

Digital Key Management

Unlock the future of vehicle access by offering a secure, seamless digital car key experience

In a world driven by technological advancements, the concept of the digital car key—utilizing a smartphone as the primary access tool for vehicles—has emerged as a crucial step in the shift towards seamless customer experiences. Our product enables OEMs to offer a digital car key solution rooted in the Car Connectivity Consortium (CCC) standard. Unlike traditional physical keys, digital car keys provide a new possibility for vehicle access where convenience and security converge seamlessly, unlocking new benefits for both private consumers and Mobility-as-a-Service (MaaS) use cases.

The Digital Key Evolution

Since the advent of remote keyless entry and subsequent passive smart key systems, consumers have become accustomed to the ease of remote locking and unlocking their vehicles. More recently, the elimination of physical keys altogether has become a promising opportunity. The natural progression is to incorporate these functionalities into a smartphone, eliminating the necessity for a traditional key fob. To establish digital car keys as a sustainable choice, however, vehicle OEMs must pave the way for widespread digital key adoption by ensuring a consistent user experience across vehicles and mobile devices.

Why Offer CCC Standardized Digital Keys as an OEM?

The digital connected lifestyle has become increasingly more important in the lives of end users. Embracing digital keys, therefore, represents a compelling opportunity for OEMs and signifies a leap towards the future of vehicle access. Adopting the CCC standard lowers the threshold for implementing digital keys. As a result, OEMs can focus on differentiating services that

inspire brand loyalty while offering their customers the following benefits:

- **Cross-industry Experience:** The comprehensive CCC standard incorporates the collective experience from industry experts and reduces the need for research, development, and testing that is required for a proprietary solution.
- **Personalization Opportunities:** Smartphone-based keys allow users to customize vehicle access levels before sharing the digital key with a family member or friend.
- **Security, Privacy, and Interoperability:** Enjoy seamless integration across various mobile devices and vehicles for a consistent user experience while maintaining the integrity of vehicle access.
- **Industry Support:** The CCC standard is backed by industry giants like Apple, Google, and Samsung, assuring widespread compatibility and support for Apple iOS and Android OS users.

The Challenges

In order to implement a digital key solution and achieve widespread adoption of smartphones as vehicle digital keys, OEMs must overcome the following challenges:

- **Proprietary or Standard:** Do OEMs aim for standard compliance or go it alone with a proprietary solution? The main trade-offs are cost vs. security and interoperability.
- **Reliability:** Reliability is crucial to the success of digital keys. Proprietary solutions lack the consistency in user experience, prolonging the wider acceptance and usage of digital keys.
- **Replacing the Key Fob:** In the long term, OEMs will be considering replacing the key fob. In the short term, there is an additional upfront cost in supplying vehicles with both systems.

Why Digital Key Management?

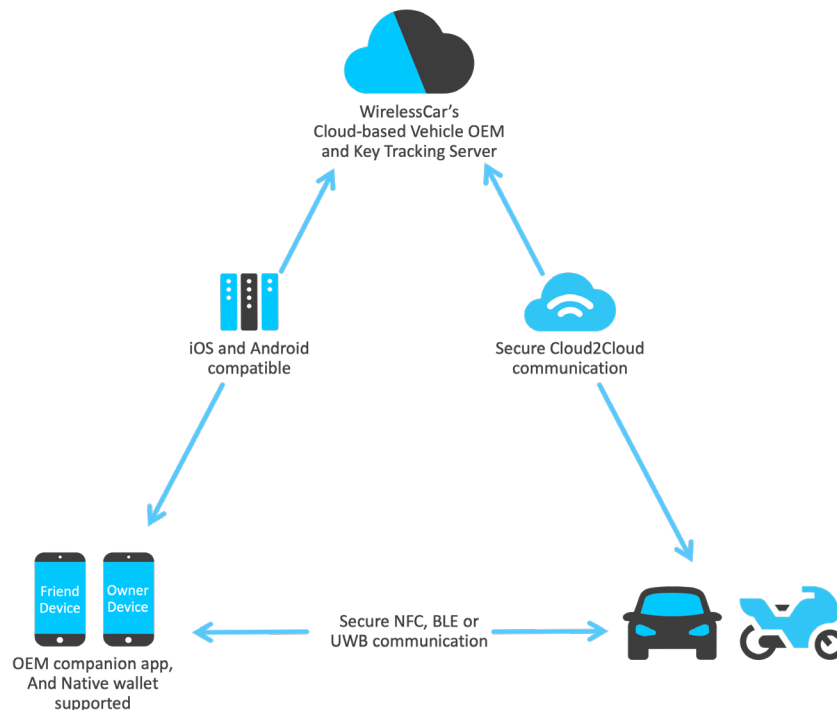
WirelessCar's Digital Key Management product serves as a pivotal enabler for OEMs seeking to embrace the CCC digital key standard. Designed to be compliant with the CCC release 3.0, our cloud-based vehicle OEM and key tracking server allows OEMs to harness the standardized use cases – such as Key Provisioning, Key Sharing, Key Termination, and Key Properties. Moreover, our product empowers OEMs to unlock tailored functionalities based on their specific requirements through custom entitlements, thereby adapting to diverse vehicle OEM needs.

Beyond managing the lifecycle of digital keys, our product captures comprehensive usage data – a

feature of significant relevance for insurance purposes. Furthermore, it ensures widespread accessibility to consumers utilizing Apple iOS and Android OS devices.

Digital Key Management facilitates a secure and streamlined transition to digital keys while accommodating diverse user needs and industry standards. As the automotive landscape continues to evolve, our product remains at the forefront, empowering OEMs to redefine the future of vehicle access and user convenience.

Our Product and the Digital Key Ecosystem



Key Features and Benefits

- **Compliance with CCC Release 3.0:** Adheres to industry standards ensuring compatibility and automotive-grade security.
- **Robust Key Lifecycle Management:** Supports key creation, revocation, and expiration for heightened security.
- **Seamless Integration:** Offers swift integration via APIs for OEM and third-party development.
- **Device Compatibility and Customization:** Supports various mobile devices (Apple iOS and Android OS) and can be configured for the OEMs' proprietary companion apps.
- **SaaS Delivery:** We offer a 100% cloud-based digital car key managed service, allowing the OEM to focus on user experience and brand differentiation

Use cases

Key Lifecycle Management

Support for key creation, revocation, and expiration to ensure security and control. This includes managing the owner/friend key, key termination (owner/friend), and key sharing.

Owner Pairing (Key Generation)

Secure Device OEM and Vehicle OEM provisioning.

Key Auditing

Keep a record of key usage, which can be useful for security monitoring and auditing purposes.

About WirelessCar

WirelessCar is one of the world's leading innovators of digital vehicle services. We accelerate service creation and turn vehicle data into business value for consumers, mobility providers, vehicle makers and society. Founded in 1999, WirelessCar has continuously built upon our heritage and grown our expertise within the automotive industry. Today, we are a highly recognized and award-winning company, connecting more than twelve million vehicles in over 100 countries.

Headquartered in Sweden, with offices in the US, China and Germany, WirelessCar works with global OEMs such as Volkswagen, Jaguar Land Rover, Mercedes-Benz, Nissan, Subaru of America, and Volvo Cars to leverage the full value of connected services to achieve safe, smart, and sustainable mobility.

To learn more about WirelessCar's Digital Key Management, [visit our website](#) or contact us directly to book a meeting or demo.

Contact Info

Grant Janeshak, Product Manager
grant.janeshak@wirelesscar.com

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www.wirelesscar.com