SEEING AROUND THE CORNER

SDV IN THE YEAR 2040

October 11, 2023
Selection of companies I have worked or am working with:

- Motorola
- Ford
- DISCOVER
- ELFA
- GPC
- amdocs
- NISSAN GROUP OF THE AMERICAS
- The Linux Foundation
- SPDX
- Dell
- AAA
- SEMA
- Panasonic
- Blackboard
- Epicor
- SAE
- SCRS
- Arc
- TEDx
- SafeLITE AutoGlass
- International
- National Association of Convenience Stores
- Beasley Media Group, LLC
- Freudenberg
- Tire Pros
- Cox Media Group
- syniverse
- Maas Alert
- Safety Cloud
- Movement.ai
“Why software is eating the world”
– Marc Andreesen

Evolution of Software Defined “things”

SD Radio
- Work started in 1970’s
- "SDR” coined in 1995 by Stephen Blust

SD Network
- Work started in 2007
- "SDN” coined in 2009 by Kate Greene

SD Vehicle
- Work started in mid 2000s as SW Defined Car
- "SDV” introduced in 2020 by Marek Neumann
Are you sure you want to push the limits? This will cause accelerated wear of the motor, gearbox and battery.

No, I want my Mommy

Yes, bring it on!
Only the paranoid survive.

Andy Grove
It's tough to make predictions, especially about the future.

Yogi Berra
Agreement

Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations

(Revision 3, including the amendments which entered into force on 14 September 2017)

Addendum 154 – UN Regulation No. 155

Date of entry into force as an annex to the 1958 Agreement: 22 January 2021

Uniform provisions concerning the approval of vehicles with regards to cyber security and cyber security management system
UN Regulation No. 155

Uniform provisions concerning the approval of vehicles with regards to cyber security and cyber security management system

In force as of January 22, 2021.

Applicable to vehicles from July 1, 2024 onward.
7.2.2.1. The vehicle manufacturer shall demonstrate to an Approval Authority or Technical Service that their Cyber Security Management System applies to the following phases:

(a) Development phase;
(b) Production phase;
(c) Post-production phase.
2.7. "Post-production phase" refers to the period in which a vehicle type is no longer produced until the end-of-life of all vehicles under the vehicle type. Vehicles incorporating a specific vehicle type will be operational during this phase but will no longer be produced. The phase ends when there are no longer any operational vehicles of a specific vehicle type.
What does this mean in practical terms?

1-3 yrs ➔ Development

3-5 yrs ➔ Production

15+ yrs ➔ Post-Production

20+ Years of SW Updates!!
Automotive Powerhouses and Parties to the UN 1958 Agreement
Automotive Tier 1 Model Must Change

Tier 1
Delivers the entirety of an ECU (HW, BSP, SW), Warranty

Tier 1 HW
Delivers only the ECU HW (including BSP)*

Tier 1 SW Job 1
Integrates and delivers all SW to target ECU HW up to Job 1

Tier 1 SW 20+
Delivers SW updates (fixes, mainline for OSS, new stuff) through lifetime
Questions to Ponder (in no particular order)

1. Do we have model years in 2040?

2. Do your supplier contracts contemplate SW updates for 20+ years?

3. Does your financial structure contemplate SW updates for 20+ years?

4. Have you reorganized yet to be a SW company (Conway’s Law)?

5. Have you changed your revenue recognition approach?
Software is the magic thing whose importance only goes up over time.

Bill Gates
“Any company that was set for success in the last century ... ...is doomed for failure in this century.”

David Rose
“THE BEST WAY TO PREDICT THE FUTURE IS TO CREATE IT.”