The quest for telematics 4.0
Dialogue with the value chain
Detroit executive roundtable summary 2014
1. Foreword

2. Executive summary

3. Focusing on the business model
   3.1 What’s not working in the ecosystem
   3.2 Toward a more open environment
   3.3 Optimizing the value chain
   3.4 Addressing the data imperative

4. Globalizing connectivity ecosystem
   4.1 Who should run the global connectivity agenda?
   4.2 How should regional services operate?
   4.3 What are the bottlenecks preventing growth?

5. Breakout sessions
   5.1 Managing customer data
   5.2 Connectivity and urban mobility
   5.3 Sales and channels

6. Looking ahead

7. Considerations for stakeholders
To gain more insight into the strategic priorities facing stakeholders, EY’s Global Automotive, Telecommunications and Insurance Centers recently brought together more than 30 senior decision-makers from across the connectivity ecosystem.

This was the third in our series of connectivity roundtables. The last time we were in Detroit, just over a year ago, we discussed the relevance of the value proposition and sources of ROI for connectivity, looking at issues such as pricing, the role of dealers in the connectivity ecosystem and how best to ensure that all participants in the value chain are incentivized to play their part. We also looked at the different entities in the value chain, their core competencies and the importance of collaboration as a means of accelerating innovation.

At our subsequent roundtable in Munich, we continued the debate, focusing on the challenges facing adoption of connectivity – particularly those arising from silos in development and across all key indicators, not just in the ecosystem, but in organizations as well. We also talked about the need for greater transparency and collaboration across the ecosystem, the potential value of data and the fact that few, if any, stakeholders are equipped with the right metrics and tools to measure the benefits connectivity can provide.

The latest event, held in Detroit, examined the business model for connectivity. It was clear that changes are needed to remove existing bottlenecks and drive wider adoption, with a focus on generating ROI for customers and participants in the value chain as well. We also looked at approaches to globalizing connectivity and realized that a primary challenge is achieving a balance between global connectivity and local deployment, particularly where data transfer and licensing issues are involved. During a day of far-reaching debate, we brainstormed ideas in these two key areas:

- Sustainable connected car business models
- What is not working in the ecosystem?
- Moving toward a more open environment
- Making the value chain more efficient and effective
- Addressing the data imperative
- Globalizing the connectivity ecosystem
- Who should run the global connectivity agenda?
- How should regional services operate?
- What are the bottlenecks preventing growth?

At both the local and the global levels, a high priority is to fast-track commitment to a more collaborative approach. The challenges and complexities are, quite simply, too great for any one constituency in the ecosystem to “go it alone.” New approaches to partnerships, shared business models and data-sharing are urgently needed. Until now, OEMs, key drivers of the entire industry, have sheltered behind a protective business model mindset. Are there now signs that these mindsets are beginning to change?

On the consumer side, as we have pointed out at previous roundtables, there continues to be a lack of understanding around what services people want, and whether/how they will be prepared to pay for these. Where data is concerned, more needs to be done to overcome privacy-related hurdles and encourage users to “opt in.” Looking ahead, the data privacy regulations scheduled to be introduced in Europe next year mean that packaging and usage of customer data will become even more challenging than before.

In the following pages, we summarize the key findings of our roundtable and highlight the opportunities and challenges that lie ahead for all players in the connectivity marketplace.
We brought the telematics value chain together at one table for an intensive discussion on topics currently shaping the sector.

<table>
<thead>
<tr>
<th>Vehicle independent services</th>
<th>Vehicle-centric services</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-demand infotainment</td>
<td>Safety and security</td>
</tr>
<tr>
<td>Navigation</td>
<td>Diagnostics</td>
</tr>
<tr>
<td></td>
<td>Vehicle to vehicle</td>
</tr>
<tr>
<td></td>
<td>Other services</td>
</tr>
<tr>
<td>Service delivery infrastructure</td>
<td>Wireless network (connectivity)</td>
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<td></td>
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<tr>
<td>Airbiquity</td>
<td>Intelligent Mechatronic Systems Inc.</td>
</tr>
<tr>
<td>Bell Mobility</td>
<td>Lear Corporation</td>
</tr>
<tr>
<td>Caterpillar</td>
<td>Magna</td>
</tr>
<tr>
<td>Fontinalis</td>
<td>Robert Bosch</td>
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<tr>
<td>Ford Motor Company</td>
<td>Symphony Teleca</td>
</tr>
<tr>
<td>General Motors</td>
<td>Telit Communications</td>
</tr>
</tbody>
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What are telematics end services?

How are telematics services delivered?

Stakeholders represented at the roundtable
Executive summary

- **Sustainable connected car business models:** The need for a viable business model is a top priority for all stakeholders. For OEMs, the high cost of embedding modules in their vehicles must be justified to the business. However, how can this be done when payback cycles are so long? And how can dealerships be incentivized to push these offerings at point of sale? Collaboration holds the key, not just for OEMs, but also for all participants, but this calls for a reappraisal of previously protective approaches. Relationships based on mutual benefit, or “co-opetition” will bear dividends, but more flexibility is needed before these can succeed.

- **Creating a more open, less complex environment:** As an enabler for this collaboration, open platforms will enable stakeholders to jointly participate and innovate through an open-source approach. Above all, this will help connectivity offerings to become simpler, more intuitive and consumer-focused. Connectivity technologies must become smarter and capable of working seamlessly across multiple devices. As well as helping to build momentum in the marketplace, this will provide new value creation opportunities. For example, options to download and install new content, perhaps through a dedicated customer portal, will enable its monetization throughout its lifecycle.

- **Addressing the data imperative:** All stakeholders recognize the primacy of data in the connectivity equation. However, who should own this core resource, and who will ultimately be responsible for its security? The trade-off between insurers and OEMs is a key issue in this space. Instead of paying for the data they need, insurers need to investigate what they can “give back” in exchange. Ultimately, the more data traffic that flows in either direction, the more the entire ecosystem will benefit.

- **Globalizing the connectivity ecosystem:** To accelerate and maximize ROI, stakeholders need to broaden the scope of their offerings. How should they address the technical and regulatory challenges that arise from globalization of connectivity, and what about tax? If data is can be regarded as a service, is it liable to tax? That will vary from country to country. Moreover, where tax must be paid, who should be liable? OEMs or carriers?

- **Focusing on the global/local Challenge:** Regional deployments have to take into account a wide range of issues, from technology preferences and telecom protocols to local behavior and cultural differences. One-size-fits-all approaches are moribund. How can stakeholders adapt their core engineering operations and how should connectivity strategies accommodate the resultant global/local issues that arise? Extensible platforms will be vital and flexibility will be a core attribute. Furthermore, stakeholders will need in-depth local insight to build the best possible ecosystems in each country/region.
Focusing on the business model

However complex the connectivity ecosystem may appear, the future of this technology will depend on a simple equation – how participants can create a sustainable connected car business, grounded in collaboration, with ROI being generated for players throughout the value chain and end customers.

Participants focused on where current bottlenecks are holding up progress throughout the ecosystem and how these can be cleared. Building on the consensus achieved at the previous roundtables, they agreed on the need for a much more collaborative environment, with players across the value chain participating and innovating on shared platforms through an open-source approach.

Well represented at the roundtable, OEMs highlighted the high cost of investing in embedded modules, and the pressure they are under to justify those investments to the business. They emphasized that as customer-facing organizations, they have to generate tangible revenues from their connectivity offerings, but in the current scenario, their dealership networks are still not sufficiently incentivized to push or sell these offerings at point of sale.

However, although still a “sticking” point, increased open collaboration between OEMs and other value chain participants is likely. This will be driven by the need for partners to share the huge IT costs involved in creating modular and flexible connectivity offerings.

Flexibility is emerging as a key theme, with OEMs adopting various routes to develop sustainable business models. Having realized that they are not equipped to make a business out of technology by themselves, some are partnering with technology-focused companies and coming to terms with the impact this has on their previously protective business models. Others are developing new ways for their vehicles to be connected at a lower cost by offering customers different connectivity packages – at the point of sale and throughout the economic lifetime of a vehicle.

What emerged is that notwithstanding all the discussion around business models and the need for increased collaboration, participants stressed how important it will be to keep the customer at the front and center of all initiatives. However, flexibility is a core concern here as well. Consumers want a wider choice and connectivity, and offerings must be configured to provide this. Additional benefits will flow by enabling dealers to sell this as an incremental cost and actively engage them in connectivity at point of sale, so they can play their part in creating an experience throughout the lifecycles of vehicles.

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“Can you still plug in a chip that runs and supports high screen resolution and high bandwidth stuff in an electrical architecture that is 10 years old? That’s the thing we have to solve as a supplier in an OEM community.”

“There are some examples where the OEM is actually paying the dealer for selling mapping services, but maybe it’s a better idea to provide information to the dealership, which has a certain value in making sure the customers are really coming back to the dealer.”

“If multiple industries are looking to purchase the package of aggregated consumer data, there’s a big investment in setting it up ... but eventually there’s a big payback as well.”

“The manufacturers of head units won’t want us to, but surely we can start to develop head units that are upgradable?”

“Then there’s fleet management and the amount of data owned by fleet operators which could make privacy issues much easier to deal with.”

“Aftermarket providers desperately want a standard interface in every dash, but the OEMs want to have something the consumer can actually look at and feel that this service is actually coming from the vehicle manufacturer.”

“It’s challenging because it takes at least two years to get anything in the car. Technology companies will not wait for the OEMs.”

“The bottleneck is the resolution of onboard memory and processing power ... but it’s also the telecom hardware in the vehicle that you have to be able to scale.”

“That's the thing we have to solve as a supplier in an OEM community.”
3.1 What is not working in the ecosystem?

Defusing friction between stakeholders in the connectivity ecosystem is essential. For the moment, OEMs remain challenged by how best to “sell” the benefits of connectivity to their dealership networks, while other value-chain participants are frustrated by OEMs’ unwillingness to share customer data.

Previous roundtables have highlighted the need for increased cooperation (or “co-opetition”) across the ecosystem, with an emphasis on creating a “win-win” environment for all stakeholders – from OEMs to end customers. This roundtable was no different. Discussions included new models for relationships, based on mutual benefit, whether through revenue-sharing or closer collaboration between suppliers and OEMs at the design and development phase. The objective should be collaborative creation of embedded hardware that can perform and scale across the lifespan of vehicles as well as from a software perspective and be easily refreshed.

OEMs must align their IT operations to the accelerated cycles demanded by app developers and other suppliers. New contractual arrangements are urgently required. For example, insurers could secure cost-effective access to customer data needed to improve pricing and claims processing by undertaking to channel repairs back to OEMs’ workshops/dealership networks.

Other barriers to a more effective connectivity ecosystem include the incompatibility of business models between potential partners. For example, participants complained of months being wasted in execution because the parties involved were unable to bridge from OEMs’ hardwired part-buying systems to subscriptions with multi-year contracts.

Service providers of telematics are also finding it hard to adapt to this scenario. Having grown used to selling connectivity to subscribers, with ROI achieved within one-year windows, they now need to build connectivity into products and invest for the long term.

The introduction of any connectivity program demands huge investment, first by OEMs in terms of designing and developing new platforms and integrating this with their business as well as developing new services. It also needs substantial investment from telecom service providers and other providers throughout the value chain.

What are the sources of revenues to justify this investment? In a complex, multi-player ecosystem, there are multiple answers. Consumers’ contributions through subscriptions have yet to take off and relationships with dealership networks need to be reassessed. Insurers can obtain payback for their investments in data, but they need to rethink the basis on which they obtain it from OEMs. Above all else, with greater collaboration set to transform the market, more flexible revenue-sharing models are urgently needed.

“We see a lot of similarities between ecosystems in the home, in the car and all these other places. And I think what’s going to be needed is fluidity and simplicity.”

“That’s where you have to tell dealerships to belly up to the bar now, because we’re giving you all these service leads and they are not free.”

“When you’re integrating apps on six-week cycles, and the IT departments in OEMs are saying we’ll get to that in four or five months, then you wind up with a backlog of apps.”

“It’s a challenge for us, to go in there and do it right with embedded modules, to cover that cost and keep the organization patient enough to say, we see the long-term benefit.”
The quest for telematics 4.0
3.2 Toward a more open environment

The need for an open platform is becoming more widely recognized as part of the drive toward increased collaboration across the ecosystem. Whether this means standards will have to be imposed on the industry remains to be seen, but as a foundation for more rapid and coordinated development, it will be a major step forward.

A majority of participants (excluding OEMs) agreed on the need for a more open platform where stakeholders can jointly participate and innovate through an open-source approach. As one telematics service provider put it, “We have plans to transform our approach to become more of an enabling platform that can participate more in the connectivity space and other verticals, as well as providing more value to this particular ecosystem.”

This “open platform” mindset extended to disruptive players. As one participant said, “When you talk about Android, it’s important to understand that they are not developing those apps, but are providing the platform for them. What we’re talking about here is including them in the ecosystem.”

Ultimately, for momentum to build in the industry, connectivity offerings have to be simple, intuitive and consumer-focused. Open platform environments will be the key to enabling this evolution, “At the end of the day, you want simplicity ... you don’t want to have to keep popping in an app and clicking in and figuring it out. You want it just to happen. The technology needs to be smart and it needs to work seamlessly across multiple devices.”

Of course, roll-out of systems that integrate mobile phone apps with in-vehicle digital systems (including the wide range of deals that have already been struck with OEMs) is helping to crystallize debate. Rather than plugging in their smartphones, a growing proportion of tomorrow’s consumers seem likely to access connectivity through an embedded module of this type.

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“A consumer, why would I want to pay three times over for the same information that is on a device that I actually trust?”

“Creating apps, is for [the existing operators] and they’ll always be faster and cost-efficient because that’s the business they’re in.”

“Many people see app providers as people who are providing content to the ecosystem – not driving innovation in the ecosystem. But they’re equal partners at the table.”
3.3 Optimizing the value chain

The pace of change in the connectivity marketplace is now so rapid that all participants – OEMs, service providers, insurers and carriers – are having to rethink how they will price and package their solutions for maximum efficiency and effectiveness in a fast-changing environment.

As the connectivity industry matures, participants are re-evaluating their position in the value chain. As one OEM put it, “We had to learn that technology is not a business for us; it’s an enabler for our services business and so then we developed new ways to be connected at a lower cost. Now we have connectivity at different levels for customers, for our dealers, and for ourselves...we’re trying to drive as much cost out of that connectivity as we possibly can.”

The role of technology in the value chain is attracting significant attention. With customers demanding increased sophistication and interconnectivity across all devices, participants recognize that at the end of the day, it is all about quality of content and ability to deliver this as rapidly and intuitively as possible.

Advances in technology are creating exciting opportunities for value creation. Once OEMs have embedded their connectivity architecture, continuous engagement with customers — e.g., via satellite links — is a real possibility. Options to download and install new content can be refreshed to enable monetization throughout a vehicle’s lifecycle.

However, carriers need to address some fundamental challenges. As customers add more and more devices, they incur incremental charges for using these on the network. At some point, this becomes prohibitive in terms of their cost for consumers. Since people do not want to pay separately for every device they own, carriers need to understand and implement measures to bring purchase of cars into consumers’ existing payment plans as cost-effectively as possible.

Meanwhile, insurers continue to grapple with the economics of connectivity. As one of them put it, “For the most part, there’s no insurance consumer experience. At least not one they enjoy. It’s a very tight market … US$25 per vehicle for a year. That’s the kind of margin we’re working on, maybe US$50 if you’re lucky. And we’re talking about a technology that has a burn rate of US$150-200 a year, even before you spend the IT and external resources to get it up and running.”

“So we can service multiple head-units inside any make, model, trim. One platform – multiple head-units. So the tools are there to deliver dynamically.”

“So we have people working in core R&D to develop things and try and balance those investments from say a technology push to a customer pull perspective.”

“The percentage of revenue associated with connectivity is small compared to the overall value of connected services or connected products.”

“As an actuary I know that once you’re inside the car and you know how that car’s being operated, you have probably got the single most predictive actuary in the rating plan.”

“Where is the supplier that comes in that says we understand scalability, where it is going. Why don’t you guys start here, this is the main focus of where your market is, it will cover you for five years.”

“As a carrier, we have put a toe in the water in Europe with some aftermarket services and I think that will be a business, which will grow significantly.”
3.4 Addressing the data imperative

As always, access to and ownership of data is a core concern right across the industry. Ensuring that privacy is respected – and consumer information used responsibly – is uppermost in participants’ minds.

Participants accept the primacy of data in the connectivity equation, “Data privacy is something we cannot ignore. I think the industry has been walking over consumers and thinking we can own their data.” However, who really “owns” the data and who should be responsible for its security?

The data trade-off between OEMs and insurers is a perennial favorite for debate. Insurers are beginning to look more closely at the benefits they can provide OEMs in exchange for the information they need on drivers to optimize their pricing and policies, “Instead of paying for the data we need, we are starting to investigate what we can give back to OEMs in exchange. It’s a two-way street and the more traffic that flows in either direction, the more the ecosystem as a whole will benefit.”

Changing attitudes to privacy create challenges and opportunities. Today, consumers are more aware of intrusive monitoring of their data – and more wary of the uses to which this information can be put. However, at the same time, they are increasingly more willing to trade privacy for improved and/or discounted services.

OEMs are waking up to the huge value contained in vehicle-related data. As one summed up, “We hold data as far as what the car is doing. So we can create content based around that information … content that makes your experience richer, safer and gets you the right information at the right time to make the right decision. That’s the end game.”

“How do we monetize our vehicle data? There are multiple opportunities. It’s location-based and that’s a real advantage.”

“There is a seismic shift taking place with regard to how people look at privacy and from a consumer driver perspective that is going to be a big piece of how people think about this marketplace.”

“Different kinds of things we can do in terms of providing capabilities and providing richer data to select partners who are participating in this space to ultimately provide a better consumer experience in the context of a car.”
AM. BREAK OUT GROUP REPORT BACKS

START HERE:
- BASIC DATA
  - Diagnostic
  - Behavior related to car
  - Driver-unstructured Data

Who owns the data?

BUILD INFRASTRUCTURE TO MATCH
- OEM Support
- Right Censors
- Vision of the Larger Context

STEP OUT OF ROI TO INNOVATE
- Strategies need to be planned out
- Relate to customer value
- Decide what can be done

GOOD CUSTOMER DATA

Converge to a center Position

Standardization Dialog

LOOK AT SYSTEMS
- City environments
- Utilization of Transportation Modalities

EQUALIZING
- Supply & Demand
- Utilization of Roads (Australia)

You need THOUGHT LEADERS in Urban Centers

Offer an Incentive to Cities

City Cash-Profits to provide more
City Revenue
Know the
City & its Transportation Systems
Wherever they are in the connectivity ecosystem, all stakeholders face a common challenge – how they can scale their connectivity strategies while taking account of local and regional differences in culture, regulations and technology.

The balance between regional versus global development is difficult to achieve. As connectivity deployments accelerate, we wanted to understand the challenges encountered by stakeholders as they move from country to country. As one participant put it, “Most connectivity service offerings start off by being global, but then once you start to permit them, you meet a lot of local cultural, licensing, data privacy, and data-gathering issues.”

To accelerate and maximize their ROI, players across the value chain have to broaden the scope of their offerings. However, as they do so, how can they navigate the complexities?

Globalization of connectivity raises technical, regulatory and tax-based issues. On the technical side, the module and package must be easily adaptable to local requirements. This has implications for suppliers and OEMs. According to a participant, “In development, think global from the outset. Instead of suppliers focusing on the OEM, they need to focus on the actual product.”

The second issue arising in globalization is within the actual organization. As a complex amalgam of capabilities and disciplines, connectivity is, by definition, cross-functional and cross-business in nature. Once it crosses borders, who should be running the connectivity agenda?

Other issues relate to measuring the value of extended connectivity offerings (and the data these generate). A participant encapsulated this challenge in the following words, “We need to make sure the right KPIs are being associated with the new business venture? But this can be hard. Increasingly, we’re moving from a product- to a service- oriented business – and product-orientated KPIs can’t be used to measure the growth of connectivity.”

Participants at the roundtable also considered the bottlenecks and opportunities around partnerships that have not yet been fully captured? After all, this is another way of growing the business. Last, but of real importance, what about tax? If data can be regarded as a service, is it subjected to tax? This is likely to vary from country to country, and where tax must be paid, who should be liable – OEMs or carriers?
"If you're looking at globalizing your connectivity offering, the flexibility of the platform model is key ... so is ensuring you have the right APIs."

"There are flexible platforms available, so on the strength of that, pick the ecosystem you need for each region and do that with an open mindset."

"Are we going to see more and more automakers partnering with global telematics service providers, or is there going to be room for a domestic-only telematics service provider as the only operator to get you to this space?"

"Can you have some global providers in place who do local services?"

"Complexity, that's the problem ... it goes back to the OEM again, who should manage this inside the OEM? We can't find the budget for doing that ourselves."

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4.1 Who should run the global connectivity agenda?

Globalization of any connectivity offering is a complex undertaking. Multiple technical, regulatory, cultural and strategic issues must be taken into account and closely monitored.

Is there such an entity as a global connected car program manager? Most participants agreed that a two-tier approach was essential, “Ideally, that’s going to be a centralized person that is going to say, this is going to be platformed, we’re going to invest in this as a company and run it this way with this kind of technology, ecosystem and partnership. But then there’s going to be a regional person that understands, say, Asia, and that person knows exactly who the connected car managers are in each of the primary countries.”

Will we see OEMs partnering with global service providers of telematics or do domestic-only telematics service providers have an important role to play? The jury is still out. As one participant said, “Is the market going to move toward globalized organizations with local offerings or will we see outfits in, say, Malaysia staking a claim for this work and setting up in the local connectivity space?”

Given the complexity and cost of deployment of global connectivity (in terms of local resources, technology, compliance, data management and so on), participants agreed that most are likely to look to OEMs to drive its rollout. Are they up to the challenge? “The OEMs have engineered the critical mass and I think they’re now getting to the level where they can leverage what they’ve achieved to create scale and globalize.”

Increased collaboration between players in the connectivity value chain will need to underpin global deployments, “We’re looking across the ecosystem for smaller companies to provide technologies in partnerships more on a broad base and what we wonder is whether the connectivity space would be helpful to have an expanded set of alliances between suppliers and insurance companies, the serious providers. Although we recognize this would be very difficult to do because of the profit of who owns what.”

“Can you scale some of these sales processes globally? The answer’s yes and no. For example, one OEM uses our core operations, those things we can scale across the globe; our costs and our application obviously need to be modified for different markets.”
For OEMs and connectivity service providers, the challenge is to build modules/products that can be easily adopted. As a connectivity service provider summed it up, “Over the past few years, we’ve tried to shift the focus from the OEM to more of a product solution. When you’re thinking about local deployments, the bottom line is that it comes down to understanding behaviors and cultural differences.”

From the standpoint of technological implementation, there can be no one-size-fits-all option. Different markets will have their own operating systems. While in-vehicle infotainment systems linked to mobile phones are expected to account for around 80% of the people using smartphones in the US, in some other markets, including China, just 20% would be covered. Core engineering operations have to be adapted. According to a participant, “From the time analogue went away, we were CDMA ... now obviously, as we move into other markets, we have to move to GSM. That’s fairly basic stuff that we’ve worked through already ... but now there are other new technologies that we’re going to have to work through globally.”

How should connectivity-related strategies adapt? An OEM said, “I remember when every carmaker was trying to make an emerging market car and that car would fit every big, growing emerging market. Then everyone realized that wasn’t going to work. Does the same apply to connectivity offerings? Can you have a global Onstar strategy or do you need to adapt it to other western countries and emerging markets?”

Flexibility is the key. “You need to make sure you have platforms that are extensible because multiple use-cases can consume multiple sources of content. Provided the platform is extensible, you can just load it and grow it.” Another participant agreed, “The key is to pick one platform which is flexible enough to really adapt to local markets. Remember too, the platform is a fairly small part of the overall investment needed to launch a connectivity program – say 7% or 8%.

Consistency is also vital. According to another participant, “You need to ensure you have the same API/SPU when it comes to how developers are looking for connectivity in your car. Although connectivity will be very different in China, the US and Europe, ensuring the same elemental platform globally is the key – that provides for a tremendous amount of innovation and sticky customer acquisition.”

Selecting the right ecosystem is essential, and that calls for in-depth local insight. As a participant put it, “Your ecosystem is going to be different for China, North America, Mexico, Brazil and so on. It’s important to pick the right ecosystem with an open mindset.”
4.3 What are the bottlenecks preventing growth?

Regulations, technology, cultural variations and complexity – across the connectivity ecosystem, players are grappling with these issues as they focus on developing models to globalize their offerings.

A key challenge to globalizing connectivity offerings is regulation. As one OEM put it, “The big issues we have are country licensing and certification. For every new generation of hardware, we have to re-certify and re-license and that's very expensive and often very complex in under-developed countries. So we have to hire third-party people because sometimes it takes a yellow envelope to get it done. There's no real process there and it creates problems because you need connectivity in remote areas.”

Of course, technology creates major challenges – from regional variations in obsolescence to silicon lifecycles. As a TSP summed up, “LTU is really getting to be a mess, with 44 different bands, which can be utilized by multiple operators. In the US, there are already four different flavors of fallback. So, as a technology cellular enabler, we're trying to buffer that because the last thing OEMs want to deal with is all the separate lifecycles on silicon. They want lifetime tenure. That's the value proposition we need to be able to offer them.”

Another challenge is complexity. To provide real value-added services, rich data is essential. According to a participant, “We can start leveraging what the OEMs have done to create scale, globalizing and working to tap into what they have done. The critical mass in this business for us at a global level is what we need to have internally an IT architecture that we can use, plug into and play for the next generation connectivity protocol.”

And then there is tax. As globalized offerings increase, establishing who is liable to tax and where is likely to become a complex (and expensive) issue. A participant commented, “The issue is whether this is a telecom service or an information service. It's becoming a fixed cost for the OEMs because they're paying for these services. They want the data, so the telecom service providers and the other service providers are charging them this. So these are the costs they are bearing themselves, and they want to drive that cost down as well. One way to do that is to have it categorized as exempt from tax.”

“It's obviously important in the contract to identify separation of telecom-linked charges versus data and information-related charging.”

“What about contacting customers if they're having an issue, and consider how different communication methods are in China ... they don't tend to use the channel for emails the way we communicate.”

“Another question, is the dealer a reseller or not? There are complications around you selling this service at point of sale if you want to do that.”

“As soon as a state picks up on this and says this is a multi-million dollar industry, people are selling this information and we're going to tax it, which is when it will really start hitting you.”

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Breakout sessions

Stakeholders are being asked some tough questions across a range of areas – from management of customer data to investment priorities, revenue models and urban mobility opportunities.

In a series of breakout sessions, we focused on some of the big questions confronting stakeholders across the connectivity ecosystem.
5.1 Managing customer data

Big data – the sum total of diagnostic, behavioral and unstructured customer data – presents a major opportunity, provided connectivity players develop the capabilities needed to manage this core resource and mine it for in-depth insights. The challenge is to put in place an infrastructure that can manage all the information and connect it to organizations across the ecosystem. Because so much of this data relates to vehicles, OEMs need to support this process and help to drive it forward. As one participant said, “The technology is there to enable this in the non-OEM ecosystem, the willingness is there, the ideas, the strategies … it just needs to be enabled.”

“How can we build an infrastructure to manage that information and put it out and connect it back and forth across the ecosystem to enrich it and do something with it?”

“Data is only going to come off the car if it has the right sensors in it, and if it is allowed to come off and be shared. So the OEM needs to have the vision.”

“There are some pretty basic use cases that do relate to transactions, to customer value relative to the driving experience, to the ingestion of raw data. So start there. All this technology is scalable.”

“I think for an ecosystem to work better we need some type of standardization so there can be an application that works in different areas of the value chain.”

“It’s important to find a solution to the privacy question… where we’re aggregating vehicle data with diagnostic trouble codes and behavioral data, including data that has nothing to do with the car … who owns this data and who has access to it?”

“The way you are going to catch dealers’ attention is probably by seeing how these connected services can drive business into their fixed operations?”
5.2 Connectivity and urban mobility

The Internet of Things (IOT) and Internet of Everything (IOE) are enabling real innovations in urban mobility connectivity. Cities are interacting with vehicles and their drivers in new ways – equalizing supply and demand, providing improved environments, and driving efficiencies in road usage, parking and utilization of transportation.

Connectivity is the catalyst for making this happen. Inspiring examples range from Iceland, where a countrywide pilot is underway to assemble data geared to understanding weather conditions and road usage, to New South Wales in Australia, where the provincial government is using real-time data feeds from its fleets to better redirect traffic – saving tens of millions by improving utilization of roads that were being under-used.

“Through a combination of differentiated modes that are readily accessible and, more importantly, from a data perspective we have to ensure it’s used to enable seamless utilization of roadways, seamless interface of infrastructure assets in the city.”

“There are some examples of Northern European cities that are looking to take vehicles off the road altogether. They want to have different train systems, different capabilities that people can use and they’re removing parking outside the city.”

“Often, in the US especially, we’ve seen how important it is to have thought leaders, from a mayor perspective or state leader prospective, to push these kind of things through.”

“A guy like Gabe Klein [until recently Head of the Chicago Department of Transportation] is a great example of someone who has taken new technologies from a parking payment perspective to a data utilization perspective and made things open-sourced to drive value.”

“Recently, the City of New York tendered a contract for real-time payment on mobile devices for all of its street-parking assets. The winning bid negative US$1m, negative US$0.5m. That’s unprecedented in this market place.”

“It’s the same story in the City of Washington, DC. Fifty percent of all parking transactions go through this platform. So that means cash is coming out of the business, more profit to the city, more utilization to the user.”
5.3 Sales and channels

OEMs need to re-establish the basis on which they interact with their dealership networks. Their priority must be to foster relationships that depend on mutual benefit. With dealers being so focused on “pushing metal over the curb,” how can they be persuaded to engage with connectivity? What will it take to get them to “sell” these services to their customers?

“How can we get our dealers to start talking about the connectivity products that are in vehicles? Do we provide them with training?”

“It comes down to what is ultimately in it for the dealer. And their focus is the first part of the conversation which we have…they’re focused primarily on getting the next vehicle sold.”

“What if someone from a corporate/OEM joins the dealership? We have a group of sales people specifically focused on infotainment and connectivity, they work for an automaker, and then they work with a group of dealers.”

“Service leads can provide an answer…it’s a way of engaging customers via an email giving them diagnostic information about their vehicle and, if the customer opts in, we can also provide data to the dealership of their choice.”

“Have you thought of having a connected vehicle solution satellite with the dealership where it could make sense to have them finalize the package?”

“We’ll see a bell curve (with mid-size dealers) with these dealerships thinking, I can get service, I can help my fixed operations business and I can get customers to come back and buy a car from me.”
Participants agreed that the one key element still missing from the connectivity equation is an appropriate model for monetization – a model that is inclusive for all participants from OEMs to service providers of telematics and insurers. What is needed is a framework for a model that takes into account the interests of all key constituencies and is built on the in-depth experience of revenue models, taxation issues and how markets function in this industry.

As one participant put it, “Right now, a lot of the discussions we’ve been having are driven by fear. Fear that people have responsibility within their own companies to generate revenue and maybe somebody else will eat their lunch. We need to come together to develop a common framework – one we can all agree on and benefit from.”

Until now, an important stakeholder has not featured in the dialogue that has taken place – the public sector. From now on, the participants agreed, it will be critically important to include this sector in discussions, since there are significant opportunities for public sector undertakings and wider society – ranging from emissions and congestion control to enforcement of parking zones and road safety. They felt that the scale of this deployment will provide the required momentum for wider connectivity in the industry.

When the industry will have the collective commitment to come together and develop this inclusive framework remains to be seen. However, feedback provided in this roundtable is encouraging and indicates an awareness of the urgent need for collaboration in the industry.
“It’s about time for someone to take the flag and go first. We’d like to see the OEMs doing something. But we all have to take responsibility.”

“Yes, we need to align within a framework that is actually accessible and functional. But what we really need is “co-opetition”.”

“So, from a corporate and a senior leadership level, how do we say we’re going to compete, we’re going to differentiate, own our customers and make great product?”

“A likely analogy is with the Telecoms sector. It feels like 10 years ago or seven years ago when the over-the-top (OTT) players arrived in the space and completely changed the way telcos work.”

“There needs to be an ecosystem solution. I just wonder whether there needs to be two parts. One that includes the OEM and one which potentially, for a short amount of time at least, circumvents them.”
### Considerations for stakeholders

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<th>Carmakers</th>
<th>Telecom operators</th>
<th>Motor Insurers</th>
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| **Service offerings**| • Integrate telematics offering with mobility solutions to support intelligent transportation solutions  
• Build the cost of diagnostics and security services into the price of the new car, while subscription model to be followed in aftermarket  
• Focus on vehicle data, as well as integration of data in the environment  
• Leverage other revenue streams, such as location-based advertisements  
• Integrate payment services within the vehicle (while ensuring data security)  
• Build telematics systems with enough capacity and performance to handle software upgrades | • Offer 4G/LTE connectivity with high bandwidth services, such as internet gaming, videoconferencing, etc. for passengers  
• Provide flexible data plans, such as shared data plans or split billing services  
• Focus on network security for vehicle-related data  
• Telematics service platform to offer end services either directly to the customers or in collaboration with carmakers  
• Leverage data collection and mining capabilities to support carmakers | • Develop an internal IT system to leverage telematics-based insurance data  
• Create attractive aftermarket proposition to drive uptake in car population on the road  
• Offer specialized products for fleets aimed at reducing the total cost of ownership |
| **Collaboration and partnerships** | • Partner with automotive suppliers to build open and scalable technology (HMI)  
• Collaborate with aftermarket channels for optimal utilization of vehicle data  
• Outsource non-core services, such as billing and subscription management | • Partner with carmakers to offer customer support services, such as subscription management and charging and billing services  
• Partner with various sector stakeholders to launch services in the aftermarket | • Collaborate with carmakers to offer UBI based on integrated connectivity solution |
Telematics has a very complex value chain, which involves players from various sectors. EY helps major stakeholders throughout this ecosystem to develop and sustain the innovative business models that are needed going forward.

Our services include the following:

- Business process innovation and transformation (connected car, fleet management, car sharing)
- Blueprints for selection of suppliers to implement connected car-IT infrastructures, quality assurance after implementation
- Transformation integrator, design of operating model, architectural design, IT risk and security management, transformation facilitation
- Business diversification strategy and risk assessment, market strategy for new products and services, research for uncatered product segments
- Identification and assessment of potential investment opportunities and risks associated with new markets
- Cross-border corporate income tax advisory and income tax compliance
- Tax incentives for investments in car-sharing across geographies
- Legal and regulatory risk analysis and compliance, including data security

To discuss EY’s capabilities in the telematics and connectivity ecosystem or to find out about similar upcoming events, please contact our sector professionals for more in-depth information.
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