

# AUTOMOTIVE GOES BLUETOOTH® LOW ENERGY

HOW CARS SUDDENLY GOT SMARTER, FRIENDLIER, SAFER

The arrival of the breakthrough **KW39-KW34 MCU family** from NXP combines Bluetooth Low Energy (BLE) with **integrated CAN-FD** for the first time. Meaning more driver benefits, faster monitoring and diagnostic data transfer, all with on central computer input. A true paradigm shift, making cars:

- MORE SECURE** (Key icon)
- SAFER** (Lock icon)
- MORE RESPONSIVE** (Checkmark icon)
- ALTOGETHER SMARTER** (Brain icon)
- MULTIPLE USER FRIENDLY** (Group of people icon)



## THE INTEGRATED SMART SOLUTION

Cars are becoming smart like your phone.

And we link the two through smartphone-friendly, low-energy BLE. Our new MCU family also simplifies building in **BLE connectivity throughout the car**, while incorporating Flex CAN-FD and LIN for easy integration into in-car comms networks.



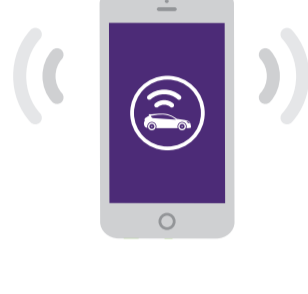
### MORE ACCURATE

High accuracy I/Q capture with hardware trigger for AoA and Phase-based ToF, helping to determine the position of the smartphone or key fob.



### BLUETOOTH LOW ENERGY

Integrates Bluetooth 5.0 with generic FSK and augments proprietary RF protocols.



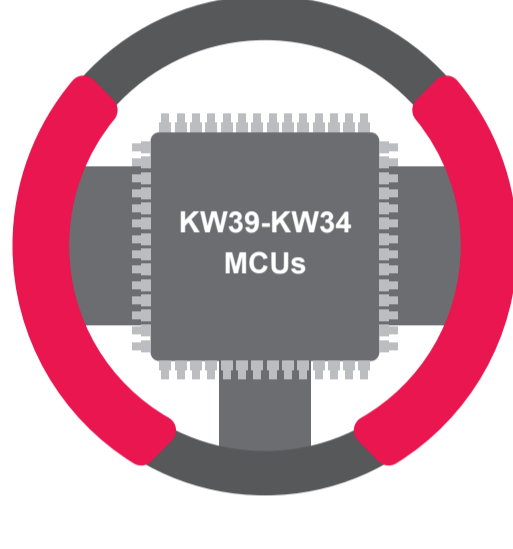
### DIRECT SIGNAL

Supports up to 8 concurrent secure connections/multiple authorized users and allows control directly from your personal smart device



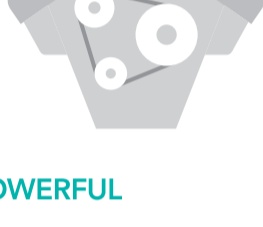
### TEMPERATURE CONTROL

AEC Q100-Grade 2 temperature range qualifications



### FAST

Integrates 48 MHz CPU with CAN-FD and LIN



### POWERFUL

Based on Arm®Cortex®-M0+core running at 48MHz



### PRODUCT LONGEVITY

ensures a stable supply for your embedded designs for up to 15 years from product launch



### ADAPTABLE

Integrates 512 KB of on-chip flash with ECC for all automotive applications

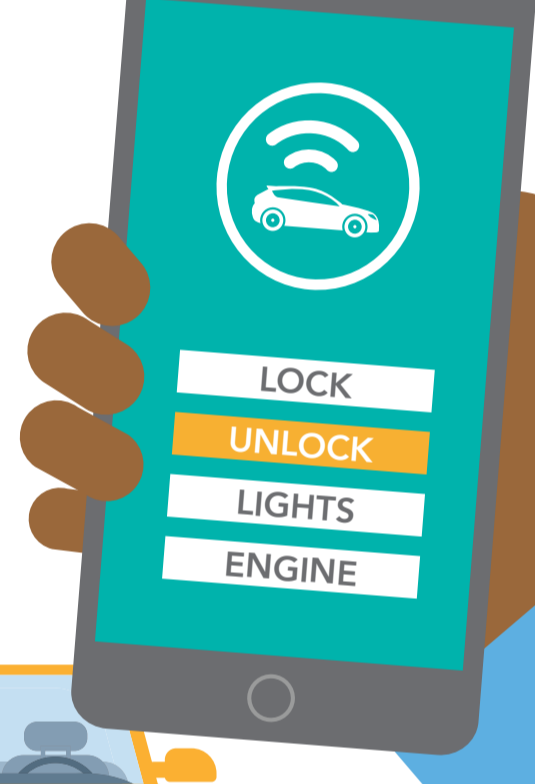
## SMART ACCESS

### YOUR CAR WELCOMES YOU LIKE A FRIEND

With BLE, your smartphone can **replace your key fob** as a virtual key. A secure signal tells the car to unlock (or lock), switch on lights, start the engine – any combination of options the driver chooses.

The signal from a smartphone can either **transmit direct** to the Body Control Unit, or through the key fob.

- ✓ Lock/unlock vehicle
- ✓ Interior lights
- ✓ Exterior lights
- ✓ Start engine
- ✓ Adjust seats etc to individual settings
- ✓ Passive entry passive start



### AWARE YOU'RE THERE

With 512 KB of flash memory with ECC and 64 KB of SRAM on chip, these powerful MCUs accurately calculate the distance and angle of the BLE signal from your phone or keyfob.

## SMART CAR DESIGNATED ACCESS

### SHARING THE JOURNEY

Incorporating BLE into car security opens the door to much **easier and more efficient** car sharing arrangements. With each to potential user's smartphone acting as a **virtual key**, the car can be made available to whoever needs it – practically instantaneously.



CAR SHARING SCHEMES MADE SIMPLE

CORPORATE OR MEMBER BASED

IDEAL FOR RENTAL APPLICATIONS

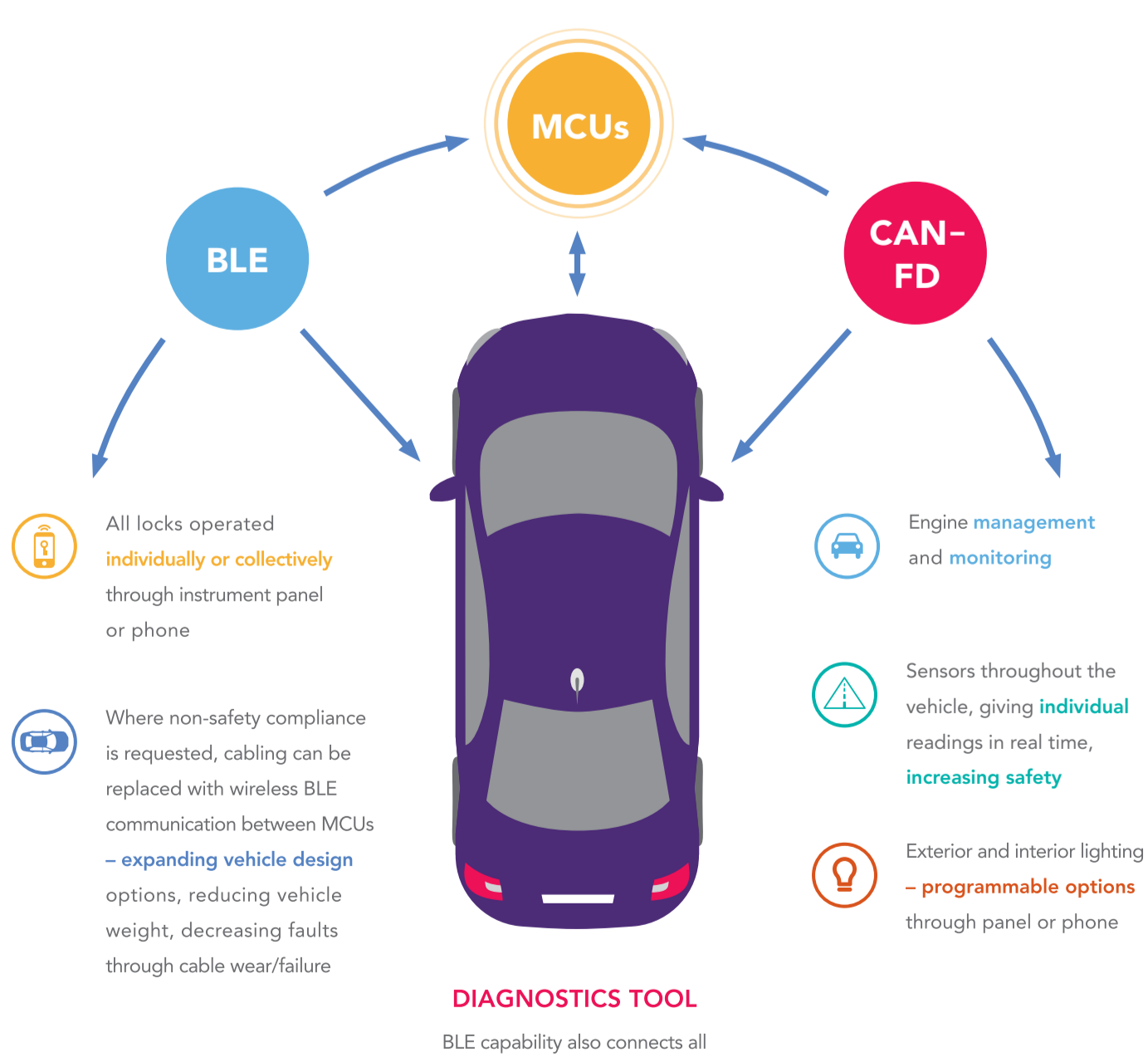
ADD OR DELETE PERMITTED DRIVERS IN SECONDS

## THE JOINED-UP, THINKING CAR

### INTEGRAL MONITORING AND COMMUNICATING IN A BETTER, SAFER VEHICLE

Think of your car as a brain, with all the neurons connected. That's made possible by combining BLE and CAN-FD on MCUs located throughout the vehicle. **Everything is connected, in real time.**

So in addition to better security, you're safer too.



NXP has a **long history of driving forward** with automotive partners to make cars smarter, more efficient, and more experiential. With the new **KW39-KW34 MCU** family, we open the road to more user options and more design flexibility - and new build economies too.



**BLE + CAN-FD** = the new paradigm in vehicle electronics and automation. Isn't it time to put the latest thinking into your automotive design?

Visit the future of vehicle design, security, control and monitoring at <https://www.nxp.com/products/wireless/bluetooth-low-energy:BLUETOOTH-LOW-ENERGY-BLE>

**Join us in driving the smart future.**

