CipherSiP
SILENTLY SECURED

WATERMARKING COMMUNICATIONS™
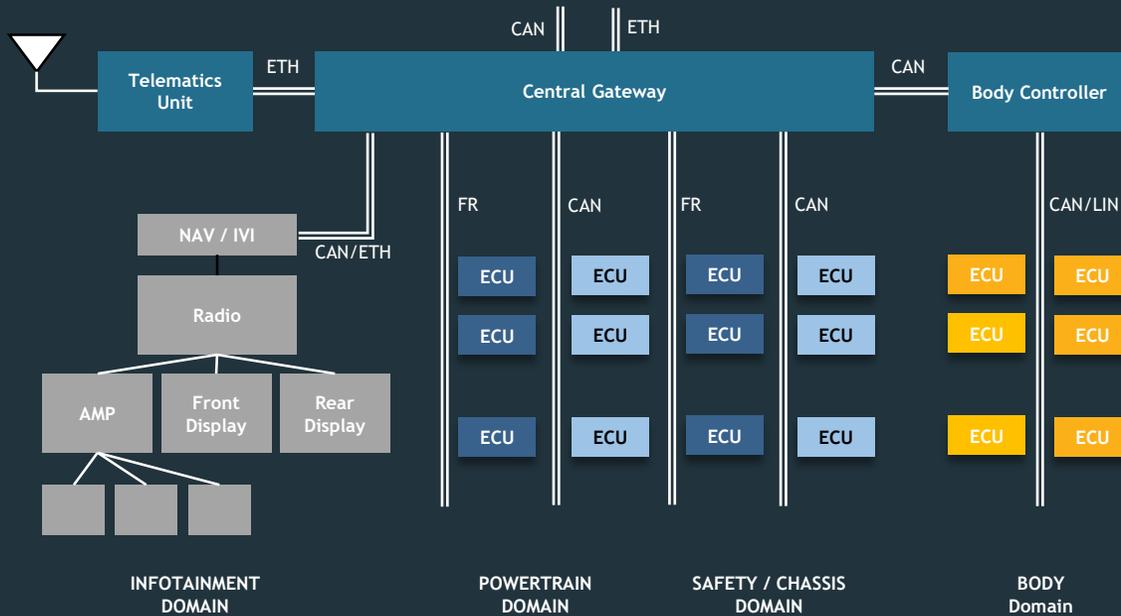
Company Overview

2019

THE NEED

Moving to **Electric** and **Autonomous**
More ECUs, More Connectivity, More Data

→ **Communication & Safety Issues**
Congestions, Wiring, Weight, Cost, Exposure to Cyber-attacks, EMC

The need is for **Extra-bandwidth** and **Cyber-Security**

| | | | CAN | ETH | | CAN | |
| Telematics Unit | ETH | Central Gateway | | | | Body Controller | |

NAV / IVI — CAN/ETH

Radio

AMP | Front Display | Rear Display

FR | CAN | FR | CAN | CAN/LIN

ECU ECU ECU ECU ECU ECU
ECU ECU ECU ECU ECU ECU
ECU ECU ECU ECU ECU ECU

INFOTAINMENT DOMAIN

POWERTRAIN DOMAIN

SAFETY / CHASSIS DOMAIN

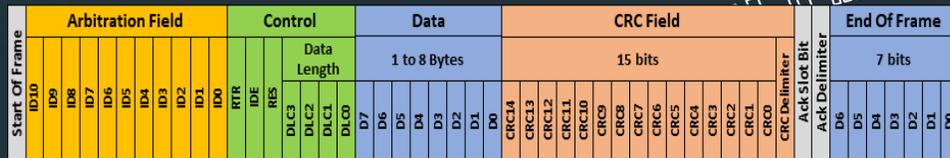BODY Domain

IVN – In Vehicle Network

Watermark

More Data & Authentication without
changing the original structure & content

We Do The Same, but...
... in Communications!

WATERMARKED COMMUNICATIONS TECHNOLOGY (*) patent pending

Original CAN Frame

Our Watermarked CAN Frame

CSP

WATERMARKED HIDDEN DATA & SIGNATURE

Compatibility (partial list):
Automotive: CAN-FD/XL, LIN, FlexRay;
Industry: SCADA, Modbus, RS-485
EV Charging Stations: ChaDeMo EVSE, J1772 EVSE
Aeorspace: Mil-Std-1553, ARINC-825

We create x3 times more Bandwidth/Data over original protocol/message **without changing** its **structure / size / payload / frame timing**

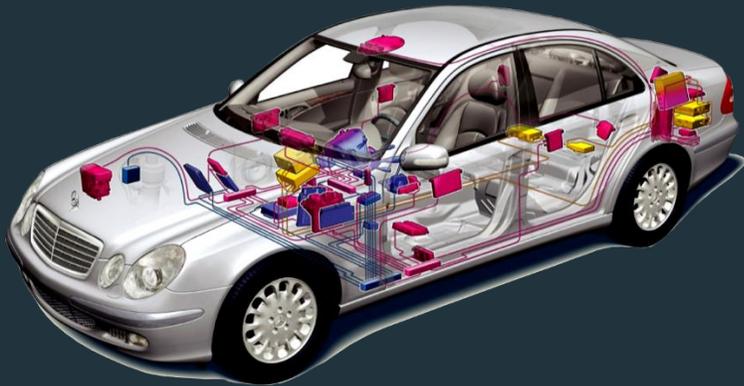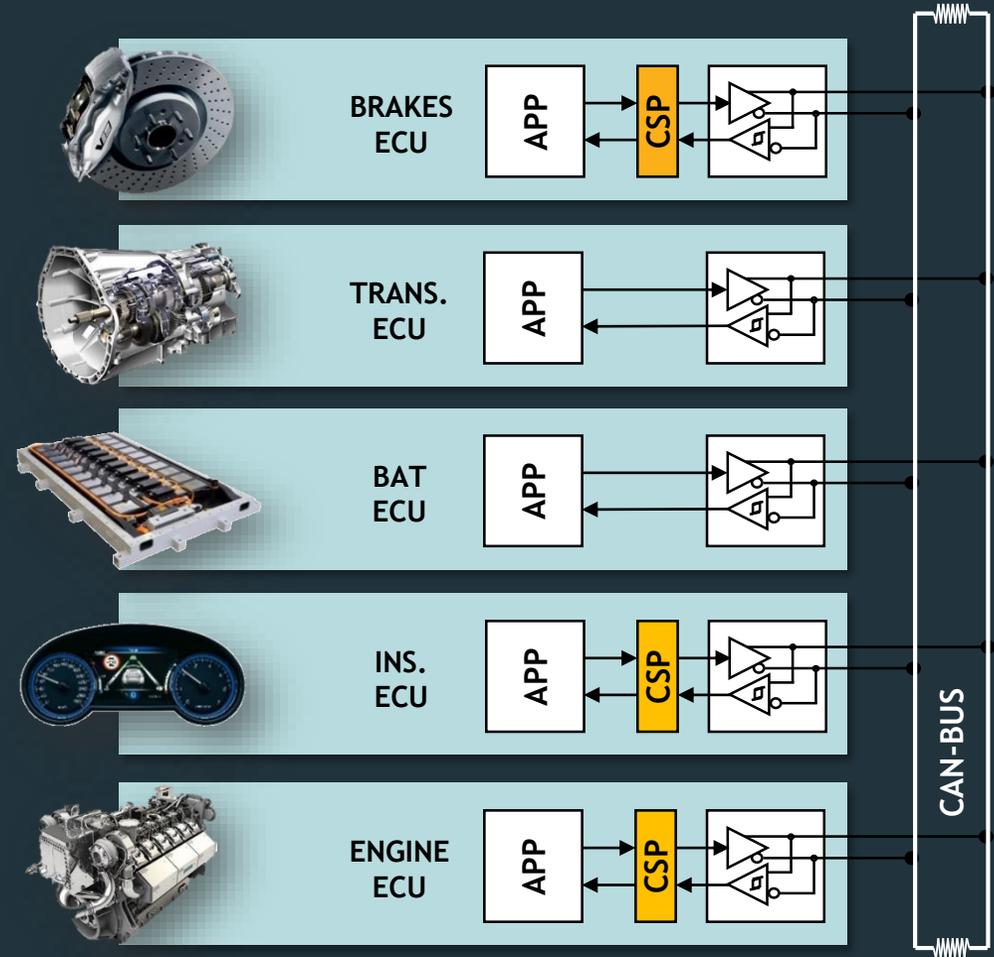| x3 Times More Bandwidth / Data	No Change to Protocol / Standard	E2E Cyber Protected	Invisible to the Network

CipherSiP

EASE OF IMPLEMENTATION

Flexible and Selective usage

- **No Change** to Network & Protocols
- Choose **only the ECUs where you really need** for *Extra Bandwidth & Cyber Security* (**CSP-inside**)

OUR IN-WORK (ENGAGED) USE-CASES

Electric Connected Busses & Trucks

IVN Faster and Secured

Deterministic Cyber

ECU / Message Authentication, Key Distribution & ADAS Safety

Cloud <-> ECU FOTA/SW Updates

Faster & Secured Invisible, No Shutdown

Invisible Communication

Path for Privacy/ Proprietary Data (i.e. GPS location) & Video Streaming

Secured EV Charging Stations

ChaDeMo EVSE, J1772 EVSE

CipherSiP

SOLUTIONS PORTFOLIO

Data Expansion
- Expanded-sized payload
- Privacy (GDPR)
- Zero network overhead

ECU / Message Authentication
- Deterministic
- Zero latency
- Zero network overhead

10+ Mbps CAN
- Speed
- Safety
- Immunity

CipherSiP

Thank You