



Common Vehicle Interface Initiative

A Standards-Based Approach to Vehicle Data & Services

April 2021



Why Common Vehicle Interface Initiative (CVII) Now?



*Is it time to discuss a common language to describe **data** and **function** interaction between all automotive technology companies?*

*Is it time to commit to selected technologies, including **open W3C protocols**, to build interoperable solutions for vehicle data and service invocation?*

*Is it **finally time** to define the industry-wide **standard vehicle data model**
... and then do the same for service APIs?*

OEMs, automotive tier suppliers, data-oriented companies and large technology/cloud providers tell us, “Yes”

The Common Vehicle Interface Initiative



The *initiative* was started in 2020 by **GENIVI** and **W3C** to unify trends, interests, and several ongoing projects. Common intentions among such projects are:

- Develop an effective foundation for the **future vehicle-data driven architectures**
- Increase definition of *industry-shared interfaces* in the shape of service APIs and common data definitions
- Set technology standards to reduce fragmentation and system complexity
- Reduce development efforts that result purely from technology and requirements fragmentation across automotive OEMs and large parts of the automotive industry

Before CVII there was no real concerted effort to achieve communication between organizations and consortia, each building conflicting pieces of this vision!

Required steps to reach the vision



- **Compare and unify** any and all activities that define **data models** and **service/interface description models**
- Compare and root out **duplication** and **overlap** in catalogs of data
- Create an **organized approach** to defining **standard service interfaces** for Service Oriented Architecture (SOA)
- Plan for **innovation** and **extension of functionality**, while still defending **against fragmentation** of fundamental technologies.
- Establish projects to develop a **robust Technology Stack**, which carries the agreed upon data and service/interface invocations (on *multiple* platforms)
- Promote full scale adoption of **open standards**
- Use the **same formats & technology** in a wide part of **the entire system** (i.e in-vehicle systems, vehicle-edge, and backend cloud systems)
- Influence regulation/legislation --> must be based on **industry-led practical standards**

CVII : Coordination across standards bodies



ASAM/ODX
a data model for the description of diagnostics capabilities of ECUs needed throughout the lifecycle of a vehicle

ISO(SAE)
20078
20077
Extended Vehicle Standard & DIS.

AUTOSAR
Classic AUTOSAR
Adaptive AUTOSAR

SENSORIS
towards a standardized interface specification to be used broadly across the automotive industry

eSync
Software-over-the-air

International & Vehicle

Liaison established

Liaison to establish

JASPAR
Dynamic Vehicle Information Sharing API Specifications
Common Vehicle Information and Data Set Specifications

CVII
CVII - Common Vehicle Interface Initiative

Alignment Outreach

EATA
European Automotive & Telecom Alliance

International & Telecom

Local

CATENA-X
a uniform standard for data exchange along the entire automotive value chain.

W3C

GENIVI

ITU
Focus Group Vehicular Multimedia

National

ISO/IEC
JTC1
SC41
Internet of things and digital twins

DTC
Digital Twin Consortium
Missing Automotive WG

ISO/IEC
JTC1
WG11
Smart Cities

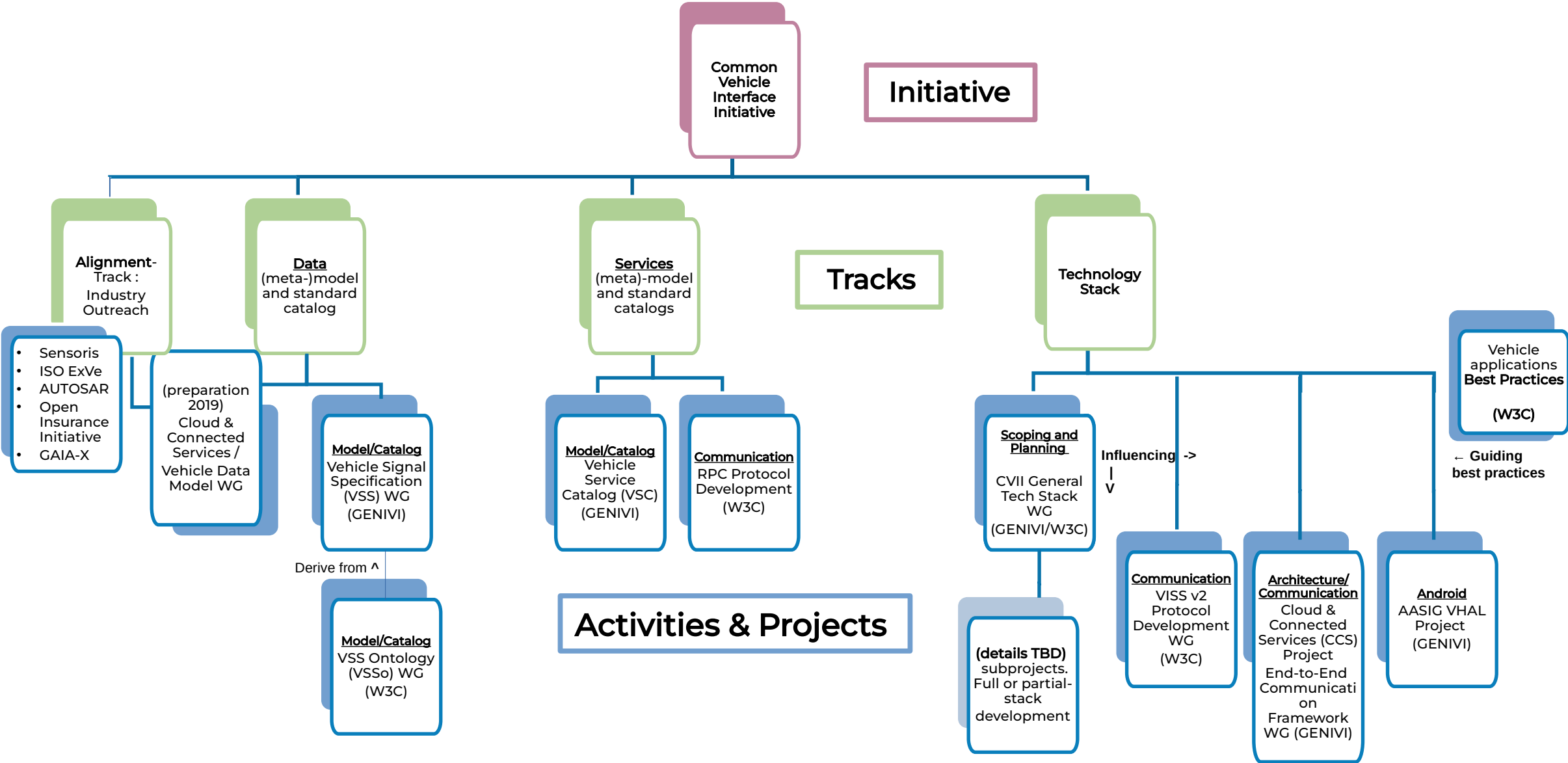
ISO TC
204
Intelligent Transport Systems

OPIN
Open insurance network

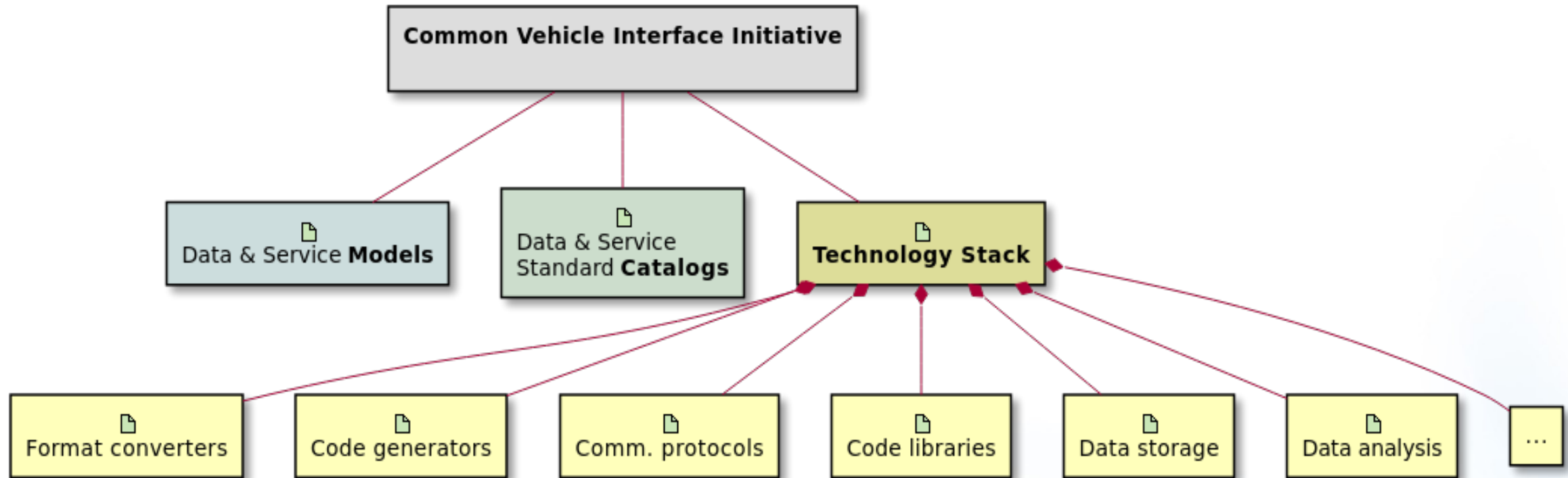
GAIA-X
next generation of a European data infrastructure

International & Industry

CVII - Organization of current activities



Deliverables from agreed-upon standards



Common Vehicle Interface Initiative

- How to Contribute



- Persuade Alliances, Consortia and SDOs your company is involved with to coordinate with CVII
- Contribute to data and service definitions in Vehicle Signals and Service Catalogs (VSS and VSC)
- Provide inputs for VSSo (ontology) and multi-domain integration (smart cities, IoT, digital twins, insurance, etc.)
- Evaluate and contribute to software architecture & Technology Stack components
- Contribute use cases and accompanying tests
- Join GENIVI and W3C organizations and contribute your perspective and expertise
- Join other automotive manufacturers and stakeholders in starting to adopt VSS now where appropriate and based on your current priorities
- You can start today to join the open discussions

Thank you!

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