

Fleets & Autonomy

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Research Director of Transportation Security

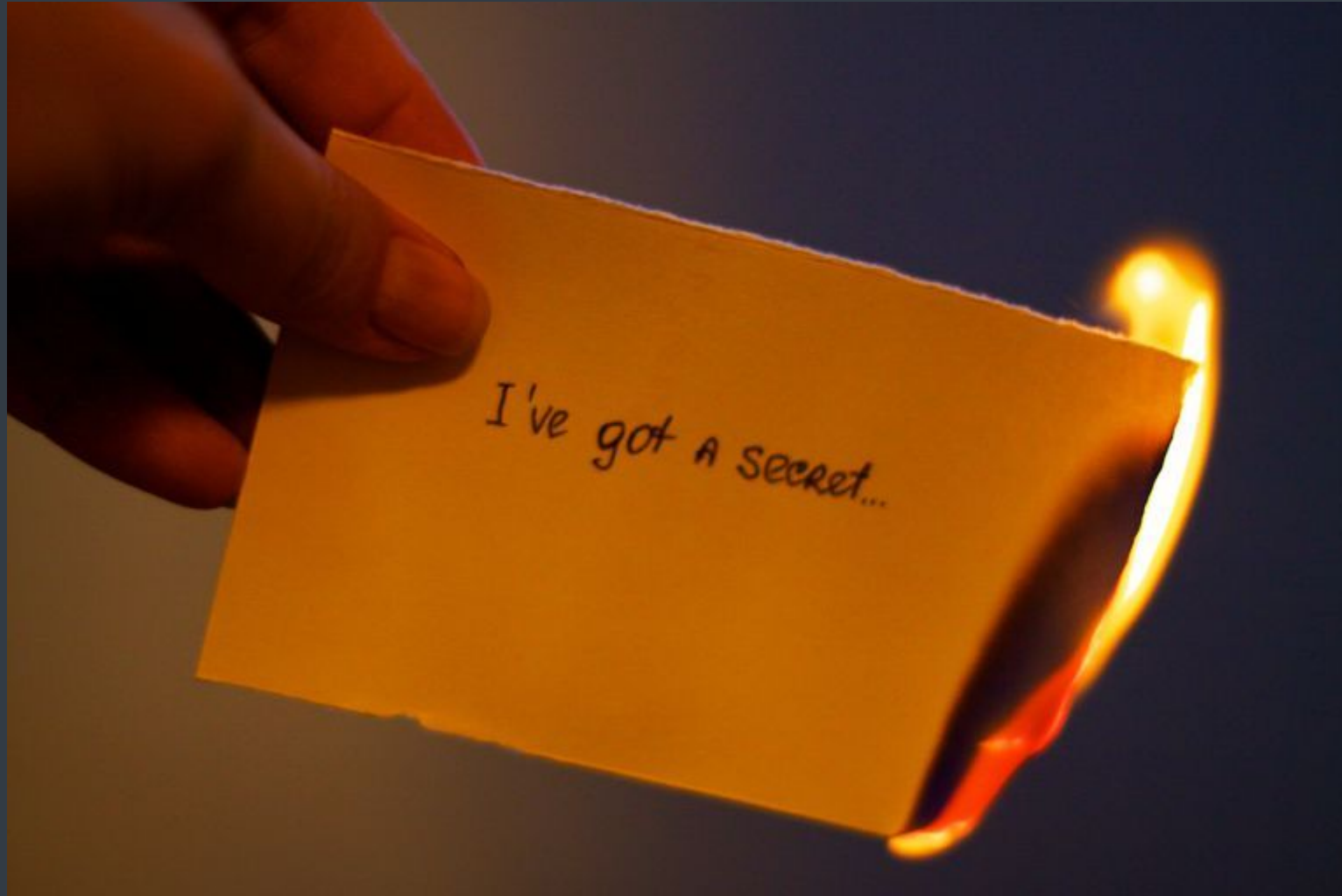
A bit about me

ever
engineer

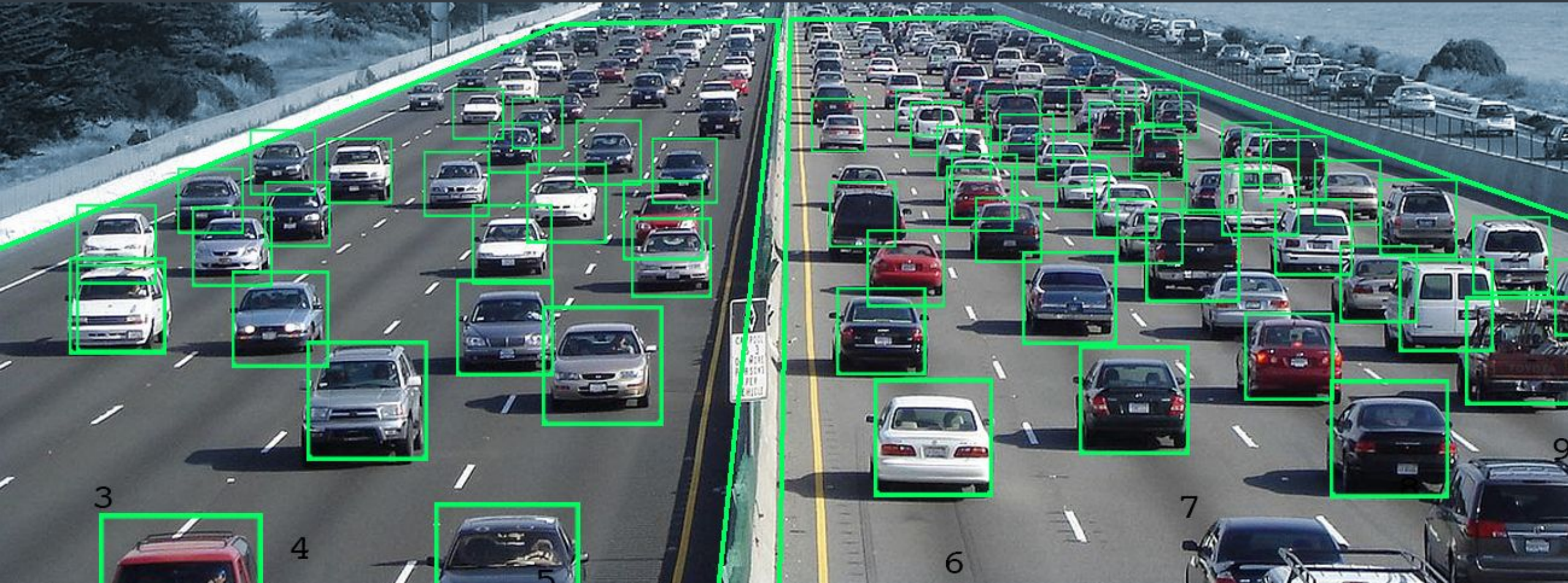
Digital Rights Management




Flawed by Design



Traffic taught me car hacking




Assume knowledge

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Quantity: 9 available

Price: **US \$799.99**
From \$34 for 24 months *

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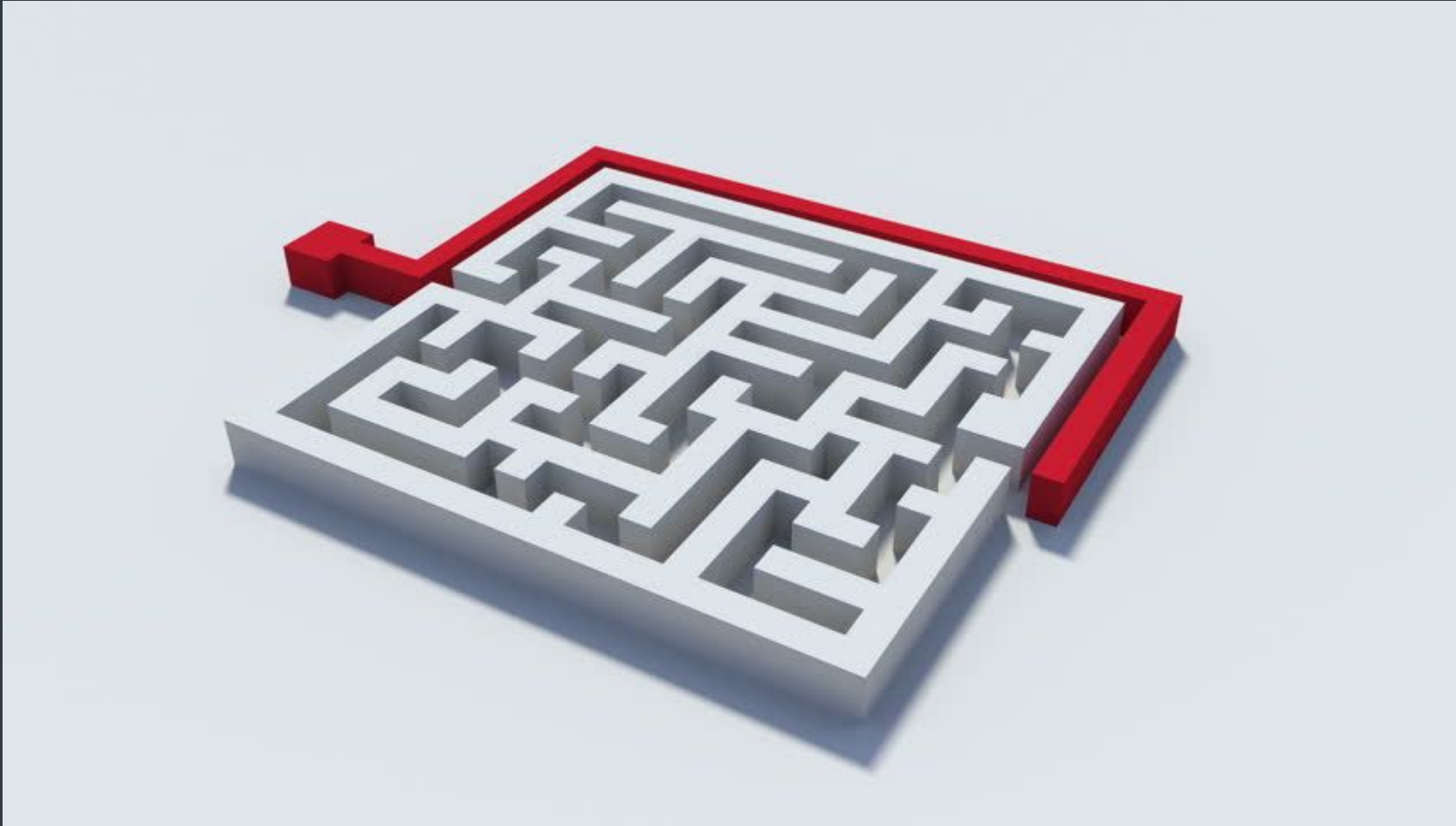
☐ 6-month protection from Assurant - \$99.99

☐ 10 minute call for repair assistance with a certified technician - \$14.95

Delivery in 4 days Located in United States 9 watchers

Shipping: **\$39.99** Standard Shipping | [See details](#)
Item location: [Stafford, Connecticut, United States](#)

Obscurity is not Security



Obscurity as a Competitive Advantage



Losing at your own game



Military fleets suffer



Where are we going?



Fleets Need Clouds



Neutral Vehicle

- Neutrality
- Security
- Openness
- Scale
- Privacy



Netrality

- A High degree of interoperability
- Governance of oversight of users/stakeholders
 - Security
 - Privacy
 - Interoperability



Security

- Secure data transfer
- Cryptographic standards
- Digitally signed updates
- Assume your code is public



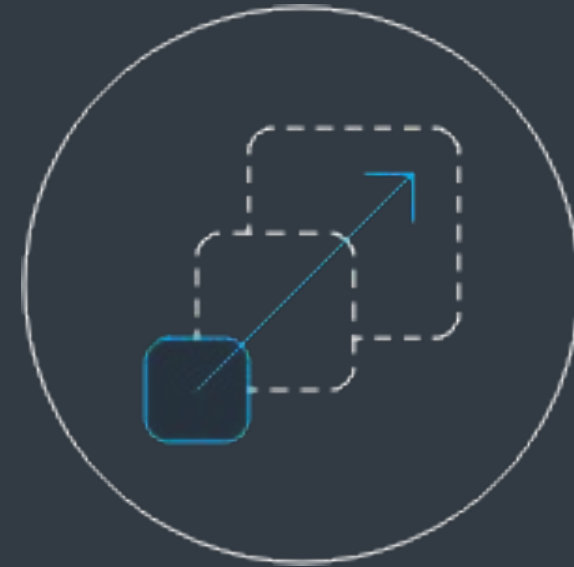
Openness

- Interoperability between different hardware and software providers
- Common set of APIs and vehicle data sets
- Encourages innovation



Scale

- Vehicle to store and forward service
 - Device & application provisioning
 - OTA Updates
- Governed cloud environment
 - Car provisioning
 - Routes incoming data to designated repositories
 - Additional anonymization
 - API access to encrypted storage compartments



Privacy

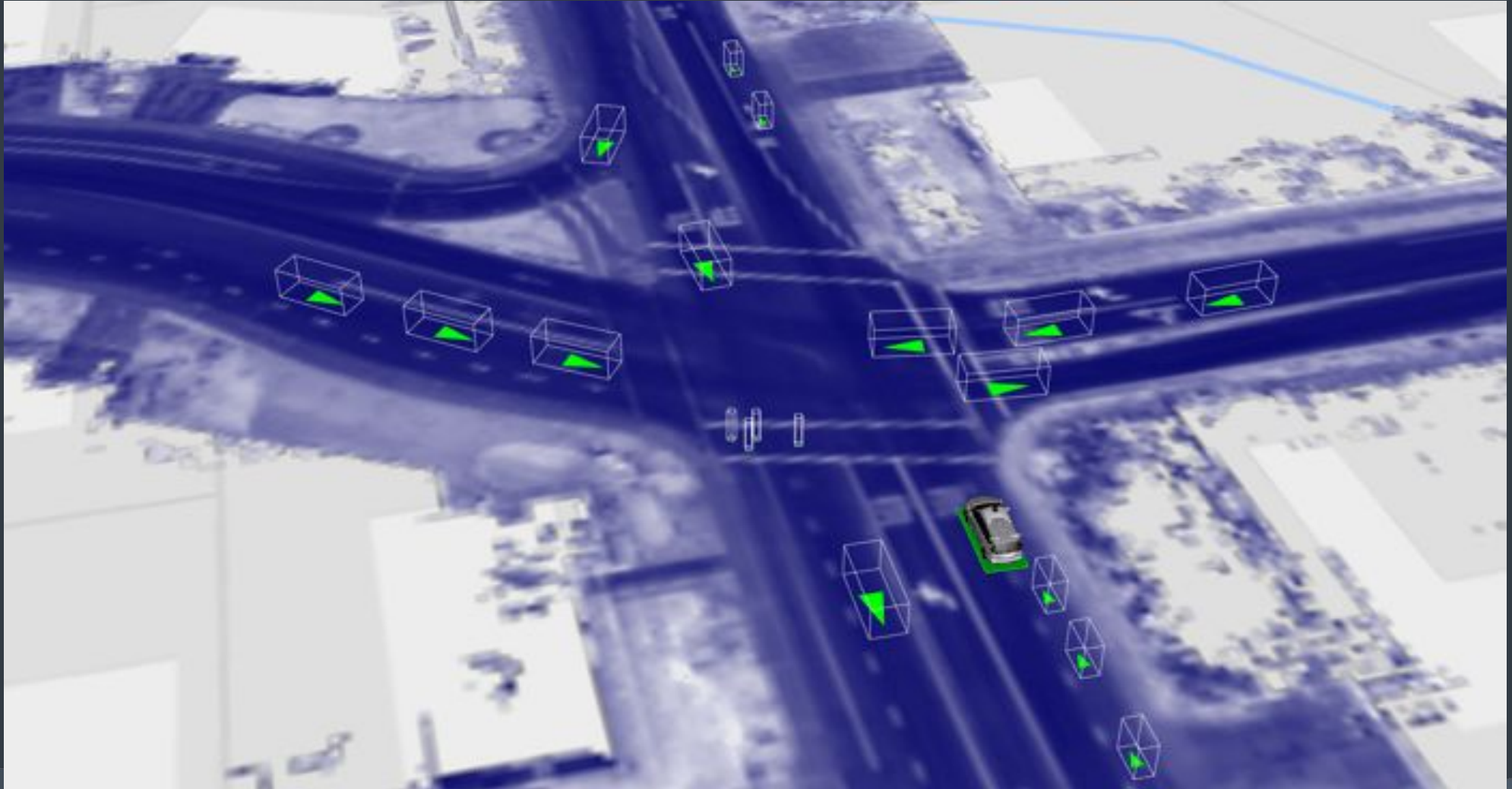
- European privacy standard compliant
- GDPR compliant with differing levels of access
- Data access based on owner approval
- Anonymized data capabilities



Autonomous and the Cloud



The Hive Mind




Same Brain Different Nervous System



Existing Comm Standards



Linux official support



index : kernel/git/mkl/linux-can-next.git

the linux-can-next git tree - based on davem/net-next.git

[about](#) [summary](#) [refs](#) [log](#) [tree](#) [commit](#) [diff](#) [stats](#)

Age	Commit message (Expand)
9 hours	j1939: transport: add missing ETP_ to J1939_CMD_EOF define j1939
9 hours	j1939: transport: rename j1939etp_* to j1939_etp_*
9 hours	j1939: transport: rename j1939tp_* to j1939_tp_*
9 hours	j1939: rename _address_claim_ functions to _ac_
9 hours	j1939: main: j1939_can_rcv(): replace 0x3fff by PGN_MAX
9 hours	j1939: main: j1939_can_rcv(): first shift then mask
9 hours	j1939: rename SA_MAX_UNICAST -> J1939_MAX_UNICAST_ADDR and move it to uapi
9 hours	j1939: uapi: fix indention
9 hours	j1939: pgn_is_clean_pdu: return true instead of 1
9 hours	j1939: bus: j1939_local_put(): move from _j1939_ecu_get_register(, false) to...
9 hours	j1939: bus: introduce __j1939_ecu_get_by_name() that doesn't increase ref cou...
9 hours	j1939: bus: move j1939_ecu_get_by_name() next to j1939_ecu_get_by_addr()
9 hours	j1939: bus: j1939_ecu_find_by_name(): rename to j1939_ecu_get_by_name()
9 hours	j1939: bus: j1939_ecu_find_by_name(): remove not used struct net parameter
9 hours	j1939: bus: j1939_ecu_find_by_name() fold in _j1939_ecu_find_by_name()
9 hours	j1939: bus: j1939_name_to_sa(): remove unused parameter struct net
9 hours	j1939: bus: j1939_ecu_get(): rename first parameter from dut -> ecu
9 hours	j1939: bus: _j1939_ecu_get_register(): get rid of variable dut
9 hours	j1939: bus: move _j1939_ecu_remove_sa, j1939_ecu_remove_sa: move here
9 hours	j1939: bus: add some newlines to make code more readable
9 hours	j1939: address-claim: j1939_address_claim_process(), j1939_address_claim_rcv...
9 hours	j1939: address_claim: use common prefix j1939_address_claim for all functions
9 hours	j1939: address-claim: ac_msg_is_request_for_ac: make it a bool function
9 hours	j1939: main: move __j1939_priv_get() here

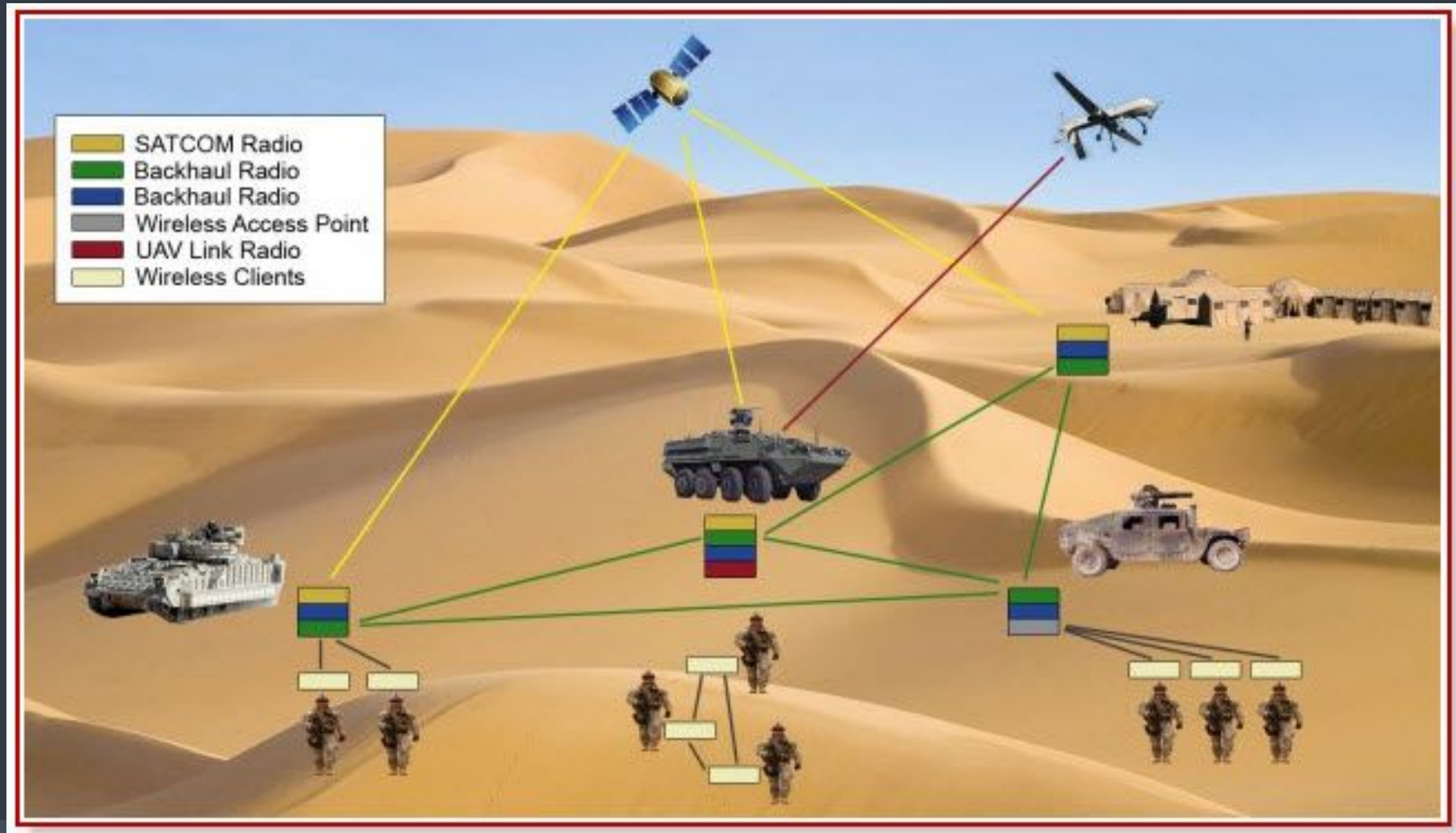
How can we fix this?



Standardized Communication



Speak the same language



Comments?

