

Usage Based Insurance (UBI): Driving the User Experience

Enabling rapid go-to-market
of insurance services.

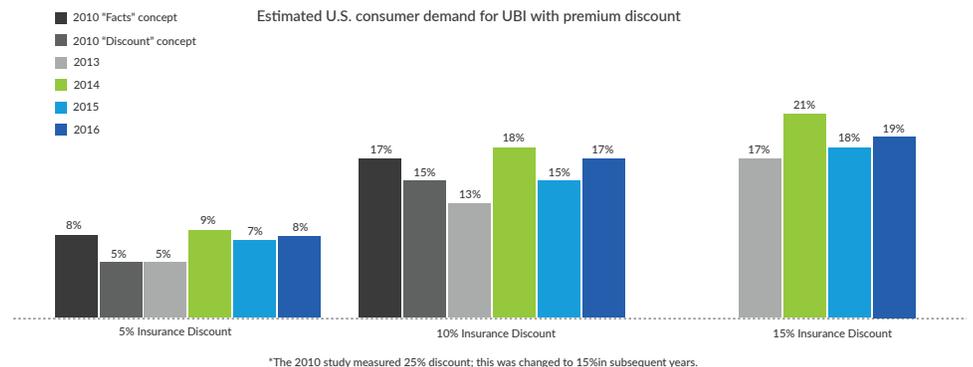
Introduction

Over the past decade, pervasive high-speed, wireless communications, the IoT and big-data analytics have given rise to a proliferation of smart-devices and applications designed to solve pressing industry challenges and unlock emerging opportunities.

The insurance industry is no stranger to the potential of these developments. Advancements in connected-vehicle technologies, telematics and analytics, have enabled the industry to transform legacy back-office actuarial models into finely-tuned AI-engines capable of accurately assessing risk. For auto insurers, this has led to a better understanding of causal risk factors which, in turn, has enabled them to diversify their offerings, streamline their operations, lower costs and uncover monetization opportunities. For policyholders, the benefits include lower priced insurance services that offer flexibility, control and choice. Collectively, this development is referred to as Usage-Based Insurance (UBI); an umbrella marketing term that represents a collection of purposeful methodologies, technologies and practices used to predictively assess risk, create value and improve safety.

The emerging service-economy is putting pressure on insurers to re-define their core competencies and align their service offerings to meet the needs of a new generation of customers who increasingly demand feature-rich, engaging and personalized experiences. To meet these challenges in the new *information society* and leverage the untapped potential of the emerging UBI market, insurers must first realize that *data-is-king*. Those who understand this are well positioned to forge critical strategic alliances with key industry partners to develop, deploy and operate sustainable UBI solutions. Fortunately, increasing capital investment by insurers, OEMs and other industry stakeholders in the IoT, Cloud analytics and connected-vehicle technologies is indicative of this trend.

Even with unprecedented investment in connected-vehicle technology, it is important not to lose sight of the customer. Leading insurers realize that policyholders increasingly measure value, not only in terms of savings, but in units of experience, which translates to safe, enjoyable and cost-effective driving experiences. A purposeful development platform enables OEMs to build sustainable connected-vehicle insurance services that provide policyholders access to diversified UBI services, rich interactive-content, and responsive customer-service. And by partnering with OEMs, insurers are able to future-proof their UBI investments and access the critical telematics data they need to remain competitive.



Industry trends and challenges

The evolution from *reactive* to *proactive* risk analysis

Well before the advent of telematics, machine-to-machine connectivity, and analytics, the automotive insurance industry relied on complex mathematical and statistical actuarial models in an attempt to simulate *real-world* causal risk factors. The objective was to overcome the constraints of a system that relied, in large part, on the veracity of information provided *after-the-fact* by policyholders -- such as accident reporting, driving habits and usage.



It was not until the 1990s, with the advent of mainstream telemetry systems, that the transportation and distribution sector began to fully appreciate the potential and feasibility of collecting real-time fleet vehicle and driver data. The insurance industry quickly followed suit and, less than a decade later, began integrating global positioning (GPS) and telemetry technologies -- initially to assist with underwriting decisions and subsequently, as an aid to help calculate customer premiums from on-board logs that transmitted vehicle location, speed and heading.

Today, widespread access to cellular and satellite (and emerging low-power WAN) communications, offer insurers the real-time connectivity they require to capture large amounts of raw telematics data. However, sizable obstacles remain in realizing mass-adoption of competitive, sustainable and fully integrated UBI solutions.

- **Adoption:** The degree to which customers are willing to use UBI services.
- **Privacy:** Balancing “big-brother” privacy concerns with data requirements.
- **Cost:** Allocating capital for hardware, connectivity and big-data UBI services.
- **Complexity:** Building ecosystems that satisfy the needs of all stakeholders.
- **Regulations:** Satisfying regulations of municipalities, jurisdictions and agencies.

According to a survey, provided by LexisNexis, approximately one-third of respondents were aware of UBI programs, but only 18% were projected to adopt UBI for a 10% discount off their premiums. Among managers of small fleet operations, although UBI awareness was lower, demand for UBI-related services was higher, with 27% of respondents projected to adopt UBI for the same discount.²

1 in **3** are aware of **UBI**

27%

Estimated demand for commercial UBI-related services



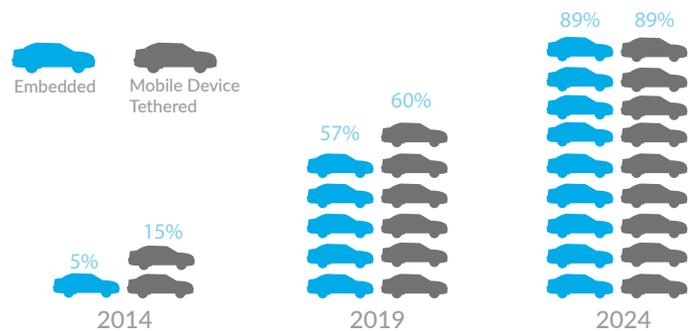
In the face of evolving customer tastes, competing stakeholder interests and a heterogeneous technology landscape, OEMs increasingly need a platform enablement partner with the global reach and requisite connected-vehicle experience to lead UBI developments from *conception-to-market*.

²Source: LexisNexis 2016 UBI Report

The rise of UBI in the service economy

UBI is poised for massive adoption in both emerging and industrialized global markets. Customer enthusiasm for connected-vehicle experiences that enhance safety, increase productivity, lower costs, is increasing in consumers and commercial markets and next-gen UBI solutions are converging to address these challenges.

However, in some quarters, UBI go-to-market strategies continue to encounter resistance. Although wireless connectivity, telematics and analytics have helped lower technology *barriers-to-entry*, insurers still face sizable regulatory, economic and business hurdles. Fluid regulatory environments, emerging industry standards, consumer privacy concerns, and shifting customer expectations are adding significant complexity, cost and delay to go-to-market UBI initiatives. This is compelling OEMs to adopt purposeful connected-vehicle enablement platforms that effectively enable them to offset risk and meet their forecasted time-to-revenue projections.



New cars sold that include a connectivity solution by type, worldwide, 2014, 2019, and 2024

The value of UBI lies in its ability to provide access to time-sensitive, relevant data *en masse*. For insurers, this means finely-tuned predictive actuarial models that yield fewer unanticipated claims, better decision making and consequently, lower total-cost-of-ownership (TCO). For customers, UBI policies offer a number of real-world benefits: Pay-how-you-drive (PHYD) policies reward safe-driving that reduce the likelihood of accidents, and help keep fuel usage and maintenance costs at bay. Policyholders also benefit from improved road-side assistance, responsive emergency services, and solution-oriented customer support that offers more potential touch-points.

Although the consumer UBI market has potential for significant revenue opportunities, a recent study cited the transportation and distribution industry as demonstrating excellent revenue potential. Fleet operators offer insurers above average revenue potential with 73% of small fleet managers saying that *“saving money off commercial auto insurance is extremely important”* with 67% of these managers shopping for insurance as frequently as every 2 years.³



³Source: LexisNexis 2016 UBI Report

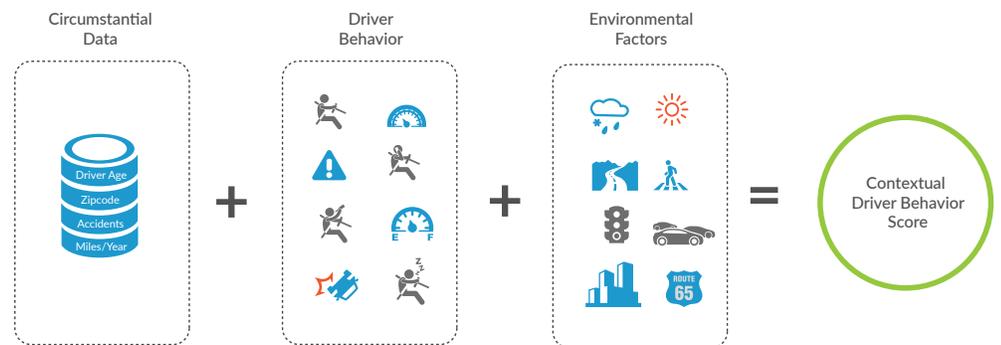
OEMs, insurers and customers are coming round to the potential of the UBI service-model and the clean way in which it fits within the scope of the broader service-economy. However, challenges remain on the supply-side in how best to overcome the complexity, cost and risk of actualizing sustainable UBI ecosystems.

Understanding driving behaviors

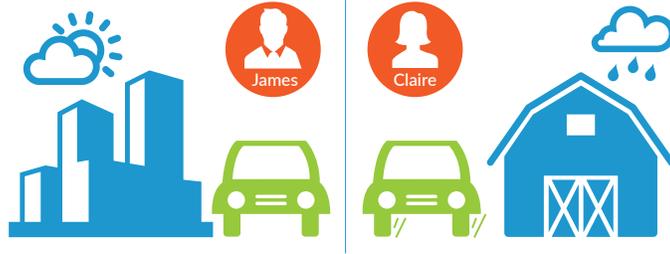
The connected-vehicle market is shifting the focus from *vehicle-to-driver* and consequently, from amassing vehicle-stats by rote, to a more holistic understanding of driving behavior and how it impacts risk. OEMs are increasingly using event-data (sourced from vehicle OBD-II transmitters, electronic logging devices (ELD), and customer smartphones) to fuel a new-generation of artificial-intelligence (AI), biometric-analytics and machine-learning algorithms in an attempt to understand *how* and *why* people drive the way they do. The ability to analyze and compare driving behaviors is fast becoming a critical success factor (CSF) of insurance companies, fleet operators and commercial drivers in the connected-vehicle space.

Incorporating driving behavior in the traditional actuarial model enables insurers to generate finely-tuned predictive analytics that provide deep insight into driving habits and *cause-and-effect* risk factors. This enables insurers to easily compare calculated risk assessments against actual obtained results, thereby validating the efficacy of their risk models. The result is lower costs, a diversified offering and competitively priced services.

However, there's a catch: In order to produce germane and meaningful driver behavior analytics, insurers must factor the external driving environment into the equation. This means "*normalizing*" the driving behavior score in context with the local environment, which might include the weather, traffic density, drive times, city vs. highway vs rural routes and even the local "*driving culture*" (e.g. New York vs Los Angeles drivers).



By marrying event-based vehicle data with contextual behavior analytics, insurers are able to normalize the driving score across teams, regions and environmental conditions. The result is highly accurate, unbiased and meaningful repositories of telematics intelligence that enable insurers to build sustainable UBI solutions that incentivize safe, smart and cost effective driving habits.



By way of example: *Two drivers might have a similar age, educational level and accident history and on a particular day, each may drive a distance of 50 miles. However, James might be driving in the city, in the sunshine, at reduced speed with lots of sharp cornering in stop-and-go traffic. Claire might be driving on the highway, in the rain with poor visibility, at elevated speeds but with little traffic. By only considering circumstantial data, the system might falsely attribute an equal probability of risk when, in fact, Claire might actually pose significant higher risk and therefore a lower driving behavior score.*

“Legacy service-in-a-box or service-from-scratch approaches are ill-equipped to handle these challenges and are being replaced by industry-focused enablement solutions that consider the development process from the vantage point of insurers and OEMs.”

Challenges in developing sustainable UBI ecosystems

By its definition, an ecosystem requires that it address the needs of diverse stakeholders, scale change and offer long-term value. Information must easily and securely traverse the connected fabric of people, systems and things, and function holistically with the larger ecosystem of edge-devices, messaging flows and back-office business applications. The challenge becomes clear when attempting to model multi-point stakeholder relationships in the connected-vehicle space. Insurers, regulatory agencies, financial clearinghouses, B2B customers and consumers, each bring to the table a multiplicity of complementing or, oftentimes, competing interests. This requires a sophisticated enablement platform from which to orchestrate the planning, testing, development, integration and execution of complex workflows, business rules and stakeholder interactions.

The platform development approach is frequently overlooked by insurers attempting to actualize their enterprise-grade UBI initiatives. Legacy *service-in-a-box* or *service-from-scratch* approaches are ill-equipped to handle these challenges, and are being replaced by industry-focused enablement solutions that consider the development process holistically and from the vantage point of OEMs, insurers and customers.

Technology costs represent another constraint. Capital investments in hardware, software and services to support home-grown UBI initiatives introduce significant organizational risks and put downward cost pressure on insurers to remain profitable in the short-run.

The top challenge facing insurers, however, is access to real-time high-quality telematics data. *Insurers require, at minimum, a critical-mass of 15MB of data per policyholder, which, compounded by the total number of actively insured vehicles, yields between 2-10 terabytes of UBI data per year, that need to be transmitted, stored, and analyzed.*⁴

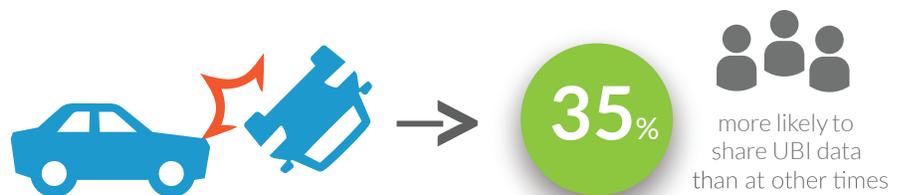


^{4 & 5}Source: NAIC - CIPR Study: UBI & Vehicle Telematics

Fortunately, studies show that customers are warming to UBI; they are increasingly willing to trade *data-for-experiences*. This phenomenon is known as the *gamification-of-services*, which employs game-design elements and principles in non-game contexts. Insurers who understand this trend and incentivize their services accordingly, are able to obtain customer buy-in and access the data they need to grow their UBI initiatives. For the exchange to be equitable, however, insurers must be prepared to offer policyholders more than cost-savings. Herein lies the problem: In order to offer incentivized UBI services, insurers need to accumulate a critical-mass of customer data. Yet customer acquiescence requires buy-in, which in turn, requires a compelling UBI offering.

Early buy-in, therefore, requires a collaborative approach in which insurers, working in partnership with OEMs, bundle their standard UBI offering with connected-vehicle services. This allows OEMs to accumulate large repositories of telematics data for analysis, provisioning, and distribution to insurers and other connected-vehicle stakeholders. Insurers are able to focus on incrementally enhancing their UBI value propositions over time and not worry about building connected-vehicle systems, infrastructure or connectivity. And policyholders have 24/7 access to granular information, interactive content and personalized control over their policies, including the ability to track teenage drivers, access driving scores or opt in or out of *a-la-carte* UBI services.

Studies show that, compared to other services, customers are just as comfortable sharing data in a UBI setting, as they are using online banking services. It is notable, however, that during an accident, customers are 35% more likely to share UBI data than at other times.⁵



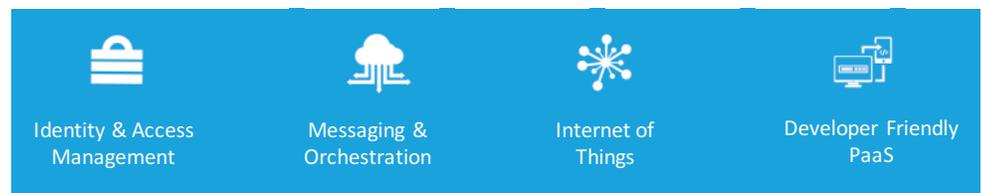
This is an important point, as the degree to which insurers have to access UBI data, is proportional to the degree to which they are able to create meaningful business intelligence and, consequently, their ability to diversify offerings and attract new customers. Insurers are, therefore, partnering with leading OEMs who already control vast repositories of untapped telematics data. This also solves distribution problems by providing insurers ready access to OEMs, telemetry devices, driver-interfaces and an active customer-base from which to collect, analyze and monetize UBI data. By forming strategic alliances with OEMs and connected-vehicle platform providers, insurers are able to leverage lucrative monetization opportunities, reduce costs and off-set their capital outlays over time.

Covisint Connected-Vehicle Platform

Key stakeholders partnerships

The Covisint Connected-Vehicle Platform enables OEMs to play a central role creating and running mainstream UBI applications. Increasingly, vehicles are equipped with in-dash user-interfaces and embedded telematics devices that are eclipsing the usefulness of plug-in dongles and stand-alone smartphones applications. From the customer's perspective, this shift is evident in a driving-experience that is intuitive, seamless and uniformed, across all devices whether they are vehicle-embedded, hand-held or wearable.

However, the real-value of the Covisint Connected-Vehicle Platform lies in its ability to provide OEMs a foundation from which to build UBI services that orchestrate the secure, pervasive and deliberate flow of information to the right people, systems and things.



Unlocking value

The Covisint Connected-Vehicle Platform enables OEMs to rapidly build connected-vehicle ecosystems that help stakeholders capitalize their UBI initiatives, in the following five ways:

- **Intelligence mining:** Unprecedented access to UBI data combined with purposeful behavior analytics and user-centric business systems enable stakeholders to generate deep insight into customer driving behavior and its impact on cost vs. risk actuarial models. The Platform provides an ecosystem that enables insurers to easily access the data-slices relevant to their customers and create highly personalized service offerings.
- **Location independent, technology agnostic :** The Platform allows OEMs to function as a hub from which data is collected, aggregated and shared. By normalizing data from different sources, insurance companies benefit by accessing standardized data-sets while guaranteeing consumer privacy. The technology-agnostic capabilities of the platform enable data to be easily extracted from, or integrated with, any network, system or device.
- **Fine-grained access and control:** The Platform provides a global, scalable solution that offers granular access to vehicles, users and systems. The identity management capabilities guarantee data-privacy by utilizing the highest level of authorization control while information management components securely transmit the right data to relevant stakeholders.

- New revenue streams and monetization opportunities:** The secure, accurate and timely delivery of telematics data enables OEM to partner with insurers to build sustainable UBI applications that monetize vehicle and driver data over the long-haul. This has wide-ranging implications on profitability as OEMs are able to generate new revenue streams by collecting, normalizing and distributing UBI data directly to key stakeholders including TSPs, insurance companies, fleet operators and other relevant industry players.



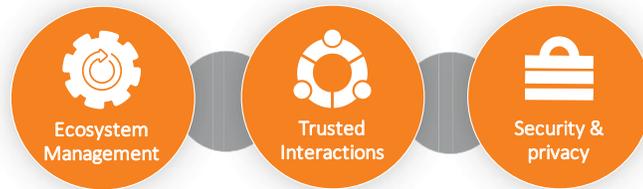
By way of illustration: A major OEM typically can typically sell data to TSP provider for US\$4 - US\$9 per vehicle depending on the type and quantity of data required. Consider that if an OEM sells one million vehicles per year and that if 70% of these vehicles are insured by companies that offer UBI, total yearly revenue generated is US\$2.8m - US\$6.3m

- Safety-driven user-experiences:** Most large OEM's are now bundling driver behavior and monitoring services as part of their connected-vehicle offering. Customers are becoming accustomed to UBI services that enable them to monitor their driving behavior scores and the effect it has on their insurance premiums over time. To be effective, however, the user-experience must be interactive, engaging, information-driven and promote safety.

The UBI enablement environment

Covisint is the leading enabler of connected-vehicle ecosystems in the market. The Connected-Vehicle Platform is composed of an enterprise-grade Platform-as-a-Service (PaaS) that elegantly reconciles foundational IoT, Security and Messaging technologies with a unified development environment from which complex UBI services may be quickly and easily actualized. The platform achieves this via micro-service accelerators, configuration templates and other software development components that enable insurers to easily integrate their existing back-office databases, processes and workflows with a wider ecosystem of people, system and things.

Covisint go-to-market accelerators are highly-modular micro-services that help insurers quickly unlock key UBI functionality. Implementing these accelerators is as simple and straightforward as accessing Covisint’s comprehensive library of software templates and application program interfaces (RESTful APIs), conveniently organized into a bundle of services and solution templates, corresponding to the use cases.



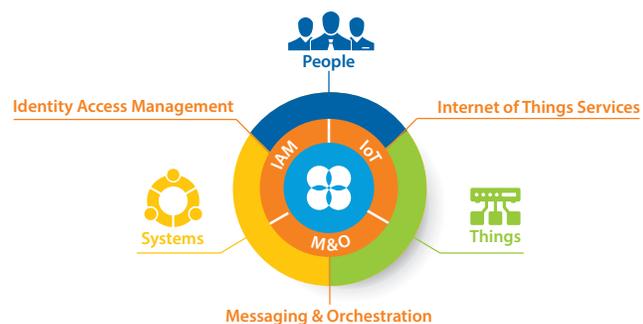
The Covisint UBI solution-stack

Covisint UBI enablement technologies are an integral part of the Covisint connected-vehicle solution-stack and an essential part of the company’s value-proposition. The Covisint Connected-Vehicle Platform defines twelve insurance industry services stacks. Each addresses the specific needs of OEMs, their stakeholders and the wider market. These include:

- Vehicle Diagnostics
- Risk Scoring Algorithm
- Mobile Apps
- Geo-Fencing
- OBDII Device Connectivity
- Metering/Trip Reports
- Predictive Modeling
- Weather Info
- AuthN
- AuthZ
- Messaging
- Data Orchestration

Turn-key functionality baked-in

The Covisint Connected-Vehicle Platform knits Identity & Access Management (IAM), Messaging & Orchestration (M&O) and the Internet of Things (IoT) into a cohesive fabric of core competencies, enablement technologies, and knowhow. This helps OEMs easily navigate the complex relationships between people, systems, processes and things.



- **Covisint IAM is the security component.** It provides comprehensive identity and access management across the connected-vehicle ecosystem and facilitates secure access to critical resources and information.

- **Covisint M&O improves collaboration while mitigating risk.** Functionally, it is responsible for information routing, data transformation and the syndication of intelligence across the ecosystem.
- **IoT seamless inter-operable connectivity between people, systems and things.** It includes end-to-end user profiling, relationship and life-cycle management, and messaging across the connectivity-chain.

Industry micro-accelerators

Covisint offers a rich collection of modular micro-service accelerators. These go-to-market accelerators are modular, streamlined and engineered to help OEMs accelerate actualize their industry-specific initiatives.

The five Covisint UBI accelerators are as follows:

- **Vehicle command registry:** A registry of pre-built templates of vehicle commands with corresponding APIs and micro-services. These templates normalize common vehicle commands and may include functions that secure, start and dis-engage a vehicle, geofence or provide screen alerts.
- **Catalog registry:** A catalog of in-vehicle services that a consumer can subscribe to including: roadside assistance, infotainment, navigation and location based services.
- **Automatic vehicle stream discovery:** The ability to automatically discover standard vehicle data streams and automatically integrate corresponding events and commands with workflows.
- **Vehicle event, command, solution templates:** A pre-defined set of templates for vehicle commands and events that allow grouping of commands/events/attributes that relate to a specific use case or solution.
- **Pre-built enterprise connectors:** Utilizing the Custom Application Protocol Services (CAPS) approach that includes a pre-defined set of adapters for popular System of Records (SOR) or System of Engagements (SOE).

The wrap

The race is on. OEMs, insurers and TSPs are ramping up efforts for a seat at the table in the connected-vehicle market. The increasingly complex, interconnected and global automotive insurance industry offers a compelling use-case for UBI applications. Furthermore, OEMs are sitting on large quantities of connected-vehicle data, and forging alliances with insurers willing to leverage this data, will create sustainable and significant opportunities for growth.

The role of the Covisint Connected-Vehicle Platform is pivotal in this process, helping OEMs and insurers build UBI ecosystems that reconcile the needs of stakeholders and uncover synergies in the automotive industry and connected-vehicle space. Founded on the principle of *purposeful* enablement the company offers a unique combination of experience, knowhow and a purpose-built platform, from which OEMs and insurers can rapidly actualize their go-to-market UBI goals.

Successfully designed and implemented, Covisint powered UBI solutions represents a comprehensive collection of organic services that promote responsible driving and unlock value for OEMs, insurers and customers. Covisint enables OEM to effortlessly actualize their UBI initiatives and transform the experiences into safe and engaging “*journeys*” and happy drivers equate to loyal customers, sustained revenue growth, and profitability.

The Covisint difference

Covisint offers an infrastructure agnostic, highly scalable, and purpose-built Platform-as-a-Service (PaaS) for unlocking the potential of IoT and identity-centric solutions with accelerators for the automotive world.

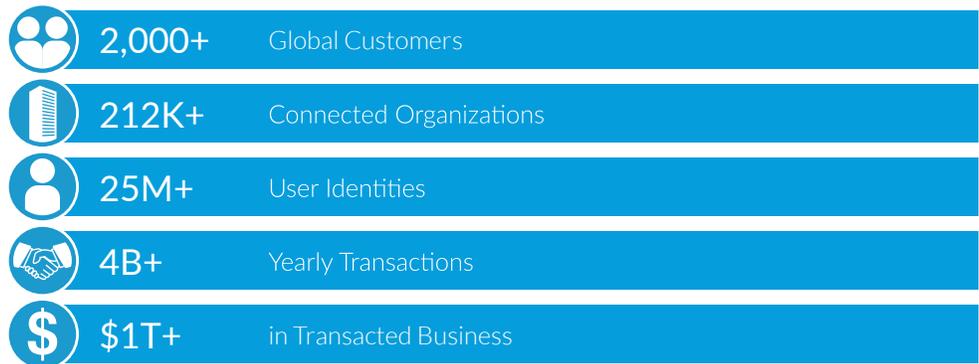
Differentiation is in the solution – A cloud-based PaaS unlocks customer and partner led development and faster innovation in the application layer.

Infrastructure agnostic and highly scalable – To meet the privacy, security and performance demands of increasingly global businesses.

Purpose-built – For solutions that connect people, processes, systems and things, enables faster innovation in the platform capabilities and your solutions.

Offered as a cloud service – To drive operational simplification and reduce costs for customers through economies of scale.

See more at Covisint.com/industries/automotive



Covisint is the connected company – we securely connect ecosystems of people, systems and things to enable new service offerings, optimize operations, develop new business models and ultimately enable the connected economy. Today, we support more than 2,000 organizations and connect to more than 212,000 business partners and customers worldwide.

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