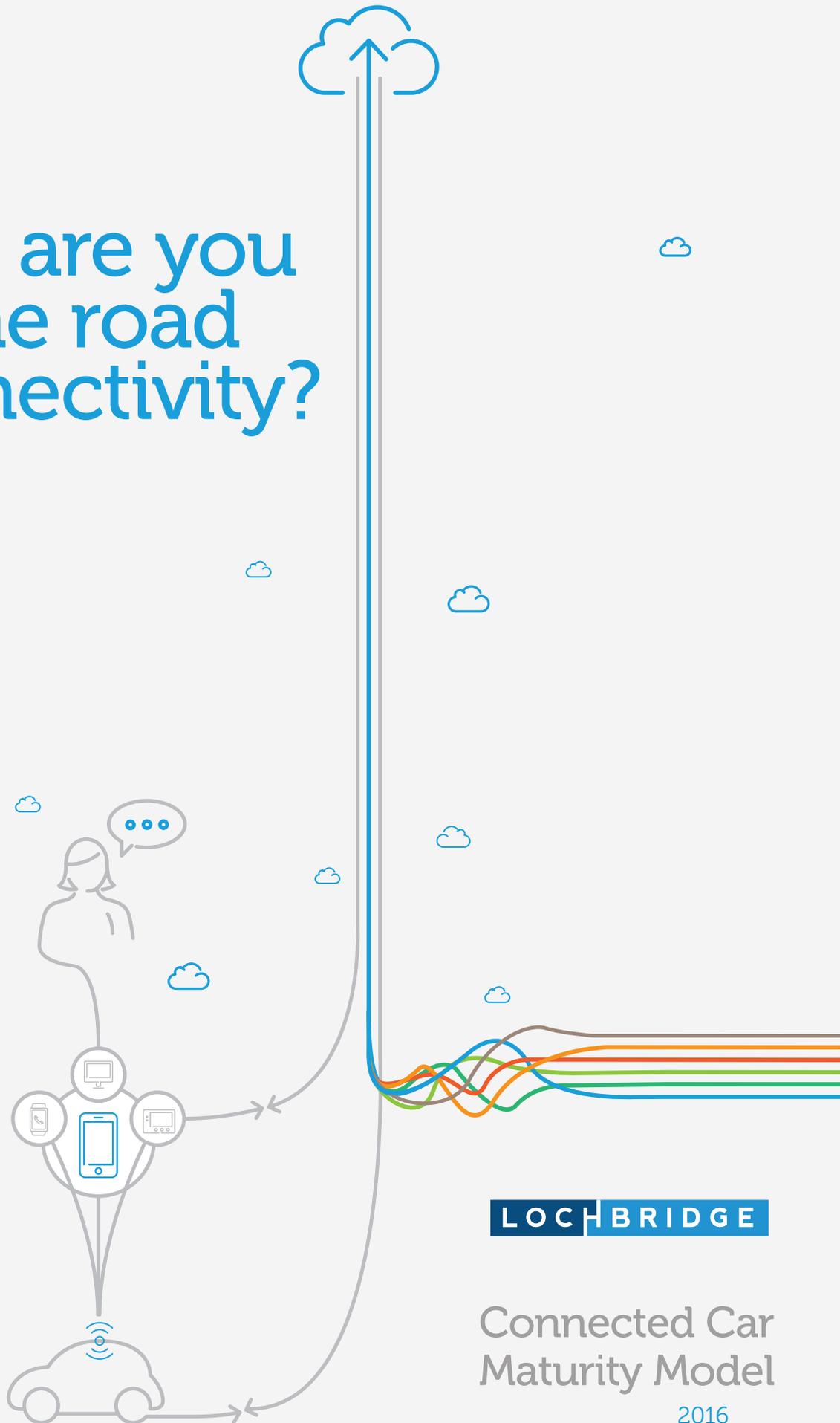


Where are you on the road to connectivity?



LOCHBRIDGE

Connected Car
Maturity Model

2016

Does connectivity drive your business objectives, or are you only connecting things because it's cool?

Connectivity can help keep your customers and run your business. Yet, how do you determine which connected applications you need most: Marketing? Supply chain? Warranty? There are countless features to add and things to do – and you can't do them all. So where should you focus?

That depends on what you want most: loyalty, differentiation, monetization, or quality. With Lochbridge's proprietary Connected Car Maturity Model, we are introducing the industry's first way to score and track your efforts. You can now easily determine which solutions are worth pursuing first and how advanced your offerings are, based on the objectives for your business.

The model highlights what we think are the four most important objectives driving connectivity investments, as well as the solutions that enable each. Your self-reported progress toward these solutions will determine your grade for each objective, and ultimately, for your connected program as a whole.

Walk with us through the rationale behind the model and the solutions that can give you a competitive edge in this tumultuous market.



The Four Core Objectives of Connecting

For each of the 4 business objectives, we've identified a set of solutions.

The Objectives

Solutions Driving Objectives

Loyalty

Create a new relationship between customers, cars and companies.



Real-Time Alerts & Customer Communications

360° Customer Insights

Vehicle Feature Updates (OTA)

Car-to-Customer Connectivity

Digital Integration

Differentiation

Gain a competitive edge with unique experiences both inside and outside the vehicle.



Vehicle Personalization

Developer Communities

Infotainment Connectivity

Map Updates

Concierge Services

Monetization

Introduce new services that customers will pay for and allow third-parties to participate.



Dealer Service & Parts Programs

Enterprise APIs for Monetization

Fleet Management Solutions

Third-Party Services

Telematics Services

Car and Ride Sharing

Quality

Analyze vehicle data to enhance product quality and performance and gain visibility into potential risks.



OTA Performance & Quality Updates

Predictive Analytics

Customer Quality Sentiment Analysis

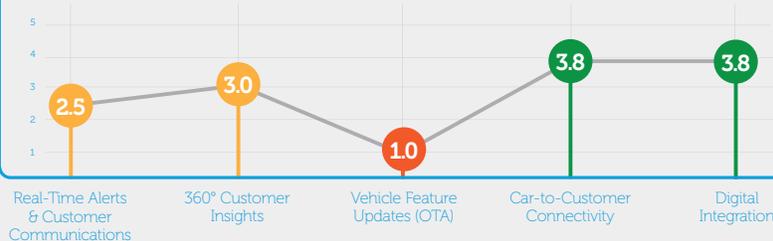
Infotainment Application Quality

Sample Dashboard



Loyalty

Using connectivity to reach your customers in new ways



2.8

Industry Avg.
On a scale of 5

Loyalty



A Pipeline to Fuel Loyalty

The definition of loyalty is changing. The automotive industry used to think of loyalty as something a consumer had to a vehicle brand. However, today it's more complicated than that. As connected cars continue to become platforms, consumers can shift their loyalties based on preferences outside the automotive industry, such as Apple or Google. These other loyalties can significantly influence a vehicle purchase decision.

As a result, control of the user experience in the car is more important than ever.

Connected cars and always-on consumers make it possible to delight drivers and assist them at crucial moments when their loyalty to a vehicle or automotive brand is most at stake.

Loyalty



Solutions Driving Maturity

Real-Time Alerts and Communications

Leverage personal and vehicle data to communicate with customers in new ways throughout the ownership experience.

1

Reactive

Basic email: Provide historical vehicle diagnostics and health reports via email.

2

Proactive

Real-time: Alert customers to issues as they happen via their preferred mode of communication.

3

Proactive

Targeted offers: Leverage both vehicle and behavioral data to create targeted customer offers.

Customer 360° Insights

Gain visibility across every customer touchpoint – web, dealer, customer service and product.

1

Pre-Purchase

Capture digital insights as prospective buyers engage in the purchase process.

2

Ownership

Gain dealer-level insights every time the customer is in contact with the company.

3

Behavior

Understand how the customer is interacting with the vehicle and its applications.

4

360-Degree

Combine data from all three areas above to gain visibility across the entire lifecycle.

Vehicle Feature Updates (OTA)

Through over-the-air updates, introducing new features and upgrades that can improve vehicle performance and delight customers.

1

Vehicle Modules

OTA enabled design that lets modules in the vehicle be updated remotely without a visit to the dealership.

2

Customized Updates

Specific OTA updates to improve performance of individual vehicles based on driving patterns and usage.

Car-to-Device Connectivity

Enabling communications and the ability to interact with the vehicle from the customer's device of choice.

1

Web

Integrating vehicle information into online portals.

2

Mobile

Enabling vehicle communications and control through mobile applications.

3

Wearables

Extending vehicle communications capabilities to wearable devices.

Digital Integration

Providing customers in-vehicle access to their data, content, media and communications.

1

Bluetooth Connectivity

Providing simple content and contact access via Bluetooth for basic music and phone functionality.

2

Mobile Projections

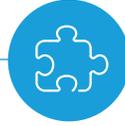
Projecting the mobile device screen in-dash for a seamless experience, such as with Android Auto or Apple CarPlay.

3

Custom OEM Implementation

Providing in-dash apps and app stores that are specific to OEM programs and platforms.

Differentiation



Closing the Digital Divide

Cars without the right kind of connectivity for mobile lifestyles are quickly becoming dinosaurs. Buyers are demanding a digital driving experience similar to that of their smartphones, and in many cases are willing to pay extra for it.

According to a recent study from Forrester, 50% of North Americans who plan to buy cars in the next 12 months say that technology options will play a critical role in their purchasing decisions.

Consumers don't want to put their digital lifestyles in park while driving. They are seeking seamless integration with smart devices, and a contextualized experience tailored to the vehicle. From infotainment to telematics, opportunities abound to turn the car into a great platform to provide content, applications and services that will not only command attention, but also grab market share.

Differentiation



Solutions Driving Maturity

Vehicle Personalization
Creating a personalized, contextual experience tailored to the driver's preferences and behavior.

1

Basic

Simple memory functions such as radio and phone settings.

2

Personalized

Adapt vehicle features to personal preferences of the driver.

3

Contextual

Adapt the experience based on location and driver behavior.

Developer Communities

Building an environment to enable developers to create new experiences and drive innovation.

3

Developer APIs

Create a set of APIs to integrate and extend applications into the vehicle.

Infotainment Connectivity

Leveraging telematics connectivity or the phone connection in the infotainment experience.

1

Mobile Connectivity

Stream audio and video into the car using connectivity provided by mobile devices.

2

Embedded Connectivity

Provide superior audio and video streaming through embedded connectivity in the car.

Map Updates

Ensuring that the key input for location-based apps and services is maintained and remains accurate.

1

Physical

Using manual updates, such as USBs, to upgrade map files at the dealership.

2

OTA

Use over-the-air capabilities to automatically enable map updates.

Concierge Services

Delivering premium services to your customers through telematics and infotainment platforms.

1

Navigational

Provide automated or in-person routing and POI services.

3

Personal Assistance

Offering live or automated assistance when your customers need it most.

Monetization



Capitalizing on Connections

Nearly twenty years ago, OnStar launched a new telematics service platform, creating a revenue stream that now tallies \$1.5 billion annually.

But the pipeline to the car has now evolved well beyond safety and security services; smart OEMs are continuing to redefine their businesses, creating new partnerships and introducing new business models like car and ride sharing.

Now acknowledged as the next mobile platform, the car provides drivers an experience that complements their smart phones. It also opens up a plethora of opportunities for OEMs to profit from developers, merchants and service providers who want access to the "fourth screen."

Monetization



Solutions Driving Maturity

Dealer Service & Parts Program

Leveraging real-time vehicle performance data, OEMs can proactively steer customers towards dealers for their parts and service needs.

1

Proactive

Communicating vehicle diagnostics to customers with dealer suggestions based on preferences.

2

Prognostic

Leveraging prognostics to alert the driver of potential & real-time service requirements and routing to dealerships.

3

Automated Scheduling

Use prognostics to enable the automated scheduling of appointments based on preferences.

Enterprise APIs for Monetization

Building enterprise capability through digital transformation to enable your company to more easily leverage connected data and rollout new services to monetize.

1

Basic APIs

Provide key feature APIs for basic connectivity and telematics functionality.

2

Strategic APIs

Transform into a digital, customer-centric enterprise by creating and securely exposing strategic APIs.

Fleet Management Solutions

Use connected technology to the benefit of fleet managers and their drivers.

1

Basic Fleet Management

Provide a fundamental set of telematics-based offerings to track, diagnose and optimize fleet performance.

2

Advanced Fleet Management Solutions

Enable predictive analytics, OTA performance updates and advanced digital/mobile dashboards.

Third-Party Services

Enabling third-parties to provide content and services to drivers, and finding opportunities to monetize vehicle data.

1

Infotainment Integration

Integrate content, apps and media providers with infotainment experiences.

2

Usage Based Insurance (UBI)

Leverage driver and vehicle data to enable UBI solutions.

3

Merchant Integration

Use location and driver preferences to provide targeted in-vehicle offers.

Telematics Services

Providing connected services to enhance the driving experience and create a new, recurring revenue stream.

1

Basic

Offer safety & security, routing and diagnostics services while providing basic web portals to customers.

2

Advanced

Provide remote services via web, mobile and wearables while enabling advanced safety services and vehicle prognostics.

3

Profitable

Capture opportunities by offering B2B and B2C applications and reselling services.

Car and Ride Sharing

Enabling OEMs to extend into the car and riding segments and creating the solutions to support these new models.

3

Sharing Models Enabled

Leverage connectivity to drive Uber-like ride sharing models that are coordinated or owned by the OEM.

Quality



The Power to Predict and Prevent

The “lemon” is becoming a relic of the past. OEMs who have established themselves as quality leaders have always gained an edge in the automotive industry. Fortunately, today’s connected cars are giving automakers an advantage, providing us with the power to predict and prevent performance issues. By analyzing the avalanche of information emanating from connected cars, we can reduce warranty risks, improve customer satisfaction and optimize the supply chain.

We can improve performance on-the-fly and avert failures before they affect customers. As we uncover root causes, we can make corrections in future designs to minimize for warranty impacts. Even more important, as safety issues are identified, we can take action and prescribe preventive actions. From a deluge of connected data, OEMs can create a crystal ball that provides immediate insight into their products and, at the same time, their businesses.

Quality



Solutions Driving Maturity

OTA Performance & Quality Updates

Correcting performance issues through over-the-air updates.

1

Vehicle Modules

OTA enabled design that lets modules in the vehicle be updated remotely without a visit to the dealership.

2

Customized/Specific

OTA updates to improve performance of individual vehicles based on driving patterns and usage.

3

Module Tuning

Improve the performance of the vehicle and vehicle features.

Predictive Analytics

Avoiding recalls and improving vehicle performance quality through analytics.

1

Collect

Create a repository to capture vehicle data and provide basic vehicle information, such as health stats.

2

Engineering Analytics

Interpret data and identify under- or over-engineered parts based on real usage data.

3

Warranty/Recall Analytics

Realize savings through continuous monitoring and apply analytics to mitigate issues.

Customer Quality Sentiment Analysis

Analyzing consumer sentiment across blogs and social posts to uncover vehicle performance issues.

1

Monitoring

Collecting and monitoring social media inputs for performance related insights.

2

Analyzing

Take actions from insights through big data and streaming analytics.

Infotainment Application Quality

Ensuring that infotainment and mobile applications are fully tested to meet stringent automotive standards.

1

Traditional Testing

Test applications using physical prototypes and actual in-vehicle usage.

2

Emulation and Simulation

Leverage the Cloud to certify applications while giving developers greater access.



We are Lochbridge, pioneers in connected automotive telematics and infotainment. Since 1999, our award-winning solutions have enabled 1 billion interactions and helped our customers realize over \$1.5B in new annual revenues.

Our 17 years of unparalleled experience at building a connected pipeline to the car, extracting and analyzing data, and predicting events, is unmatched.

We have worked with OEMs, tier ones and many hardware, software, services, and content partners to enable new connected car innovations.

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To learn more about Lochbridge

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