

Fleet Management – World 2020

A complete set of ten unique reports - offering in-depth analysis and unique insights into the global fleet management market.

This package offers more than 1400 pages of excellent reading and comprises the following titles in Berg Insight's IoT Research Series:

The Video Telematics Market

The Global Off-Highway Vehicle Telematics Market

Fleet Management in Europe

Fleet Management in Russia/CIS and Eastern Europe

Fleet Management in the Americas

Fleet Management in South Africa (including Africa outlook)

Fleet Management in Australia and New Zealand

Trailer and Cargo Container Tracking

The Global Construction Equipment OEM Telematics Market

The Airport Asset Tracking Market

Please find below the summaries for each of the reports included in this package.

Summary

Executive summary

The integration of cameras to enable various video-based solutions in commercial vehicle environments is one of the most apparent trends in the fleet telematics sector. Berg Insight's definition of video telematics includes a broad range of camera-based solutions deployed in commercial vehicle fleets either as standalone applications or as a subset or extension of conventional fleet telematics. Berg Insight estimates that the installed base of active video telematics systems in North America reached almost 1.6 million units in 2019. Growing at a compound annual growth rate (CAGR) of 15.7 percent, the active installed base is forecasted to reach more than 3.2 million units in North America by 2024. In Europe, the installed base of active video telematics systems is estimated to less than 0.5 million units in 2019. The active installed base is forecasted to grow at a CAGR of 16.1 percent to reach close to 1.0 million video telematics systems in Europe by 2024.

The video telematics market is served by a number of different types of players, ranging from specialists focused specifically on video telematics solutions for various commercial vehicles, to general fleet telematics players which have introduced video offerings, and hardware-focused suppliers offering mobile digital video recorders (DVRs) and vehicle cameras used for video telematics. Berg Insight ranks Streamax, Lytx and Samsara as the leading video telematics players in their respective categories. Streamax is the leading hardware provider and the company also offers software dashboards which are widely used together with its devices. Lytx has the largest number of video telematics subscriptions, reaching more than 600,000 connected devices protecting 1.3 million drivers in 2019. Among the general fleet telematics players, Samsara stands out as an important provider with a sizable number of camera units deployed across its subscriber base. Additional major players in this space further include the video safety specialist SmartDrive Systems, the fleet management player KeepTruckin and the video telematics company SmartWitness. The remaining top-10 providers are Nauto, Trimble, SureCam and VisionTrack. Other noteworthy video telematics players include Netradyne, Seeing Machines, CameraMatics and LightMetrics which have all reached installed bases in the tens of thousands.

Summary

Executive summary

Berg Insight's definition of the off-highway vehicle market includes various equipment such as specialised heavy machinery, lighter equipment and other vehicles used in the construction, mining, agriculture and forestry sectors. Off-highway vehicle telematics refers to telematics hardware and associated software solutions deployed for remote monitoring and management of fleets of machinery and equipment used in these sectors. Early initiatives among the heavy equipment OEMs started to emerge already in the 1990s and many manufacturers followed suit in the 2000s. Today, most equipment manufacturers have introduced some type of telematics offerings for their customers, either as a result of in-house development or through collaborative efforts involving third-party technology partners powering telematics solutions commonly under the OEMs' brands. A wide range of aftermarket providers have entered the off-highway vehicle telematics space, offering solutions for various assets including multi-brand equipment fleets. Solutions available on the market enable the delivery of vehicle management, operator management and safety management applications linking off-highway machines and enterprise IT systems.

Berg Insight estimates that the global installed base of active off-highway vehicle telematics systems reached 3.3 million units in 2018. This includes connected units deployed on various off-highway vehicles across the construction, mining, agriculture and forestry sectors. The construction sector accounts for the largest share, driven by OEM telematics systems offered by heavy equipment manufacturers. Agriculture and mining moreover each account for a similar number of connected units deployed on machines and vehicles used in agricultural and mining operations respectively. The remainder is represented by the forestry sector including telematics systems fitted to various forestry equipment. Growing at a compound annual growth rate (CAGR) of 17.8 percent, the active installed base of off-highway vehicle telematics systems across all sectors is forecasted to reach 7.5 million units worldwide in 2023. The North American market is estimated to be slightly larger than the European. The Rest of World is moreover estimated to represent more than half of the global installed base of off-highway vehicle telematics systems.

The top-10 equipment manufacturers offering telematics together account for more than 70 percent of the total number of off-highway vehicle telematics systems in use across the construction, mining, agriculture and forestry sectors globally. Berg Insight ranks Caterpillar and Komatsu as the leading off-highway vehicle telematics providers. Caterpillar is well on its way to achieve its target of 1 million connected assets this year. Other major manufacturers with installed bases of more than 100,000 units include Hitachi Construction Machinery, JCB, Deere & Company and Volvo Construction Equipment. Additional players having installed bases of off-highway vehicle telematics units in the tens of thousands include Doosan Infracore, Liebherr, CNH Industrial, CLAAS Group and Hyundai Construction Equipment.

The aftermarket for off-highway vehicle telematics is expected to shrink as the equipment manufacturers continue to introduce standard fitment on additional machine models and at the same time increase the length of free software subscriptions. Arguments such as the OEMs' weak spot being the inability to adequately serve the needs of mixed multi-brand fleets are becoming less valid thanks to initiatives such as the AEMP telematics standard which makes it possible for a fleet operator to collect data from different brands and manage it all in its software interface of choice. There are however promising opportunities for telematics players that partner with the OEMs, either as end-to-end full-service providers or – in many cases maybe more realistically – working alongside OEM personnel to optimise the telematics functionality. In addition to the standard-fitted systems and time-limited subscriptions commonly included for free, the telematics players can also benefit from upselling of more advanced functionality. There are already several notable examples of partner-powered and co-developed offerings in the equipment OEM telematics space. In line with trends noted in adjacent markets such as fleet management for commercial vehicles, Berg Insight anticipates that the partner strategy will continue to grow in popularity among the equipment manufacturers at the expense of in-house telematics development efforts. This can especially be the case for equipment manufacturers that do not yet offer OEM telematics to their customers. An increasing number of players such as vendors focused on on-road vehicle fleet management are moreover expected to diversify into telematics for various off-highway vehicles driven by the popularisation of the Internet of Transportation Things (IoTT). This enables customers to monitor and manage a wide range of diverse assets on the same platform.

Summary

Executive summary

Fleet management (FM) is an ambiguous term used in reference to a wide range of solutions for different vehicle-related applications. Berg Insight's definition of a fleet management solution is a vehicle-based system that incorporates data logging, satellite positioning and data communications to a backoffice application. The history of fleet management solutions goes back several decades. On-board vehicle computers first emerged in the 1980s and were soon connected to various satellite and terrestrial wireless networks. Today, mobile networks can provide ubiquitous online connectivity in many regions at a reasonable cost and mobile computing technology delivers very high performance, as well as excellent usability. All of these components combined enable the delivery of vehicle management, transport management, driver management and mobile workforce management applications linking vehicles and enterprise IT systems.

Commercial vehicle fleets play an essential role in the economy in both North and Latin America. In North America, there are approximately 14.4 million GVW 3–8 commercial vehicles in use. Around 18 million lighter vehicles including GVW 1–2 vehicles and cars with no GVW are also used by enterprises or public entities. In Latin America, the number of commercial vehicles in operation is estimated to 26.7 million, out of which 5.9 million are heavy trucks and 20.8 million are light commercial vehicles. Berg Insight is of the opinion that the market for fleet management in the Americas is in a growth period which will continue in the years to come. The advanced North American market will remain on a growth track, not the least driven by regulatory developments such as the ELD mandates in the US and Canada. Latin America has traditionally presented a very different scenario, often requiring an educational process in order to extend the perception of fleet management beyond security-related aspects. The Latin American fleet owners have however also started to embrace functionality for optimisation of fleet operations to an increasing extent.

Berg Insight expects the FM market to continue to show healthy growth in 2020–2023. In North America, the number of systems in active use is forecasted to grow at a compound annual growth rate (CAGR) of 17.0 percent from 9.5 million units in 2018 to 20.8 million units

by 2023. The penetration rate in the total population of non-privately owned commercial vehicles is estimated to increase from 30.9 percent in 2018 to 59.7 percent in 2023. In Latin America, the number of systems in use is projected to increase from 3.4 million units in 2018, growing at a CAGR of 15.1 percent to reach 6.9 million units in 2023. The penetration rate in the region is estimated to increase from 12.8 percent in 2018 to 24.5 percent in 2023.

Verizon Connect is today the leader in the fleet telematics space in the Americas. The closest competitor is Geotab which has grown considerably in the past years, now having an installed base of well over 1 million active fleet management subscribers in the region, followed by Trimble and Omnitrac. Zonar Systems rounds off the top-5, just ahead of Michelin which has established a strong position in the Americas through multiple acquisitions. Additional top-10 players with installed bases in the range of 0.2–0.3 million active units in the Americas include Teletrac Navman, Fleet Complete, KeepTruckin and Gurtam. All of the top-25 players had estimated installed bases exceeding 0.1 million active units in the Americas at the end of 2018, including also Samsara, KORE Position Logic, GPS Trackit, Azuga, BSM Technologies (now owned by Geotab), WideTech, GPS Insight, Spireon, J. J. Keller, Pósitron, Synovia Solutions (now owned by CalAmp), Agilis Systems, OnixSat, ORBCOMM and Autotrac. Contenders with installed bases just outside of the top list moreover include Vehicle Tracking Solutions, Pointer Telocation (now owned by PowerFleet), Encontrack, Omnilink (now owned by Show Tecnologia), Start Fleet Solutions, CalAmp and Donlen.

Most vehicle manufacturers now offer factory-installed fleet telematics solutions either independently or through partnerships. Examples of OEMs which have introduced systems in the Americas include Daimler, Volvo, Scania, MAN, Iveco, PACCAR, Navistar, Ford, GM, Hino, Isuzu, FUSO and Ram. The OEM telematics initiatives in the Americas have intensified over the years. Large installed bases are now found on the North American market, not the least for systems powered by established aftermarket fleet management solution providers. Notable telematics players working with OEMs include Verizon Connect, Zonar Systems, Trimble and Geotab. The volumes of OEM telematics systems are so far substantially smaller in Latin America. The adoption is however expected to take off also in this region. Solutions supplied by the OEMs are anticipated to increase in importance across both continents in the Americas in the coming years.

Summary

Executive summary

Fleet management is an ambiguous term used in reference to a wide range of solutions for different vehicle-related applications. Berg Insight's definition of a fleet management solution is a vehicle-based system that incorporates data logging, satellite positioning and data communications to a backoffice application. The history of fleet management solutions goes back several decades. On-board vehicle computers first emerged in the 1980s and were soon connected to various networks. Today mobile networks can provide ubiquitous online connectivity at a reasonable cost and mobile computing technology delivers very high performance, as well as excellent usability. All of these components combined enable the delivery of vehicle management, transport management, driver management and mobile workforce management applications linking vehicles and enterprise IT systems.

Commercial vehicle fleets play an essential role in the European economy. According to official statistics there were 38.6 million commercial vehicles in use in EU23+2 in 2016. The 6.2 million medium and heavy trucks accounted for more than 75 percent of all inland transports, forming a € 250 billion industry. Approximately 0.8 million buses and coaches stood for 9.3 percent of all passenger kilometres. The greater part of the 31.6 million light commercial vehicles (LCV) in Europe was used by mobile workers and for activities such as distribution of goods and parcels. Last but not least, there are an estimated 21.0 million passenger cars owned by companies and governments.

Berg Insight is of the opinion that the European fleet management market has entered a growth period that will last for several years to come. Individual markets may however suffer temporary setbacks, depending on the local economic developments. The number of fleet management systems in active use is forecasted to grow at a compound annual growth rate of 14.1 percent from 9.1 million units at the end of 2018 to 17.6 million by 2023. The penetration rate in the total population of non-privately owned commercial vehicles and cars is estimated to increase from 17.4 percent in 2018 to 32.0 percent in 2023.

A group of international aftermarket solution providers have emerged as the leaders on the European fleet management market. Berg Insight ranks Webfleet Solutions (formerly TomTom Telematics) as the largest vendor in Europe at the end of 2018 with 770,000 subscribers in the region, followed by Verizon Connect in second place with 300,000 subscribers. Transics is ranked as the largest player in the aftermarket heavy trucks segment with an estimated 136,000 active units installed. Other significant players include European companies such as ABAX, Masternaut, Targa Telematics, Microlise, Viasat, Bornemann, OCEAN (Orange), Macnil, GSGGroup, Quartix, Eurowag Telematics, Trakm8, Optimum Automotive, Connexas Group and Vehco and international players like Trimble and Teletrac Navman from the US, Fleet Complete from Canada, Astrata Europe from Singapore and the South African telematics providers Ctrack (Inseego), Cartrack and MiX Telematics.

All major truck manufacturers on the European market offer OEM telematics solutions as a part of their product portfolio. A major trend in the past years has been the announcements of standard line fitment of fleet management solutions. Since the end of 2011, Scania is rolling out the Scania Communicator as standard on all European markets and includes a ten-year basic service subscription. All medium and heavy duty trucks and buses from Daimler contains the Fleetboard vehicle computer as standard. Volvo offers Dynafleet as standard in Europe. New MAN trucks are now equipped with RIO as standard replacing MAN TeleMatics. DAF launched its new optional DAF Connect that has been developed in-house in September 2016. The leading OEMs in Europe are Scania, Volvo and Daimler with 255,000, 128,000 and 117,000 active FM subscribers respectively at the end of 2018.

The consolidation trend continues and 12 M&A activities have taken place in the past year. Year 2019 started off with a new FMS mega deal when TomTom Telematics was divested to Bridgestone Europe for a purchase price of € 910 million. BigChange in the UK acquired Labyrinth Logistics and Trace Systems and Vehco bought Paetronics in Finland adding 350 clients. In April, Radius Payment Solutions acquired Plant-I and later in November also Sure-Track. The IT-company Triona acquired Fleetech in April. Masternaut once again changed owner in May when Michelin announced the addition of the company to its commercial vehicle telematics investment. Connexas Group acquired the cold-chain specialist Seven Telematics in May. The latest transaction was done in September when Vehco acquired Framlogic in Poland, adding 650 clients and 25,000 equipped vehicles.

Summary

Executive summary

Fleet management (FM) is an ambiguous term used in reference to a wide range of solutions for different vehicle-related applications. Berg Insight's definition of a fleet management solution is a vehicle-based system that incorporates data logging, satellite positioning and data communications to a backoffice application. The history of fleet management solutions goes back several decades. On-board vehicle computers first emerged in the 1980s and were soon connected to various satellite and terrestrial wireless networks. Today, mobile networks can provide ubiquitous online connectivity in many regions at a reasonable cost and mobile computing technology delivers very high performance, as well as excellent usability. All of these components combined enable the delivery of vehicle management, transport management, driver management and mobile workforce management applications linking vehicles and enterprise IT systems.

Commercial vehicle fleets play an essential role in the economy in the CIS and Eastern Europe, where several countries are part of important Pan-European transport corridors. The total of around 10 million heavy commercial vehicles in the region account for a major share of the inland transports. Motor vehicles are for example involved in about 70 percent of the total inland transportation in Russia. In Europe, medium and heavy trucks account for over 75 percent of all inland transports, forming a € 250 billion industry. Moreover, the greater part of the total 16 million light commercial vehicles in the CIS and Eastern Europe are used by mobile workers and for activities such as distribution of goods and parcels.

Berg Insight is of the opinion that the fleet management industry is in a long-term growth phase. Key drivers in Eastern Europe and the CIS include cost reductions related to fuel savings and regulatory developments such as ERA-GLONASS and the Platon electronic toll collection system which increase the awareness of telematics. The number of fleet management systems in active use in the region is forecasted to grow at a compound annual growth rate of 13.5 percent from 7.3 million units at the end of 2018 to 13.8 million by 2023. The penetration rate in the total population of non-privately owned commercial vehicles and

passenger cars used in commercial and government fleets is estimated to increase from 17.5 percent in 2018 to 29.8 percent in 2023. The Russian market accounts for a significant share of the region's total installed base and is forecasted to grow from 3.3 million active FM units at the end of 2018 to 5.6 million units by 2023.

The leading FM solution providers in terms of installed base in the CIS and Eastern Europe include diverse players from a number of countries. Belarus-based Gurtam is the leading FM software provider, having surpassed the milestone of 1 million vehicles under management in the region. Russia-based TechnoKom and Turkey-based Arvento Mobile Systems are the first and second runners-up, followed by Mobiliz from Turkey and the Russian players SCOUT, Navigator Group and NIS (MTS). Additional top-15 players with at least 100,000 active units in Russia/CIS and Eastern Europe include GeliosSoft, Fort Telecom, Omnicomm, SquareGPS, Live GPS Tracking (SkyNavis), Eurowag Telematics, Infotech and SpaceTeam. The major international solution providers based in Western Europe, North America or South Africa are yet to reach the top-15 list in this region.

The expectations for the future fleet management market in Eastern Europe and the CIS include a gradual convergence with the developments in Western Europe. Eastern Europe is already tracing the most developed European markets closely in terms of system functionality and service models. The major Russian solution providers have historically mainly served large corporations with standalone software systems which are paid upfront and hosted in-house, whereas subscription services traditionally mainly have been adopted by SMBs. Cloud services based on recurring service fees have however now become a greater focus also for major enterprise fleets on the Russian market and the domestic FM solution providers are increasingly pushing for a transition towards SaaS-based models. Another key trend on the European market is factory-fitment of OEM telematics, which is offered by most of the major truck manufacturers. The Russian vehicle manufacturers did not initially embrace the concept of OEM fleet telematics in the same way as its Western European counterparts, but the activities have increased in the last few years. GAZ became the first local manufacturer to offer factory installation of telematics units as standard in 2018. Kamaz and UAZ have also in 2018–2019 launched initiatives related to integration of telematics technology in collaboration with partners.

Summary

Executive summary

Trailer and cargo container tracking is a subsegment of asset tracking and aims to increase operational efficiency and make logistics chains more secure. Berg Insight's definition of a real-time tracking solution is a system that incorporates data logging, satellite positioning and data communications to a backoffice application. Trailer tracking can be part of fleet management solutions including both trucks and trailers. The history of fleet management solutions goes back several decades while tracking and monitoring of shipping containers came in focus after 9/11. Today, mobile and satellite networks can provide ubiquitous online connectivity at a reasonable cost and mobile computing and sensor technology delivers high performance as well as excellent usability. All of these components combined enable the delivery of supply chain management, security management and operations management applications linking trailers, containers, cargo and enterprise IT systems.

In order to make freight transport efficient, products are packed into collective logistics units which can remain intact throughout the delivery chain. Smaller logistics units such as boxes and pallets are often grouped into larger units and loaded on trailers, semi-trailers, swap bodies, rail freight wagons, air freight unit load devices (ULDs) or intermodal shipping containers. These loading units can be applicable to one or more modes of transport. Trailers and semi-trailers are mostly used in road transport, swap bodies can be transferred between road and rail transport, rail freight wagons are used on railways, ULDs are used in air freight transport and shipping containers can be carried on several transport modes. More than 25 million intermodal containers and over 14 million trailers are in use worldwide.

Berg Insight estimates that shipments of remote tracking systems with cellular or satellite communications capabilities for cargo loading units including trailers, intermodal containers, rail freight wagons, air freight cargo containers, cargo boxes and pallets reached 2.0 million units worldwide in 2018. Growing at a compound annual growth rate of 27.4 percent, the shipments are expected to reach 6.8 million units in 2023. During the same period, the installed base of remote tracking systems is forecasted to grow at a compound annual

growth rate of 27.3 percent from 6.1 million units at the end of 2018 to 20.4 million units by 2023. Trailer tracking is the largest market segment, estimated to account for 40.7 percent of the total installed base of tracking units deployed on trailers and cargo containers in 2018. General cargo tracking and intermodal container tracking are the second and third largest segments with estimated shares of 27.7 percent and 24.8 percent respectively of the total installed base at the end of 2018.

Berg Insight ranks ORBCOMM as the largest provider of tracking solutions for cargo loading units, having a significant installed base of trailers as well as containers. The company's total installed base reached 915,000 units at the end of 2018. The second largest player SkyBitz has an installed base of 510,000 tracking units, primarily on trailers. Additional large players on the North American trailer telematics market are Omnitrac, Spireon and I.D. Systems, having between 100,000–300,000 installed tracking units each. The European trailer telematics market is considerably smaller. Idem Telematics is the leading player with 65,000 active units while other top European players include Schmitz Cargobull, CLS Group and Transics/WABCO having between 25,000–40,000 active trailer units each. Mecomo and Agheera, also based in Europe, are strong vendors in the adjacent swap body segment. Envotech based in Malaysia and Sierra Wireless and Geoforce based in the US have large installed bases on containers. Future Telematics, Intermodal Telematics and Nexiot based in Europe and Amsted Rail based in North America are significant vendors of tracking solutions for rail freight wagons. Sensitech, Roambee and OnAsset Intelligence are moreover notable players in the general cargo segment, also offering solutions for air freight cargo tracking.

Berg insight anticipates that there will be a strong focus on increased supply chain visibility and transport security in the coming years. Tracking of trailers, intermodal containers, ULDs and rail freight wagons is increasingly common and technology advancements in recent years has made it possible for smaller logistics units such as individual pallets or cargo boxes to be tracked at a reasonable cost. General acceptance of remote tracking solutions was first established in specific usage scenarios such as high-value, time-critical or refrigerated goods. Decreasing hardware costs, improved battery life and the emergence of LPWA technologies are expected to impact the market positively and foster wide-spread adoption of cargo tracking solutions in the coming years.

Summary

Executive summary

Berg Insight is of the opinion that the market for fleet management in South Africa is in a growth period which will continue in the years to come. The number of FM systems in active use is forecasted to grow at a compound annual growth rate (CAGR) of 15.0 percent from 1.6 million units at the end of 2018 to 3.2 million by 2023. The penetration rate in the total population of non-privately owned fleet vehicles used by businesses is at the same time estimated to increase from 34.6 percent in 2018 to 63.1 percent in 2023. South Africa is a relatively mature telematics market and the penetration rate is comparably high from an international perspective. Far from all deployments are however full-scale advanced FM solutions. A notable share of the installed fleet telematics systems on the South African market is represented by comparably low-end tracking systems, e.g. light FM solutions, including SVR systems extended with basic FM features.

The South African fleet management market is clearly dominated by five domestic players with broad telematics portfolios and more than 100,000 fleet management units in use in this market. Berg Insight ranks Cartrack and MiX Telematics as the largest providers of fleet management solutions in South Africa, together having more than 0.5 million active units in the country. Tracker is the third largest player followed by Netstar and Ctrack (Inseego). Other top-10 players on the South African fleet management market include local providers such as Bidtrack (Bidvest Group), Digit Vehicle Tracking (Digicell) and GPS Tracking Solutions (Eqstra Fleet Management), as well as international players including Webfleet Solutions (Bridgestone) and Gurtam, all having estimated installed bases of at least 30,000 fleet management units in the country. Bidtrack's owner Bidvest is notably in the process of acquiring Eqstra Fleet Management including GPS Tracking Solutions. Players just outside of the top list include Autotrak, Digital Matter, Pointer Telocation (PowerFleet), ACM Track, PFK Electronics, Geotab and Key Telematics. International commercial vehicle OEMs including Scania, Daimler, MAN and Volvo Group have further all introduced fleet telematics solutions in South Africa.

Summary

Executive summary

Berg Insight is of the opinion that the market for fleet management (FM) in Australia and New Zealand is in a growth period which will continue in the years to come. The number of FM systems in active use is forecasted to grow at a compound annual growth rate (CAGR) of 15.0 percent from almost 0.9 million units in 2018 to nearly 1.8 million by 2023. The penetration rate in the total population of non-privately owned fleet vehicles used by businesses is at the same time estimated to increase from 18.5 percent in 2018 to 33.6 percent in 2023. The fleet telematics market in the region is today influenced positively by a number of different drivers including regulatory developments related to health and safety regulations, chain of responsibility legislation and road user charges.

A large number of diverse vendors are active on the FM market in Australia and New Zealand, including several of the leading international players as well as a plethora of small and medium-sized companies mainly focused on this region. Berg Insight ranks Teletrac Navman as the largest provider in Australia and New Zealand. The company has in the last year announced that it has surpassed the milestone of 100,000 units in Australia alone, holding a strong position also in New Zealand. The runners-up are Australia-based MTDData (owned by Telstra), New Zealand-based EROAD and US-based Verizon Connect. The fifth largest player is Netstar Australia which originates from the consolidation of Pinpoint Communications and Fleet Logistics (Ezy2c). Other notable vendors with estimated installed bases of more than 25,000 active units include the local solution providers Smartrak and IntelliTrac as well as international players including MiX Telematics and Fleet Complete. The latter entered the region through the acquisition of Geotab's reseller Securatrak. Additional top-15 players in Australia and New Zealand are Coretex, Digital Matter, GPSEngine, Bridgestone's Webfleet Solutions, Simply Unified and Procon Telematics. Players just outside of the top-list moreover include Ctrack (Inseego), GPS Innovations (GPSi Group) and Directed Electronics Australia. The latter works with a range of commercial vehicle OEMs on the local market. Commercial vehicle OEMs which have introduced fleet telematics solutions in the region independently or through partnerships include Isuzu, Volvo Group, Scania, PACCAR, Toyota, Hino, Daimler and Mitsubishi.

Summary

Executive summary

Berg Insight has found that the global installed base of active construction equipment OEM telematics systems reached over 2.0 million units in 2017. Growing at a compound annual growth rate (CAGR) of 19.2 percent, the active installed base is forecasted to reach 4.9 million units worldwide in 2022. This includes all CE telematics systems marketed by construction equipment OEMs, either developed in-house or provided by the CE manufacturers in partnership with third-party telematics players. The European market accounted for almost 0.5 million active construction equipment OEM telematics systems at the end of 2017. The North American market is estimated to be slightly larger than the European. The Rest of World moreover represents more than half of the global installed base of CE telematics systems provided by construction equipment OEMs.

Most major construction equipment OEMs have introduced telematics offerings for their customers either independently or in collaboration with telematics partners. OEM telematics systems are today commonly factory-installed as standard at least for heavier machines. Berg Insight ranks Caterpillar and Komatsu as the leading construction equipment OEMs in terms of the number of CE telematics systems deployed worldwide. Based in the US and Japan respectively, the two companies – which are also by far the leading construction equipment manufacturers in terms of market share – together account for more than one million CE telematics units. Caterpillar's largest markets for its telematics offerings are North America and Europe while Komatsu has the largest share of its telematics units in Japan and China followed by North America and Europe. The remaining top-5 players include Japan-based Hitachi Construction Machinery, UK-based JCB and Sweden-based Volvo CE which have all surpassed the milestone of 100,000 units. Other notable OEMs include Deere & Company and Hyundai Construction Equipment which are based in the US and South Korea respectively. Doosan Infracore, based in South Korea, as well as Switzerland-based Liebherr and CNH Industrial which is headquartered in the UK further all have global installed bases of construction equipment telematics units in the low tens of thousands.

Summary

Executive summary

An increasing number of companies have introduced asset tracking and management solutions which can be used to keep track of airport assets and improve the efficiency of ground handling operations and maintenance routines. Berg Insight estimates that the global installed base of active airport asset tracking systems was over 0.2 million units in 2019. Growing at a compound annual growth rate (CAGR) of 15.4 percent, the active installed base is estimated to reach close to 0.5 million units worldwide in 2024. This includes all airport asset tracking systems deployed for various motorised ground support equipment (GSE), non-motorised equipment (NME) as well as other applicable airport assets including on-road vehicles used in airport environments. Berg Insight's definition of an airport asset tracking solution covers systems based on various technologies including conventional cellular-based IoT connectivity and emerging low-power wide-area (LPWA) wireless technology as well as proprietary radio, Wi-Fi and Bluetooth.

The airport asset tracking market is served by a number of different types of players, ranging from specialists focused exclusively on tracking and management solutions for specific airport assets, to companies that offer a more comprehensive set of solutions for the aviation sector, and more general telematics players that also serve other industries. Berg Insight ranks Undagrid (GSEtrack), Quantum Aviation Solutions, Resonate MP4 (XOPS) and ADVEEZ as the leading vendors of airport asset tracking solutions in terms of installed base. Both Undagrid and Quantum have installed bases exceeding 10,000 active units each. Additional major players include Targa Telematics and Sensolus, which both partner with the GSE rental company TCR Group, as well as INFORM, Pinnacle (iMATS) and Smarter Asset Management (SAM). Pinnacle notably partners with Honeywell which has signed a major agreement with Swissport to deploy ground handling services jointly developed together with Pinnacle. SAM has in turn signed a global contract with Menzies Aviation to roll out telematics. Other players active in the airport asset tracking space include Litum IoT, EC2E, DigiMobi, Ctrack (Inseego), Tri-Logical, Transpoco, Katlyn International, Speedshield Technologies, SpaceTeam, Geotab and the Ortus Group, all having installed bases of at least 1,000 units each.