

ULTRA-WIDEBAND (UWB) TEACH-IN

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SECURE CONNECTIONS
FOR A SMARTER WORLD

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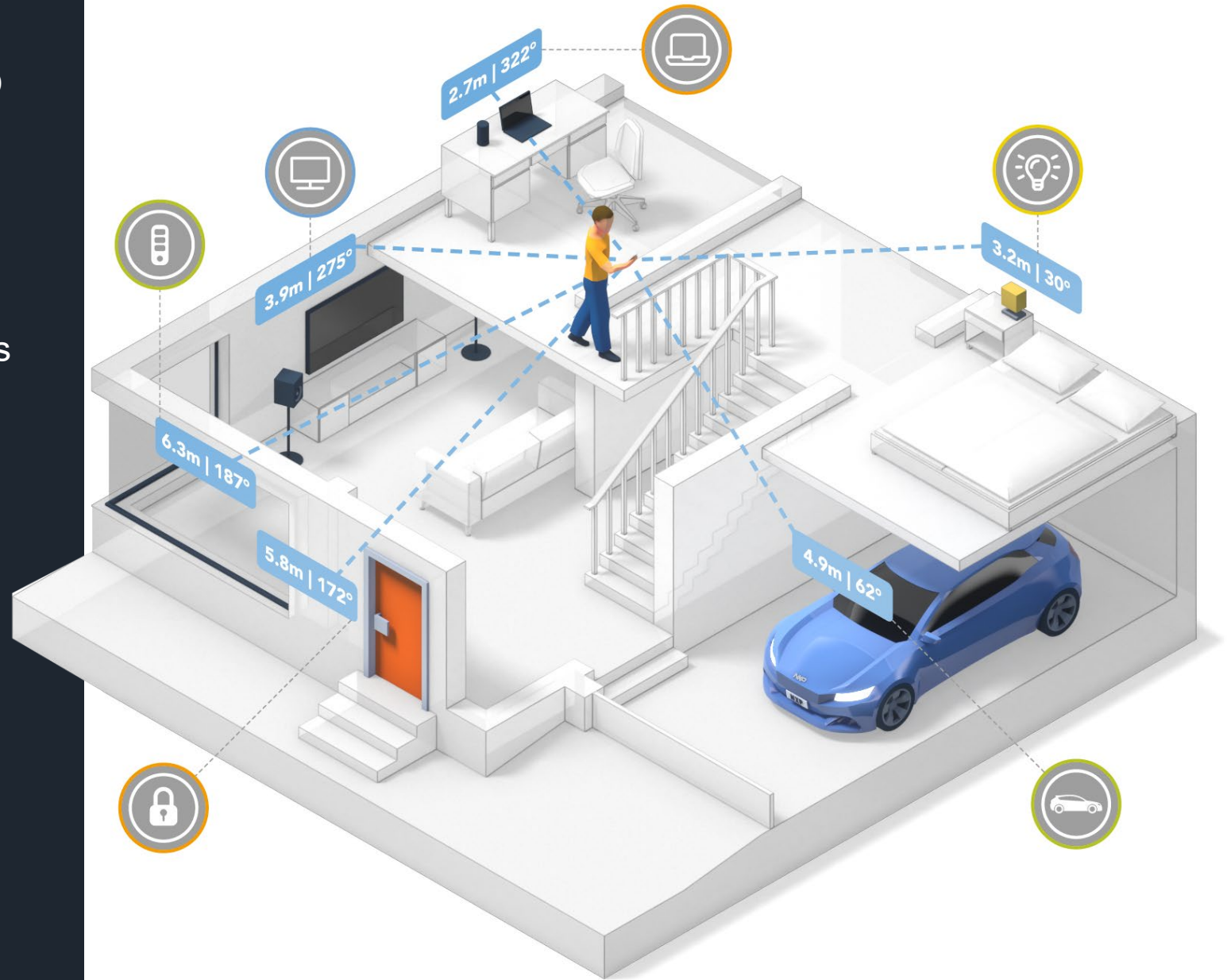
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UWB: PROVIDING A SOLUTION TO AN UNRESOLVED PROBLEM

Accurate positioning information of objects in real-time

Position granularity enables new use cases

Point-to-point communication



UWB: UNMATCHED TECHNICAL ATTRIBUTES FOR SECURE RANGING



Accuracy

+/- 10 cm distance
+/- 3° of angle



Robustness

Strong multipath environment performance that ensures position accuracy



Range

100 meters of range under Line-of-Sight conditions



Security

Every position measurement is protected with a unique cryptographic key



Real-time

Minimum latency: measurements in <10ms

SECURE CAR ACCESS: CATALYST FOR FIRST ADOPTION WAVE

- ✓ Resistant to relay station attacks
- ✓ Robust in every environment
- ✓ Precise key localization
- ✓ Complete freedom of movement
- ✓ Multiple Digital Key use-cases

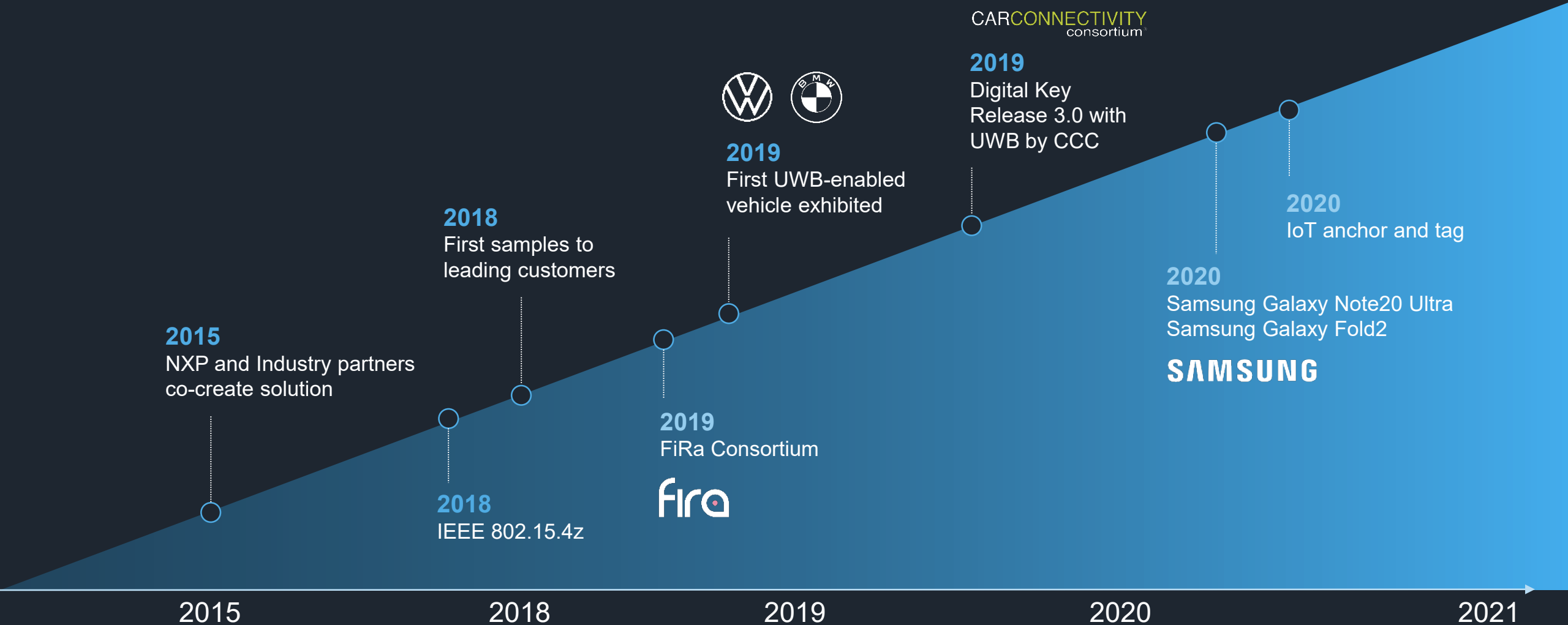


CARCONNECTIVITY
consortium®

LARGE NUMBER OF USE CASES IN BROADER ECOSYSTEM

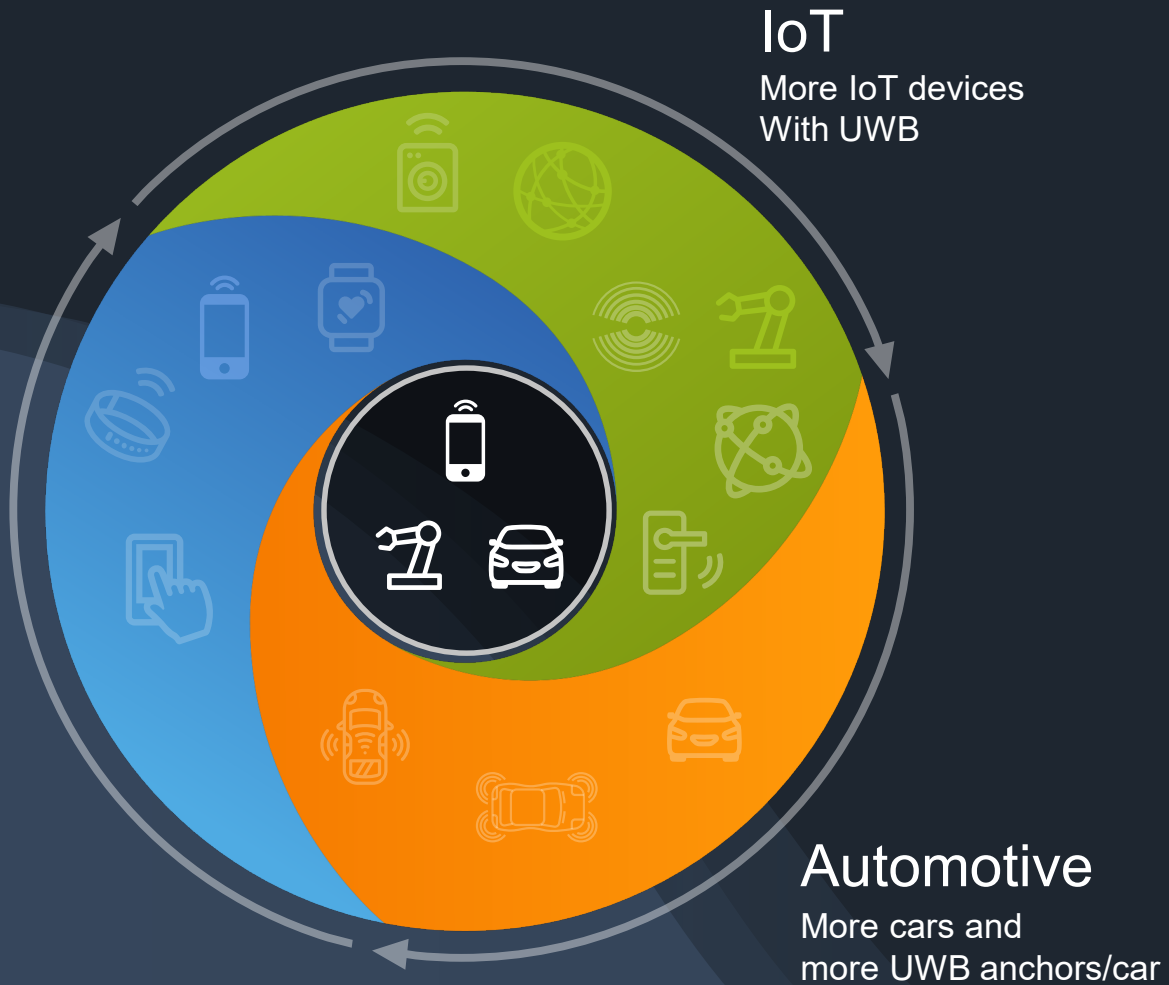


DEEP TECHNICAL COOPERATION WITH INDUSTRY LEADERS TO BRING UWB TO MARKET



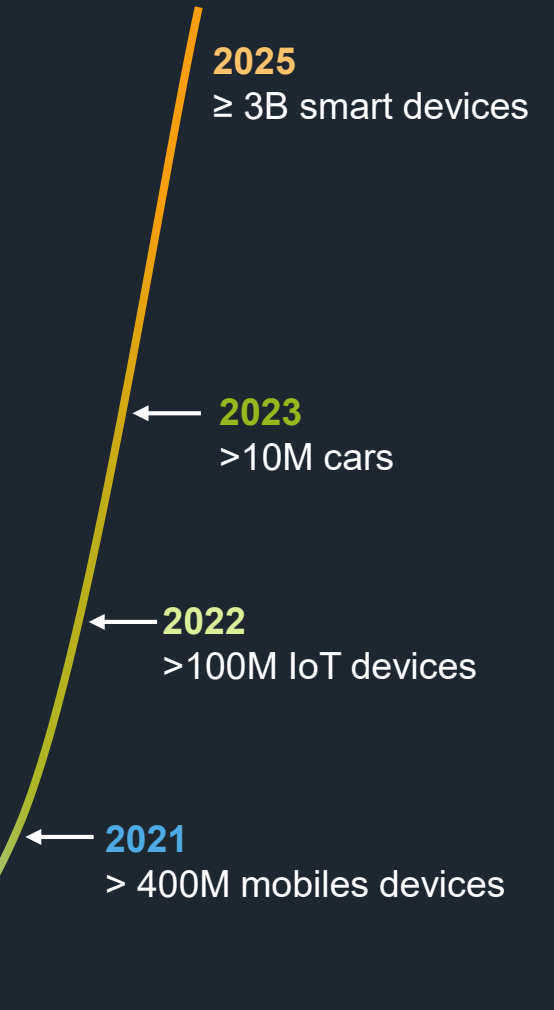
UWB ECOSYSTEM ANTICIPATED TO QUICKLY DEVELOP

Mobile
More mobiles
with UWB

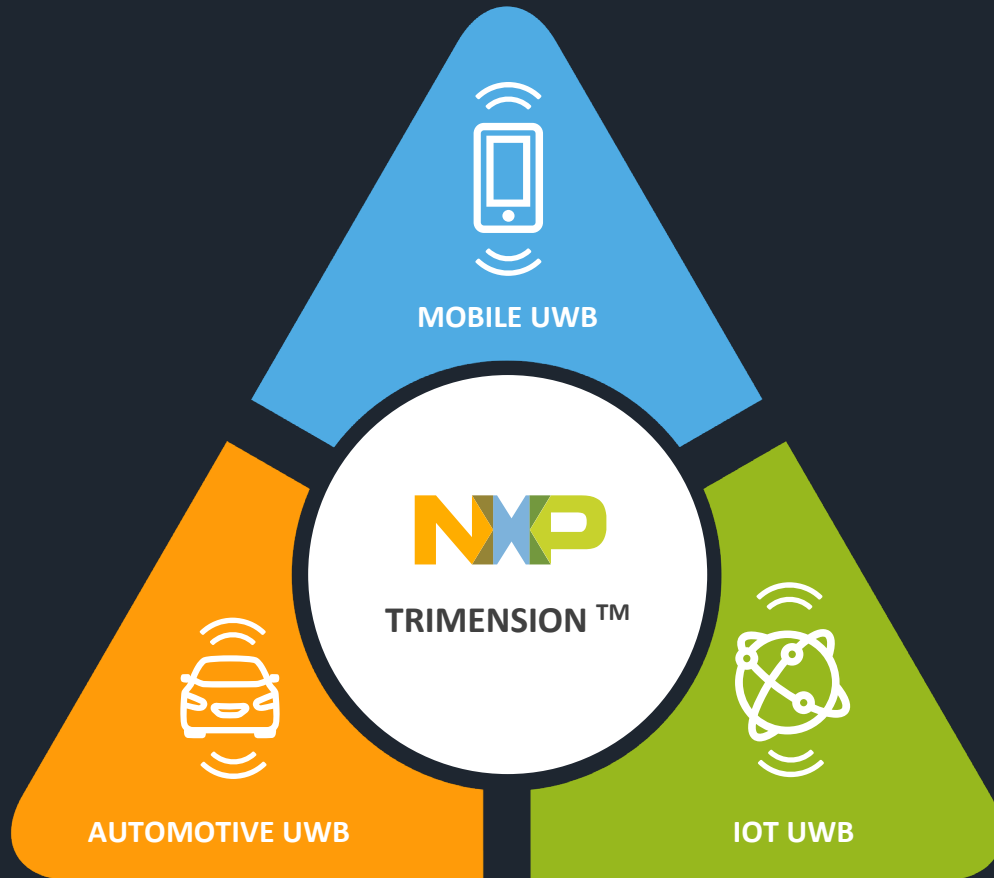


UWB INSTALLED BASE

**CUMULATIVE
UWB DEVICES**



NXP POSITIONED TO DRIVE THE ECOSYSTEM



SAMSUNG
Mobile Phone



BMW
BMW Digital Key



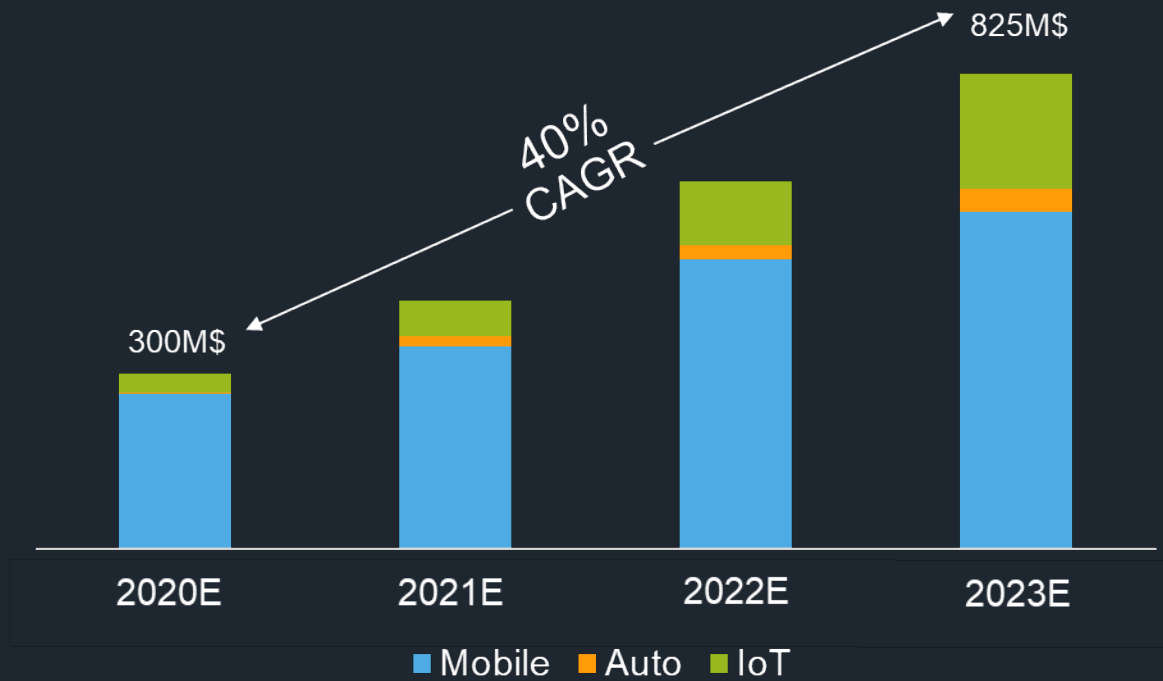
ASSA ABLOY
Access Solutions



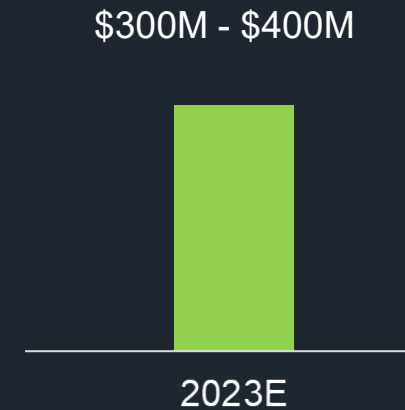
NXP IS THE #1 SEMICONDUCTOR SUPPLIER IN THE HIGH GROWTH UWB MARKET

NXP leading UWB innovation and ecosystem development

UWB SAM



NXP ESTIMATED UWB REVENUE IN 2023



NXP ENABLES SECURE, ROBUST AND PRECISE MOBILE - CAR ACCESS

#1 in secure car access >20 years

NXP ready-to-use system solution

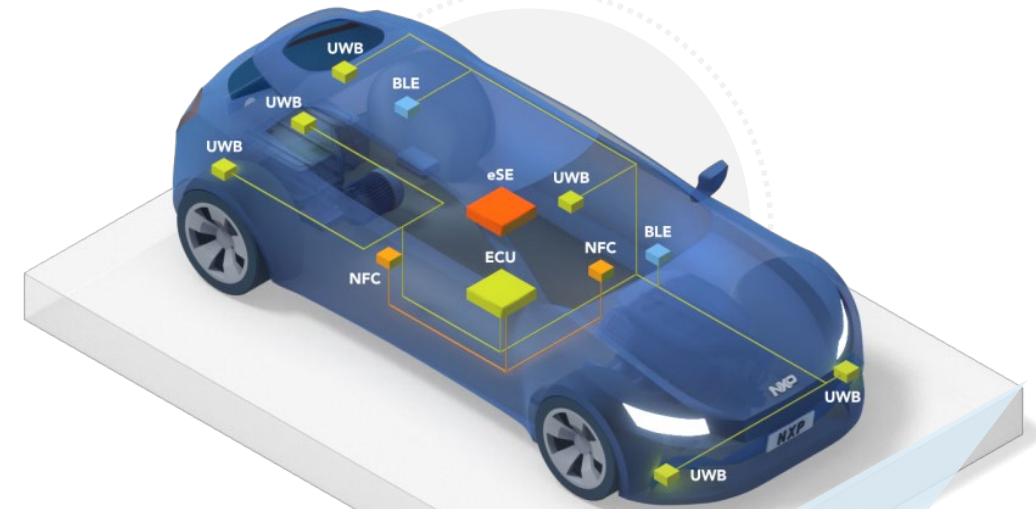
~\$500M LTR design wins



OEM platforms
won



OEMs run proof
of concept for
UWB w/ NXP



Secure localization	UWB
Communication link	BLE
Proximity & backup key	NFC
Digital key security	eSE

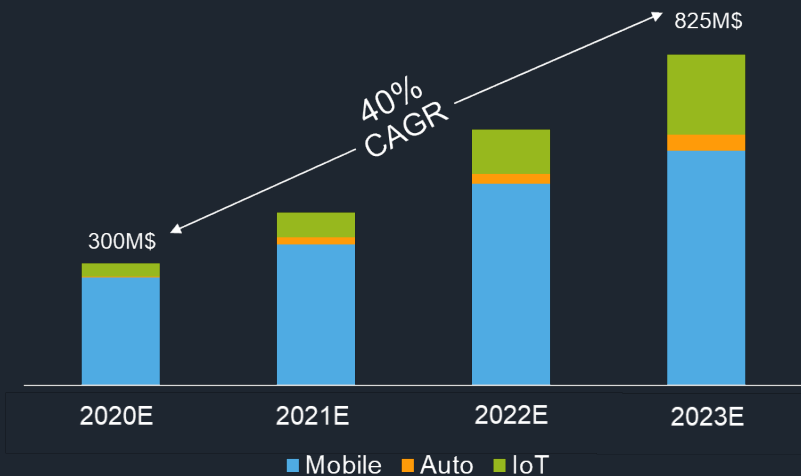


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NXP POSITIONED TO LEAD GROWING SECURE UWB MARKET

STRONG MARKET GROWTH

UWB SAM



+

UNIQUE NXP POSITION

=

TRUE LEADERSHIP

NXP ESTIMATED UWB REVENUE GROWTH

\$300M - \$400M

2023E

- ✓ MORE SMARTPHONES WITH UWB
- ✓ MORE IOT DEVICES WITH UWB
- ✓ MORE CARS WITH UWB

✓ NXP TARGET ~40% MS



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