CASE STUDY

Gemalto Drives Smart Car Connectivity
The Connected Car Challenge

Today, mobile technology is fully incorporated into virtually every aspect of our lives regardless of income, ethnicity and geography. The promise of a fully “connected car” in the near future is extremely exciting for drivers, mobile operators and automakers alike. However, numerous potholes have dotted the road to connectivity on the highway.

The environments automobiles encounter are fierce, and sensitive wireless technology isn’t cut out to withstand the extreme temperatures, excessive vibration and humidity experienced on the road. Strict auto manufacturing specifications plus the complexities of leveraging high-speed wireless data networks add to the challenges facing an effective “smart car.” LTE can provide the bandwidth needed for a mobile connected vehicle; however, a constantly moving LTE setting poses many more mobility obstacles than a typical home or office environment.

Gemalto Brings Automotive LTE to the Road

Gemalto has been at the forefront of automotive-grade M2M solutions for more than a decade, offering a suite of market-proven Cinterion M2M modules, eCall technology, Machine Identification Modules (MIM) and remote provisioning services that are specifically geared to meet the industry’s strict requirements. LTE offers a leap forward in terms of enhanced capabilities but it also presents challenges and complexities that require engineering know-how and a partnership approach to meet performance, design and security benchmarks specific to an automotive environment.

Gemalto’s R&D team has been working closely with automotive partners to solve some of the unique challenges of LTE such as designing a specialized antenna to ensure reliable connectivity across different mobile networks, which is crucial to successful automotive implementations that require one hundred percent reliability.

Gemalto recently developed a customized embedded Cinterion LTE solution that transforms consumer technology into an automotive-grade M2M solution enabling ultra-fast speeds and high bandwidth connectivity while supporting reliable simultaneous features and capabilities. For instance, the Cinterion solution allows drivers and passengers to enjoy simultaneous voice and 4G data services, allowing one person to search online for the best nearby restaurant while another calls for a reservation. At the same time, the car’s advanced navigation system provides the most direct route to a destination complete with satellite imagery and tips to avoid heavy traffic. Cinterion solutions can also enable an integrated mobile Wi-Fi hotspot for up to eight devices – all with the same LTE IP connection. Equipped with high performance GPS, Cinterion solutions are prepared to meet the comprehensive requirements of the European eCall and ERA-GLONASS initiatives as well.
In addition to custom LTE solutions, Gemalto’s unique end-to-end M2M Cinterion technology includes a suite of automotive M2M modules for networks ranging from 2G to 4G, auto-grade Machine Identification Module (MIM) technology, remote provisioning services and security consulting plus the cloud-based SensorLogic service enablement platform to host software applications when needed. The full spectrum Cinterion platform allows automakers and other M2M players to simplify solution design and development, resulting in a faster time to market for new applications.

Similar to a SIM card, Cinterion MIMs identify individual vehicles, encrypt communications and ensure secure global connectivity for smart vehicle systems including eCall emergency solutions, vehicle telematics, navigation systems and more. The Cinterion Auto MIM platform is optimized to survive extreme environments for the long life of a vehicle and it ensures continuity of mobile services, which is crucial for eCall and uninterrupted streaming features such as Google Earth™ GPS navigation. As with all Cinterion Automotive technology, MIMs are manufactured in a facility offering ISO/TS 16949 certification to ensure that components can be quickly identified and located during vehicle production, installation and throughout the lifetime of a vehicle (up to 15 years). These highly robust qualities are crucial to the automotive industry, where a high level of ongoing service is paramount and vehicles and critical components are typically under warranty for many years.

The Gemalto Advantage:
An End-to-End, Scalable Solution for Smart Cars
Revolutionizing Service Selection with Secure Remote Subscription Management

When the solderable embedded SIM first became available, M2M device manufacturers and OEMs wanted a similar solution that would help ease integration complexity and simplify solution manufacturing while eliminating the need to manage personalized end-user products. In response, Gemalto introduced its Remote Subscription Management solution to tackle the industrial constraints generated by embedded MIMs. Remote Subscription Management is a Gemalto-hosted service that allows remote M2M MIM card personalization after integration into a customer’s M2M device or into a 3G/GSM modem unit.

Gemalto’s secure Remote Subscription Management simplifies manufacturing processes as well as solution deployment offering a variety of benefits. For instance, it allows OEMs to tailor MIM personalization to meet specific M2M and automotive market needs. It also improves logistics and optimizes component part stock while enhancing flexibility for M2M integrators, device manufacturers and network service providers. By leveraging its experience and success in providing secure services to industries such as transport and telecommunications, Gemalto can deliver unprecedented security and uncompromised protection of network operator credentials while enabling software and advanced feature updates over-the-air throughout the life of the vehicle.

Embeded SIMs and MIMs and remote provisioning are currently key topics in the industry and Gemalto is working side-by-side with the GSMA and other industry coalitions to determine best practices and standards that tackle challenges and customers issues.
While remote provisioning has helped to simplify processes, some of the same elements that have given rise to the growing Internet of Things - increased computing power, declining hardware costs and free software tools - have also enabled a variety of new security threats such as war texting, jamming and other malware. M2M security is a growing area of concern that must be considered at the very beginning of development.

Only an integrated security approach, starting with system design and leveraging passive, reactive and active security measures will be effective to safeguard M2M solutions and reduce the number of potential vulnerabilities. No one is better prepared to meet this challenge than Gemalto, the global leader in digital security. Our comprehensive M2M security expertise has been field proven in billions of implementations such as point-of-sales (POS), metering, banking and national ID cards, where security is paramount. Following a security analysis, particular elements and services including Auto MIMs, advanced encryption and Java-based solutions can be combined for application-specific countermeasures designed for each specific model and make, each use case such as integrated NFC and digital ignition solutions and even for individual threats such as known viruses and malware attacks.

Gemalto’s full spectrum Cinterion M2M technology gives car manufacturers the freedom to focus on advancing leading-edge automotive design and technology. And as wireless technology needs expand, OEMs and automakers can rely on Gemalto’s proven expertise for next generation features such as secure ID-based ignition, integrated NFC and mobile wallet applications, MIM-based loyalty programs and much more. Gemalto truly offers a one-stop solution for the applications of today and the future. First-of-its-kind, innovative infotainment systems utilizing already-proven, yet customized, technology highlight how Gemalto’s M2M can help OEMs simplify and speed M2M development. For more information on the many ways in which Gemalto M2M is improving the way we live, work and drive, please visit: http://www.gemalto.com/m2m/explore/index.html.

Security Consulting Sets Gemalto Apart

Audi Selects Gemalto to Enable First Embedded LTE Infotainment System

When Audi wanted to launch LTE services in its A3 automobile, Cinterion quickly made it happen. Gemalto’s custom solution for Audi Connect provides ultra-fast LTE speeds and high bandwidth connectivity to support a suite of advanced services and features that enrich the modern mobile lifestyle and enhance “on the road” experiences for both drivers and passengers.

An innovative MMI® TouchPad in the head unit enables easy searching via voice or tapping. An advanced navigation system known as Audi MMI® Navigation makes getting to destinations a snap by streaming high-resolution, three dimensional terrain and aerial imagery directly to the head unit in a first-to-market integration of Google Earth™. And with infotainment services embedded in both vehicle headrests and dashboards, passengers can enjoy multimedia streaming and downloads including Internet radio or movies to enhance long drives.

Whether using a laptop, tablet, or other mobile device, passengers can simultaneously access the web at speeds that rival broadband connections.
About Gemalto

Gemalto (Euronext NL0000400653 GTO) is the world leader in digital security with 2012 annual revenues of €2.2 billion and more than 10,000 employees operating out of 83 offices and 13 Research & Development centers, located in 43 countries.

We are at the heart of the rapidly evolving digital society. Billions of people worldwide increasingly want the freedom to communicate, travel, shop, bank, entertain and work – anytime, everywhere – in ways that are enjoyable and safe. Gemalto delivers on their expanding needs for personal mobile services, payment security, authenticated cloud access services, identity and privacy protection, eHealthcare and eGovernment efficiency, convenient ticketing and dependable machine-to-machine (M2M) applications.

Gemalto develops secure embedded software and secure products which we design and personalize. Our platforms and services manage these secure products, the confidential data they contain and the trusted end-user services they enable. Our innovations offer more ways for our clients to enhance the convenience and security of people’s digital lives.

Gemalto thrives with the growing number of people using its solutions to interact with the digital and wireless world.

For more information, please visit www.gemalto.com, www.justaskgemalto.com, blog.gemalto.com, or follow @gemalto on Twitter.