

# SOGETI HIGH TECH

## AUTOMOTIVE CYBERSECURITY

"Si vous avez pas  
l'dgo p'tet vous  
trouverez pas!"

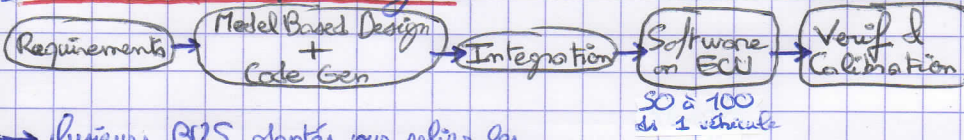
GENEVI?

Asymétrique: ECC  
Symétrique: AES

### I Sogeti → Services Engineering locaux

- Grp Capgemini (services)
- Sogeti High Tech: Sécurité IoT + Embarqué
- Grp X19: Dev + Test + Risk Assessment + Reverse Eng

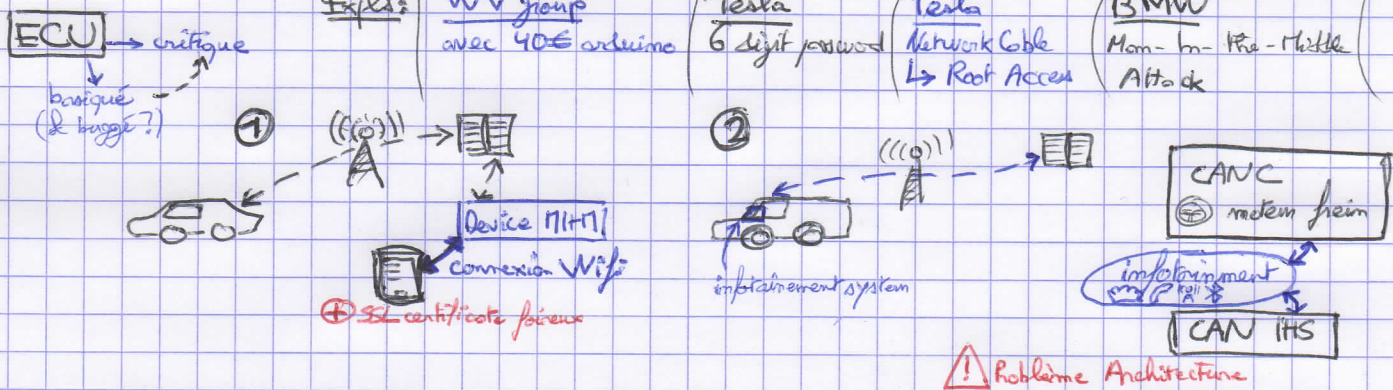
### II Automotive Technologies



→ Plusieurs BUS adaptés pour relier des différents ECU: Ex: **BUS CAN**: ⊕ Reliability ⊕ Safety  
Broadcast, 1Mbps max, 8B data, trois réponses  
ISO TP: Protocole communication sur CAN  
UDS et OBD: Protocole applicatif

→ Sécurité? **Physique** + **Protection UDS** ~ Nulle

### III Can Hack



### IV Solutions

→ Signer/Chiffre Firmware? → Architecture sécurisée?

- A. Standards**
- |   |  |  |
|---|--|--|
| <b>Autosan</b> 2003<br>ECU standard ISO 26262 | <b>Evita</b> 2008<br>Hardware Security | <b>SAE</b> 2016<br>Best Practices<br>pas encore mature |
|---|--|--|
- B. Can Env**
- |     |        |               |     |
|-----|--------|---------------|-----|
| Can | Mobile | Portal Server | PKI |
|-----|--------|---------------|-----|
- C. Trends**
- Architecture Change (Gateway, Network Segregation...) // Firewall
  - PKI (Authentication ECC)
  - ECU Hardening (Chaine de Sécurité) Secure Boot
  - FOTA (Firmware patché sur le fil)

**d. Third Party Solution Security** IBM, TREND MICRO, ARGUS CYBER SECURITY, Kanomba Security  
ECU runtime prot → Challenge = Integration

### V Projets chez Sogeti High Tech

- Sécurisation CAN to CAN
- Automotive Penetration Testing