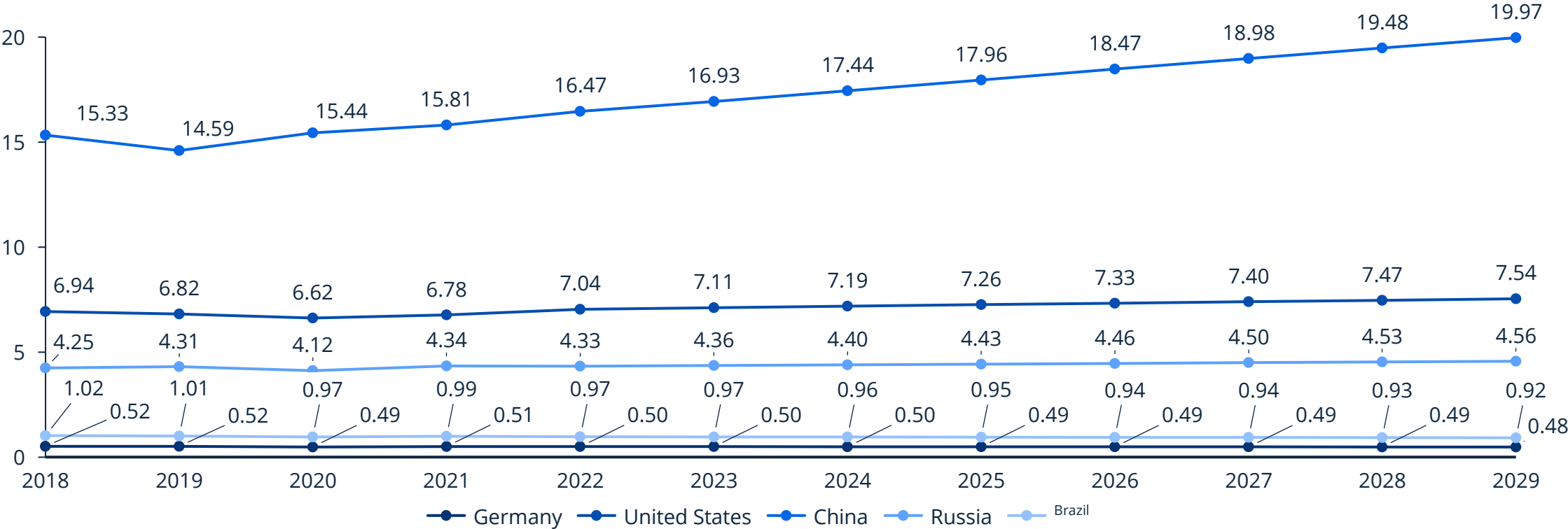
Freight transported forecast in trillion-kilometres



With freight transported of 16.93 trillion TKM, China is the biggest market among selected countries in 2023

Market Size: Regional Comparison (3/3)

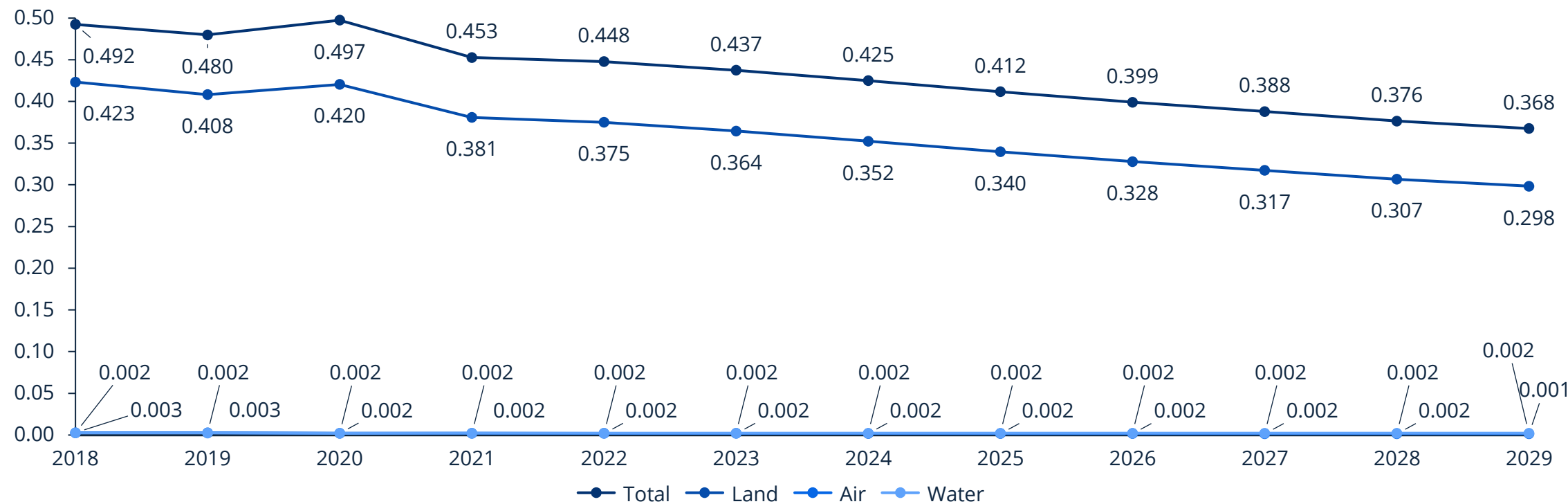
Freight transported forecast in trillion ton-kilometres



Transportation intensities are expected to decrease from 2018 to 2029

Market Size: Regional Comparison (1/3)

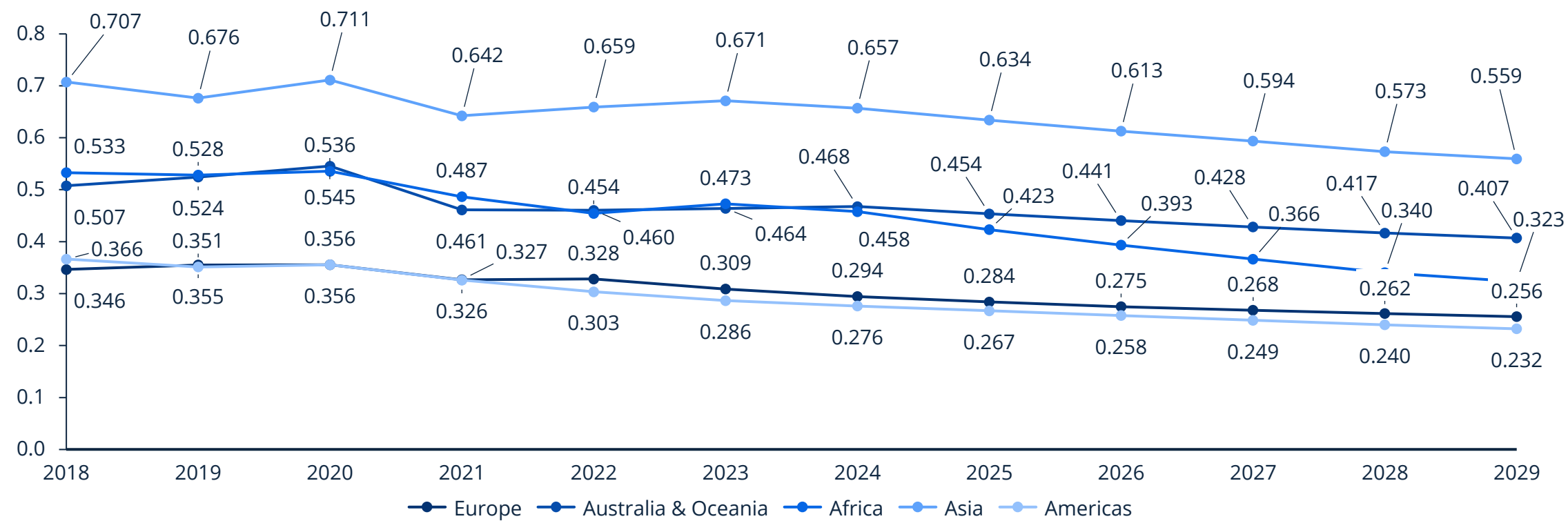
Transportation intensity forecast in TKM/GDP



The Asian region is expected to have the largest land transportation intensity of 0.56 in 2029, decreasing though from 0.67 in 2023

Market Size: Regional Comparison (2/3)

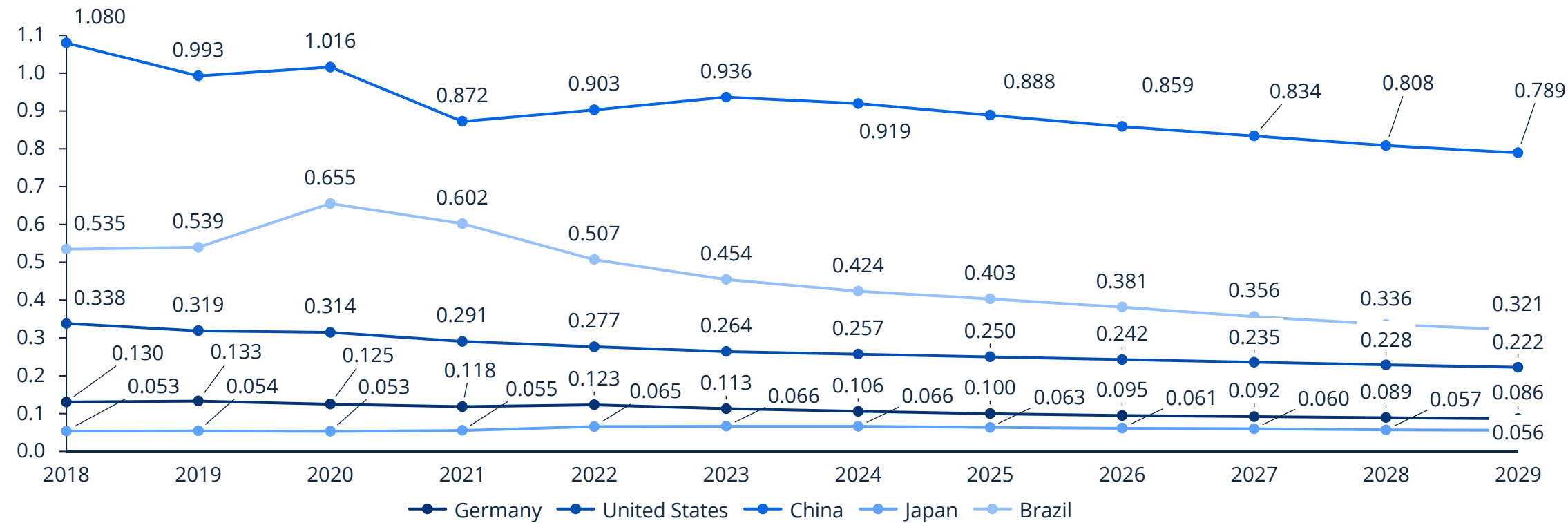
Transportation intensity forecast in TKM/GDP



With a transportation intensity of 0.94 TKM/GDP in 2023, China shows a high level of transportation activity compared to the size of its economy

Market Size: Regional Comparison (3/3)

Transportation intensity forecast in TKM/GDP



Market leaders of the transportation industry are companies that show global presence, diverse modes of transportation and can handle large volumes

Overview: key player landscape



A push from the pandemic has shown a need to modernize and make transportation more agile

Trend analysis

Sustainability and environmental impact

As government-imposed environmental regulations become increasingly stringent to curb harmful emissions, transportation operations face added costs and efficiency challenges. In response, the industry is diversifying its transportation modes. Inland water and rail transportation are experiencing significant growth and are expected to continue expanding. This expansion is driven by their cost-effectiveness and greater environmental sustainability compared to other transportation modes.

Supply Chain Disruption and resilience

Supply chain disruptions can stem from various factors, including natural disasters, pandemics, and geopolitical tensions. In response, there has been a growing imperative to develop more resilient supply chains. Leading companies are exploring numerous approaches to enhance resilience, with a primary focus on diversifying transportation modes. Leveraging combinations of transportation modes offers greater flexibility, while building redundancy and alternative routes further enhances resilience. Additionally, investing in infrastructure is deemed essential to support these resilience-building efforts.

Digitalization

As with many other industries, transportation is embracing digital technology to optimize its operations. For instance, the road transportation sector is upgrading its fleets by transitioning to electric vehicles. Additionally, the implementation of IoT sensors for predictive maintenance aims to minimize downtime and improve efficiency. Moreover, blockchain technology is being explored to bolster security and traceability across transportation operations.

CHAPTER 2

Markets



MARKETS

Land Transportation



Challenges and innovations in the Land transportation market

Overview: Summary

Summary

Land transportation is a crucial part of moving goods, operating through Road, Rail, and Pipeline modes. It's especially essential for freight movements within countries, with Road transport being vital for delivering goods even to remote areas. While Road transport is flexible for point-to-point deliveries, Rail is more fixed, suitable for bulk and long-distance movements.

However, challenges such as air pollution and carbon emissions are associated with Road transportation. Efforts are underway to adopt cleaner technologies, like electric vehicles. Intermodal transportation combines different modes to optimize logistics.

In supply chains, especially in moving goods from manufacturers to consumers, land transportation, particularly Road transport, is critical. The industry is dynamic, adapting to technological innovations, regulations, and broader trends. This adaptability is crucial in navigating the complexities of modern supply chains.

Land transportation drives economic growth

Overview: Market Definition

Market definition

The Land Transportation market is a specialized market within the transportation industry that focuses on the movement of goods and materials between commercial enterprises, typically over land-based routes. Land transportation plays a key role in carrying out industrial and commercial operations, contributing to supply chain efficiency, economic growth, and the maintenance of transportation infrastructure.

This market encompasses three main modes of transportation: road, rail, and pipeline, all tailored to meet the logistical needs of businesses engaged in the exchange of goods.

The Land Transportation market covers CO2 emissions, volume of goods transported, and transportation efficiency for road, rail, and pipeline transportation.

In 2024, Land transportation is expected to move goods totaling 38.10 trillion TKM globally

Overview: Key Takeaways and in scope / out of scope

Key Takeaways

Volume of goods transported in the Land market is projected to amount to 38.51tn TKM in 2024.

Transportation intensity in the world is projected to amount to 0.35TKM/GDP.

Share of emissions of the Land market is 85.2%.

In scope

This market includes:

- Road transportation
- Rail transportation
- Pipeline transportation

Out of scope

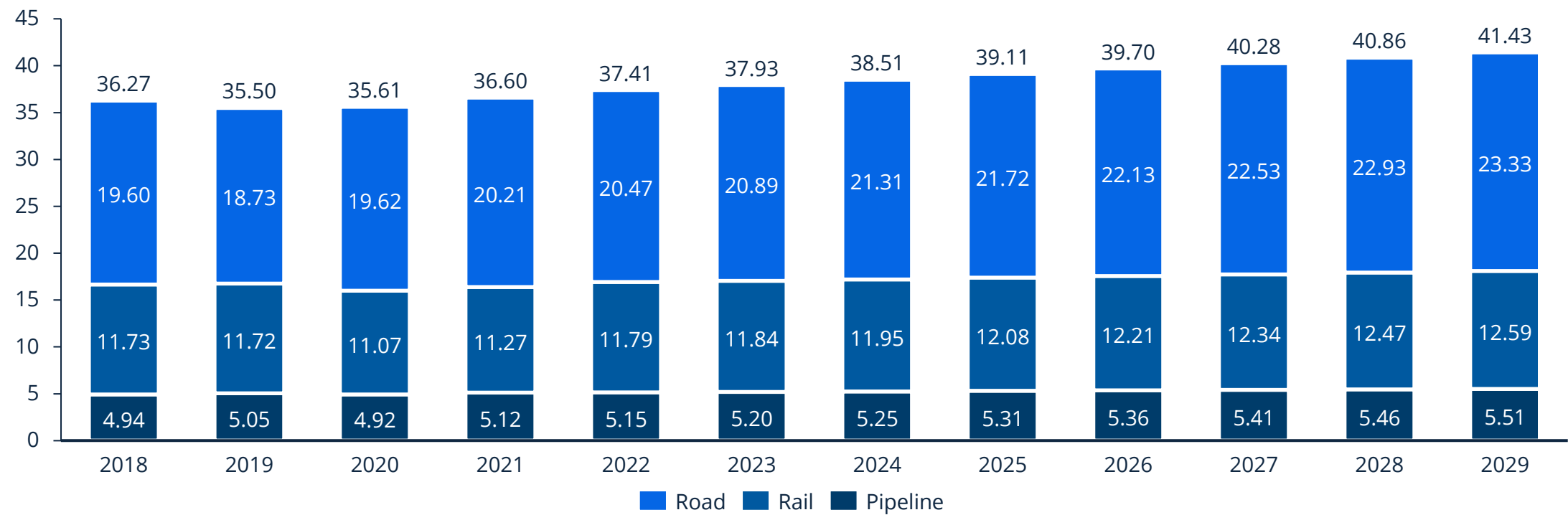
This market excludes:

- Non-land freight transportation
- Passenger transportation

Anticipated growth in land freight transportation is expected over the period from 2018 to 2029

Market Size: Global

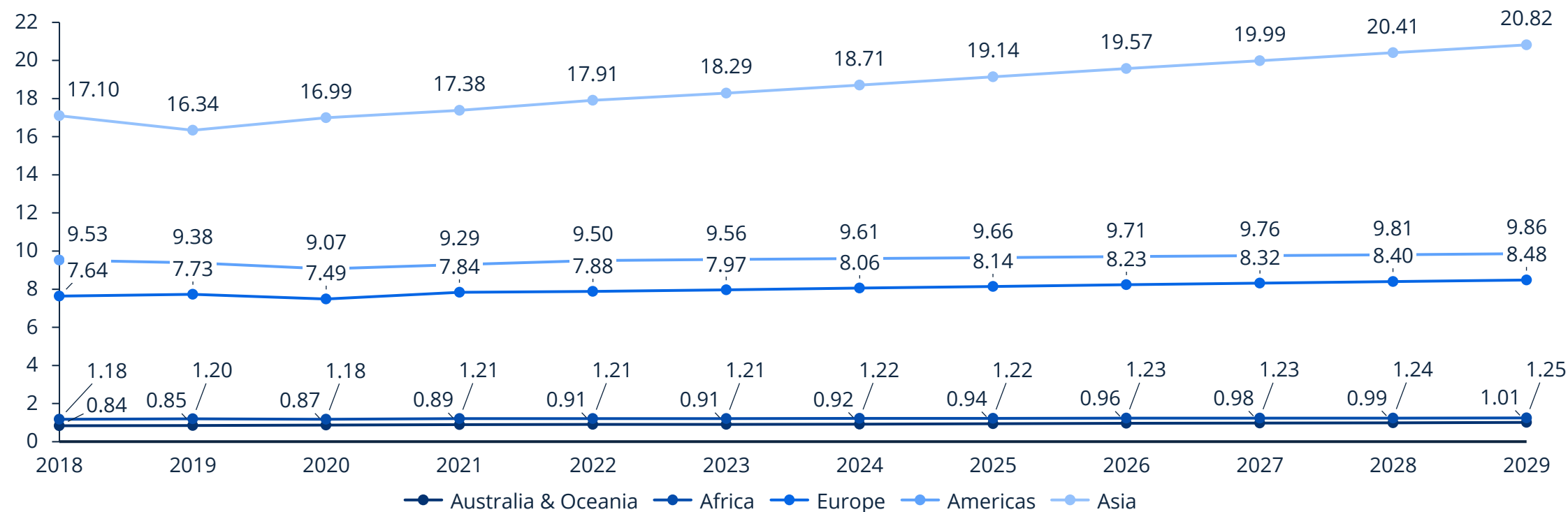
Freight transported forecast in trillion ton-kilometres



Asia is expected to transport the most freight via Land transportation in 2029

Market Size: Regional Comparison (1/2)

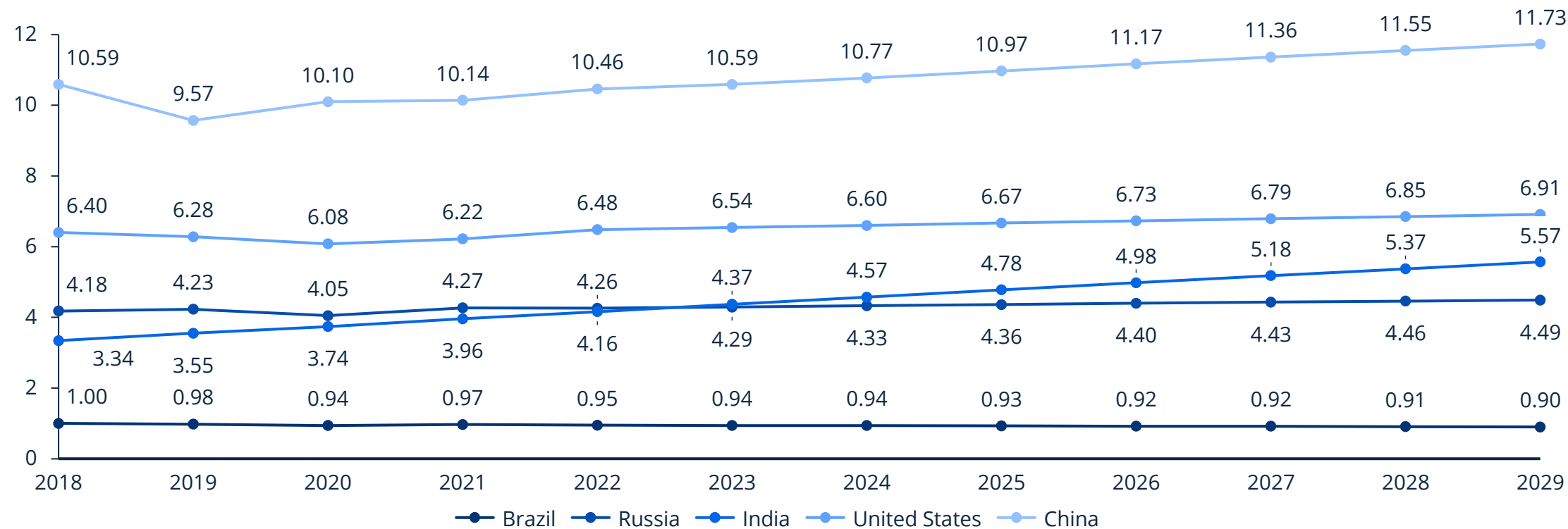
Freight transported forecast in trillion ton-kilometres



With 10.59 trillion TKM in freight transported, China stands as the foremost market in 2023

Market Size: Regional Comparison (2/2)

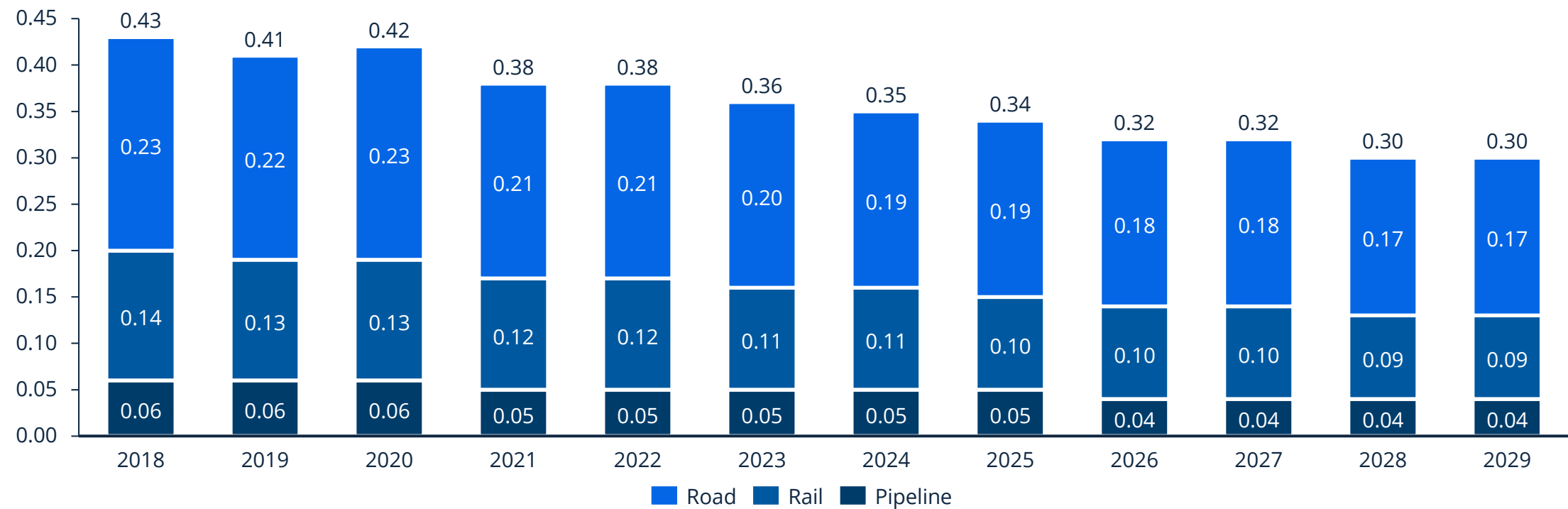
Freight transported forecast in trillion ton-kilometres



The trend in land transportation intensities is expected to decrease until 2029

Market Size: Global

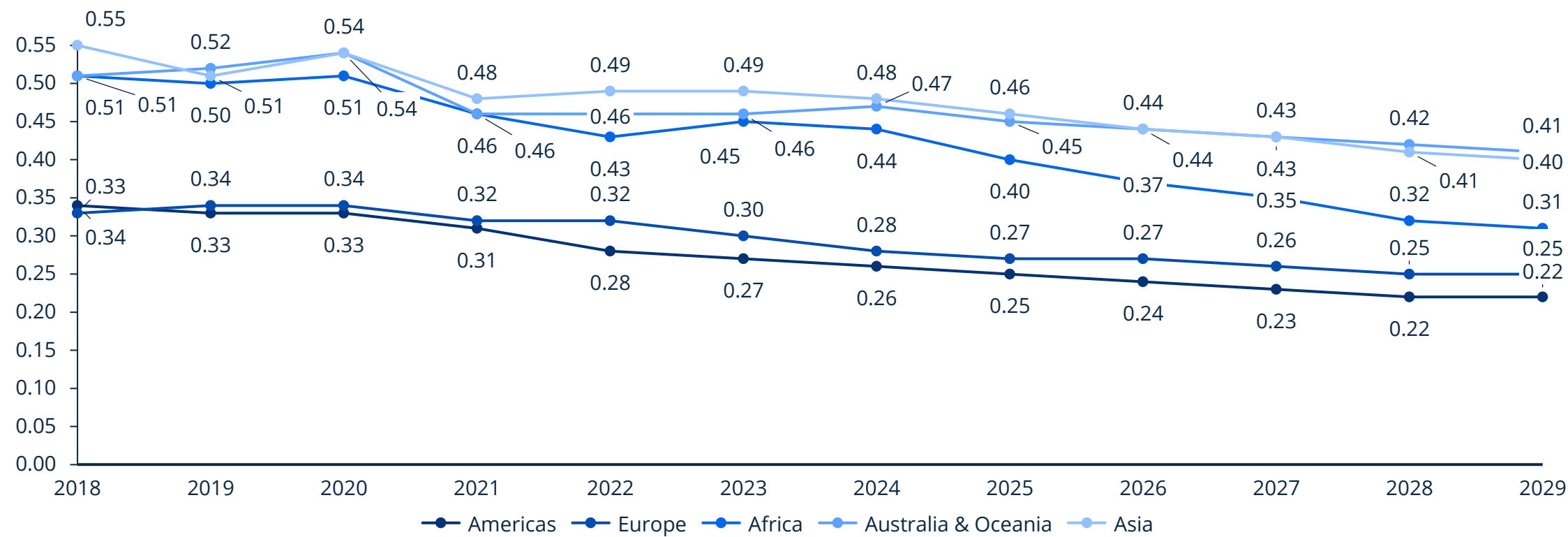
Transportation intensity forecast in TKM/GDP



In 2029, Australia & Oceania will have the highest land transportation intensity

Market Size: Regional Comparison (1/2)

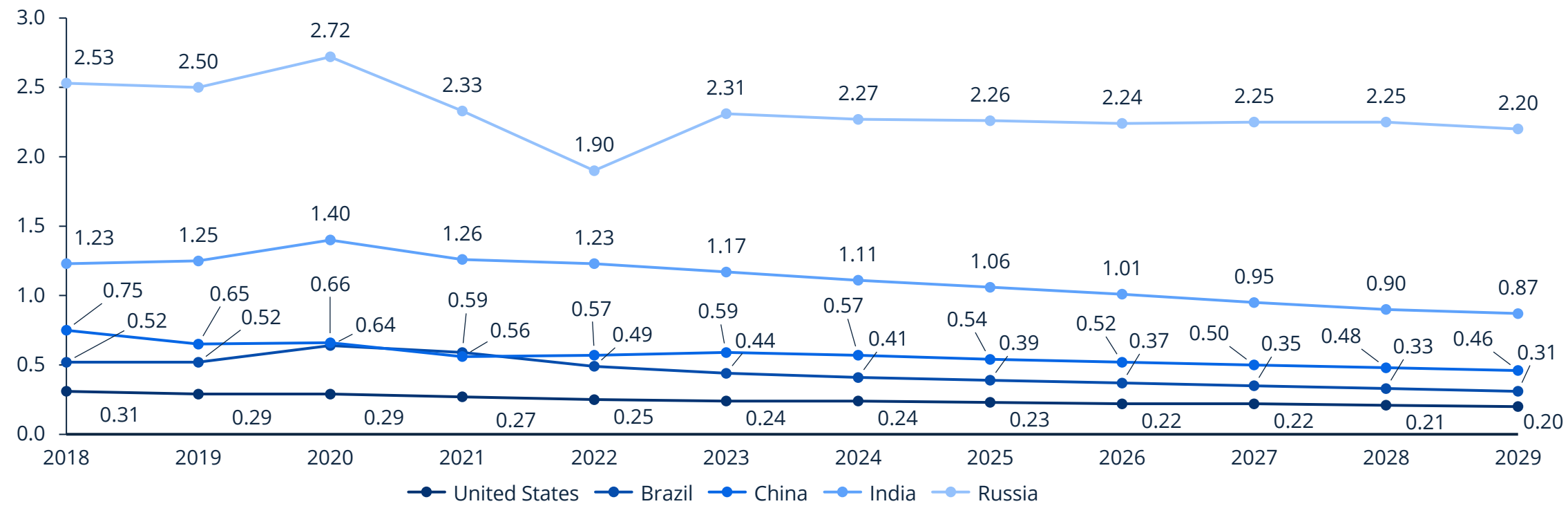
Transportation intensity forecast in TKM/GDP



In 2023, Russia tops the charts with a transportation intensity of 2.3 TKM/GDP

Market Size: Regional Comparison (2/2)

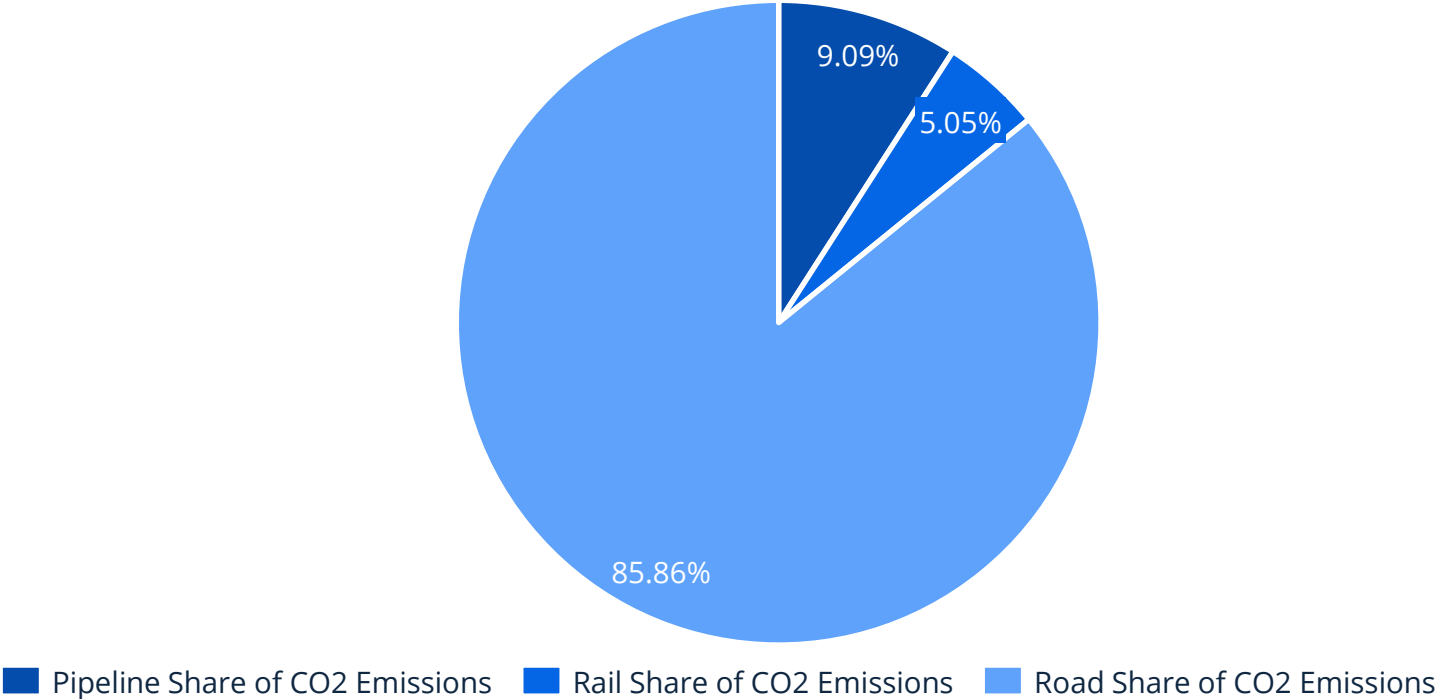
Transportation intensity forecast TKM/GDP



In the Land transportation market, Road transportation holds the largest share of CO2 emissions

Further Market Analysis

Share of CO2 Emissions for land transportation in 2023



The Land transportation market needed to become more sustainable with electric vehicles, intermodal solutions, and energy demand dynamics

Trend analysis

Electrical Vehicles

With growing pressure from government environmental regulations to mitigate harmful emissions, transportation operations are confronted with additional costs and efficiency challenges. Among land transportation methods, road transportation stands out as the highest emitter. In response to this pressing issue, the road transportation market is undergoing a transition towards electric vehicles (EVs) to curtail emissions.

Intermodal Transportation

To mitigate costs and optimize routes, the land transportation market is increasingly embracing intermodal transportation. As urbanization continues to grow, resulting in congested roads and inefficiencies, intermodal operations offer a viable solution to alleviate these challenges associated with road transportation. Furthermore, intermodal transportation contributes to emission reduction, as both rail and pipeline transportation are known to emit less than road transport.

Energy Demand

The expansion of pipelines transporting energy sources is anticipated to steadily increase due to the persistent demand for oil and natural gas. This trend is particularly notable in regions possessing reserves.

MARKETS

Air Transportation



The dynamics of the Air transportation market in enhancing global business and trade

Overview: Summary

Summary

Air transportation, known for its speed, seamlessly connects distant locations globally within hours, playing a vital role in international trade, and business. Air cargo carriers prioritize high-value and time-sensitive goods, like electronics, pharmaceuticals, and perishables.

Critical to the global supply chain, express air cargo services ensure rapid delivery, and airports, with extensive infrastructure, serve as international gateways. Safety is paramount, subject to stringent regulations to ensure passenger, crew, and cargo safety.

While efficient, air transportation has environmental concerns, with efforts to adopt technologies for a reduced environmental footprint. It's sensitive to global events, influencing passenger demand and airline stability. The rise of low-cost carriers has increased accessibility, transforming the industry with heightened competition and evolving business models.

Investments in maintaining and improving infrastructure, such as dredging channels and maintaining locks, are crucial. Inland water transportation connects with coastal and seaport facilities, serving as transfer hubs between oceangoing vessels and smaller barges for inland transport.

Remaining critical to the global transportation network, air transportation offers unmatched speed and connectivity. Ongoing advancements and adaptations contribute to the resilience and evolution of the aviation industry.

The Air transportation market plays a pivotal role in global trade and the supply chain

Overview: Market Definition

Market definition

The Air Transportation market is a market within the transportation industry that focuses on the transport of goods and materials by air in order to meet specific logistical needs. Air transportation is integral to supporting commercial activities, contributing to efficient supply chains, global trade, and timely delivery of cargo.

Air transportation includes air cargo airlines and freight forwarders, both tailored to meet the needs of businesses involved in the exchange of goods.

The Air Transportation market covers the top 10 airports in Europe, the volume of goods transported, and transportation efficiency.

The Air transportation market looks to move 0.9 TKM of goods in 2024

Overview: Key Takeaways and in scope / out of scope

Key Takeaways

Volume of goods transported in Air market is projected to amount to 247.20 billion TKM in 2024.

Transportation intensity in the world is projected to amount to 0.00014TKM/GDP.

In scope

This market includes:

- Air cargo airlines
- Air freight consolidation

Out of scope

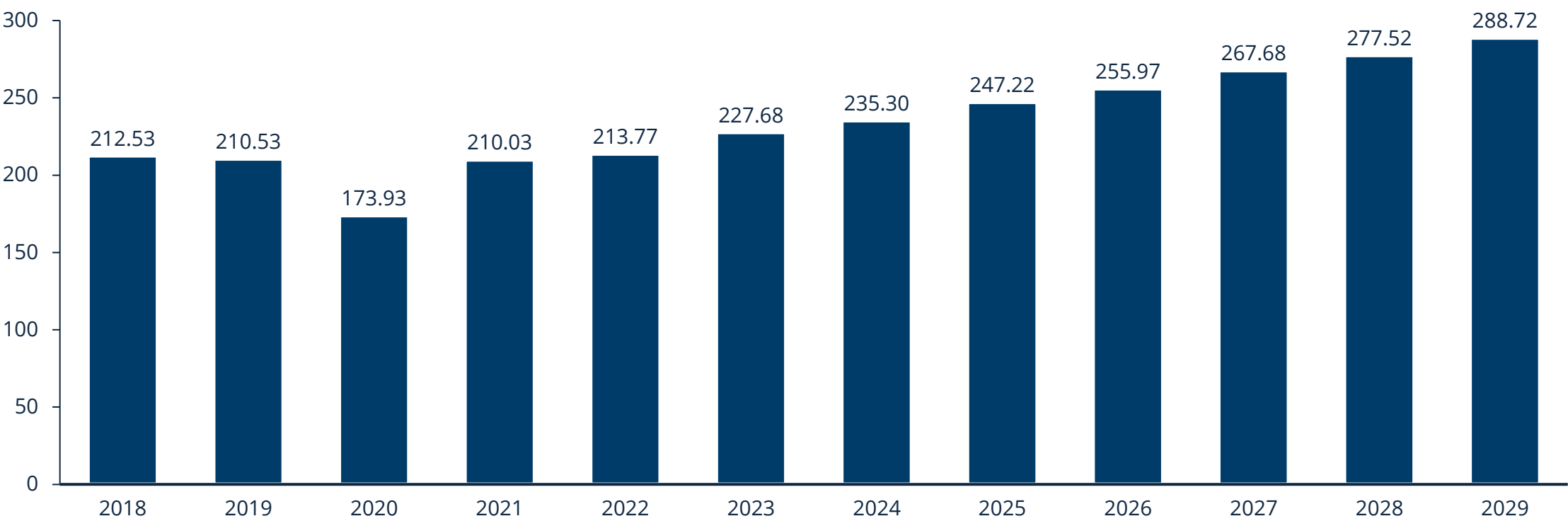
This market excludes:

- Express shipping and couriers
- Temperature-controlled transport
- Project cargo and oversized freight
- Global air freight network

The air transported freight volume is projected to increase from 2018 to 2029

Market Size: Global

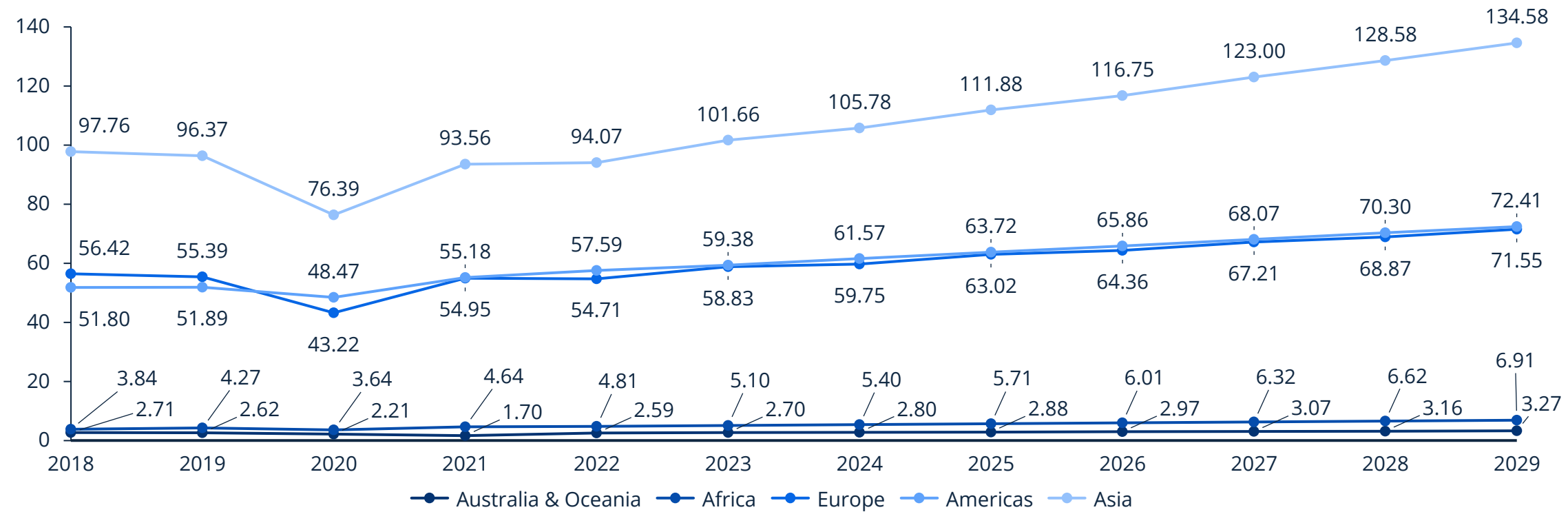
Freight transported forecast in billion ton-kilometres



Asia is expected to still be the largest air freight transport region in 2029, with 134.58 trillion TKM

Market Size: Regional Comparison (1/2)

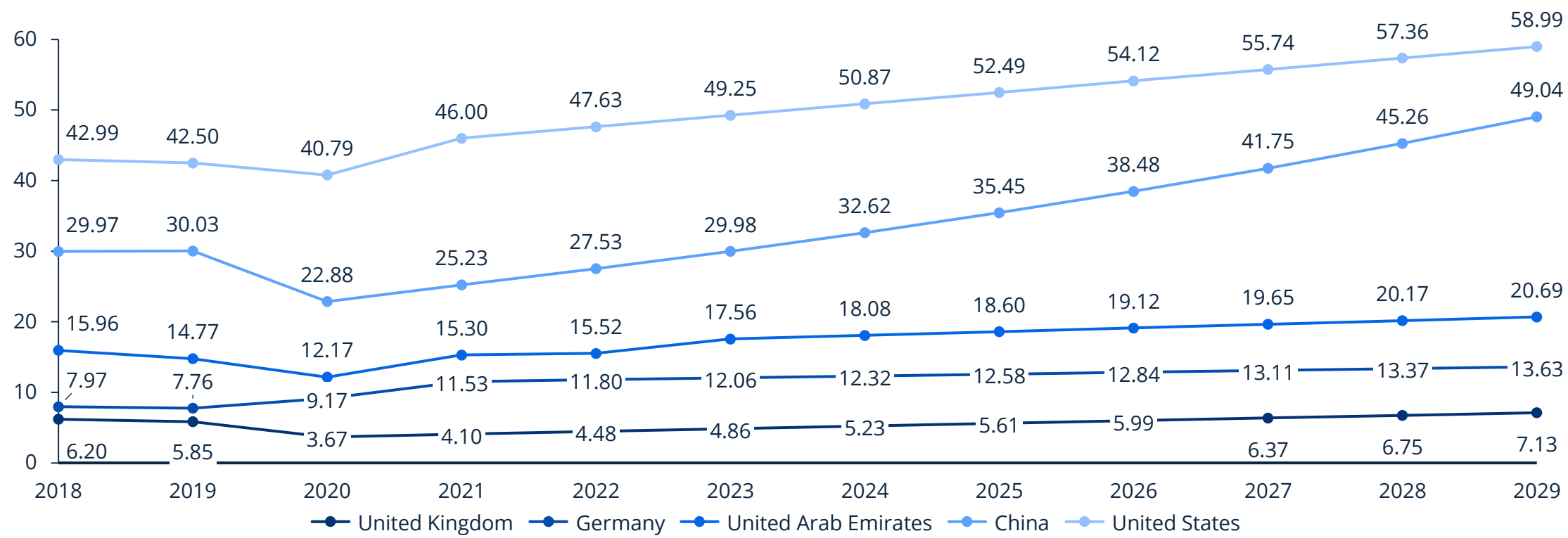
Freight transported forecast in billion ton-kilometres



The United States continue to be the largest air freight transport market among selected regions from 2018 to 2029

Market Size: Regional Comparison (2/2)

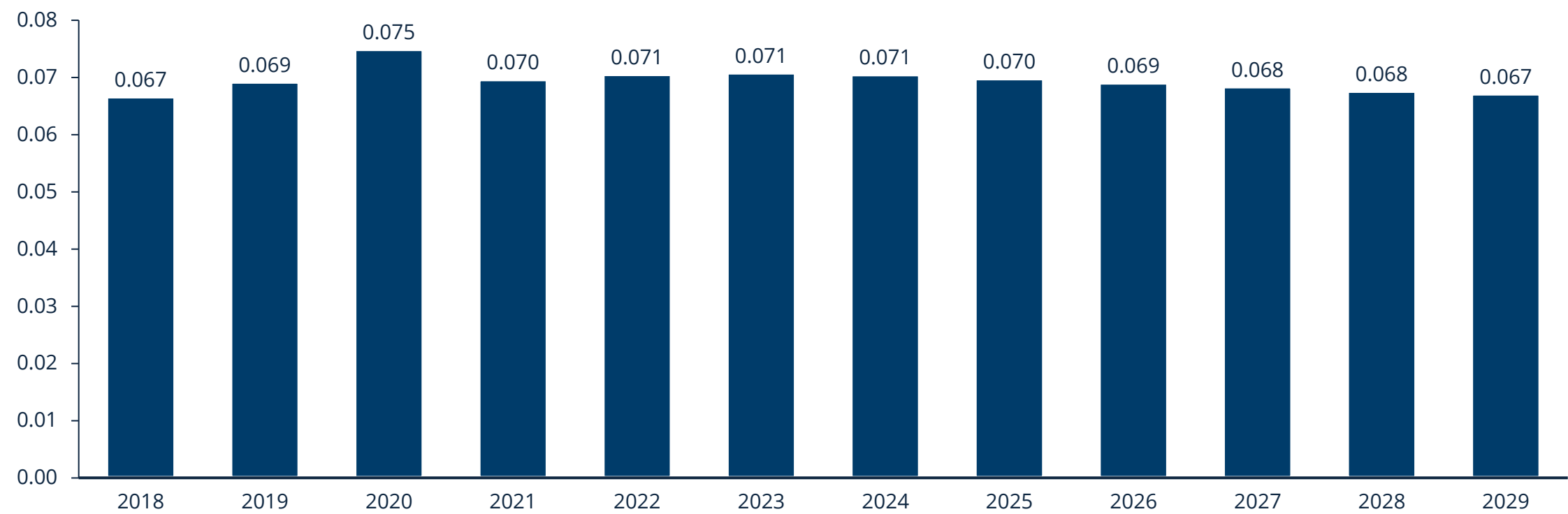
Freight transported forecast in billion ton-kilometres



The forecast for air transportation intensity indicates an overall stable trend

Market Size: Global

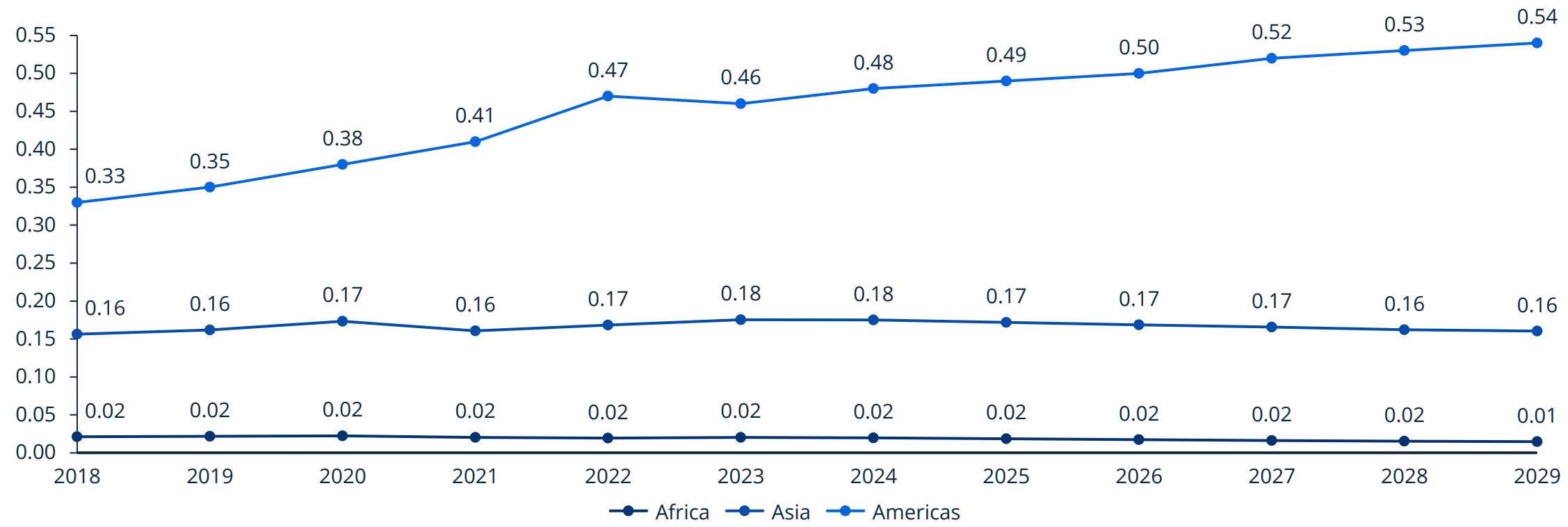
Transportation intensity forecast TKM/GDP



The Americas are predicted to have the highest Air transportation intensity in 2029

Market Size: Regional Comparison (1/2)

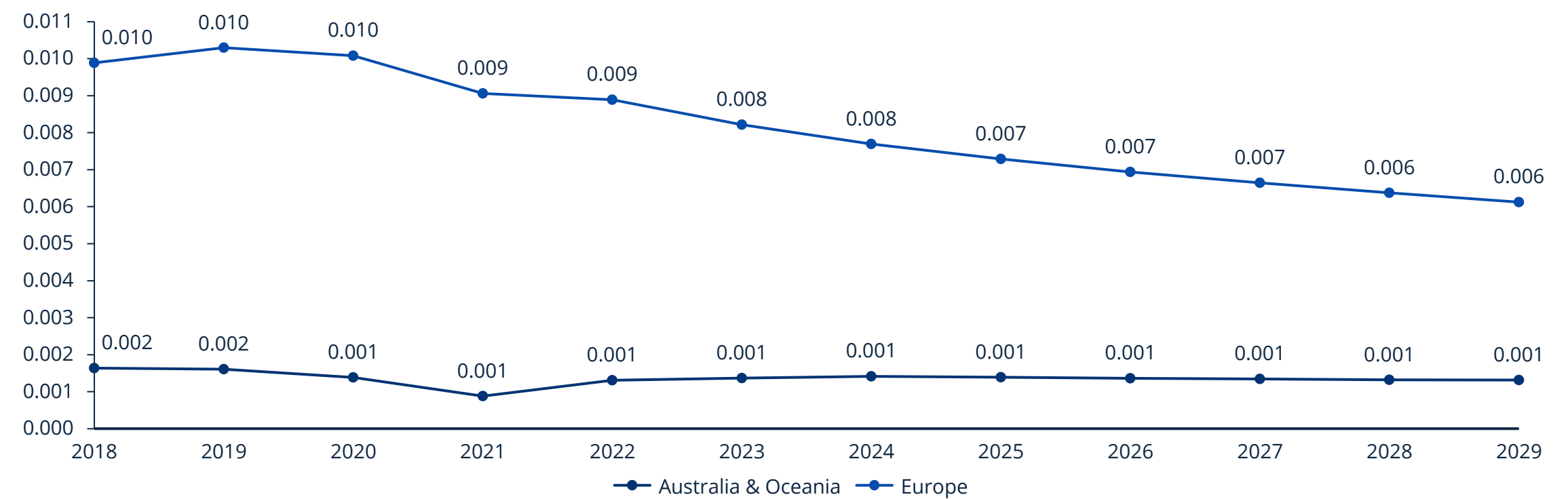
Transportation intensity forecast TKM/GDP



Europe is predicted to have a decreasing Air transportation intensity by 2029

Market Size: Regional Comparison (1/2)

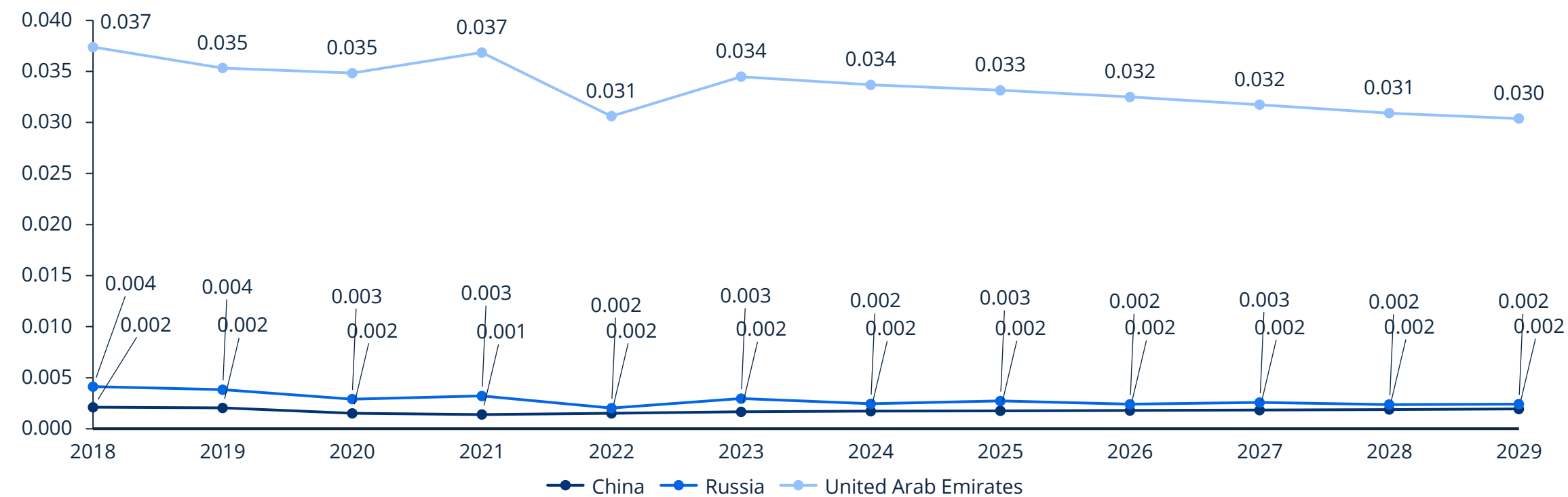
Transportation intensity forecast TKM/GDP



In 2023, United Arab Emirates stands out with the highest transportation intensity at 0.034 TKM/GDP

Market Size: Regional Comparison (2/2)

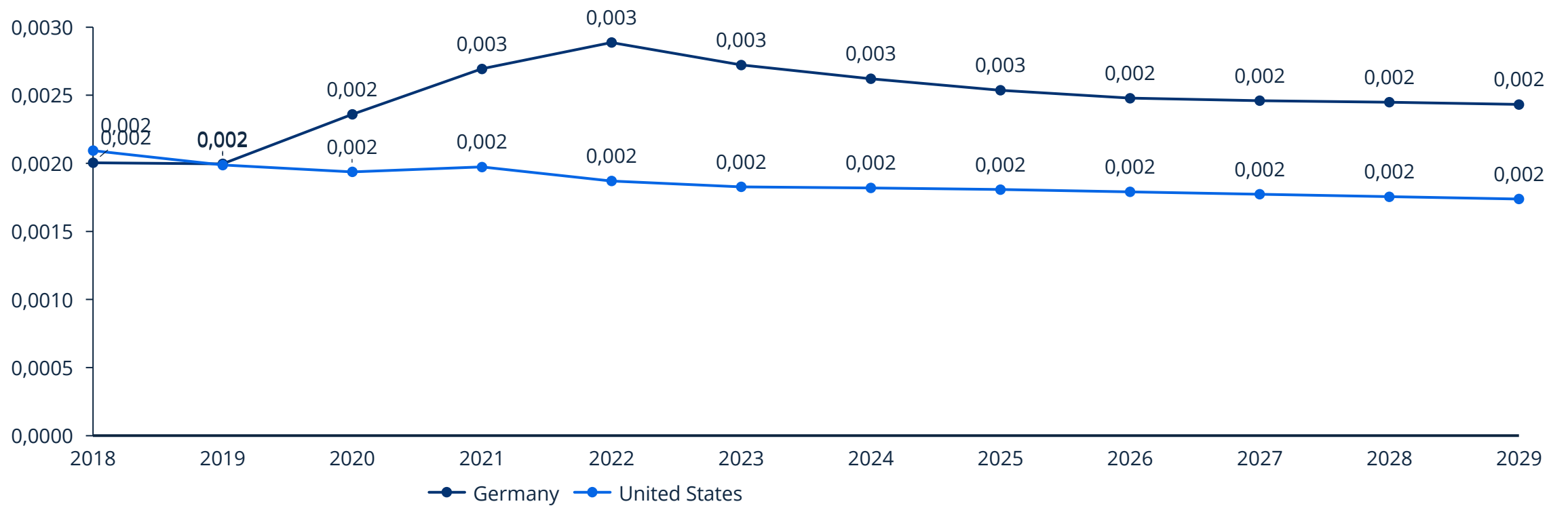
Transportation intensity forecast in TKM/GDP



In 2023, Germany's transportation intensity continues to top the one from the United States

Market Size: Regional Comparison (2/2)

Transportation intensity forecast in TKM/GDP



The air transportation industry seeks out solutions to their environmental and cost needs

Trend analysis

Environmental Impact

Air transportation, while efficient for long-distance and time-sensitive deliveries, has a significant environmental footprint due to greenhouse gas emissions. The industry's reliance on fossil fuels contributes to air pollution, carbon emissions, and climate change, raising concerns about sustainability and environmental responsibility. To combat this issue the industry is exploring alternative fuels and sustainable aviation fuels (SAFs) derived from renewable sources such as biofuels, synthetic fuels, and hydrogen. SAFs offer the potential to reduce emissions and dependency on fossil fuels while ensuring compatibility with existing aircraft and infrastructure

Short-haul flights

As advancements in electric propulsion technology continue to evolve, the trend of electrification in air transportation, particularly for short-haul flights, is gaining momentum. Electric airplanes offer the potential to reduce emissions and operating costs compared to traditional combustion engine aircraft. With innovations in battery technology and electric motor efficiency, electric aircraft are becoming increasingly feasible for short-distance routes, promising a more sustainable and efficient future for regional air travel.

Leading European airports are determined based on the highest gross weight of freights and mail handled

Gross weight in billions

Airport	Country	2023
Paris-Charles de Gaulle Airport	France	1.705
Frankfurt Airport	Germany	1.532
Leipzig Halle Airport	Germany	1.031
Amsterdam Airport	Netherlands	1.029
Liège Airport	Belgium	0.732
Cologne Bonn Airport	Germany	0.644
Luxembourg Airport	Luxembourg	0.590
Milan Malpensa Airport	Italy	0.473
Adolfo Suárez Madrid-Barajas Airport	Spain	0.445
Brussels Airport	Belgium	0.210

MARKETS

Water Transportation



Water transportation plays a crucial role in the movement of raw materials

Overview: Summary

Summary

Inland water transportation efficiently moves goods along rivers, lakes, and other inland waterways, known for its cost-effectiveness, especially for bulk goods. Suited for transporting coal, grain, and raw materials, barges can carry substantial cargo, making it economical for specific industries.

It is often part of intermodal networks, connecting with road and rail via rivers and canals, facilitating goods movement between different modes. Considered environmentally friendly, it generally has lower emissions per ton-mile, utilizing natural waterways as sustainable infrastructure.

Critical for industries along waterways, it supports moving raw materials to manufacturing centers and distributing finished goods, contributing to regional and global trade. In some regions, seasonality can impact inland water transportation, requiring measures like icebreakers in winter.

Investments in maintaining and improving infrastructure, such as dredging channels and maintaining locks, are crucial. Inland water transportation connects with coastal and seaport facilities, serving as transfer hubs between oceangoing vessels and smaller barges for inland transport.

Playing a vital role in moving goods and passengers, inland water transportation offers a sustainable and economically viable option for regions with navigable rivers and waterways.

The Water transportation market plays an indispensable role in the transportation market

Overview: Market Definition

Market definition

The Water Transportation market is a submarket within the transportation industry that focuses on the transport of goods and materials by water to meet specific logistical needs. Water transportation plays a key role in industrial and commercial activities, supporting global supply chains and contributing to economic growth and the development of water-based transportation infrastructure.

Water transportation includes two main types of transportation: maritime shipping and inland water transportation.

The Water Transportation market covers the top 10 ports in Europe, the volume of goods transported, and transportation efficiency.

The projected volume of goods transported by the Water transportation market in 2024 is 7.71 trillion TKM

Overview: Key Takeaways and in scope / out of scope

Key Takeaways

Volume of goods transported in the Water market is projected to amount to 7.71tn TKM in 2024.

Transportation intensity in the world is projected to amount to 0.07TKM/GDP.

In scope

This market includes:

- Inland water freight transportation

Out of scope

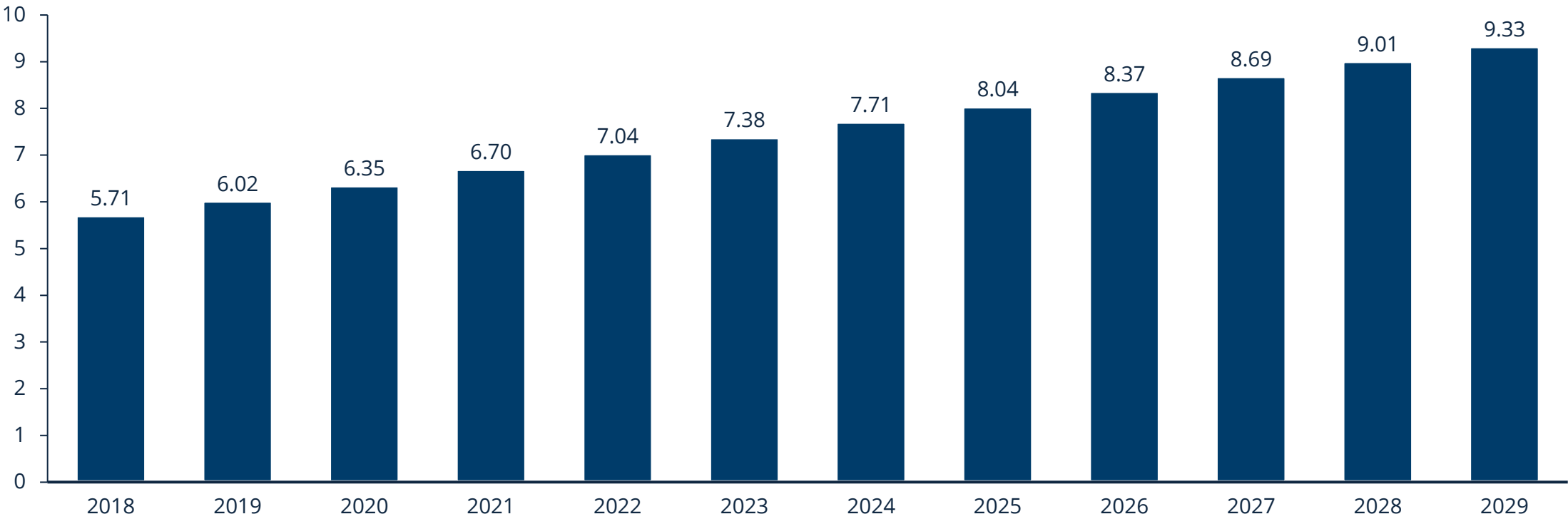
This market excludes:

- Maritime shipping
- Cruse liners
- Ferry Services
- non-inland water freight transportation
- Passenger transportation
- Goods transportation by water outside the country

A growing trend global water freight transport is expected globally from 2018 to 2029

Market Size: Global

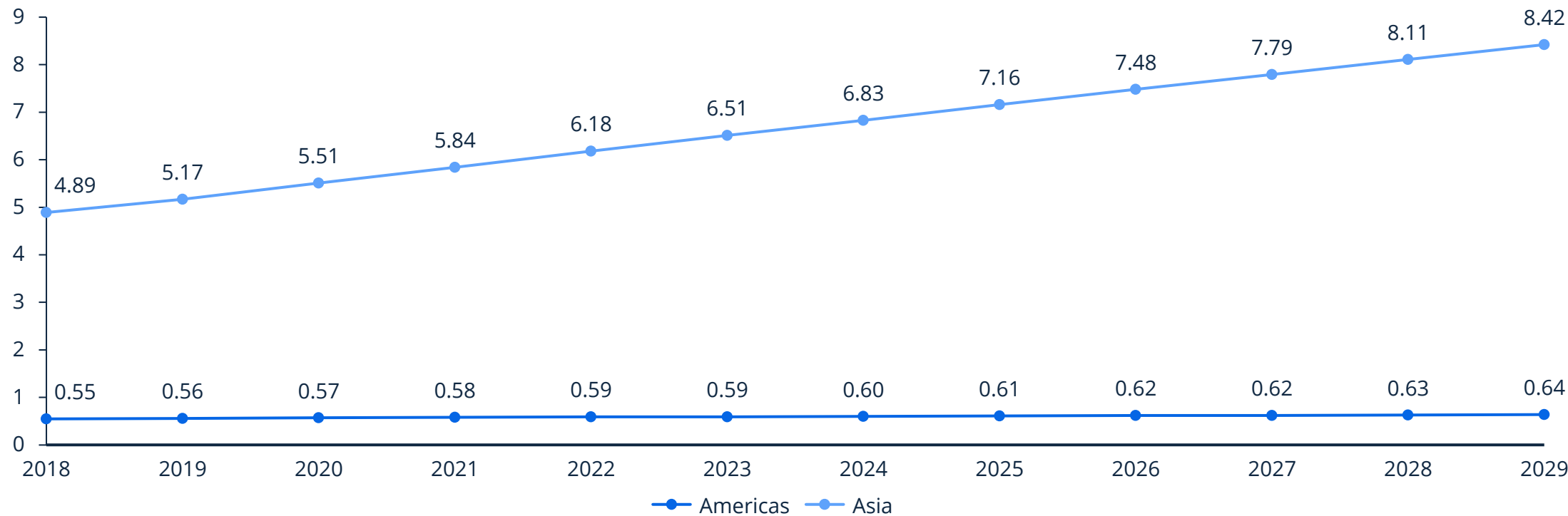
Freight transported forecast in trillion ton-kilometres



In 2029, the water freight transport markets are anticipated to be further dominated by Asia

Market Size: Regional Comparison (1/2)

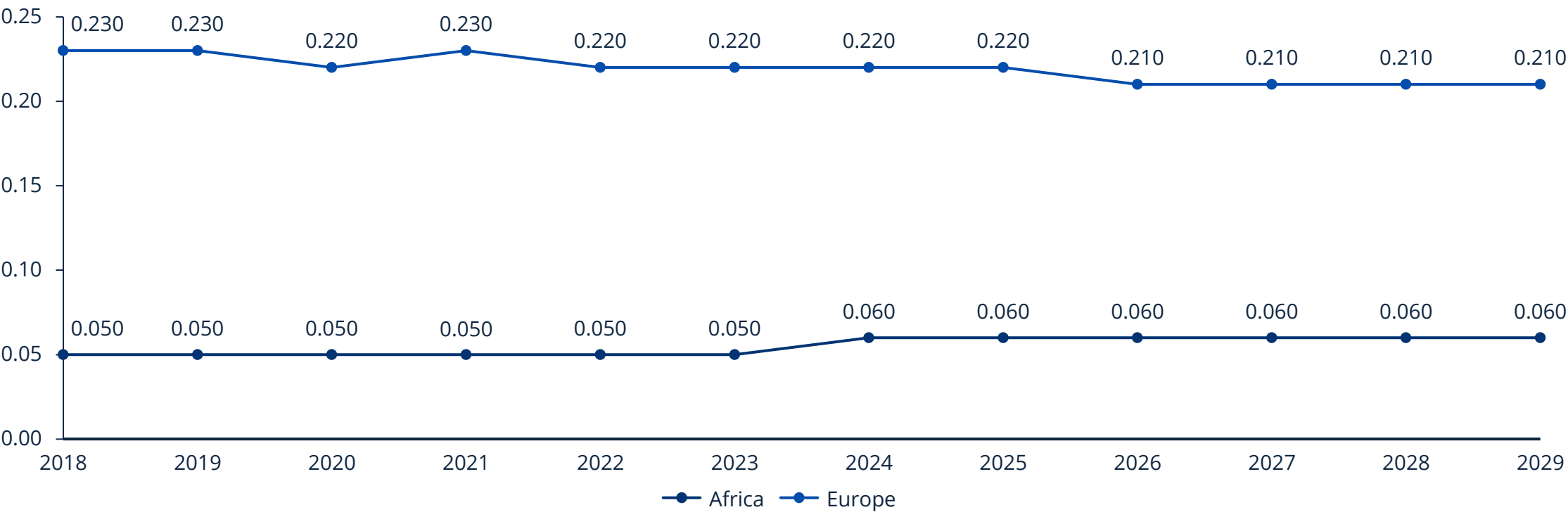
Freight transported forecast in trillion ton-kilometres



Africa continues to have the smallest market in Water freight transported in 2029

Market Size: Regional Comparison (1/2)

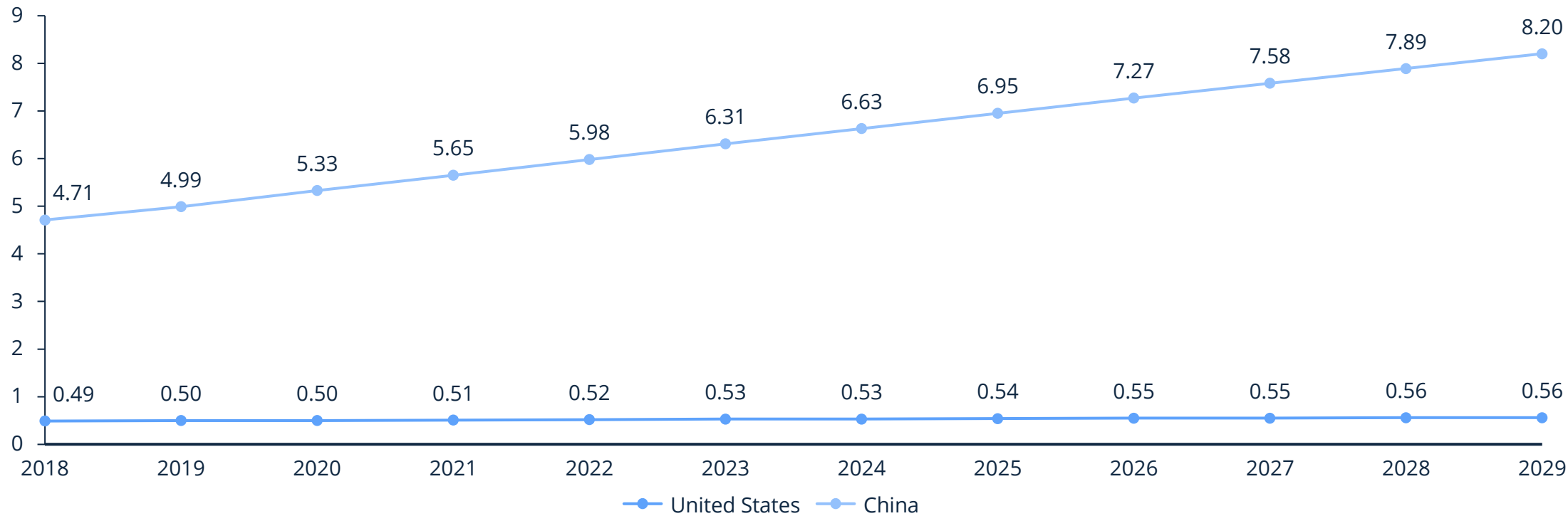
Freight transported forecast in trillion ton-kilometres



With freight transported of 5.5 trillion TKM, China is the biggest market among selected countries in 2023

Market Size: Regional Comparison (2/2)

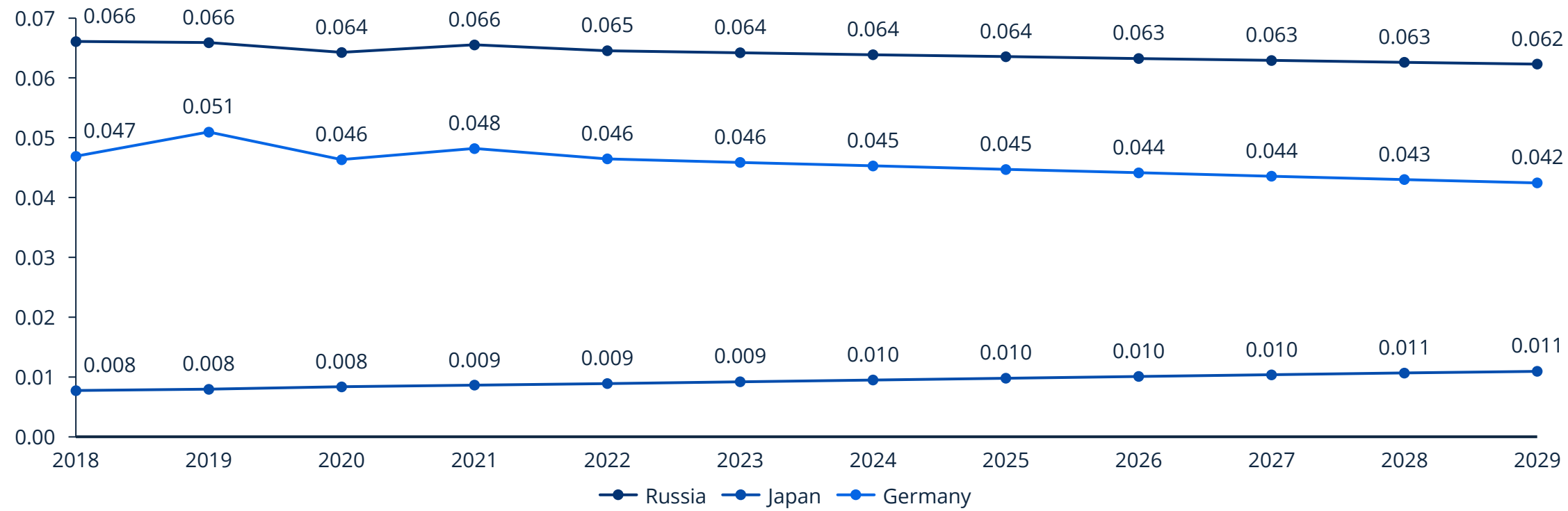
Freight transported forecast in trillion ton-kilometres



In 2023, Japan has the smallest market among selected countries, with a freight volume of 9.21 trillion TKM

Market Size: Regional Comparison (2/2)

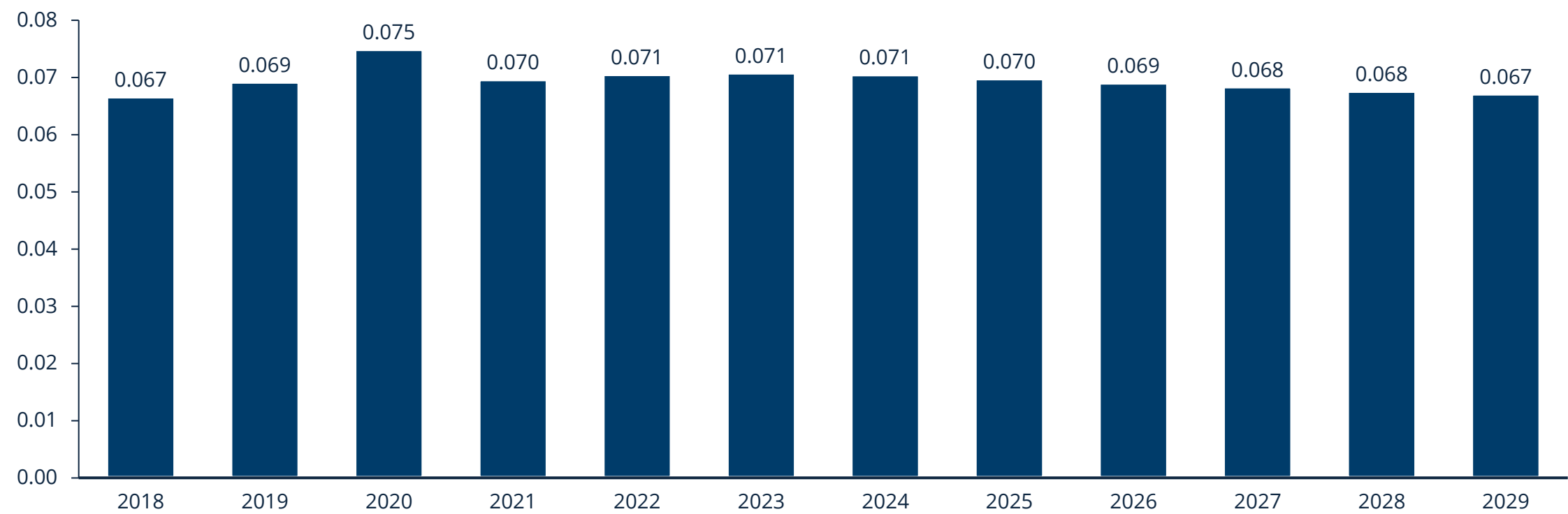
Freight transported forecast in trillion ton-kilometres



The forecast anticipates a decrease in Water transportation intensity from 2018 to 2029

Market Size: Global

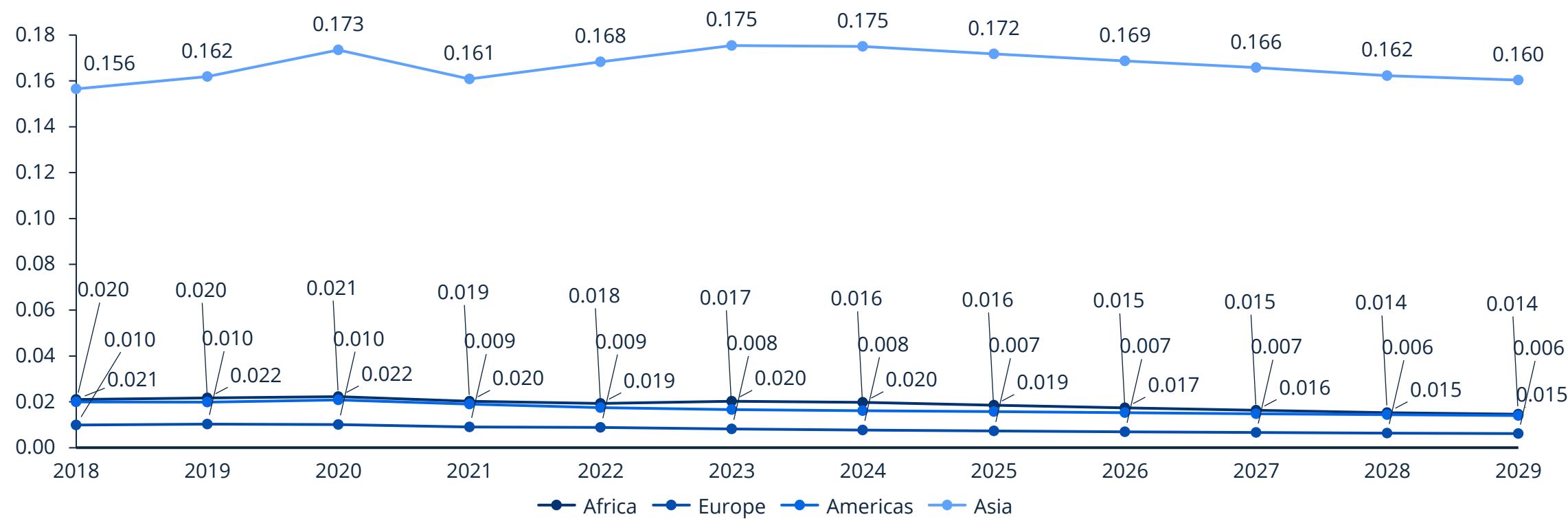
Transportation intensity forecast TKM/GDP



In 2029, Asia is expected to still have the highest Water transportation intensity

Market Size: Regional Comparison (1/2)

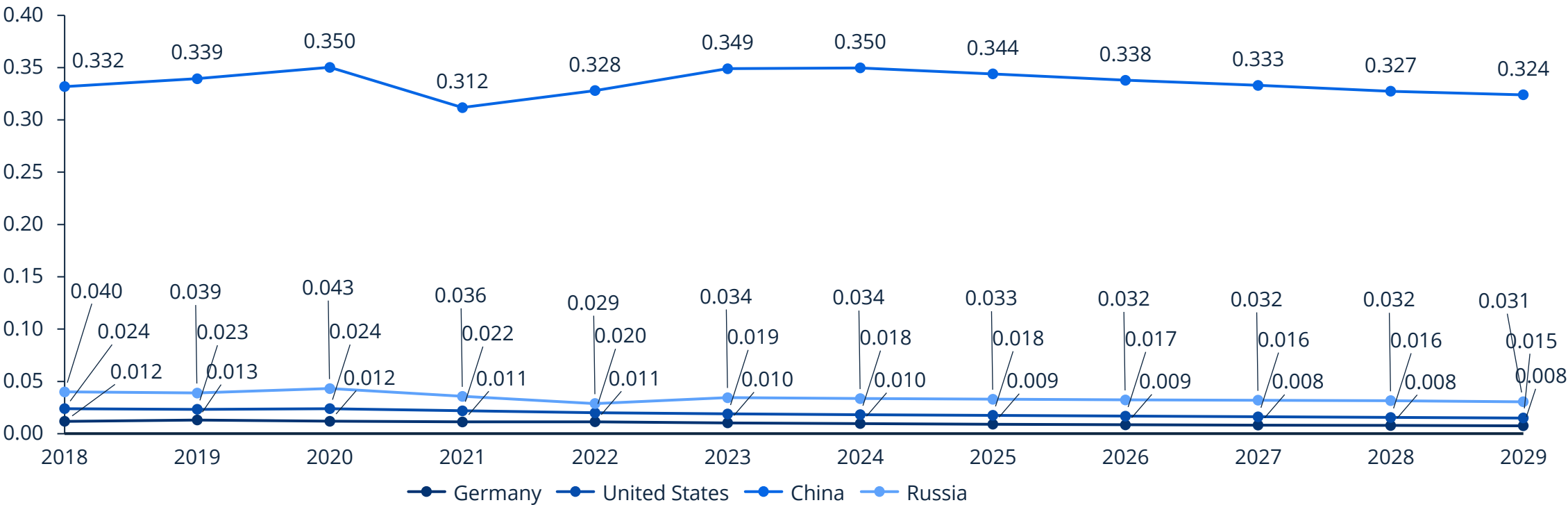
Transportation intensity forecast TKM/GDP



China stands out with an intensity of nearly 0.35 TKM/GDP in 2023

Market Size: Regional Comparison (2/2)

Transportation intensity forecast TKM/GDP



Top European ports are ranked based on the highest gross weight of freights handled

Further market analysis

Gross weight in billion kilograms

Port	Country	2021
Rotterdam	Netherlands	215.9
Hamburg	Germany	434.6
Antwerpen	Belgium	111.2
Amsterdam	Netherlands	88
Algeciras	Spain	83
Marseille	France	70
Valencia	Spain	69
Trieste	Italy	61
Le Havre	France	57
Barcelona	Spain	54

Advancements in waterway infrastructure and digital navigation systems are underway

Trend analysis

Modernizing locks and dams

Modernizing locks and dams, crucial parts of this transportation system, this includes repairing old structures, adding new technology to make navigation easier, and making sure the environment isn't harmed during the process. Upgrades also aim to connect water transportation with other ways of moving goods, like trains and trucks, to make shipping more efficient and businesses more competitive. Modernized locks and dams help local economies grow by creating jobs and attracting investments while making shipping faster and cheaper.

Digital Navigation

The integration of digital technologies for navigation involves incorporating advanced digital tools and systems to enhance navigation processes on waterways. This modernization effort aims to improve the efficiency, safety, and accuracy of vessel navigation, making inland water transportation more reliable and effective for businesses. Digital navigation technologies include GPS systems, electronic charts, and real-time monitoring platforms that provide accurate location information, route planning assistance, and navigational guidance to vessel operators. By leveraging digital technologies, vessels can navigate waterways more efficiently, reduce the risk of accidents, and optimize fuel consumption, resulting in cost savings and operational benefits for businesses.

CHAPTER 3

Appendix



STATISTA MARKET INSIGHTS

Market Insights – market data, forecasts, and qualitative insights

Gain a better understanding of markets across 190+ geographical entities – on a global, regional, country, and/or state level. Access our data via web interface, download (XLS, PDF, PPT), or reports. Benefit from our 48-hour customer service guarantee.

- **10 sectors:** advertising & media, consumers, countries, digital sector, finance, health, industrial sector, mobility, and technology
- **1,000+ markets,** e.g., FinTech, Food, or Robotics
- **KPIs,** e.g., revenue, market shares, prices, and volume
- **Features:** Compare countries & regions, change currencies, select visualizations, and/or customize downloads
- **Use cases:** sales planning, investment decision support, resource allocation, and portfolio management

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The screenshot displays the Statista Market Insights website. The top navigation bar includes links for 'Prices & Access', 'Statistics', 'Reports', 'Insights' (marked as 'NEW'), 'Infographics', and 'Services'. A search bar is located on the right. The main heading reads 'MARKET INSIGHTS Discover the future of global industries'. Below this is a search input field with the placeholder 'Find your market, e.g., FinTech' and a search button. A list of 'Popular markets' includes FinTech, Digital Health, Passenger Cars, and Social Media Advertising. A featured report titled 'Manufacture of Furniture' is shown with a bar chart. A 'VIDEO TUTORIAL' section titled 'Take a look at the Market Insights' features a video thumbnail. At the bottom, four icons represent the platform's capabilities: 10 sectors, 190+ geographical entities, 1,000+ markets, and 400+ reports.

10
sectors

190+
geographical
entities

1,000+
markets

400+
reports

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