

Vehicle data logging powered by the Cloud

Vector GB Annual Conference 25th June 2019 by Azumi Watabe

Cloud

What is the cloud ?

According to Microsoft “the cloud” is a global network of servers with a unique function.

Infrastructure as a service (“IaaS”) is an instant computing infrastructure, provisioned and managed over the internet.

Microsoft Corporation (2019) *What is the cloud?* Available at: <https://azure.microsoft.com/en-gb/overview/what-is-the-cloud/> (Accessed: 13 June 2019)

Microsoft Corporation (2019) *What is IaaS?* Available at: <https://azure.microsoft.com/en-gb/overview/what-is-iaas/> (Accessed: 13 June 2019)

Customer use case (Spring 2018)

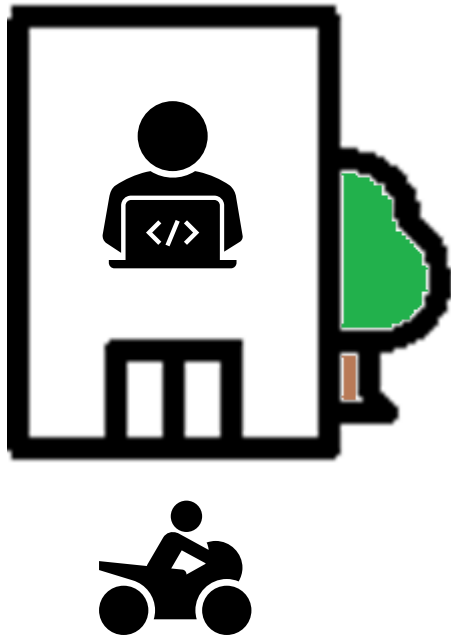


- ▶ Tier 1
- ▶ A new customer project
 - > Collect data from their customer vehicle
 - > Increased inflexibility
 - > Several CAN busses
 - > Existing solution has become insufficient

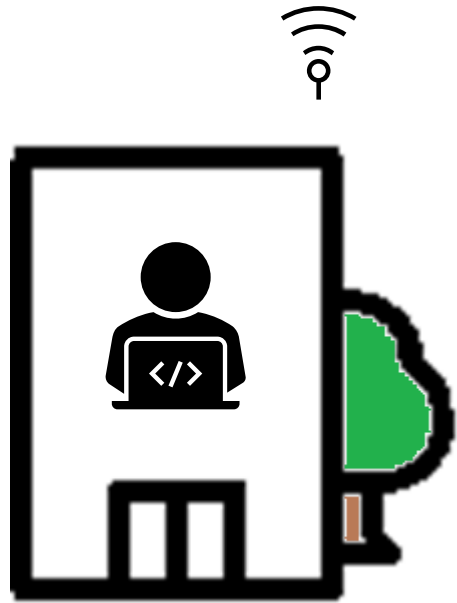
Data logging set up (Spring 2018)

Situation - Not ideal !

- ▶ Lower productivity
 - > More time spent on travelling
- ▶ Added costs to company
 - > Travel expenses
 - > A longer time required to complete an engineering task
- ▶ Uncertainty
 - > How much data ?
 - > Is it logging ?



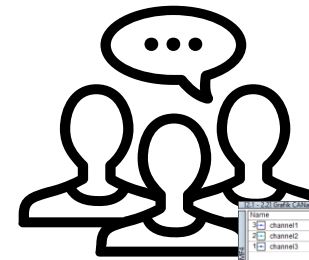
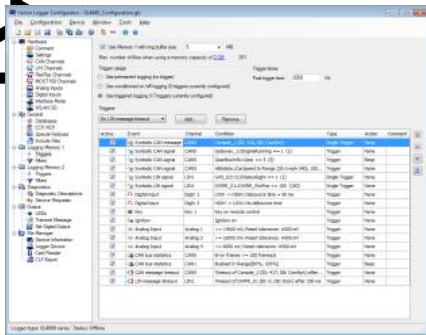
Ideal set up



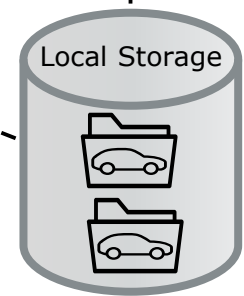
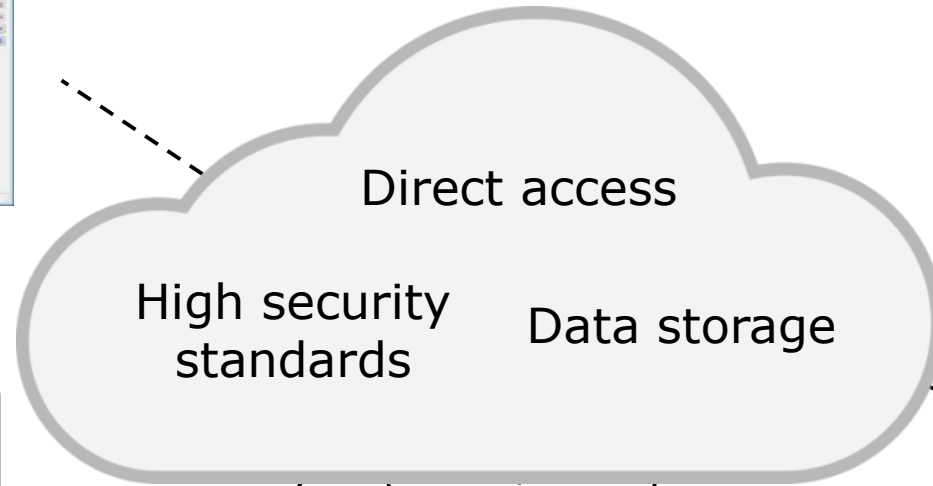
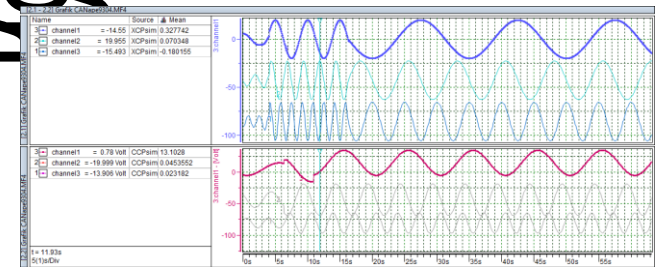
Logger cloud



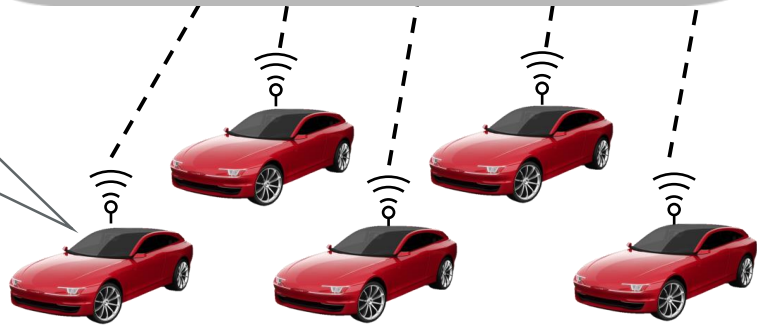
Configuration



Offline analysis



GL data loggers

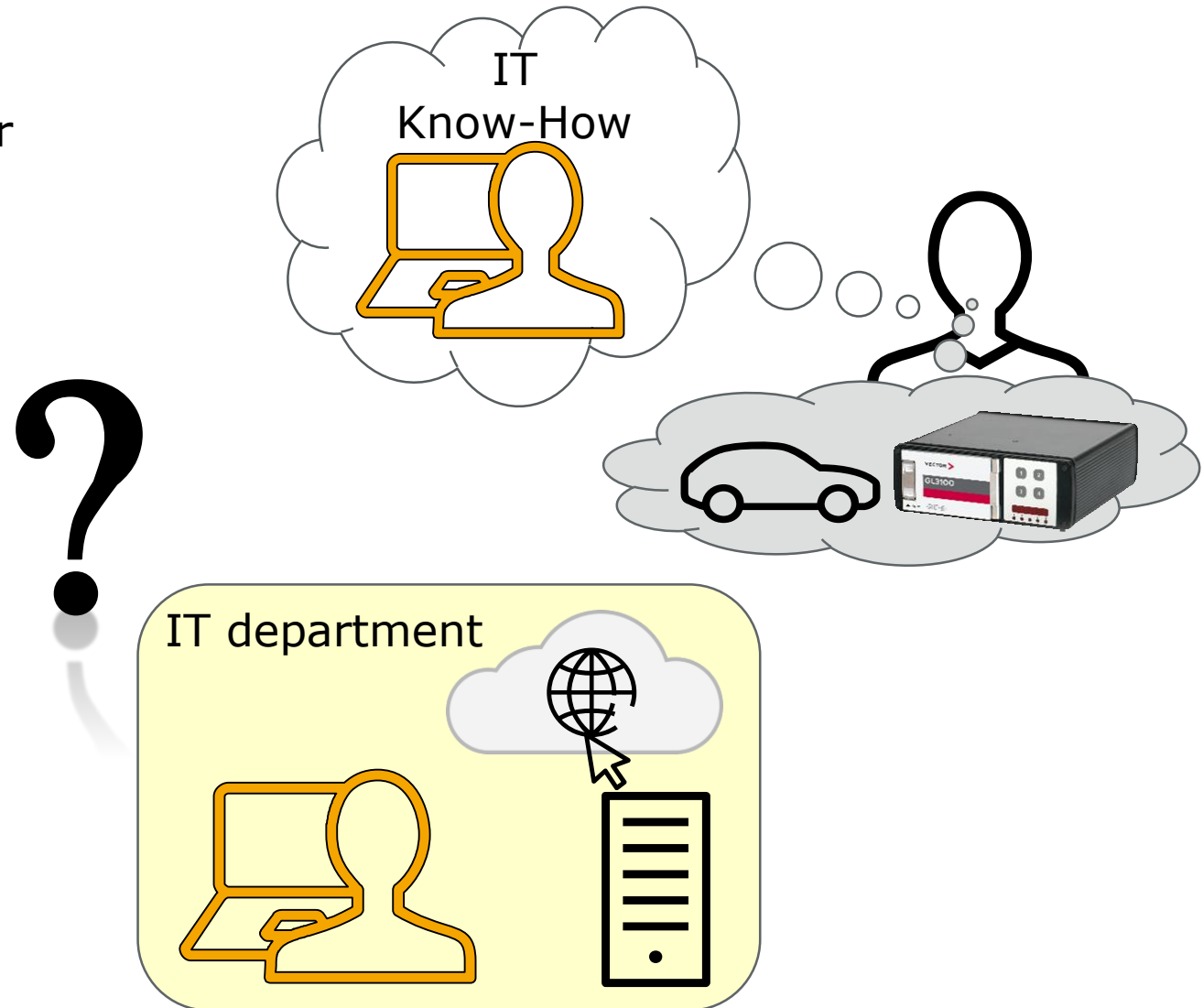


Challenge 1: Ease of use

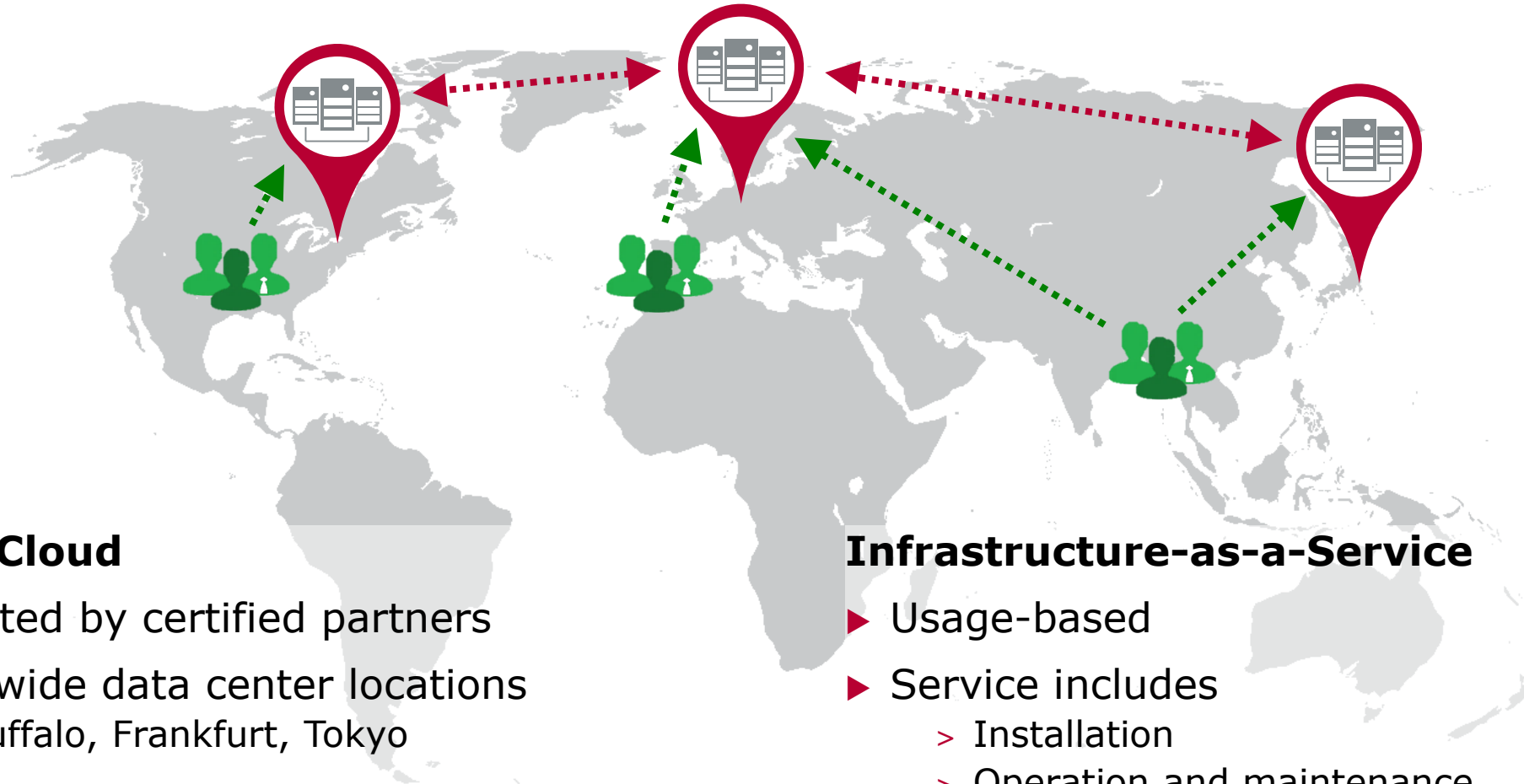
You need:

- ▶ IT know-how & server hardware; or
 - > Server hardware
 - > Setup & operation
 - > Internet access
 - > Maintenance

- ▶ An IT department



Solution 1: IaaS package



Vector Cloud

- ▶ Operated by certified partners
- ▶ Worldwide data center locations
 - > Buffalo, Frankfurt, Tokyo

Infrastructure-as-a-Service

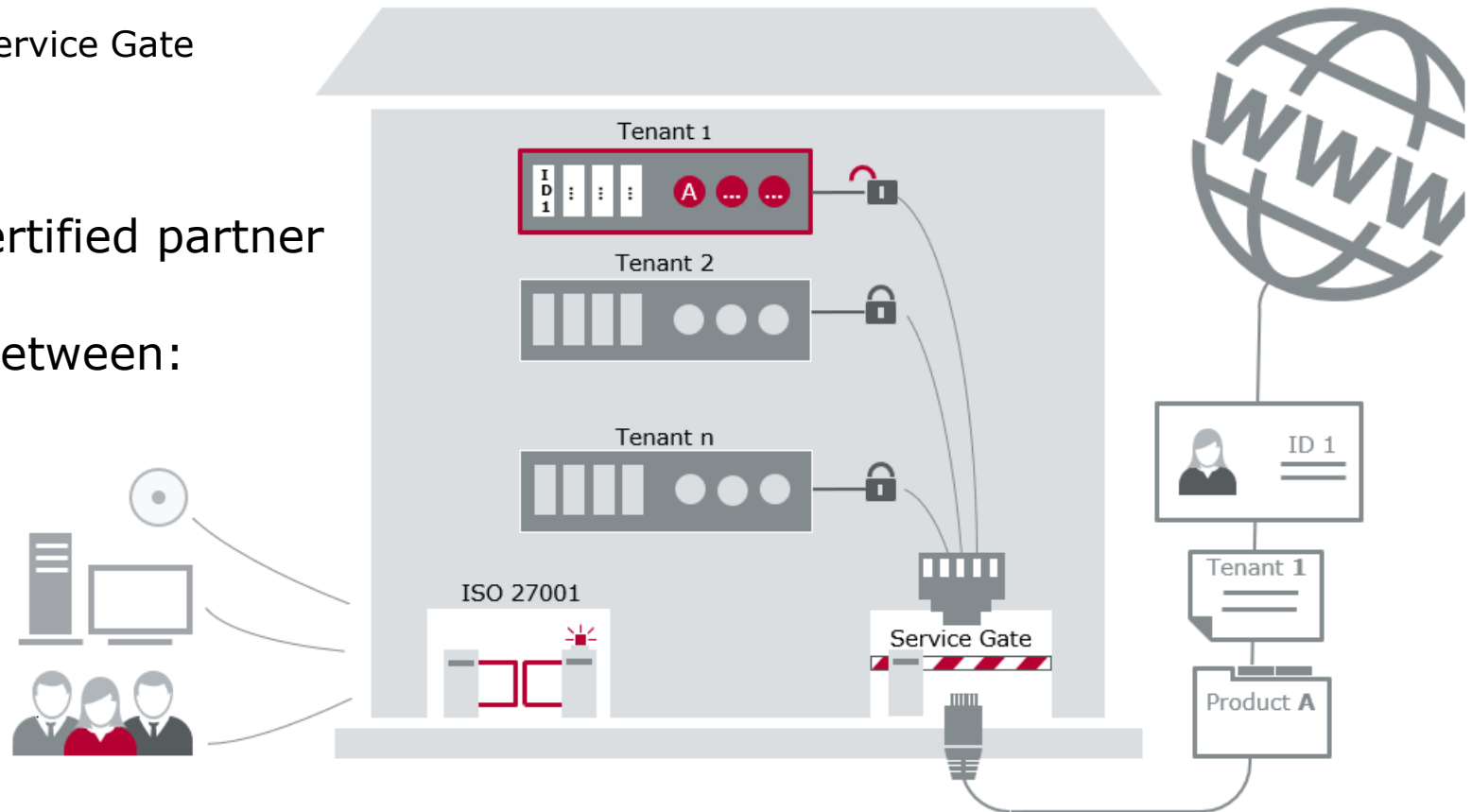
- ▶ Usage-based
- ▶ Service includes
 - > Installation
 - > Operation and maintenance
 - > End user support

Challenge 2: Security

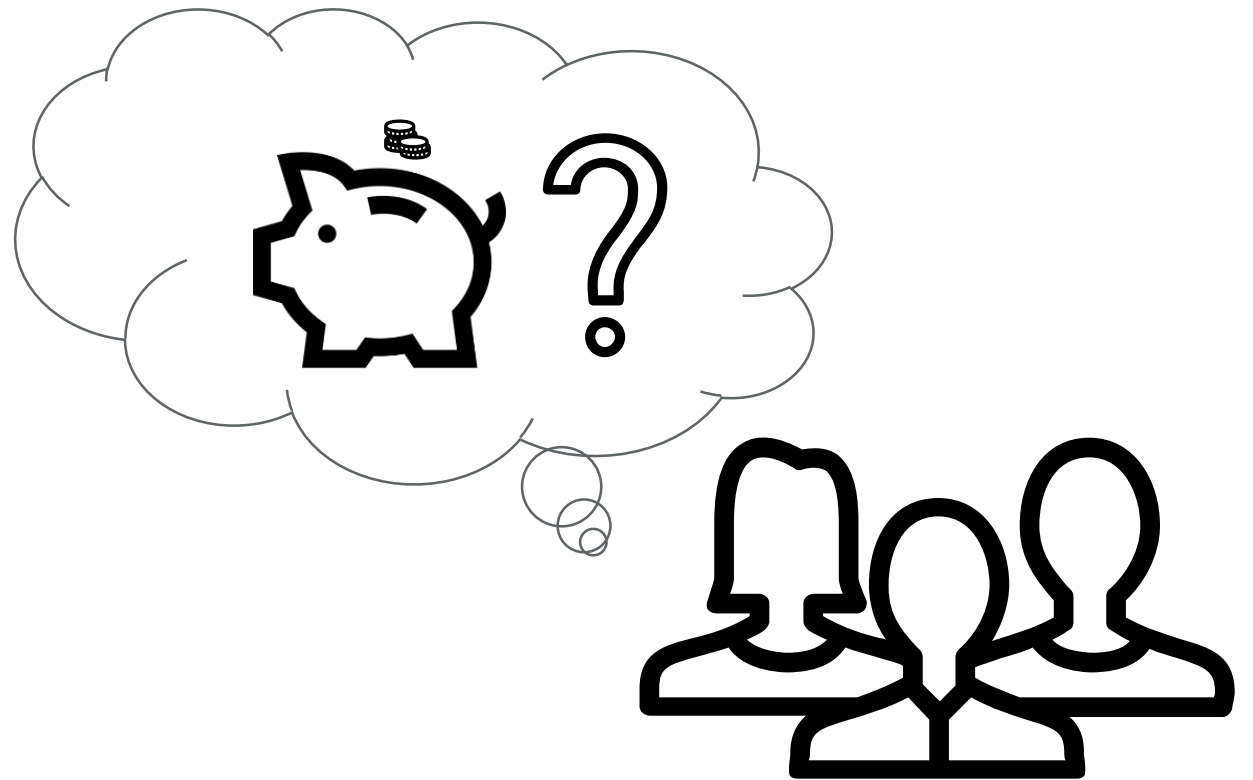


Solution 2: Working with Cloud IaaS provider

- ▶ Strict separation of customers via Tenant Concept
- ▶ Access via internet
 - ✓ Authentication at the Vector Service Gate
 - ✓ Access only via secure HTTPS
- ▶ Hosting and operation by certified partner
- ▶ Encrypted communication between:
 - ✓ Logger & Cloud
 - ✓ Cloud & User



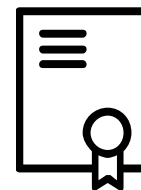
Challenge 3: IaaS



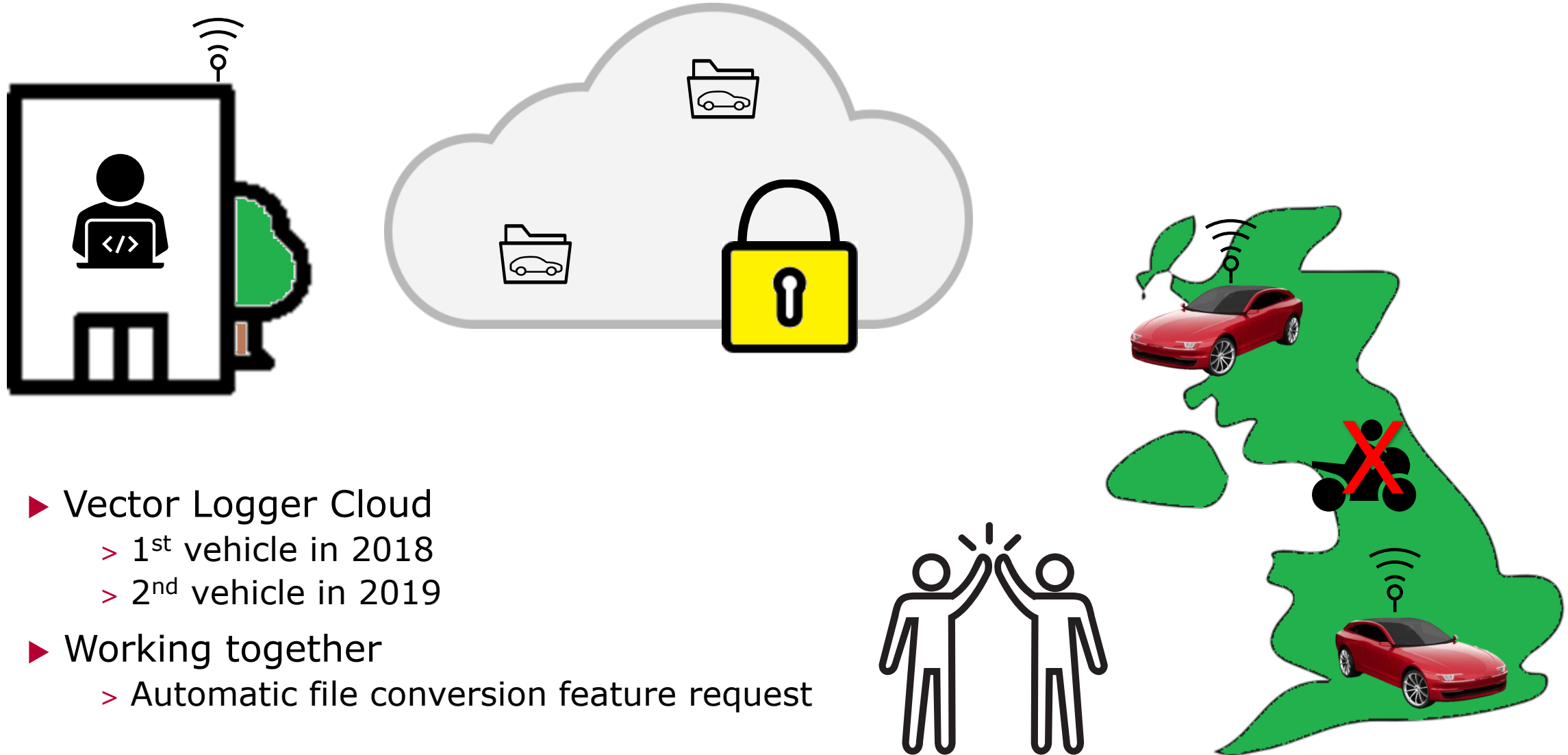
Solution 3: Scalable solution



- ▶ Start with 1 data logger
- ▶ 1 year subscription
 - > Number of loggers
 - > Extra data storage space
- ▶ Hassle free
 - > Time saving
 - > No ongoing server maintenance
 - > No extra resources needed



Current status June 2019



- ▶ Vector Logger Cloud
 - > 1st vehicle in 2018
 - > 2nd vehicle in 2019
- ▶ Working together
 - > Automatic file conversion feature request

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