PTOLEMUS Consulting Group

COMMERCIAL FLEET TELEMATICS

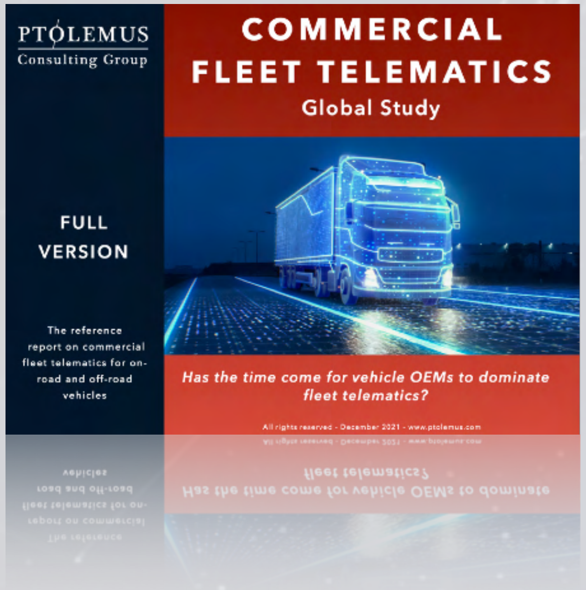
Global Study

FREE ABSTRACT

The reference report on commercial fleet telematics for on-road and off-road vehicles

Has the time come for vehicle OEMs to dominate fleet telematics?

This is the most complete report on telematics solutions for commercial fleets of on-road and off-road vehicles



More than just market research.

A strategic analysis on the telematics business of commercial vehicle and heavy equipment fleets

- A **635**-**page analysis of the global commercial fleet telematics market** based on:
  - 11 years of constant market surveillance
  - 26 interviews with key stakeholders
  - Nine months of desk research
- **An in-depth introduction to the commercial fleet telematics market, with analyses into** the telematics value chain, new technologies, benefits of telematics, and the Covid-19 impact
- **A Total Cost of Ownership (TCO) analysis of commercial vehicles**
- **Granular analysis of telematics in on-road, construction and agricultural industries** that includes:
  - Cost structure, revenues and telematics needs of fleet operators
  - Supply and demand analysis of current telematics solutions
  - Major players in the telematics value chain and their strengths
- **An in-depth assessment of 39 companies supplying fleet telematics (23 TSPs and 16 OEMs) analysing:**
  - Their telematics business and corporate strategy
  - Their value proposition, pricing model, target segments, positioning and partnerships
  - A benchmark and gap analysis of their solution
- **2020-2030 bottom-up market forecasts encompassing:**
  - The number of vehicles in use for both on-road fleet telematics and off-road fleet telematics
  - Subscriptions and revenues for the on-road telematics market, split by OEM and aftermarket
  - Subscriptions and revenues for the off-road telematics market, split by OEM and aftermarket
  - Regional projections for Europe, Americas, Asia Pacific, Africa and Middle East

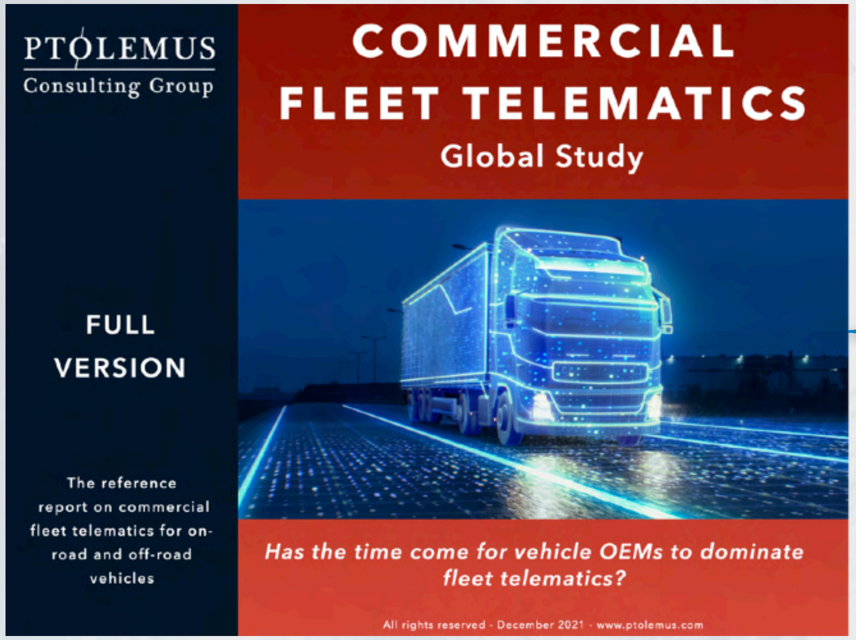
The study answers the following key strategic questions on the commercial fleet telematics landscape

What is the strategy of major OEMs in telematics?

What are customers´ expectations to a fleet telematics service provider?

How can telematics improve the TCO of commercial fleet vehicles?

What will be the role of aftermarket devices in the future commercial fleet telematics market?



What are the trends and drivers for commercial fleet telematics growth between 2020 and 2030?

Will OEMs´ telematics solutions challenge existing TSPs´ business?

What is the impact of government legislation on the commercial telematics industry?

What will be the role of new and emerging players in the CFT* value chain?

What will be the size of the commercial fleet telematics market in 2030 by region?

In which country will CFT* grow the most by 2030?

Which suppliers are leading in the market?

What are the differences between on-road and off-road commercial fleet telematics?

To order the study or enquire about our new subscription model, contact fleet@ptolemus.com

*CFT - Commercial fleet telematics

The commercial fleet telematics market is growing, and OEMs will strengthen their position to the detriment of TSPs

Fleet telematics relies on various technologies to create, transmit, store, analyse and visualise vehicle data.

Technological progress in areas like vehicle connectivity, geo-location and electrification opens for a potential shift in who the dominant players in fleet telematics are.

Since the mid-90s, the industry has been heavily associated with the aftermarket, with countless players providing both hardware and service solutions to meet the needs of commercial fleets.

Old habits die hard…

The on-road* commercial fleet market is still wary of telematics. There is general agreement that telematics, **if correctly implemented,** can yield significant benefits. However, there are still too many examples of data overload occurring, with fleet demands for more personalised insights being overlooked in favour of meeting the demands of the many.

In the off-road* segment, issues abound with respect to data privacy and vehicle ownership rights in North America and Europe. However, big telematics growth drivers are the shortage of skilled operators, the sub-optimal management of the vehicle TCO** and the inefficient operation of equipment.

… but OEMs are responding

Aftermarket Telematics Service Providers (TSPs) currently dominate the on-road commercial fleet telematics market. That dominance will increasingly be challenged during this decade.

OEMs' strategic position benefits from being present in the entire value chain. They keep adding connectivity to their vehicles.

By 2024, we expect approximately 83% of all new vehicles to have embedded telematics.

Almost all OEMs have adopted the strategy of offering free, often time-limited telematics solutions with the purchase of a new vehicle or machine equipment.

In addition to connectivity, OEMs keep adding app marketplaces with many specialist services to their vehicles. The recently added app marketplace from Daimler, Volvo, MAN and Navistar illustrate this. They allow third-party integrations from both large full-service TSPs such as Geotab. The examples of Navistar´s integration with Geotab, Samsara and Cloudera as well as Daimler's fully "open" Virtual Vehicle™ are illustrations of much more to come.

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Note: * On-road commercial vehicles include trucks, coaches and vans while off-road vehicles include vehicles and equipment for agriculture, construction, mining and forestry. ** TCO = Total Cost of Ownership.

The commercial fleet telematics market is growing, and OEMs will strengthen their position to the detriment of TSPs

The connected, autonomous and electrified future for commercial vehicles will play into the hands of OEMs

The previously mentioned OEM-TSP partnerships enable TSPs to source vehicle data directly from OEMs. This removes the need for aftermarket hardware and will help OEMs become a major source of vehicle data for both TSPs and fleet operators. It will enable fleet operators to **monitor, maintain**, and crucially **compare electrified products** with their existing fleet vehicles.

With the shift to electrified powertrains, TSPs will further increase their reliance on OEM-supplied data, unless there is a universal demand from fleet operators for other solutions.

The post 2025 target of full operational L4+ autonomy for commercial vehicles (i.e. in South Korea) adds to the factors working in OEMs' favour.

The scene is therefore all set for the market to swing towards OEM-related solutions from 2025 to 2030. PTOLEMUS forecasts that subscriptions to OEM-related services will **grow nearly twice as quickly as aftermarket subscriptions** during this decade. As a result, OEMs' share of active telematics subscriptions will grow from 3% in 2020 to 46% in 2030. This will leave OEMs near parity with TSPs.

A market that will multiply sixfold in volume

Today the global fleet telematics market counts 23 million active subscriptions. **Nearly 70% of these subscriptions are accounted for by the on-road sector,** with a balanced mix between Asia Pacific, Europe and North America.

In the next 8 years, APAC is forecast to grow twice as fast as Europe and North America, resulting in 70 million active subscriptions in the region by 2030.

The APAC growth will be predominantly driven by two factors. First, connected construction machinery from leading regional manufacturers like SANY and Liugong, supplying China and the region's insatiable thirst for "yellow iron" and the growth in construction. Second, significant autonomy developments from local TSPs such as G7 in partnership with Inceptio, advancing rapidly the autonomous on-road haulage industry.

Overall we expect commercial fleet telematics subscriptions to surpass **150 million**, and represent a global market worth **€24 billion by 2030.** Due to the sheer volume of vehicles, on-road telematics will dominate with 95% of the 2030 revenues, while the aftermarket will still account for 73% of global revenues.

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Note: * On-road commercial vehicles include trucks, coaches and vans while off-road vehicles include vehicles and equipment for agriculture, construction, mining and forestry. ** TCO = Total Cost of Ownership.

PTOLEMUS Source: PTOLEMUS

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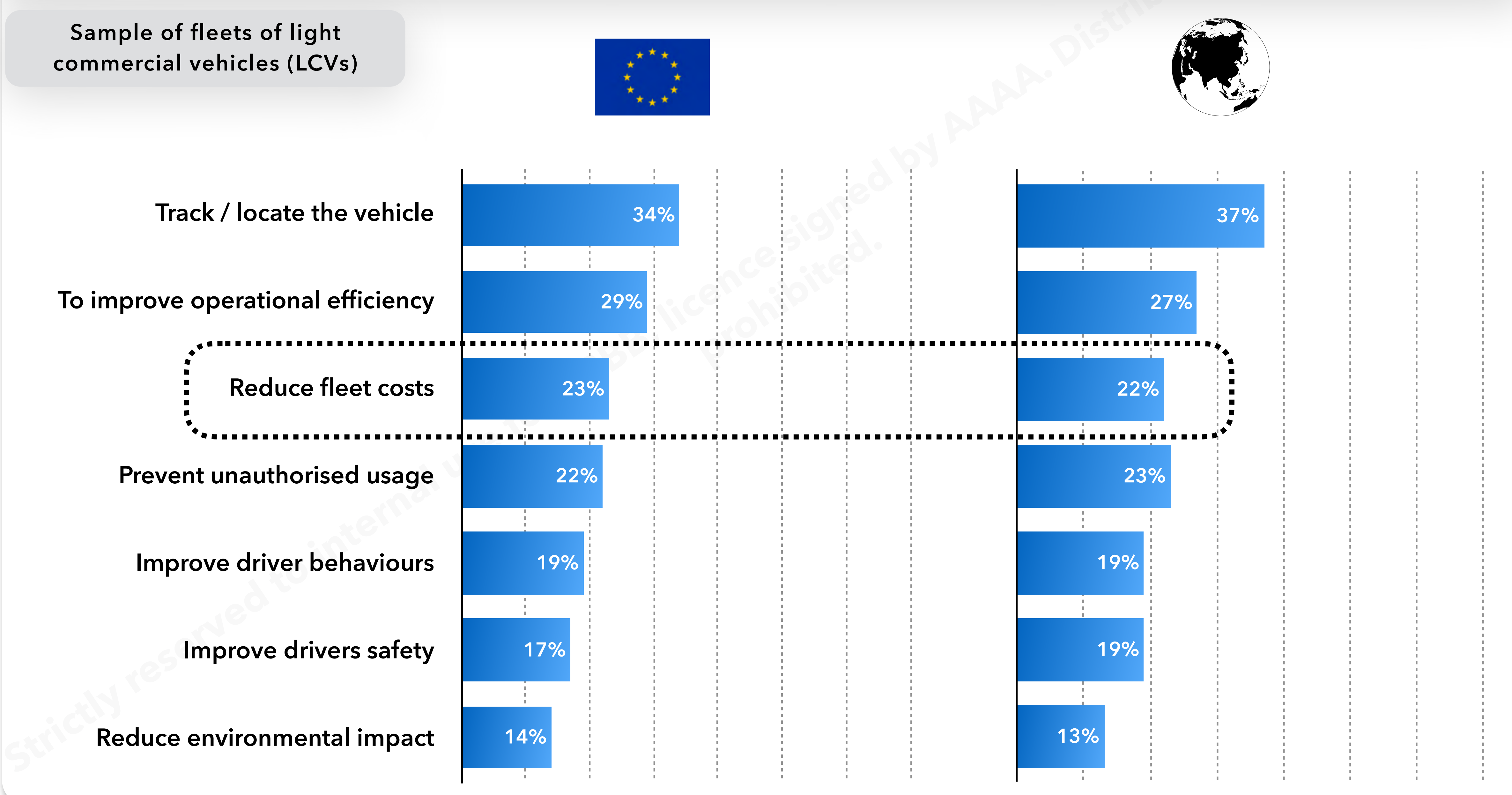
Source: PTOLEMUS

Extract of two TCO slides

Track and trace, improving efficiency and reducing costs are important factors for adopting telematics in LCVs

Main reasons for using telematics by company size

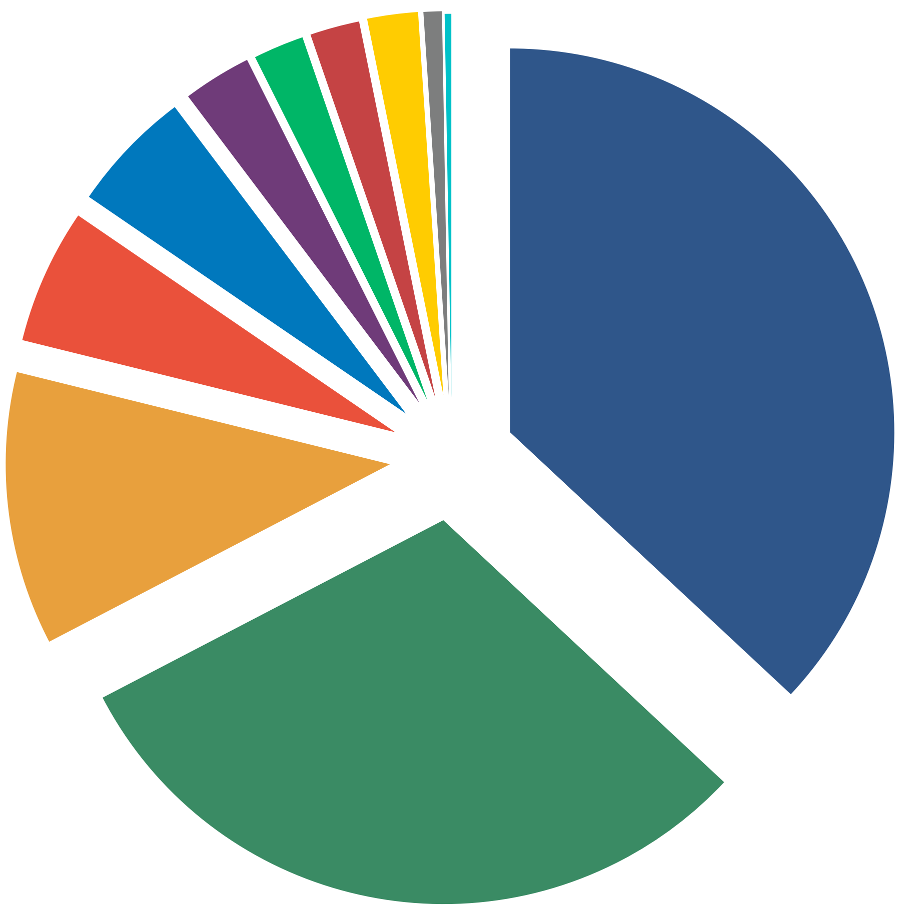


Source: Arval mobility observatory - 2020 research composed of 5600 interviews globally

By applying fleet telematics, PTOLEMUS estimates an average 10 % saving on TCO per vehicle is possible

TCO variation using FMS solutions

TCO for HGVs with FMS (UK case)



- Costs reduction thanks to telematics are most impacting on (read the full report)
- **In the UK case previously explained, introduction of FMS solutions could save up to % of the TCO**
  - The total cost per vehicle per year would be reduced from €* to €* , achieving savings of €*
  - **The FMS cost represents only *% of the TCO**
- Fuel and Driver costs could be improved thanks to routing and coaching features, **reducing costs by *%**
  - For instance, TX-FUELBOT from Transics, **uses Big Data analytics to optimise fuel consumption**
- Maintenance is the sector with the highest average **TCO reduction, it can reach *%;**
  - In the future **the savings could increase more thanks to predictive and prescriptive maintenance**
- According to our primary research, in-cab cameras and driver coaching solutions, could **reduce insurance costs up to *%**
- **Telematics services can reduce the TCO by 10% on average**

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Source: PTOLEMUS; * Note : all data available in the full report

Extract of two slides from the gap analysis of the market

OEMs are ahead of TSPs in the development of predictive maintenance services

Availability of telematics services provided by OEMs

Full services
Planned/partial service

		DAIMLER	MAN	NAVISTAR	PACCAR	SCANIA	TATA MOTORS	VOLVO TRUCKS
Visibility	Geofencing and routing							
	Total fleet management							
	Third party integration							
	Fleet management software							
Ease of use	High-speed connectivity							
	Installation support							
	Customer service							
	Maintenance reminders							
Productivity & Efficiency	Productivity consulting							
	Route guidance							
	Productivity assessment							
	Predictive maintenance							
	OTA maintenance updates							
	Prescriptive maintenance							
	Remote diagnostic							

Detailed and full comparison in the report

Source: PTOLEMUS

OEMs target visibility and productivity services for off-road telematics, but few provide productivity consulting

Availability of telematics services provided by OEMs

Full services
Planned/partial service

HITACHI Inspire the Next | AGCO Your Agriculture Company | DOOSAN | CATERPILLAR | CNH INDUSTRIAL | KOMATSU | JCB | Kubota | JOHN DEERE

Visibility
- Geofencing and routing
- Total fleet management
- Third party integration
- Fleet management software

Ease of use
- High-speed connectivity
- Installation support
- Customer service
- Maintenance reminders

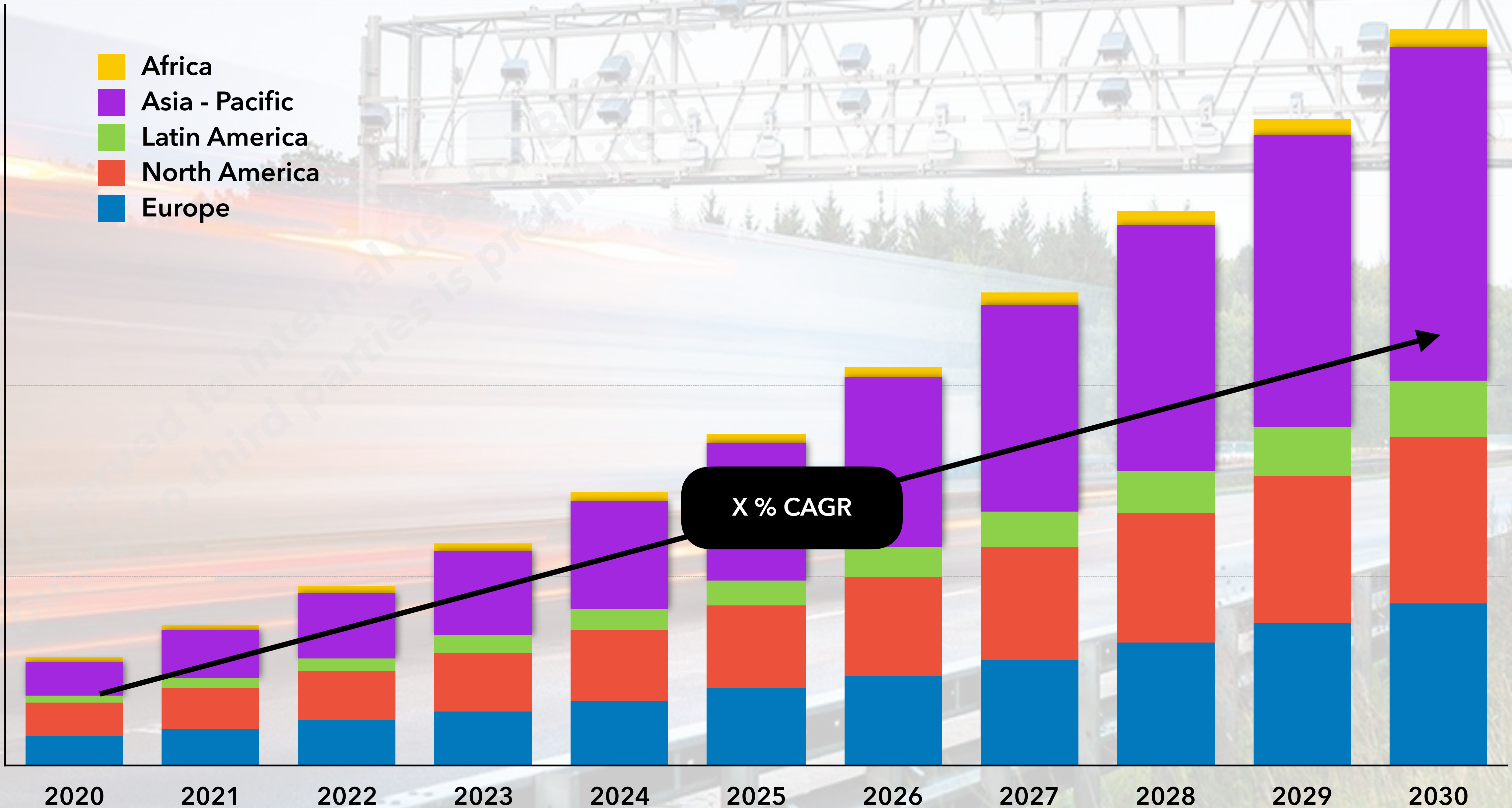
Productivity & Efficiency
- Productivity consulting
- Route guidance
- Productivity assessment
- Predictive maintenance
- OTA maintenance updates
- Predictive maintenance
- Remote diagnostics

Detailed and full comparison in the report

Extract of two market forecast slides

Global active subscriptions are forecast to grow at X % per annum, with Y % of subscriptions based in APAC by 2030

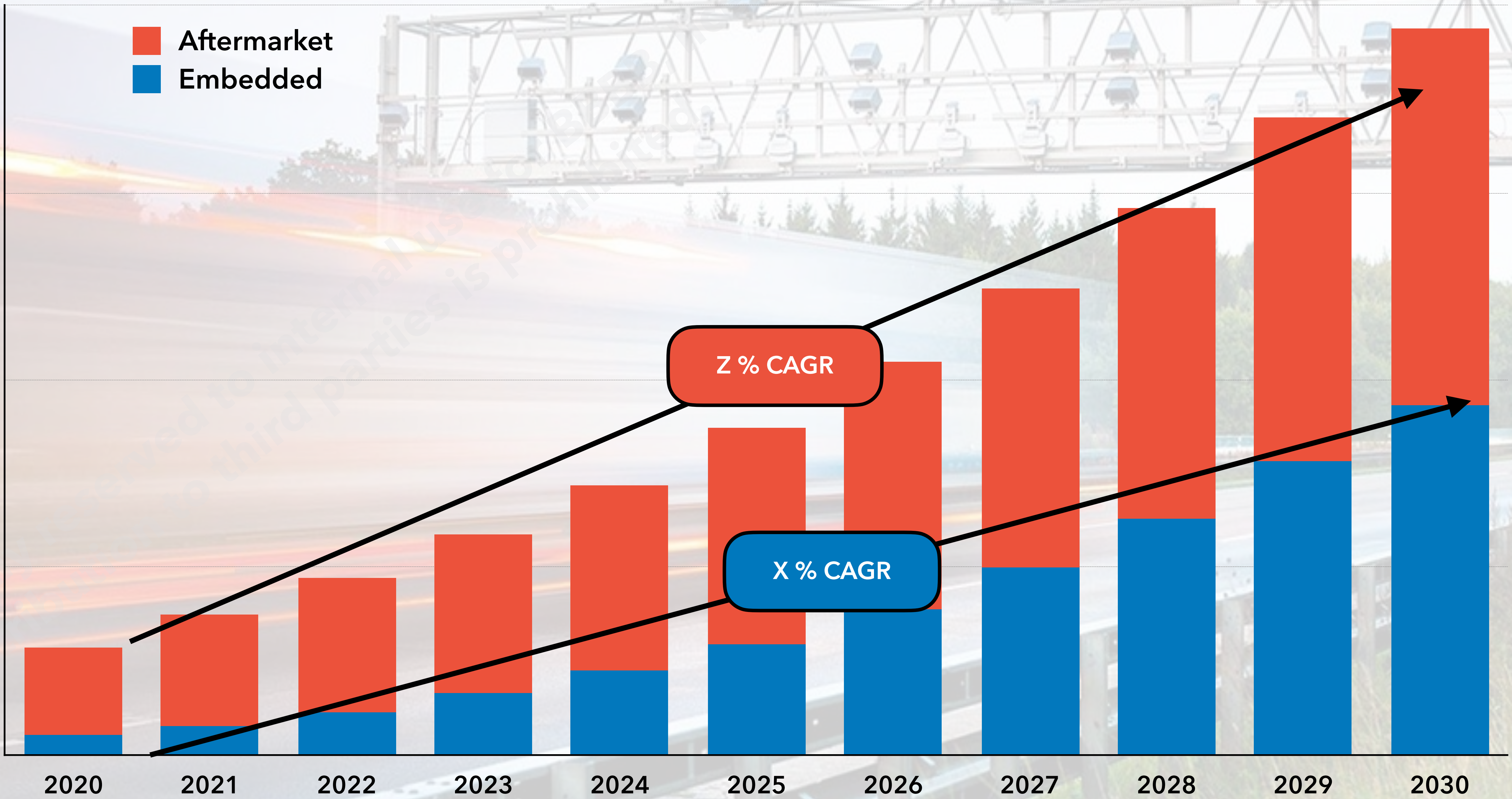
Global subscriptions from on-road and off-road for embedded and aftermarket telematics (million)



Source: PTOLEMUS

Embedded subscriptions will grow at X %, reducing global aftermarket subscriptions to Y % by 2030

Global subscriptions for embedded and aftermarket telematics (million)



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Source: PTOLEMUS

Extract of two slides from the conclusions

TSPs currently dominate the on-road sector but OEMs will increase their market presence by providing vehicle data

- **Today, OEMs´ telematics offerings are at a basic level** when compared to aftermarket TSPs but will start to leverage the **data ownership** from their embedded devices
- **OEMs are focusing on future market opportunities**, for example Traton's RIO, which is focused on **goods management** rather than vehicle management. Other examples include:
  - Uber Freight, Sixth sense, Sendr* and Project44* are all initiatives integrating telematics with the transport of goods
- **OEMs are developing functionalities to improve their telematics capabilities and compete more directly with third-party TSPs:**
  - Daimler partnered with Platform Science, a fleet software platform focused on logistics and transportation sector
  - The platform acts as a marketplace and offers own services as well as third-party apps
  - Isuzu Commercial Truck recently confirmed a long-term collaboration with Decisiv, the industry-leading provider of dealer Service Relationship Management (SRM) software for its dealer network
- As a result, TSPs and other software platform providers will increasingly rely on OEMs´ connected data to **offer additional services**
- Subsequently, **partnerships** between TSPs and OEMs will increase
  - OEMs are positioning themselves to be an open platform-enabling data exchange (e.g. Navistar's partnership with Geotab, Samsara, Cloudera)

Source: PTOLEMUS, *Notes: https://sendr.co.za/, https://www.project44.com/

TSPs are leveraging "open" communication standards to boost coverage of fleet operators´ mixed vehicle fleets

- Off-road **OEMs currently hold a dominant position in the off-road market, accounting for approximately 78% of all active telematics service subscriptions**
- The advent of **AEMP 2.0** has caused these OEM platforms to now open further, enabling improved mixed fleet service provisioning
- **OEMs are predominantly leveraging turn-key TSP solutions** to boost **after-sales revenue** in the form of **parts and servicing**
- However, PTOLEMUS predicts that the "opening-up" of vehicle diagnostics, via communications standards such as **AEMP2.0** which was introduced in 2020, will give the aftermarket an opportunity to grow its customer base by leveraging OEMs' telematics APIs
- PTOLEMUS forecasts that active subscriptions in the aftermarket segment (including those connected to OEM line-fitted devices) will grow at **% annually through to 2030**
- This will be due to more equipment coming into the off-road area, pre-connected, and capable of providing a wider array of data directly to TSPs´ platforms in a more standardised format
- In addition, machine owners, particularly in the North American agriculture sector, are pushing back against OEMs, **claiming the right to repair:**
  - The **Right to Repair (R2R) movement** is being heavily contested in the United States **between farmers and agricultural machinery manufacturers**
  - End-users are demanding the **legal right** to choose how their machinery is repaired, without the invalidation of warranties or the denial of access to diagnostics data
- Furthermore, OEMs such as AGCO will increasingly move to a fully **open model** cooperating with as many TSP providers as possible to provide the best service/ customer experience possible for end-users
- As a result of the technical and political forces at play, the need for third-party hardware will be negated, impacting TSP revenues, and enabling TSPs to focus on software provision, leveraging direct data feeds and providing competitive mixed-fleet services to end-users
- The outcome is that aftermarket revenues will grow **through to 2030**, and be valued at **€ million**
- The combined value of off-road telematics services from OEMs and aftermarket TSPs is estimated to be worth **over €1.3 billion** by 2030

Source: PTOLEMUS

PTOLEMUS Consulting Group

About PTOLEMUS

The first strategy consulting & research firm entirely focused on augmented mobility & automation

Strategy consulting services

- **Strategy definition**
- **M&A advisory**
- **Procurement strategy**
- **Innovation management**
- **Business development**
- **Project management**

Market research services

- **Off-the-shelf reports**
- **Subscription services**
- **Custom market research**

Fields of expertise

Mobility services	Car pooling Car sharing MAAS	Micro-mobility Ride hailing Shared mobility	Smart parking Tax refund
Vehicle services	bCall eCall FMS SVT / SVR	Tracking VRM In-car Wi-Fi Parking	Navigation Speed cameras Traffic information
New energies	BEV EV charging Fuel cards	Fuel cells Hydrogen	PHEV Vehicle-to-grid
Usage-based charging	Car As A Service Electronic Toll Collection	Mobility-as-a-Service RUC	UBI / PAYD Vehicle rental Vehicle leasing
Vehicle data & analytics	AI CAN-bus Crowd-sourcing Data protection	Driver safety OBD Predictive analytics	Remote diagnostics xFCD
Vehicle automation	ADAS Autonomous cars	Autonomous trucks	Robo-taxis Shuttles
Enabling technologies	Positioning (GNSS / WiFi / cellular) M2M / connectivity	Smartphones Sensors	Telematics devices V2X

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Device & location suppliers

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Telematics solution providers

Arkan, arvento, Cambridge Mobile Telematics, Danlaw, DigiCore, drivefactor, edriving, Eliocity, FleetComplete, Fleetmatics, GSGroup, LoJack, masternaut, Mobile Devices, IMS, kasko2go, Meta System, Octo, Quartix, Queclink, SafeFleet, smobl, Sistema, Scope Technologies, Tantalum, verizon, Viasat

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AAA Insurance, Admiral, Agero, Aioi Nissay Dowa Insurance MS&AD Insurance Group, Allianz, Allstate, American Family Insurance, Aviva, AXA, Baloise, carrot, Coovea, Crédit Agricole Assurances, Desjardins, europ assistance, Farmers Insurance, FIA, Generali, The Hartford, IAG, ICICI Lombard, intact, Inter Mutuelles Assistance, Ingosstrakh, HUK, Liberty Mutual, MACIF, Matmut, Menora, Mondial Assistance, Munich RE, Sompo Japan, Nationwide, OUT Surance, Promutuel Assurance, RAC, RSA, smile direct, Société Générale, SOS International, StateFarm, Swiss Re, telesure, Tokio Marine, youi, Zurich

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Fleet & fuel, ITS & regulators

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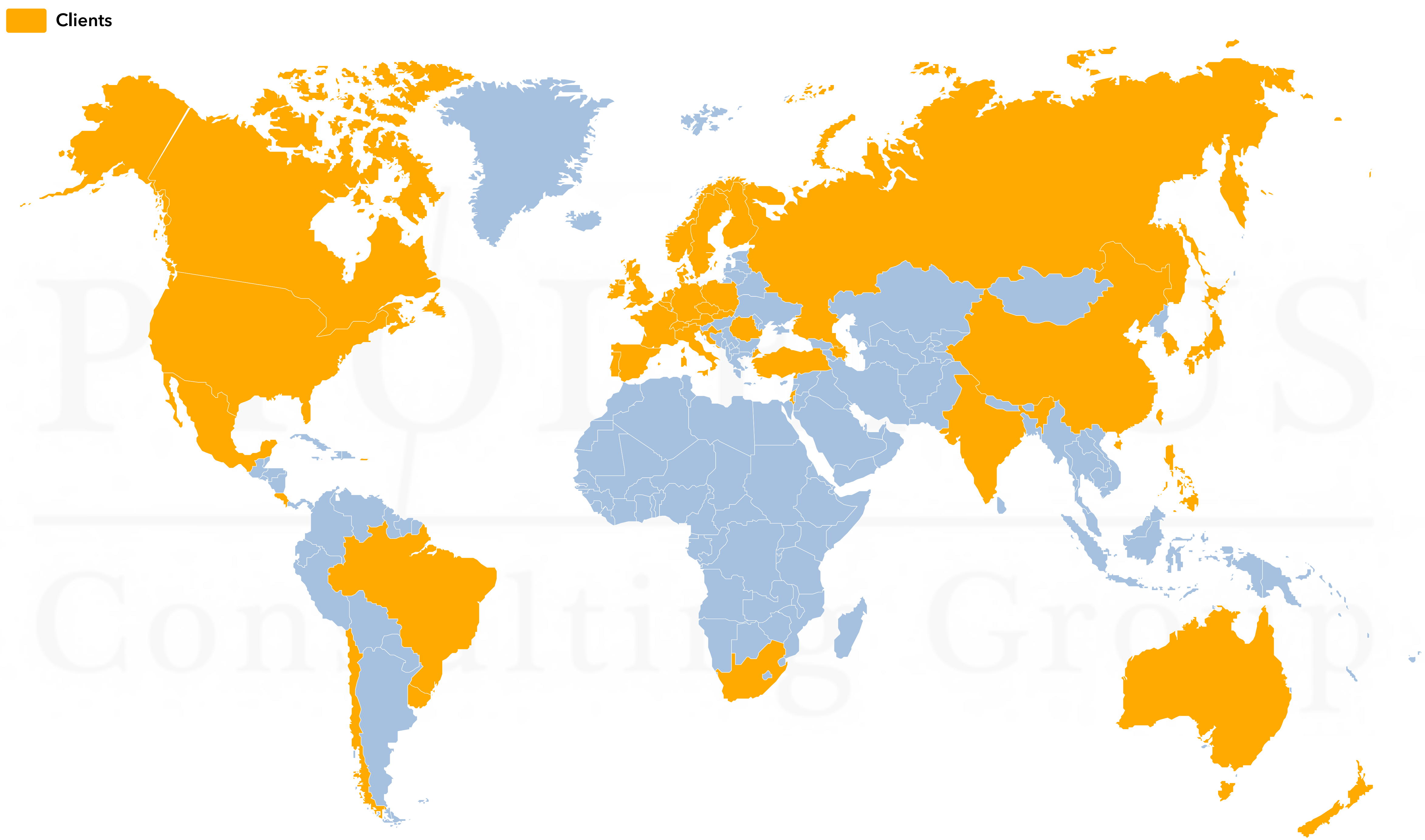
Our team of consultants, experts & analysts consisting of 16 nationalities helps our clients worldwide



PTOLEMUS can help your organisation define and achieve its fleet strategy in fast-moving times

- **Strategy definition**
  - Strategic plan
  - Market entry assistance
  - Data strategy and analysis
  - Connected vehicle / telematics strategy
  - Decarbonisation strategy
  - Strategy orientation workshops
- **Innovation strategy**
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  - Telematics product definition
  - Consent management
  - Data analytics & monetisation strategy
- **Innovation delivery**
  - Proof of concept design & launch
  - Architecture definition
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  - Assistance in management of decarbonisation plan
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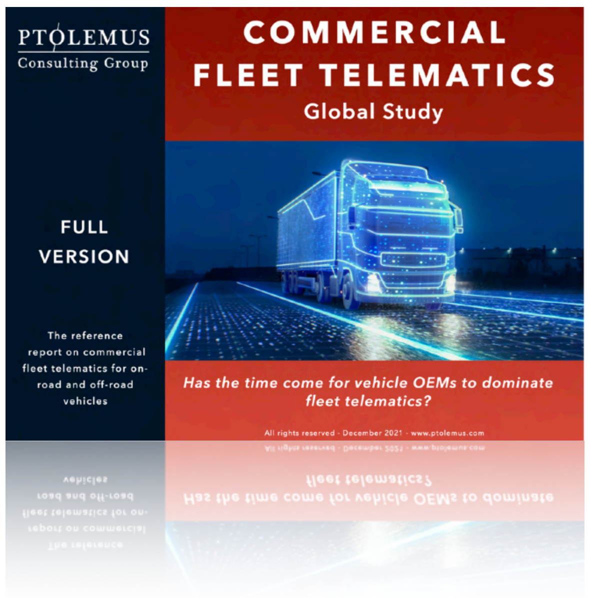
The study comes with a single, worldwide company licence



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	Report ONLY		Market forecasts	FULL report & market forecasts
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Contents	• A 635-page analysis of the global commercial fleet telematics landscape based on: - 11 years of constant market surveillance - 26 interviews with key stakeholders - Nine months of desk research • Granular analysis of telematics in on-road, construction and agriculture, including: - Cost structure, revenues and telematics needs of end-users - Supply and demand analysis of current telematic solutions • Major players in the telematics value chain and their strengths • An in-depth assessment of 39 companies engaged in commercial fleet telematics		• Excel file with outputs and charts • **2020-2030 bottom-up market forecast encompassing:** • The number of vehicles in use for both on-road fleet telematics and off-road fleet telematics • Subscriptions and revenues for the on-road telematics market, split by OEM and aftermarket • Subscriptions and revenues for the off-road telematics market, split by OEM and aftermarket • Regional projections for Europe, Americas, Asia Pacific, Africa and Middle East	Includes all report and market forecast content as described
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