

Summary

Executive summary

Telematics is a broad term that may be applied to a wide range of automotive connectivity solutions. Berg Insight's definition of a car telematics system in this report is an automatic system designed for passenger cars that incorporates some form of cellular communications. Mobile networks have enabled online connectivity with two-way communication at the same time as GPS technology has been commoditised to the extent that satellite positioning can be integrated into virtually any device. Automotive manufacturers can choose between several connectivity options when creating connected car services, which are not mutually exclusive. The main options are embedded telematics devices, tethered devices and integrated smartphones. Connectivity and intelligence can be built into the car in the form of embedded systems. In the case of tethered devices, the connectivity is provided by an external modem or handset while the intelligence is built into the car. Solutions relying on integrated smartphones leverage the connectivity and intelligence built into the smartphone. Carmakers often use a combination of these options to address different customer requirements and keep pace with the rapid development of mobile technology.

Several categories of car telematics applications are now offered on a commercial basis by most leading carmakers. Examples include eCall and roadside assistance, stolen vehicle tracking (SVT), vehicle diagnostics, over-the-air updates, connected navigation and infotainment, Wi-Fi hotspots as well as convenience applications. Convenience applications mainly rely on embedded telematics devices to enable remote control of vehicle functions such as door lock/unlock, vehicle preconditioning (heating or cooling of the passenger compartment before a trip) and finding the last parking position. Several other applications also exist, for instance usage-based insurance, leasing and rental fleet management, as well as electronic toll collection and road charging. However, these applications are usually offered by aftermarket service providers. Carmakers are also gradually exploring in-vehicle commerce platforms and data exchanges to offer telematics data to third-party service providers.

The connected car is a major trend in the automotive industry and virtually all of the world's leading carmakers have launched mass-market services in key regions. The drivers behind adoption of OEM telematics are both commercial and regulatory. Regulatory initiatives related to safety and security will have a decisive effect on the adoption of OEM telematics in Europe. The EU's eCall initiative and Russia's ERA-GLONASS have made an automatic emergency call device a mandatory safety feature in all new car models sold. In North America, commercial services have driven the adoption of OEM telematics services that have evolved from being a differentiator to a mainstream feature now offered by nearly all the leading car brands on a majority of their models.

Berg Insight estimates that more than 32 percent of all new cars sold worldwide in 2017 were equipped with an OEM embedded telematics system, up from 23 percent in 2016. North America is the most advanced market with an attach rate of 47 percent followed by EU+EFTA with an attach rate over 40 percent. Other developed markets such as Japan and South Korea currently have attach rates of approximately 35 percent. China has emerged as an important market for telematics services with an attach rate of about 26 percent in 2017. In other regions, the attach rate is below 15 percent. GM, BMW and PSA are the leading adopters of embedded telematics, widely offering the technology as a standard feature across models and geographies. GM has offered telematics services for more than two decades, offering the technology as an integral part of its value proposition in North America, Europe and China. BMW introduced its ConnectedDrive service in North America and Western Europe in 1997. An embedded telematics unit has since become a standard feature on all BMW vehicles sold in the 45 markets where ConnectedDrive is available. Other major car brands offering embedded telematics on a broad scale include Mercedes-Benz, Hyundai, FCA Group, Volvo Cars, Toyota, Renault and Tesla.

Berg Insight estimates that total shipments of embedded OEM telematics systems reached almost 27 million units worldwide in 2017. Growing at a compound annual growth rate of 16.6 percent, the shipments are expected to reach 67 million units in 2023. The number of telematics subscribers using embedded systems is forecasted to grow at a compound annual growth rate of 31.9 percent from 49.0 million subscribers in 2017 to 258.1 million in 2023.