

The Global Off-Highway Vehicle Telematics Market



The Global Off-Highway Vehicle Telematics Market is the second consecutive report from Berg Insight analysing the latest developments on the market for telematics solutions used in the construction, mining, agriculture and forestry sectors.

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- **Insights** from 30 executive interviews with market-leading companies.
- **Overview** of the construction, mining, agriculture and forestry sectors.
- **Profiles** of more than 30 equipment OEMs and their telematics offerings.
- **Comprehensive** overview of the off-highway vehicle telematics value chain and key applications.
- **Summary** of the latest industry trends and developments.
- **Market** forecasts lasting until 2024.



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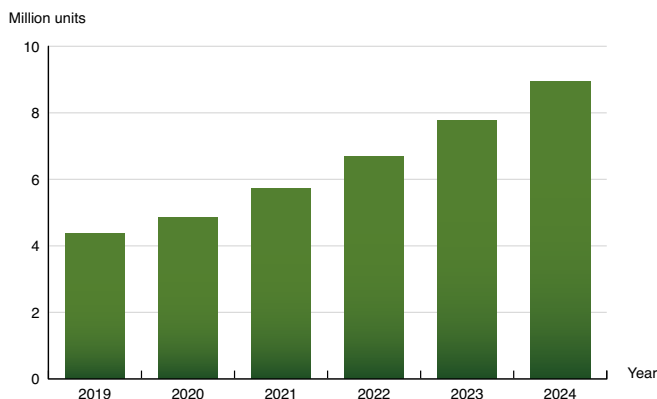


The installed base of off-highway vehicle telematics systems to reach 9.0 million units worldwide by 2023

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 solution 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 4.4 million units in 2019. 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 15.4 percent, the active installed base of off-highway vehicle telematics systems across all sectors is forecasted to reach 9.0 million units worldwide in 2024. 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 75 percent of the total number of off-highway ►



Installed base of active off-highway vehicle telematics units (World 2019–2024)

► 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 achieved its target of 1 million connected assets in 2019. Other major manufacturers with installed bases of more than 100,000 units include JCB, Hitachi Construction Machinery, Deere & Company, SANY, Volvo Construction Equipment and Doosan. Additional players having estimated installed bases of off-highway vehicle telematics units in the tens of thousands include Liebherr, CNH Industrial, CLAAS Group, Hyundai Construction Equipment, Tadano, AGCO and JLG Industries.

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 to collect data from different brands and manage it all from a 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. There are already several notable examples of partner-powered and co-developed offerings in the equipment OEM telematics space. In line with trends 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. An increasing number of players such as vendors focused on on-road vehicle fleet management are expected to diversify into telematics for various off-highway vehicles. This enables customers to monitor and manage all of their business-critical assets through the same backoffice interface, using familiar applications and reporting tools. Asset tracking, especially for smaller and lower-value items, represents a heavily underpenetrated market with considerable potential for telematics providers that are ready to diversify the product offering. Particularly strong growth is expected for solutions that also enable tracking of ancillary equipment such as attachments, implements, handheld tools and similar items in a unified interface.

This report answers the following questions:

- Which are the main telematics systems offered by off-highway vehicle manufacturers?
- Which are the key off-highway vehicle telematics applications?
- What business models are used by OEMs offering telematics?
- Which equipment manufacturers have developed their telematics offerings in-house?
- Which OEM telematics offerings are powered by telematics partners?
- How are aftermarket providers approaching the off-highway vehicle telematics market?
- How does the off-highway vehicle telematics market compare with other commercial vehicle telematics markets?
- How will the off-highway vehicle telematics market evolve in the future?



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Glossary

About the Author



Rickard Andersson is a Principal Analyst with a Master's degree in Industrial Engineering and Management from Chalmers University of Technology. He joined Berg Insight in 2010 and his areas of expertise include on-road and off-road fleet telematics including video telematics.

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