



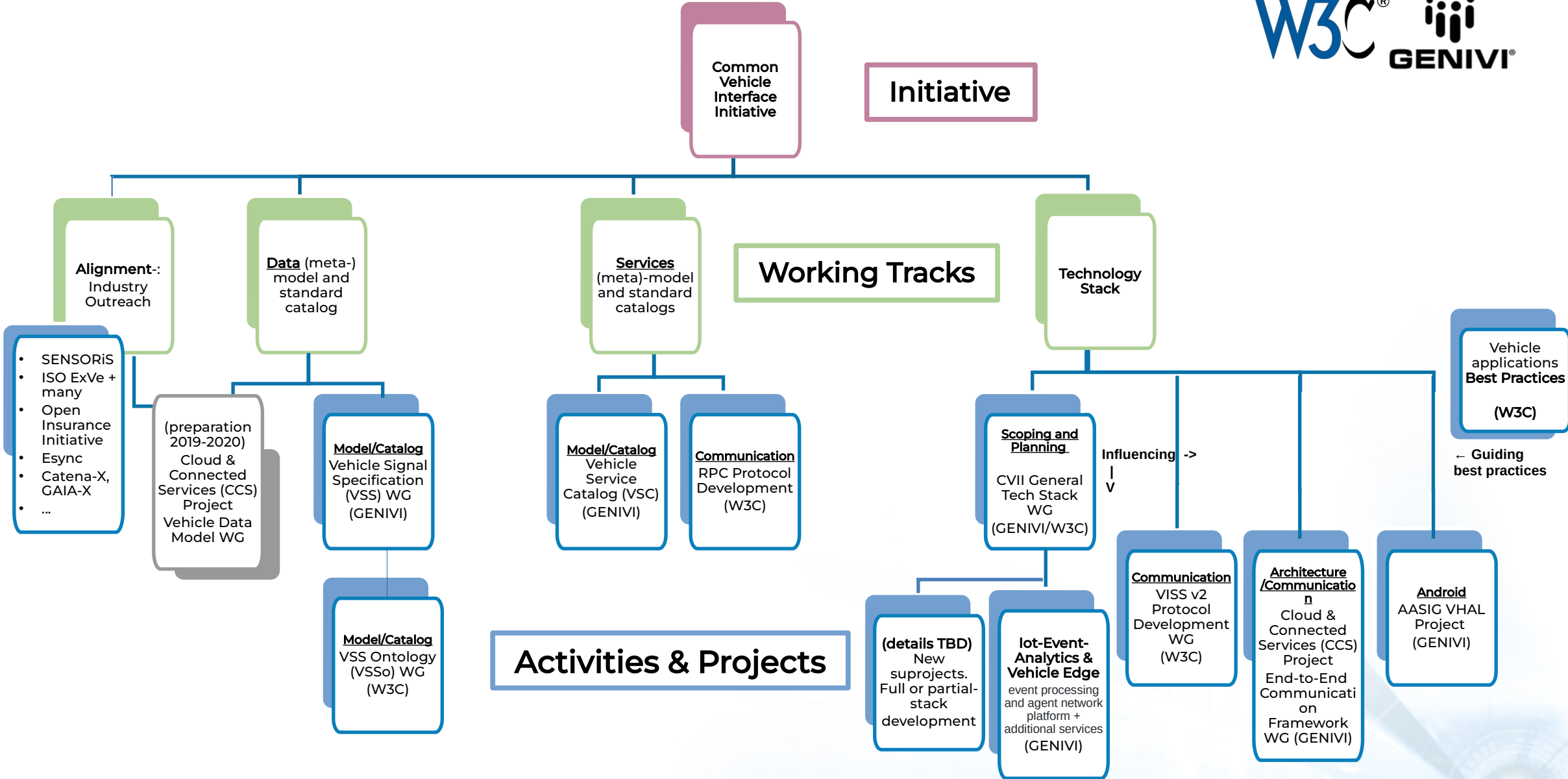
Technology stack development Outlook, methodology, plans

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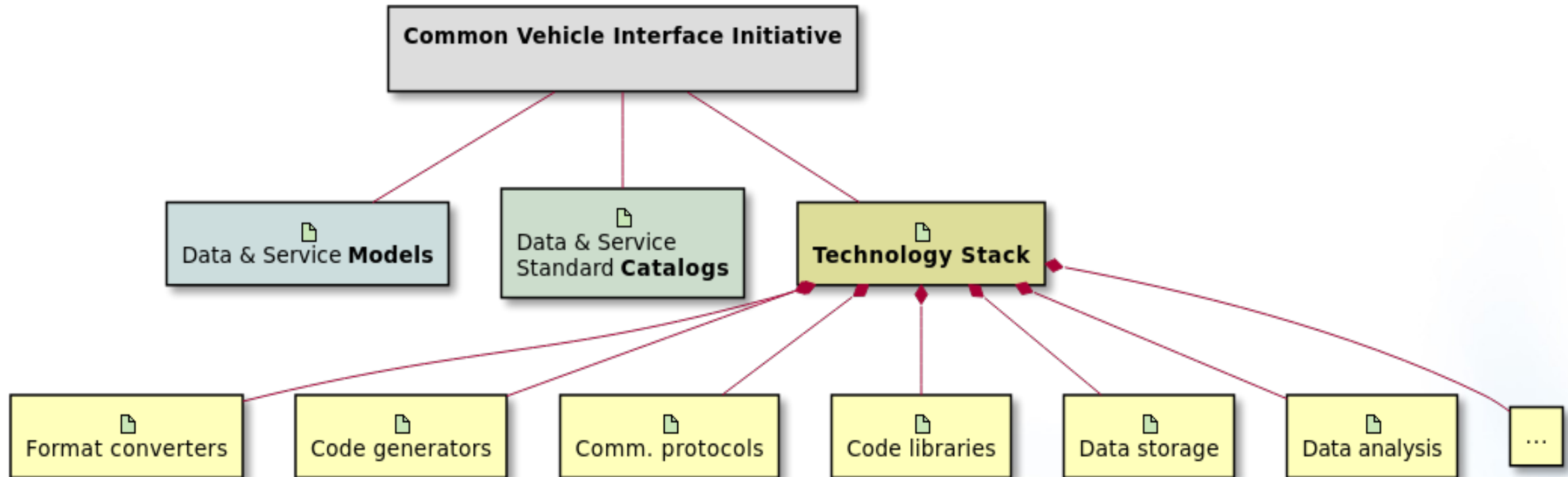


CVII – Current Projects Organization



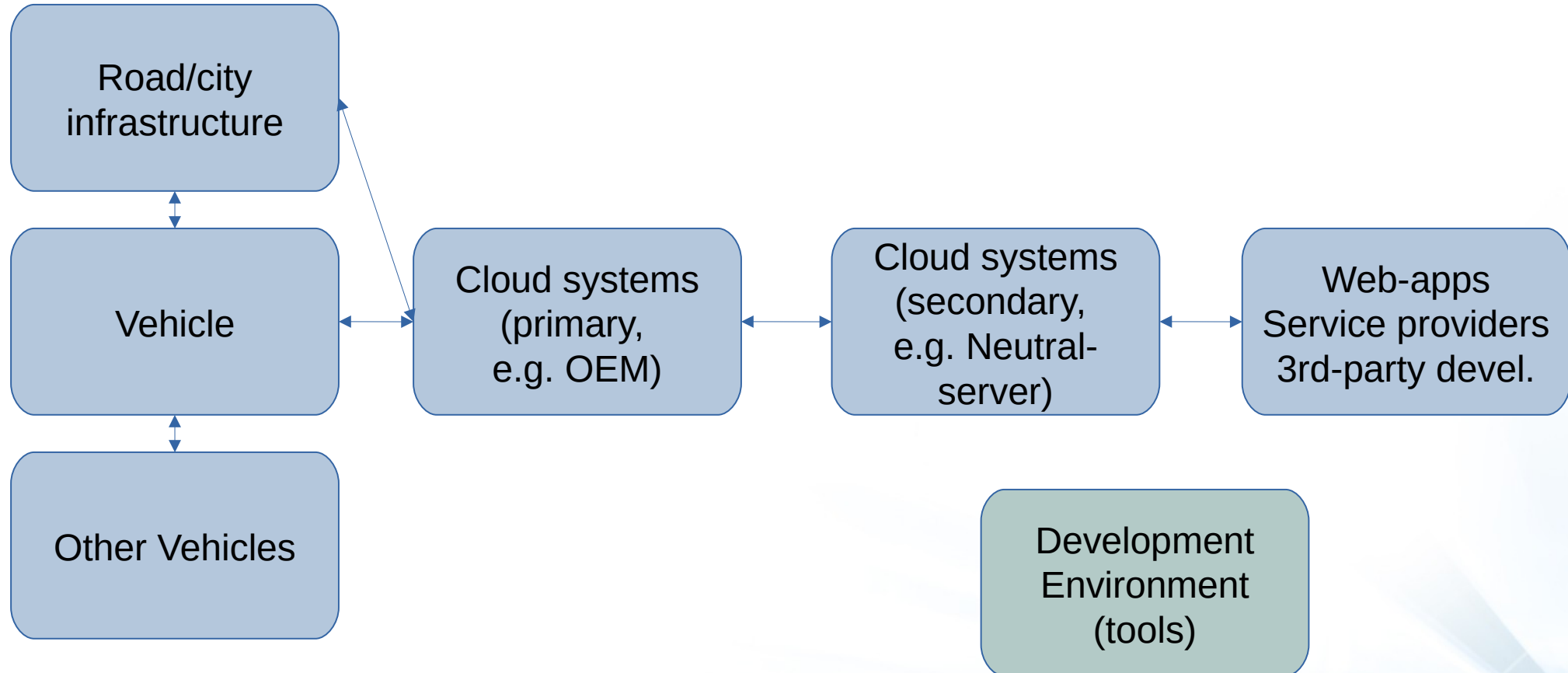
Initial definition of terms

– Technology stack examples



Technology Stack – step 1. High level architecture

This defines our long term plan and (potential) scope of work



The technology stack is built from Software Components and technologies.
(For simplicity, let's consider it divisible into “**Software Components**”)

SW Components are *defined* through **implementation** or **specification**:

Variations:

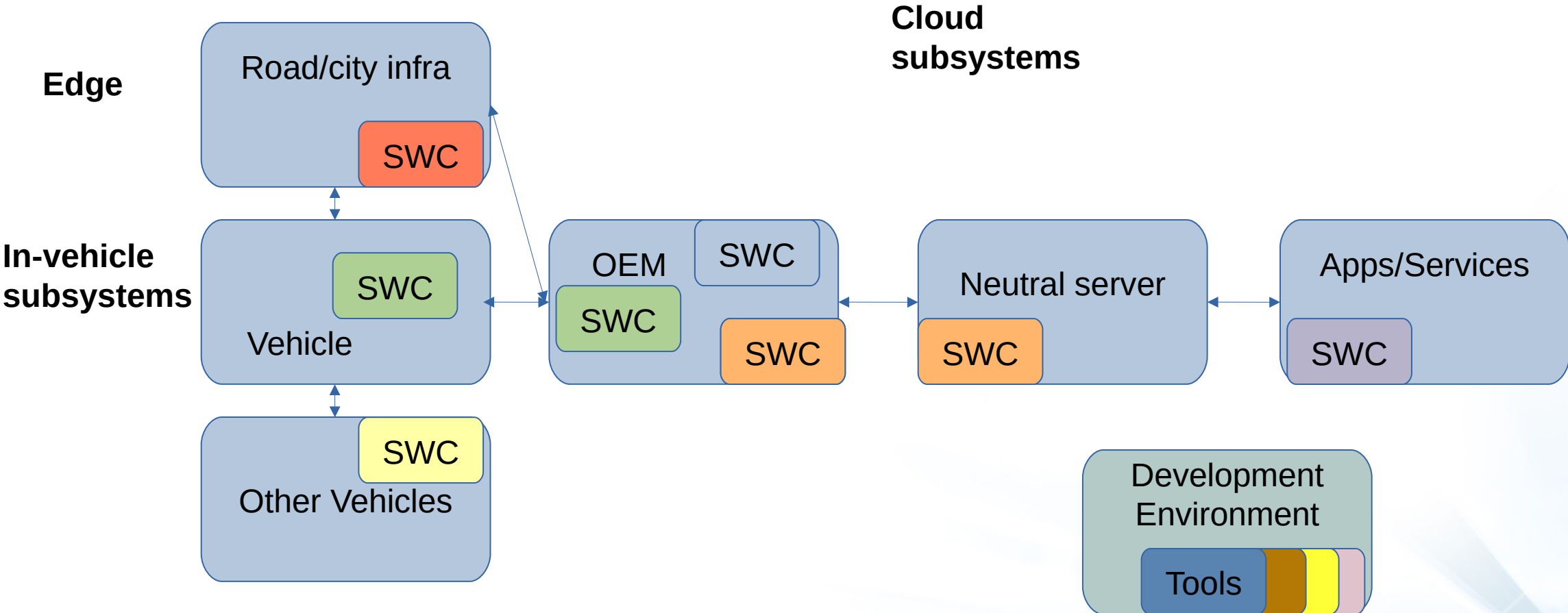
1. Find and select/agree on usage of *existing* components:
 - 1a. Existing open-source licensed software
 - 1b. Existing specifications
 - 1c. Existing “commercial” (non-open-source) implementations
2. Gap-fill: Start a new open-source development project
3. Gap-fill: Start a new specification project

Principles

- Flexibility and choice (to a certain degree)
- Select the best standard technologies
- Agree on preferred choices. Reduce fragmentation to manageable set of technologies
- Keep in mind company needs, legacy technologies, previous investments

As a complement to the definition of the components, integrate components to test part of the stack together.SV

Technology Stack - Step 2. - Component breakdown



The technology stack is built from Software Components, libraries, tools, technologies.
(For simplicity, let's consider it divisible into “**Software Components**”)



SW Components will be *defined* through **implementation** or **specification**:

Variations:

1. Find and select/agree on usage of *existing* components:
 - 1a. Existing open-source licensed software
 - 1b. Existing specifications
 - 1c. Existing “commercial” (non-open-source) implementations
2. Gap-fill: Start a new open-source development project
3. Gap-fill: Start a new specification project

Principles

- Flexibility and choice (to a certain degree)
- Select the best standard technologies
- Converge toward preferred choices. Reduce fragmentation to manageable set of technologies
- Keep in mind company interests, legacy technologies, previous investments (requires your input)

As a complement to the definition of the components, integrate components to test (part of) the stack together.

Technology Stack – step 3. Selection of SWC for common development



How to select components for common development?

1. Define the “full stack” architecture picture together
 2. Define the desired features/functions (requirements)
 3. Search for existing solutions and start gap-filling on the rest.
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Technology Stack – step 3. Selection of SWC for common development

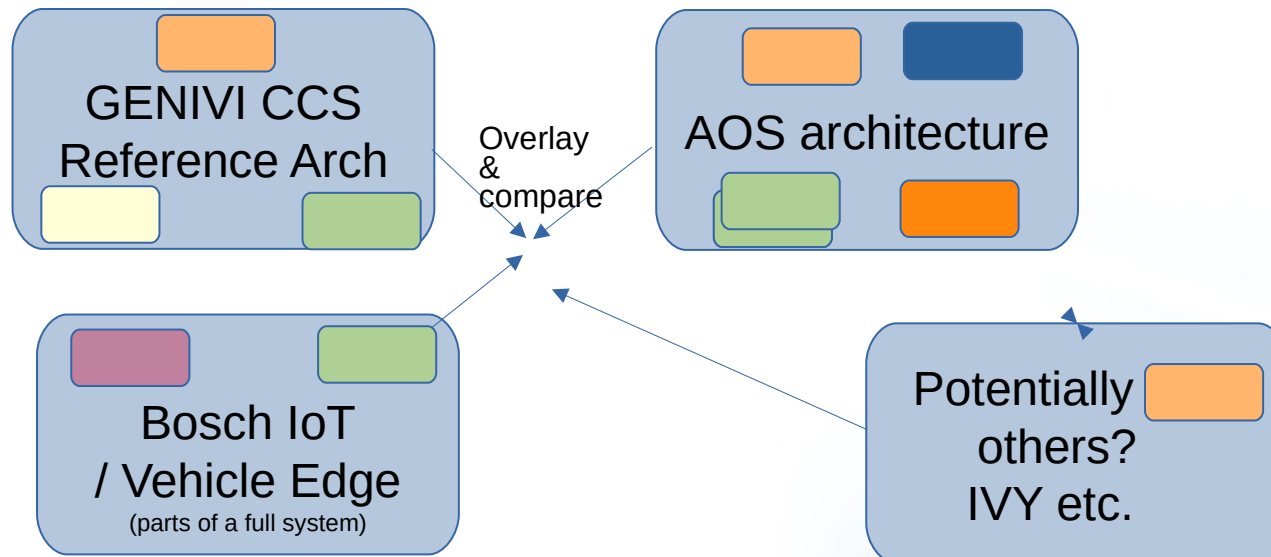


How to select components for common development?

1. Define the “full stack” architecture picture together
2. Define the desired features/functions (requirements)
3. Search for existing solutions and start gap-filling on the rest.

In parallel:

“Overlay” existing *full system projects* to find similarities.



Imagine placing several architecture / design pictures visually “on top of each other”.

Which are the common components?

Which are alternative implementations of the same feature?

Which parts do companies want to develop in collaboration and are there any parts they want to do on their own (non-shared)

Technology Stack – initial step. Understand what we have today



Before converging on single/few full-system solutions the solutions must be built in the first place.

Simplify the possibility for collaborative groups, and individual companies to build solutions:

- Work on clarifying availability of Software Components.
- Document software components features and specific interfaces
 - This explains how they may be (re)used in existing full-system activities
 - Promote reuse of those components in new constellations
 - helps to identify where new, or improved, components are required

Then, as complete systems start to appear, the similarity of the software components will lead to less fragmented systems as well.

Example activity:

[Analysis and detailed explanation of Bosch IoT-event-analytics and VehicleEdge](#)

Discussion and notes capture



Thank you!

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