



ENTERTAINMENT CONTENT FOR

# THE CONNECTED CAR

## EXECUTIVE SUMMARY

- 4G and the adoption of 5G cellular connectivity for new car sales is growing rapidly, making the connected car the de facto standard within 5 years.
- The technical characteristics of 5G signalling gives automotive platforms reliability and performance benefits for occupants compared to personal mobile devices such as tablets or smartphones.
- Buyers are prepared to switch car brand loyalty to gain better connectivity and seamless access to additional services.
- Modern IVI will help OEMs deliver flexible networking to achieve the best possible experience for vehicle occupants – across all platforms.
- Once connected, OEMs can streamline direct communications and start building stronger relationships with driver and passengers.
- This IP, cloud and app approach to IVI meets the needs of the automotive industry to manufacture vehicles that are independent of the market of eventual sale.

**Across the developed and developing world, consumers expect that the Internet connectivity provided through mobile devices should offer them access to entertainment wherever they are.**

As we enter a new decade, basic radio and rather awkward bring-your-own-device (BYOD) experiences are unlikely to satisfy drivers and passengers as the only forms of in-car entertainment. The car OEMs understand this and are all evaluating the best way to deliver on the potential of the connected car concept. [As BMW board member, Pieter Nota, suggests:](#) “It’s not just about having big screens in your vehicle, it’s about the content you can have on those screens and what you can offer that’s so important, in terms of things like the best possible integration of music in your vehicle.”

The combination of smart software with stable 4G and advanced 5G cellular networks unlocks a future in which the car becomes an OEM-branded communications hub that offers entertainment, BYOD access and value-added services.

The relatively low cost of shipping 4G systems in a car has already seen a rise in its inclusion in next generation vehicles. There will be around [250](#) million connected cars on the road by 2020, and connected functionality has moved up the list of features consumers value. [A 2018 survey by mobile app developer Metova](#) found that two out of three respondents would switch from their current entertainment service provider to one that was included with their vehicle. Buyers are increasingly prepared to change both their car brand and loyalty towards their content distributor to gain better connectivity and seamless access to in-car entertainment services. Data from Counterpoint Research suggesting that [75% of cars will be connected to the Internet by 2025](#), with the vast majority utilising 5G networks, supports the notion that the connected car is on its way to mass-market adoption.

## IN CAR ENTERTAINMENT



of consumers would switch content providers to get  
in-car connected content services

Source: Metova

### 5G mobility benefits

4G networks are already widely deployed and provide a pathway for highspeed connectivity across audio, compressed video and two-way communication for BYOD and on-board apps. In Europe, [new car models approved for manufacture after 31 March 2018 must have the 112-based eCall system installed](#) which uses a cellular modem within each vehicle.

Although 4G is ideal for streaming low bandwidth content, the cellular connectivity that will be fitted into all new cars is likely to be 5G ready – allowing a software / SIM upgrade to take advantage of new networks as they arrive to the market.

This move to 5G is more than just a gimmick; due to the short wavelength of 5G radio signals, cars with larger and better integrated radio antennas will offer far superior reception than that of smartphones. With the car acting as a reliable 5G access point, the ability to project a Wi-Fi hotspot for occupants provides increased reliability and performance across the entire journey for driver and passengers alike.

With connectivity built-in, automobiles finally gain several real-time capabilities that aid driver comfort, safety and utility. From instant updates for traffic and route guidance, to delivering new forms of infotainment such as streaming audio services and video for rear-seat passengers, 5G means, that for example, a built-in IVI system including a service such as Netflix will perform far better than BYOD devices running a Netflix app.

IVI acts already as a connectivity hub allowing various media formats – via Bluetooth and USB drives – to be merged into a single source of entertainment. The next generation IVIs will also be a central access point to the services offered by the OEMs, allowing them to shape these in the most attractive and efficient way for the driver and passengers.

## Data on the move

Always-on connectivity also allows automotive brands to gain deeper insights into car and driver usage. As part of an opt-in model, brands can now start to directly communicate with vehicle occupants for practical issues, such as car servicing reminders and promotional activities including OEM and third-party offers.

For car brands, built in connectivity combined with value added services unlocks the potential for direct-to-consumer subscription services. Early pioneers of this approach include OnStar, with its package of services such as roadside assistance, remote vehicle unlocking, and automatic crash response. This helped to showcase the potential of connectivity being available across entry level and mid-tier vehicles. Through this connectivity, OEMs can begin to streamline their direct communications and start building stronger relationships with drivers and passengers.

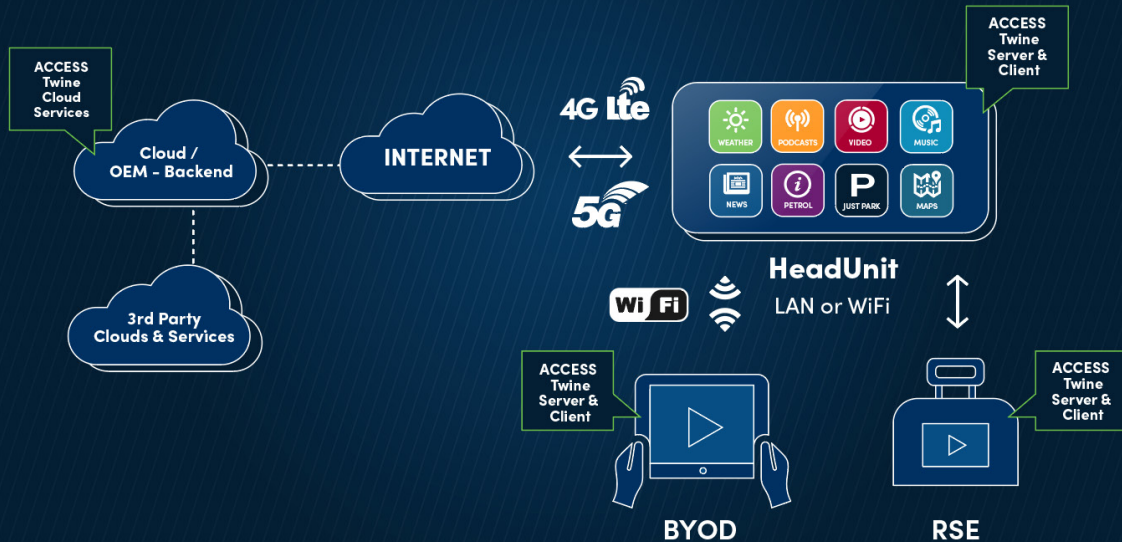
## Infotainment unlocked

The connected car approach will also allow car brands to offer integrated infotainment services through partnerships with existing or emerging music, video-on-demand and gaming services. In a similar paradigm to the smartphone market, vehicles are likely to be a showroom with connected services that are enabled through activating pre-downloaded apps within the IVI – along with companion apps for mobile devices.

Adoption of the connected car as standard is accelerating across the industry, fuelled by consumer demand. All current consumer and car industry research points towards an evolution in which the connected car becomes the standard option. Looking to a medium-term future where electric vehicles and charging stations become the norm, the in-car entertainment experience will play a key role in how car brands are perceived.

**ACCESS Twine™ for Car (Twine4Car) supports automotive OEMs in creating successful multi-device in-car platforms that facilitate flexible driver and passenger consumption of media services. It enables exploration of new customer engagement approaches through the HMI and business models to create recurring revenue streams. Twine4Car allows OEMs to start with the services they wish to deploy today and add new services over time as the industry moves towards more advanced levels of autonomous driving.**

## HOW DOES **CONTENT** GET TO THE CAR?

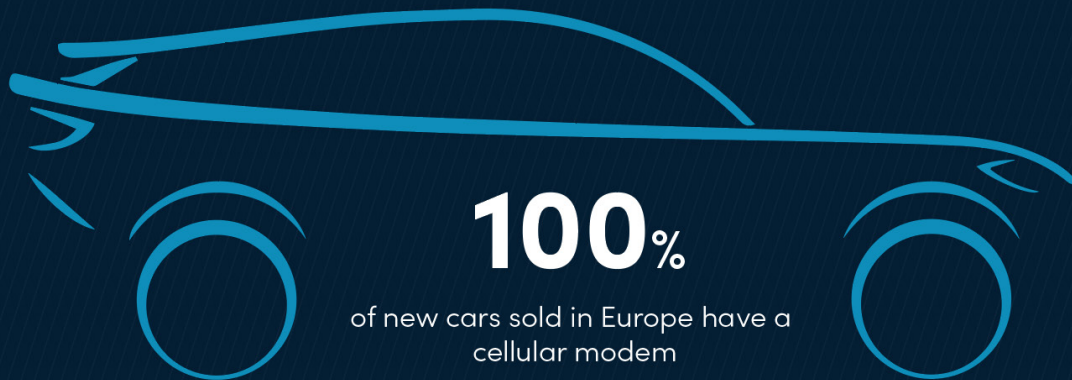


Twine4Car connects the in-car infotainment system components seamlessly with BYOD devices via the in-car Wi-Fi network. It provides a decentralised control of content that enables a multi-device user experience far beyond common single device streaming applications or screen mirroring technologies. This platform approach aggregates content into a single point, offering enhanced features such as the ability to index digital content along with music and video from all devices – including USB drives, smartphones and tablets – within the car. Aggregated content can be played on any Twine4Car enabled device such as RSE units, tablets and smartphones. It allows OEMs to deploy a single IVI system across multiple brands and enables the delivery of new features simply via software updates or through changes to cloud-based interfaces rather than through physical upgrades.

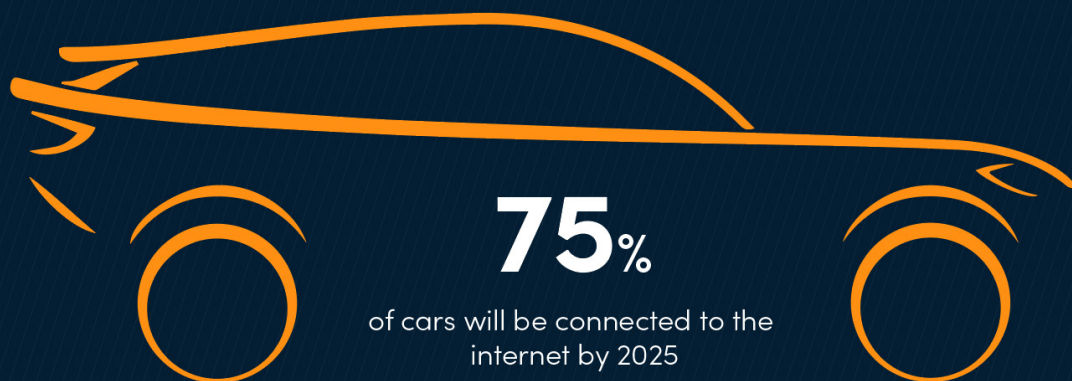
This combined IP, cloud and app approach matches with the needs of the automotive industry to manufacture vehicles that are independent of the market of eventual sale. For example, a car build in a factory in Germany, sold to a dealer in Netherlands and bought by a customer that lives in Belgium, would offer an IVI experience that could be automatically reconfigured based on the owner's preference through a simple system login process – without the need for a dealer visit.

In addition, as the vehicle's owner changes or as new BYOD devices or content services appear, the IVI interface can be remotely updated from the cloud – without the need for new software to be pushed to the vehicle – and again, without a dealer visit. This innovative concept is ready here and now and under testing at several larger automotive manufacturers.

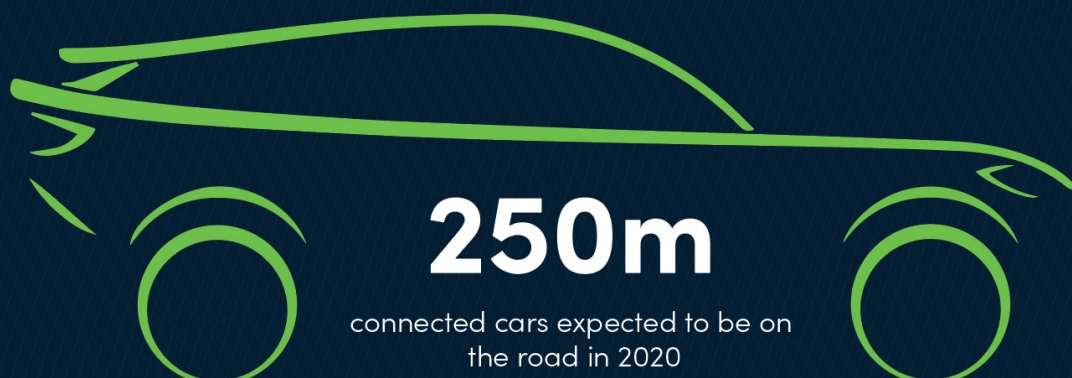




Source: EU legislation



Source: Counterpoint



Source: Gartner