



The Road, the Rider and the Cloud: How OEMs Can Embrace Two-Wheel Connectivity

Abstract

The future of mobility is the same whether you're on four wheels or two – smart connectivity anywhere the road leads. In fact, connectivity is already delivering benefits for many in the two-wheeled world: OEMs, dealership networks, fleet owners and, of course, consumers. New hardware developments, better data utilization, increased consumer demand and acceptance and better integrated V2V and V2X (vehicle-to-vehicle and vehicle-to-everything) infrastructure are contributing to a brighter and more connected future. In addition to technology advancements, the shift to connectivity is necessitating a change in approach by OEMs – one that recognizes connected services as key to building brand loyalty and long-term profitability.

At the moment, technology providers are leading the way with end-to-end data safety and security features in addition to OEM-centric analytics solutions. A deep understanding of product usage, vehicle performance insights and the value of connectivity for stakeholders are the core benefits they provide. It's important to note, however, that connectivity solutions are not created equal. Pre-integration of vehicle telematics hardware and connected cloud software, off-the-shelf capabilities and enhanced engineering analytics and visualization tools are key to the timely deployment of connected recreational vehicles. The devil, as they say, is in the details, which are addressed in greater depth below.



Mile marker zero

Since its invention more than 130 years ago, the motorcycle has represented a “no frills,” simple yet efficient mode of transportation. So, what has changed? What's driving two-wheel connectivity today?

In recent years, consumers have become comfortable in an increasingly connected world. They expect the convenience of connectivity to be integrated into every aspect of their lives – including their vehicle of choice, whether it's on two wheels or four. This demand, say analysts, will fuel a predicted global connected motorcycle compound annual growth of 5.9%¹ each year until 2027.

Fortunately, connected automobile and IoT technologies can deliver unique features and rich experiences to consumers. These technologies are being adapted for two-wheelers, some as hardware-only options; others have cloud solutions but need a hardware partner to connect the OEM. End-to-end connectivity solutions, like OneConnect by Panasonic, are rare in the marketplace, yet necessary for OEMs that want a fast-to-market, cost-effective and successful deployment. Two-wheel OEMs are currently the only missing piece in the connected mobility ecosystem, as they are now making sense of a disparate supplier landscape and selection of the “best” connectivity partners to achieve their product roadmap goals.

What's at stake for OEMs that fail to embrace connectivity? The historic bell curve of technology adoption applies. What seems futuristic at first quickly morphs into a must-have as the mainstream accepts and embraces a “new normal” modeled by early adopters. OEMs that lag in connected product and service offerings risk a loss in market share and competitiveness, as well as the potential for “brand drop.” Research shows that consumers embrace technology in automotive transportation and likely will follow suit with recreational and commuter transportation. According to a recent study, 37%² of US consumers would switch car brands for additional connectivity benefits alone.

According to a recent study,

37%

OF US CONSUMERS
would switch car brands for
additional connectivity
benefits alone



Opportunities through implementation

The opportunity for OEMs varies depending on their stage of “connected maturity.” There’s no one-size-fits-all model. The best approach triangulates a strategic path based on current capabilities, the required resource investment and future business goals.

STAGE ONE: SHOULD YOU IMPLEMENT?

What is the short-term and long-term ROI of connectivity? First, explore the capabilities of existing partners and seek out providers in the connected vehicle space that understand the competitive landscape and the benefits of available solutions.

In-house development of a connected services platform is also worth exploring, although the technical, regional and commercial complexity and requisite investment level are often prohibitive and unnecessary. Connectivity is easily outsourced. Established solutions like Panasonic’s OneConnect empower OEMs to “turn on” connected features in an expedited timeframe with minimal disruption.

OEMs should enlist a partner that offers complementary strengths, have required features for an OEM’s specific needs and share a common vision for the future. Advanced data analytics and visualization tools, for example, can help OEMs supplement engineering and/or analytics-related competencies. The “raw material” of connectivity is the data that can be mined from the vehicle. Understanding real time health status, performance and ride data is key to realizing long-term monetization goals. The right connected services partner will enable those insights and opportunities for the OEM.

Data brings insight

Connected vehicle data reveals when people ride, how far they travel, and the way vehicles are ridden on those trips. This data can help OEMs adapt and position the vehicle for real-world use through a better understanding of consumer preferences and behavior. OEMs also can benefit from a 24/7 data stream on the bike’s performance, supporting optimizations for dealers, fleet managers and consumers. A cloud solution that supports multi-tenancy, for example, is key for OEMs that want dealers and fleet owners to access to vehicle diagnostics information.

For example, Panasonic’s solution enables dealers and rental operators to gauge the levels of battery charge, tire pressure etc. of each vehicle on the lot, eliminating the need for frequent manual checks. The connected dealer is empowered with concrete data to defend against false warranty claims and the negative impacts of vehicle abuse.

Most importantly, data empowers OEMs and dealers to serve customers better. For example, a pattern of sub-optimal charging behavior by riders on a traditional ICE or EVs degrades the battery over time and results in warranty claims and downtime for the customer. The connected motorcycle can remind owners to charge the battery when it is low on an internal combustion engine bike or charge to 80% on an EV, extending the life of the vehicle and eliminating unnecessary warranty claims for the OEM.

STAGE TWO: DEFINING YOUR CONNECTIVITY AMBITIONS AND KPIS

Armed with research, the OEM can embrace the value of connected technology. The OEM is driven to understand what’s possible and define connectivity KPIS accordingly—e.g., enhanced consumer sentiment, increased product usage, market share gains, reduced warranty claims, lower fleet maintenance costs and other positive outcomes.



Connected vehicles make it possible to gather and utilize hard data to make insight-based decisions. The “connected cloud” is, in fact, the holy grail of product and consumer intelligence. The data can validate or dispel assumptions to improve the OEM’s overall business and support product development.

A quicker onramp

In an industry where speed-to-market and being able to quickly adapt affects profitability, OEMs are compelled to ramp and continuously adapt connected offerings before their competitors. New product correlates with brand lift, increased sales and greater profitability. End-to-end service providers like Panasonic shorten the product development cycle and time-to-launch of high-tech connected features. End-to-end means embedded telematics hardware (TCU) on the vehicle that sends relevant data to the cloud 24/7. Panasonic’s OneConnect, for example, captures and analyzes vehicle data in real time and routes needed information to the OEM, dealer and consumer. An end-to-end solution is pre-integrated. It’s globally tested and proven before deployment by the OEM. A piecemeal solution is the opposite — a mish-mashed solution that is the byproduct of disconnected hardware and software suppliers. OEMs incur inevitable costs, quality and timing setbacks as these providers attempt to marry their technologies while complying with the technical requirements of the OEM. Panasonic’s OneConnect solution is end-to-end with global hosting and a cellular roaming network management capability. OneConnect provides seamless connectivity for vehicles across the globe. It also provides an always-on Network Operations Center (NOC) and L3 support to ensure industry-leading Service Level Availability (SLA).

Benefits for OEMs

- **Improved brand reputation and market share:** Recent sales data shows there are more consumers in the market for two-wheeled vehicles today, with purchases up 37% in Q1 2021.³ For OEMs looking to ride this wave of renewed enthusiasm, connectivity delivers tangible product differentiation, especially in the early days of industry adoption. OEMs can still benefit from a first-mover advantage.
- **Product development:** Think of connectivity as an unvarnished, always-on focus group. By collecting and analyzing consumer-driven data, the OEM has tools to continuously improve products and features. In addition, connectivity is synonymous with communication. Connected mobile apps, for example, are a two-way channel to engage customers. The OEM can update riders about safety, security, convenience and user experience features that build brand loyalty and drive sales. The rider can respond with feedback and data on his/her utilization of connected features.

- **OTA updates:** OEMs can introduce new software features or fixes over the air without bringing owners into dealerships unnecessarily. OTA updates reduce service length, enhancing the user experience and reduce potential recalls. Vehicle FOTA, which gives the OEM the ability to update multiple systems over the air, is the latest connectivity advancement for two-wheelers. Panasonic’s OneConnect offers vehicle FOTA, eliminating cost and inconvenience for the OEM, the dealer and the consumer.
- **Additional revenue:** Digital subscriptions, premium connectivity and paid OTA upgrades offer the potential for recurring revenue. Manufacturers can activate optional hardware, install software accessories remotely and turn features on or off to attract new customers with flexible subscription and payment options.
- **Monetized vehicle data:** Two-wheel vehicle manufacturers are connected with consumers at the brand level. They have access to product and consumer behavior data that may not be available from any other source. The value of this data is reinforced by the fact that seven of the 10 most valuable companies in the world earn billions from data-based services every year.⁴
- **Gatekeeper to mobility:** Connectivity puts OEMs at the fulcrum of intelligent transportation. OEMs hold the key to information about the way consumers move and live. DOTs, municipalities and infrastructure organizations are eager to partner with OEMs in pursuit of societal mobility goals including technology advancements in vehicle to vehicle (V2V) communications and vehicle to everything (V2X) infrastructure.

Configurable analytics for actionable insights

Connected vehicles in development now, and those being planned, have the potential to benefit riders and OEMs with the vehicle data they capture. Connectivity solutions, like Panasonic’s OneConnect, offer configurable analytics and engineering tools that help OEMs visualize vehicle data and better understand real-world vehicle performance. In fact, OneConnect gives OEMs the ability to configure their own messaging and notifications “rules” for each product variant. This flexible architecture enables OEM independence and scalability as new product lines are added.

Benefits for dealers

- **Predictive maintenance:** Better intelligence on actual vehicle usage allows dealers to alert consumers to important maintenance needs, increasing shop traffic. The #1 benefit for dealers is they can see bikes that need maintenance either because regular maintenance is overdue based on mileage, a service light is on or a diagnostic trouble code is reported. They can reach out to owners to provide maintenance and thereby increase contact and perceived brand value to the owner. This is not the same as predictive maintenance.

THE #1 BENEFIT
for dealers is they can see
bikes that need maintenance
either because regular
maintenance is overdue
based on mileage, a service
light is on or a diagnostic
trouble code is reported.

This builds a deeper relationship between the dealer and customer and results in a better ownership experience. Proactive and predictive maintenance makes it possible to schedule service in a way that's convenient for the consumer and minimizes downtime.

- **Sales efficiencies:** Connectivity enables data-driven sales efficiencies for dealers. Data on consumer usage and behavior empowers them to upsell and cross-sell to best meet the consumer's preferences and needs.

Benefits for light mobility vehicle operators and owners

- **Reduced Maintenance Costs and Increased Vehicle Uptime:** Embedded connectivity improves operational efficiency in ways GPS-based management solutions cannot: Batteries, brakes, engine oil and tire pressure are top causes of vehicle downtime. Connectivity provides a continuous stream of data to ensure maintenance needs are addressed immediately, minimizing time in manual checks and saving money. GPS-based management systems are not equipped to collect real-time data on the health status and usage of these vehicle components. End-to-end connectivity solutions like OneConnect by Panasonic analyze real-time data on tire and oil pressure, battery charge and brake use. OneConnect provides light mobility fleets with predictive and dynamic maintenance protocols to maximize vehicle uptime. OneConnect is currently working with electric vehicle OEM Tropos to support its customers in North America and Europe with maintenance-related services that positively impact their bottom line.



Benefits for consumers

- **Convenience and a More Enjoyable Connected Ride:** With a connected vehicle, consumers have access to the latest and greatest technology features and OTA upgrades. Riders can plan and share their trip routes on social media and even use the mobile phones as a key. They also benefit from an always-on digital companion for scheduling required maintenance and personalizing the vehicle based on their unique riding style. Convenience and enjoyment lead to a better ownership experience and increased brand loyalty.



- Safety:** Safety is the top priority for motorcyclists, according to a recent study conducted by user experience firm Edison Interactive. Low tire pressure is an example of a key safety concern for two-wheel riders, particularly for bikes that sit idle for long periods between rides. The connected motorcycle will trigger a preventive alert on the rider's phone when it detects dangerously low tire pressure, averting a potentially fatal crash and giving the rider comfort that the OEM cares about his safety. Connected vehicles can come equipped with e911 calling capability whereby the bike alerts first responders in the event of an accident. eCall is an important vehicle safety feature and will be mandatory in Europe in 2024-25, creating a sense of urgency for OEMs to deploy this connected feature on their next generation of vehicles.

Even in non-emergency situations, alerts on dangerous road conditions, accidents, traffic backups, weather-related incidents, road debris and more keep drivers safe and informed. In addition, dealers are able to warn customers about potential mechanical failures before they happen and schedule service proactively.

- Security:** According to a recent report, motorcycle thefts skyrocketed in 2021.⁵ A connected vehicle alerts the owner of its whereabouts 24/7, prevents unauthorized use and, if theft occurs, immobilizes the vehicle to assist in asset recovery.

STAGE THREE: ROLLING OUT WITH STAKEHOLDERS

After scoping connectivity ambitions, establishing KPIs and defining the value for stakeholders, the OEM is ready to engage in a proof of concept. The OEM has begun its transformation into a fully integrated digital organization that maximizes the value of data through cross-functional processes and information sharing.

In this sense, the definition of connectivity extends beyond vehicles and the cloud; it describes the interconnected nature of people within the OEM organization, those who sell and market vehicles and those who drive and own them. Going forward, OEM marketing departments will be empowered with consumer-driven insights that inform product development. Dealers will access OEM data to build customer relationships, sales and service revenue. Fleet operators will realize new levels of operational efficiency and cost optimization. Consumers will enjoy the best ownership experience possible, including features that make the ride safer, more secure and more enjoyable.

Navigating the road to connectivity

Advancements in connectivity require investment and vision to meet current demand and anticipate the needs of tomorrow. Fortunately, technology providers like Panasonic are transferring their knowledge and experience to connect the recreational two-wheel market. Panasonic is a proven technology leader in connected automobiles, connected electric batteries and connected cities. OEMS have a unique opportunity to leverage and apply this expertise to forge their own connected path to prosperity...anywhere the road may lead.

Footnotes:

1. <https://www.fortunebusinessinsights.com/connected-motorcycle-market-105186>
2. <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/unlocking-the-full-life-cycle-value-from-connected-cardata>
3. <https://www.cyclenews.com/2021/05/article/2021-q1-motorcycle-sales-up-37-percent/>
4. <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/unlocking-the-full-life-cycle-value-from-connected-cardata>
5. <https://www.bloomberg.com/news/articles/2021-07-26/motorcycle-theft-has-skyrocketed-here-s-how-to-keep-your-bike-safe>

Want to learn more about how Panasonic's tech can take your two-wheel business to the next level? Visit us at na.panasonic.com/us/oneconnect-motorcycles.