INTRODUCTION

In the last 10 years, the connected car has evolved from concept to reality. Vehicle connectivity now includes embedded modems directly integrated into car telematics systems. Nomadic approaches also allow users to connect their smartphones directly to the dashboard. Combined, these technologies provide users with an enhanced driving experience. Furthermore, these technologies enable access to the enormous amount of information associated with the car, the driver and the act of driving.

This information, available through myriad telematics solutions, has real value. As a result, we are in the early developmental stages of what is becoming the “currency” of a new and evolving economy. Drivers, automakers, mobile carriers and a variety of industries recognize the need to nurture this new economy and ensure it brings value to all involved.

Over the next 5 years, the number of vehicles shipped with some type of connectivity is forecasted to exceed 90 million units per year. And after that, it is unlikely any vehicle sold to a consumer will not include some type of connectivity – this means all cars will be part of the car data economy. By 2030 as old, unconnected cars are taken out of service, the active value of car data may well exceed 1.5 Trillion USD according to McKinsey and Company’s March 2016 Report – “Car data: paving the way to value-creating mobility”) https://www.mckinsey.de/files/mckinsey_car_data_march_2016.pdf.
One of the factors that can derail the realization of this incredible value is the lack of a universal approach and understanding of the topic. The number of actors in the connected car ecosystem makes proprietary methods used to define, manage and transport data less attractive. Without a consistent approach, the value of the market will never be fully realized. Multiple players all need to be engaged and assured that information is secure and given real value. This includes:

**THE CAR WILL COMMUNICATE WITH MANY ENTITIES FOR MANY PURPOSES**

Car data users/contributors and select use case examples

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We at Car Connectivity Consortium® believe that standardization is a key element to monetizing car data’s value. As a result, we are developing a Car Data Exchange to act as a centralized brokerage to connect suppliers of car data to those interested in utilizing that information to provide services. Additionally, we will standardize the data types, data sets and encryption methods. The Car Data Exchange is not a repository or
data bank. Instead, this is a way to link data consumers with the data sources.

A STANDARDIZED APPROACH TO CAR DATA

One of the primary arguments against using an industry standard approach is that the process of reaching agreement and finding a solution is slow. There is little doubt that the standardization approach is frequently slower than using proprietary solutions. Individual companies will develop their own solutions, sometimes with partners, and deploy them – and this is already the case when it comes to car data.

Many players in the car data ecosystem have established proprietary methods for acquiring, transporting and acting on car data. One of the most public examples are usage based insurance companies that monitor driving “habits” via the ODB2 port via some type of dongle. While this approach does work, there are notable limitations resulting from the fact that the ODB2 was never meant for this type of use.

While proprietary solutions are easy to deploy and are already in the market, they suffer from major drawbacks. These include a lack of scalability and the inability to be “future proof”. Whereas standardization allows all interested parties to contribute and use the resulting solutions, the proprietary solution are frequently controlled by its owner. Other companies with similar interests are unable or unwilling to use the solution because they cannot ensure it meets their immediate needs, it requires unfavorable licensing terms or that it will be available to support their business long term. The process of standardization addresses these issues and can move quickly if all partners are engaged and active.

PRIVACY OF INFORMATION

The issue of privacy of personal information has become one of paramount importance for citizens of the connected world today. The more information is available to share, the greater the possibility that information is misused. To address consumer concerns, two different aspects of the problem must be considered; how to provide consent and how to secure that information.

The first step to getting data from drivers and their vehicles is addressing the issue of obtaining consent to share information. In most countries where data is of interest, regulations are in place to protect end users and how their personal information is shared. Once regulatory concerns are addressed, the issue of willingness to share information then comes into play.
Drivers in different regions have differing levels of willingness to share their data. In general, nearly 3 in 4 drivers are willing to share some information as long as they can receive some tangible benefit. When specific verticals and regions are considered, the data yields some interesting patterns:

Customers across investigated geographies are willing to share navigation data, with visible regional difference in willingness to share other data.

If you were to receive an application for free instead of paying for it, would you agree that the application could use your data in return? If so, which application would you grant access?


From the above chart, we see a greater willingness for drivers in China to provide this information than other regions. But all three geographies show more willingness to share information when it related to the navigation and mobility. So while some geographic issues regarding willingness are present they are not the main roadblock to building a viable ecosystem.

After consent is given the issue comes down to how that information is secured. In proprietary approaches security is handled in different ways with different levels of robustness. Some car data transfer methods utilize security that is overly zealous and results in solution that is more complex than necessary. Other methods deploy solutions that are not sufficiently secure and expose sensitive information.

This, again, makes the case for a standardized approach. When the mechanisms for securing information can specified and maintained by an independent third party, the right balance for complexity versus necessary security can be found. CCC can help find that balance and be the objective manager for the systems that enable the car data ecosystem.
INFORMATION OWNERSHIP

Closely related to information privacy is the issue of who owns the data. This is a somewhat more complex question since both the owner of the vehicle and the auto OEMs have legitimate claims to the rights to the data. Where the data is generated by the smartphone linked to the vehicle, the end user typically has more rights. Where the vehicle generates the data and that transported either via an embedded modem or a tethered smartphone, the question becomes more complex. It is these ownership issues that may be used as a reason not to embrace a solution as CCC is proposing, but we believe it is one that can be overcome.

Regardless of the source of the data, the issue would be discussed and resolved as part of the standardization process. It is the responsibility of all CCC players to ensure that the ownership issue is clarified. The requirements for players in the ecosystem must be balanced with the various legal and regulatory regimes that will be engaged. By understanding these issues in the countries where the solution is deployed, CCC can again provide value building the largest possible ecosystem.

THE CAR DATA ECOSYSTEM – CCC’S SOLUTION TO THE NEEDS OF THE MARKET

With Car Connectivity Consortium’s experience in developing and deploying MirrorLink, the organization already has most of the relevant players in place for this discussion. Our membership includes both handset vendors and automotive OEMs who are already adept at having the needed types of standardization discussions. With the inclusion of other ecosystem players from the automotive insurance industry, mobile service providers, dealer networks, home and workplace automation players and transportation infrastructure vendors, we have created the best place for these necessary discussions to take place.

In approaching the market, we believe that there are three areas that are our logical starting points. These are usage based insurance (UBI), road condition/traffic monitoring and integrated vehicle maintenance. These are areas where proprietary solutions are already in place and use cases are clearly defined. Having these clear cases help establish the roadmap for building a standardized solution while balancing different needs. In considering these different needs, the most generalized approach that can be extended into other areas easily will be established.
After establishment of the standardized solution, businesses that wish to leverage car data can do so without wasting time on developing technology and infrastructure. These companies can then build business where it really counts – utilizing the data to provide better services to their customers and creating value for themselves. CCC isn’t looking to create a “data bank”, CCC is looking to enable ways to make business work when it comes to the use of car data.

In broad terms our solution architecture looks like this:

The scope of CCC car data project includes definition of standard interfaces for exchange of data between data provider and receiver. The data provider could be either an OEM data bank, or a car, or a phone. Our solution is not based on any one platform or source of data. Data can originate from embedded modems, highway infrastructure or smartphones tethered to vehicles as well as other sources. In addition to the standard interface, CCC plans to define an authentication and authorization service platform that will enable data provider to offer car data through any market place. By enabling the mechanisms for solving the sharing of car data for the entire industry, we provide the best possible way to build a vibrant way to maximize the value from this largely untapped resource.
CONCLUSION

Car Connectivity Consortium is the best place to build a standardized approach to the complex issue of how to maximize value from data generated by the act of driving. Standardization provides the best way to ensure economy of scale and reduce the need for different players to develop unique and incompatible methods of addressing the problem. We also provide the best playing field for all interested parties to collaborate on the necessary solutions.

If car data is to fulfill its promise of delivering the estimated trillions of dollars of value to the industry, then the hard work must be done now. CCC has the right companies and the right history to make that happen and we invite all interested players to join with us to make this exciting possibility a reality.

The CCC is dedicated to cross-industry collaboration in developing global standards and solutions for smartphone and in-vehicle connectivity. The organization’s more than 80 plus members represent more than 70 percent of the world’s auto market, more than 60 percent of the global smartphone market and a who’s who of aftermarket consumer electronics vendors. For further information, please visit www.carconnectivity.org.