



SOAFEE Seminar Shanghai

Opening Remarks

Suraj Gajendra, VP Automotive Products, Arm
SOAFEE Governing Body Chair



Welcome from the SOAFEE Governing Body

5th APAC SOAFEE Seminar



2025 Achievements

- SOAFEE.next completed
 - Bringing new development environments and reference implementations
- Many new SOAFEE Blueprints
 - Showcasing SOAFEE in action
- Increased collaboration
 - APAC regional Hub
 - Working towards standardized interfaces
- Increased membership
 - New APAC OEMs joined in 2025



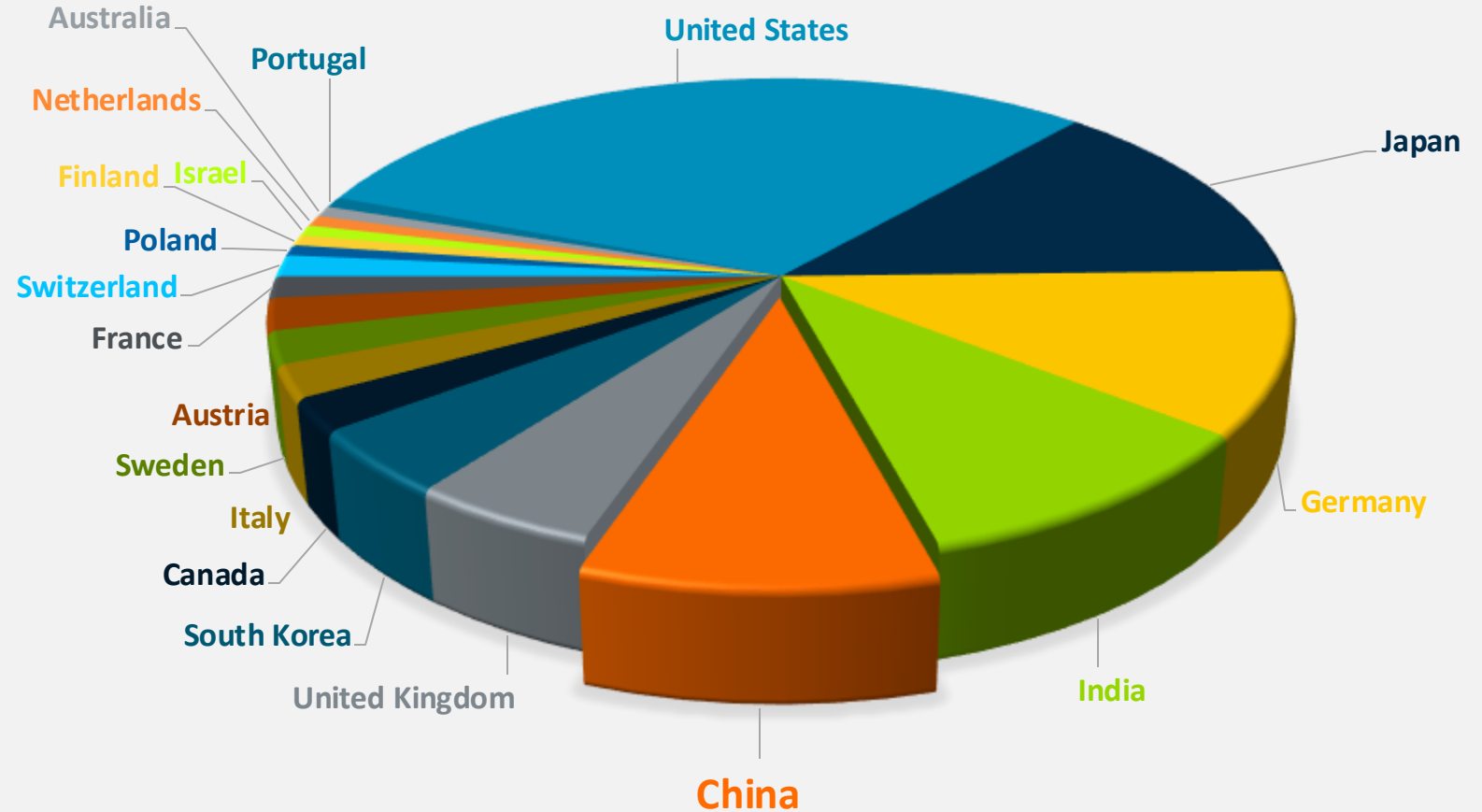
SOAFEE 4th Anniversary – September 2025

SOAFEE is growing internationally

Over 150 members across the globe

Membership by geographic region :

- APAC - 38%
- Americas – 33%
- Europe – 29%



SOAFEE in Action

SOAFEE collaboration is driving the SDV forward

SOAFEE Blueprints

- SOAFEE Blueprints are the way to showcase SOAFEE methodologies and technologies
- Used as a mechanism to advance SOAFEE and its goals going forward
- Available to both SOAFEE members and external users
 - Collaboration is key
- Blueprint examples are on show at the Seminar

APAC Hub

- Formed in 2024, APAC Hub is a dynamic forum for APAC SOAFEE members to communicate and collaborate
- Liaise closely with, and influence, the SOAFEE corporate entities
- For more information, please speak to Jerry Zhao

Standardized Interfaces

- Blueprints and APAC Hub are contributing to the next chapter of SOAFEE – **utilizing standardized interfaces for both run-time and development stacks**
- This leads to portability of software for ease of development and deployment of the SDV
- More details from TSC update



SOAFEE Seminar Shanghai

SOAFEE Updates

Robert Day – MSC Chair

John Penn – TSC Chair

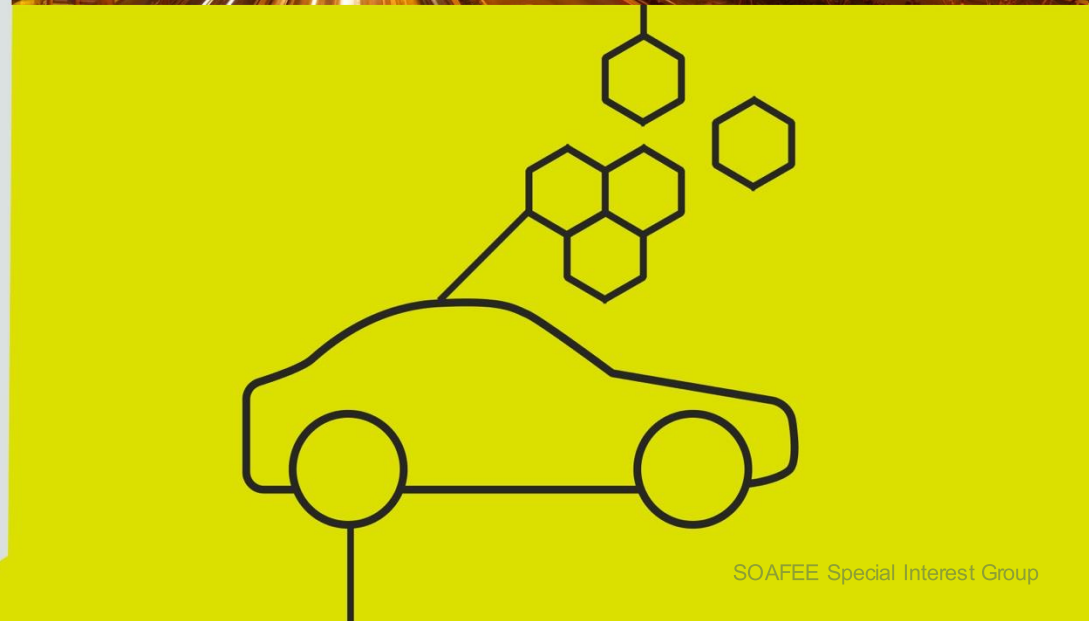
Jerry Zhao – APAC Hub Chair



MSC Update

Shanghai Seminar

Robert Day, MSC Chair
12 November 2025



Welcome to the 5th APAC SOAFEE Seminar

Over 500 face to face attendees and 66 presentations

September 2023 - Tokyo



September 2024 - Seoul



November 2025 - Shanghai



May 2024 - Shanghai



May 2025 - Tokyo

SOAFEE Blueprints

SOAFEE community contributions to forward the SOAFEE initiative

What is a SOAFEE Blueprint?

- Member-delivered OSS or commercial building blocks that demonstrate SOAFEE in action.
- Showcase or validate SOAFEE standardized interfaces across the automotive software stack.
- Can leverage collaboration between multiple members and other industry alliances (e.g., AUTOSAR, COVESA, Eclipse SDV).
- Validated through SOAFEE's Technical Steering Committee and promoted as real examples of industry collaboration.
- SOAFEE will work with existing standards bodies to share real-world feedback and technical contributions.

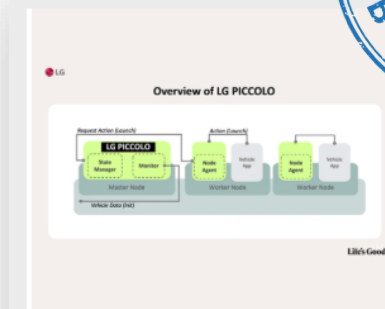
Recent SOAFEE Blueprints



VicOne: Boosting Efficiency and Reducing Cloud Costs Through...



SOAFEE Blueprint: AosEdge -



Innovative Collaboration Between LG Electronics and SOAFEE...

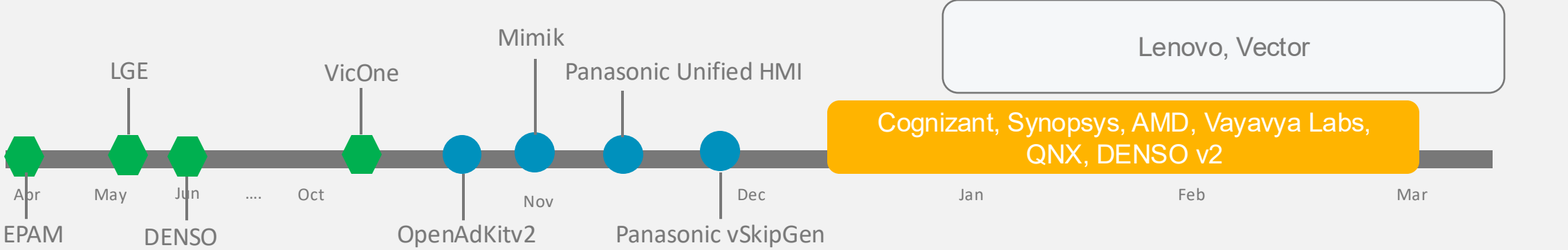


SOAFEE Blueprint: DENSO develops deterministic...



For blueprint demonstrations visit: <https://www.soafee.io/soafee-in-action/>

SOAFEE in Action — Blueprint Roadmap



-  Published
-  Committed release
-  Date being finalized
-  Committed pipeline

SOAFEE - marketing in action

SOAFEE Blueprints

- Online SOAFEE Blueprint editorial series

Embedded
COMPUTING DESIGN

SOAFEE Blueprints Show Path to Future of Automotive

By Ken Briodagh
Editor in Chief
EMBEDDED COMPUTING DESIGN

October 16, 2025

STORY

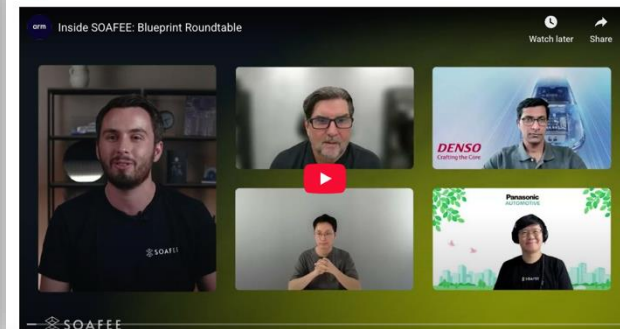
In a recent fireside chat, I sat down with Robert Day, SOAFEE's Marketing Steering Committee Chair, and John Penn, SOAFEE's Technical Steering Committee Chair, to talk about their Blueprints program and Software Defined Vehicles (SDV).



SOAFEE Roundtable Introduces Blueprints for Automotive Innovation

October 29, 2025

VIDEO



- New Blueprints
 - Collection and submission
 - Publication
- Blueprint demos at major events

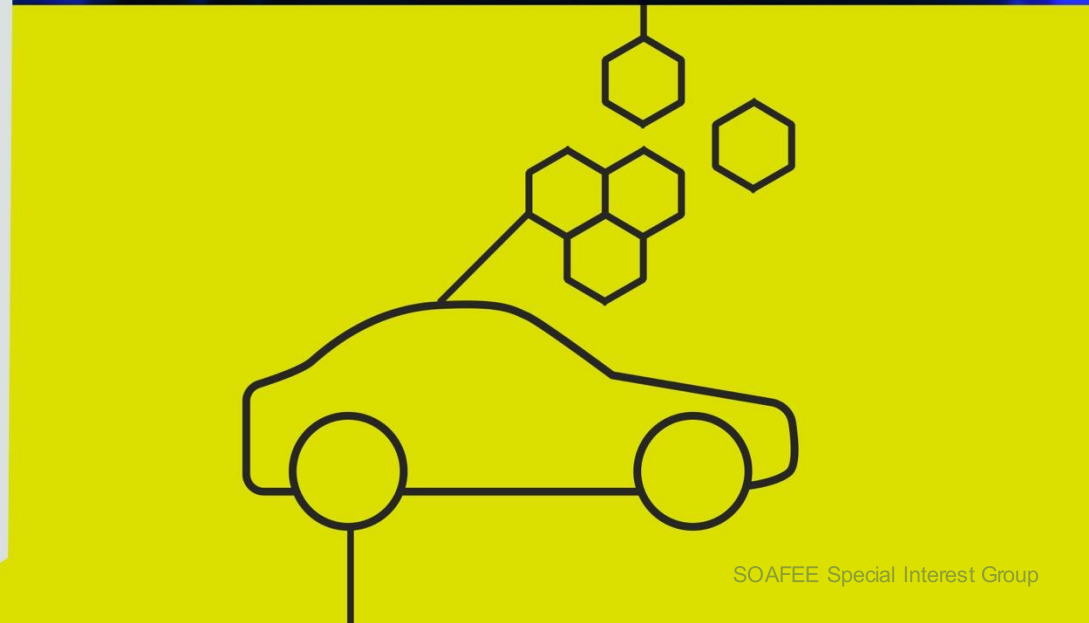
Outbound Marketing

- Member Newsletter (starting November 2025)
- SOAFEE 4th Anniversary blog (Dec 2025)
- Upcoming events
 - Q4 2025 – EdgeTech, Tokyo
 - Q1 2026 - CES, Embedded World, ACC Detroit
- New messaging
- Website and LinkedIn
- Working with other consortia
 - Autoware Foundation
 - AUTOSAR JG
 - Eclipse SDV and S-CORE
 - Regional alliances
 - Open SDV , JASPAR

TSC Update

Shanghai Seminar

John Penn, TSC Chair
12 November 2025





Driving Software That Moves

SOAFEE is a collaborative software group that brings together proven methodologies with standardized interfaces and deployable open-source and commercial Blueprints.

This enables automotive software developers to deliver portable, software-defined solutions across vehicle platforms.

SOAFEE Philosophy

From cloud-native technologies to SDV development and deployment

The beginning



Prove that Cloud Native technologies have a place in Automotive

- Containers (OCI Compliant)
- Orchestrators
- Hypervisors

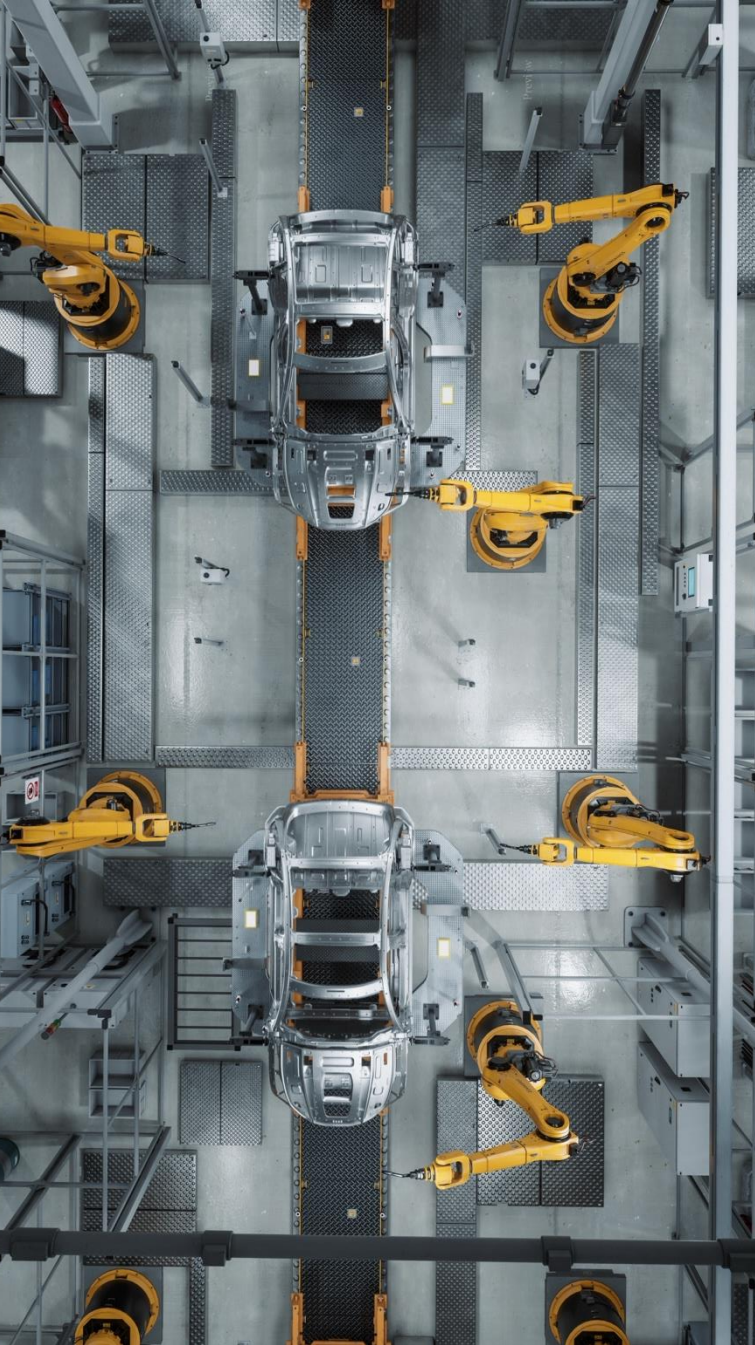
Building the SDV Today



Members Delivering End-to-End Software Solutions for Automotive

- **AI – Workload scheduling**
- Heterogenous & Mixed Criticality
- Data Traffic Determinism (TSN)
- AI - Functional Safety & Security
- **Standard Interfaces for Automotive HW**
- Secure Over-The-Air Update
- Car to Cloud Telemetry Standards
- Multi-Tenant code repositories
- Multi-Project/Company CI

Software Portability and Hardware Abstraction



From Blueprints to Standardized Interfaces

Standardized Interfaces

How SOAFEE is delivering

Message from Industry was clear:

- Focus on what is currently in use – don't start with a "standards discussion"

SOAFEE Members are working throughout the technology stack

- Many interfaces are already mature
- Interface work is never done

Harnessing SOAFEE members expertise, technology and products

- Understand how SOAFEE members are utilizing current interfaces through blueprints



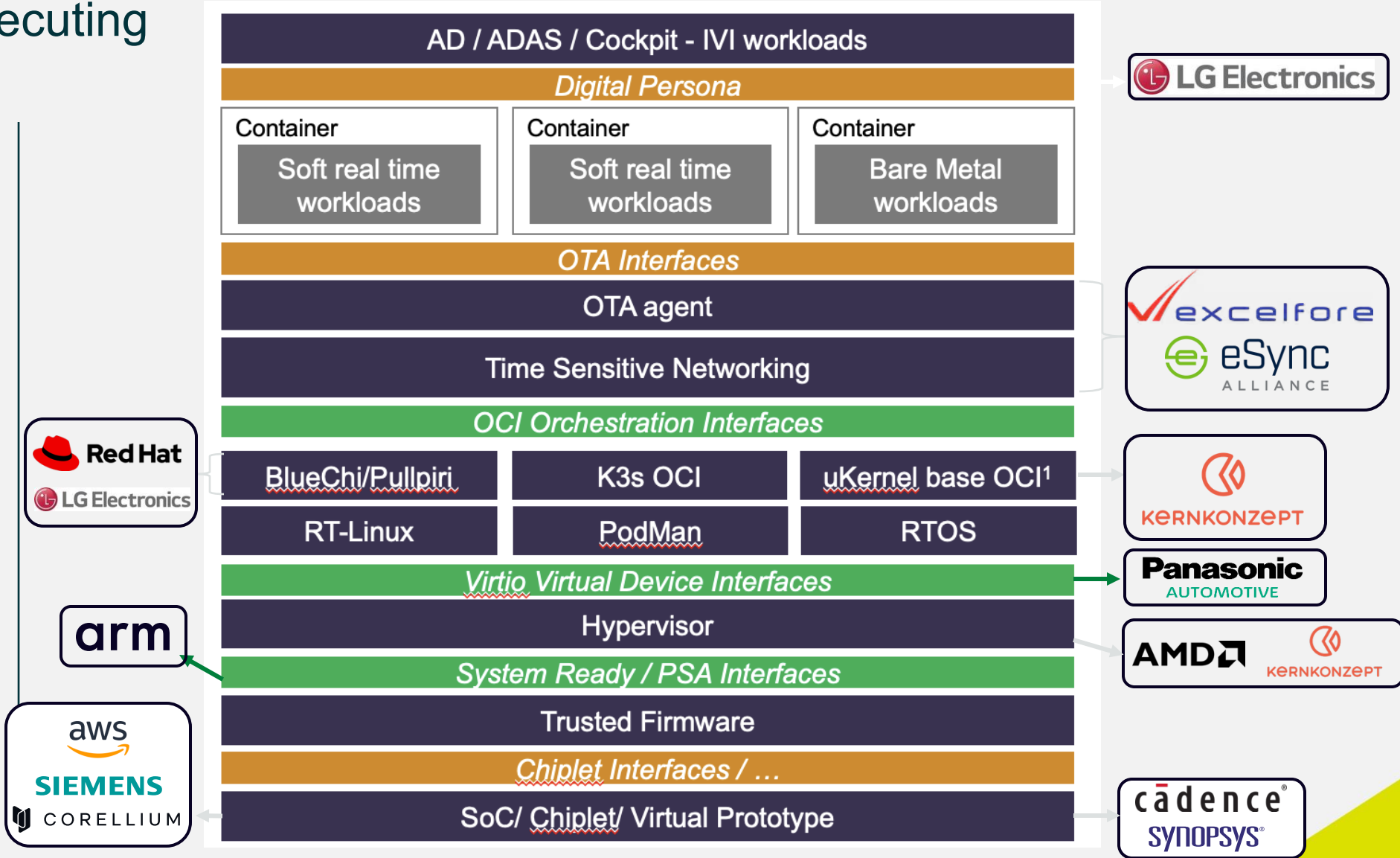
Standardized runtime stack interfaces

Existing Interfaces

Future Interfaces

What SOAFEE is Executing

- Reference Implementations available that follow the SOAFEE philosophy
- As a collaborative software group, SOAFEE:
 - Works with existing standards bodies to share real-world feedback and technical contributions
 - Validates and showcases standardized interfaces through deployable, member-driven (OSS & Commercial) SOAFEE Blueprints.

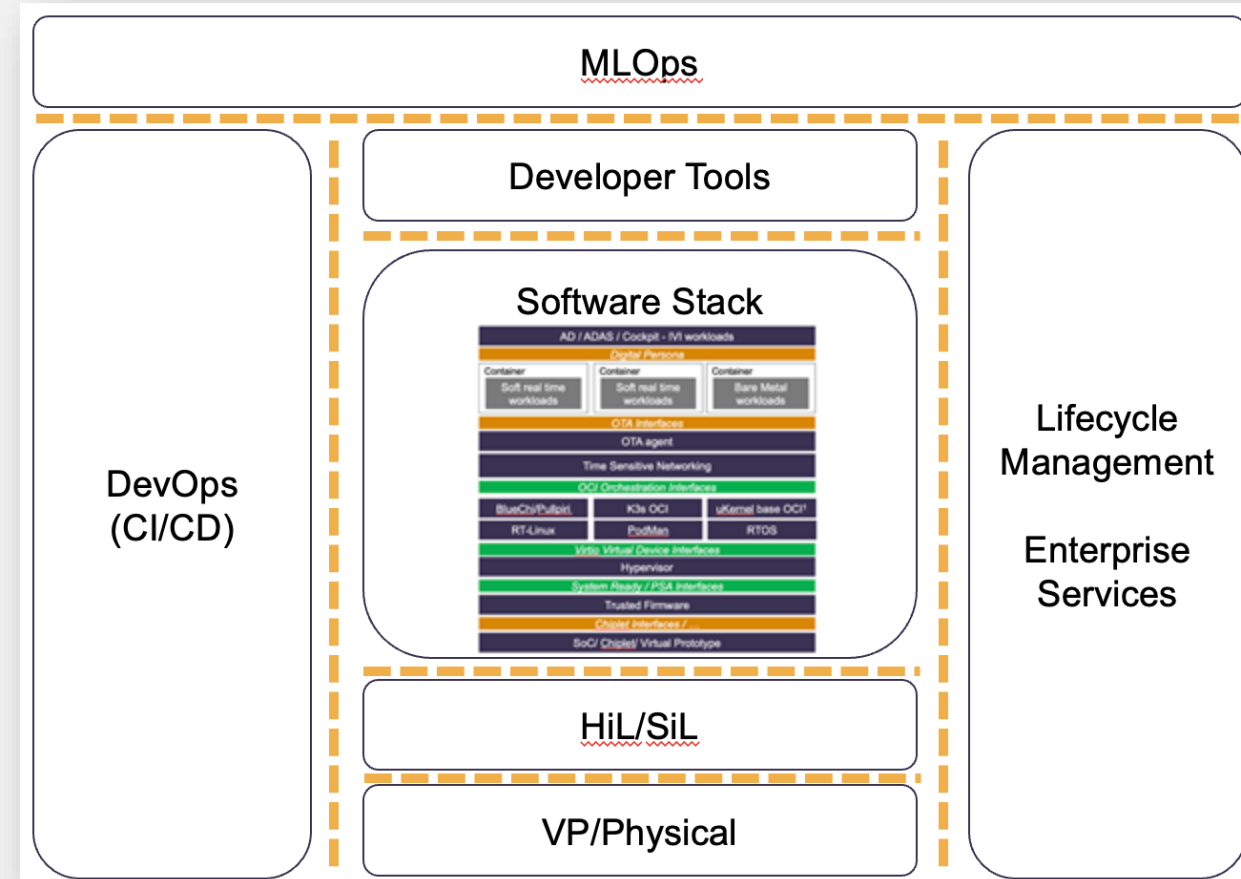


1. In planning

Standardized Development Stack Interfaces

What SOAFEE is Proposing

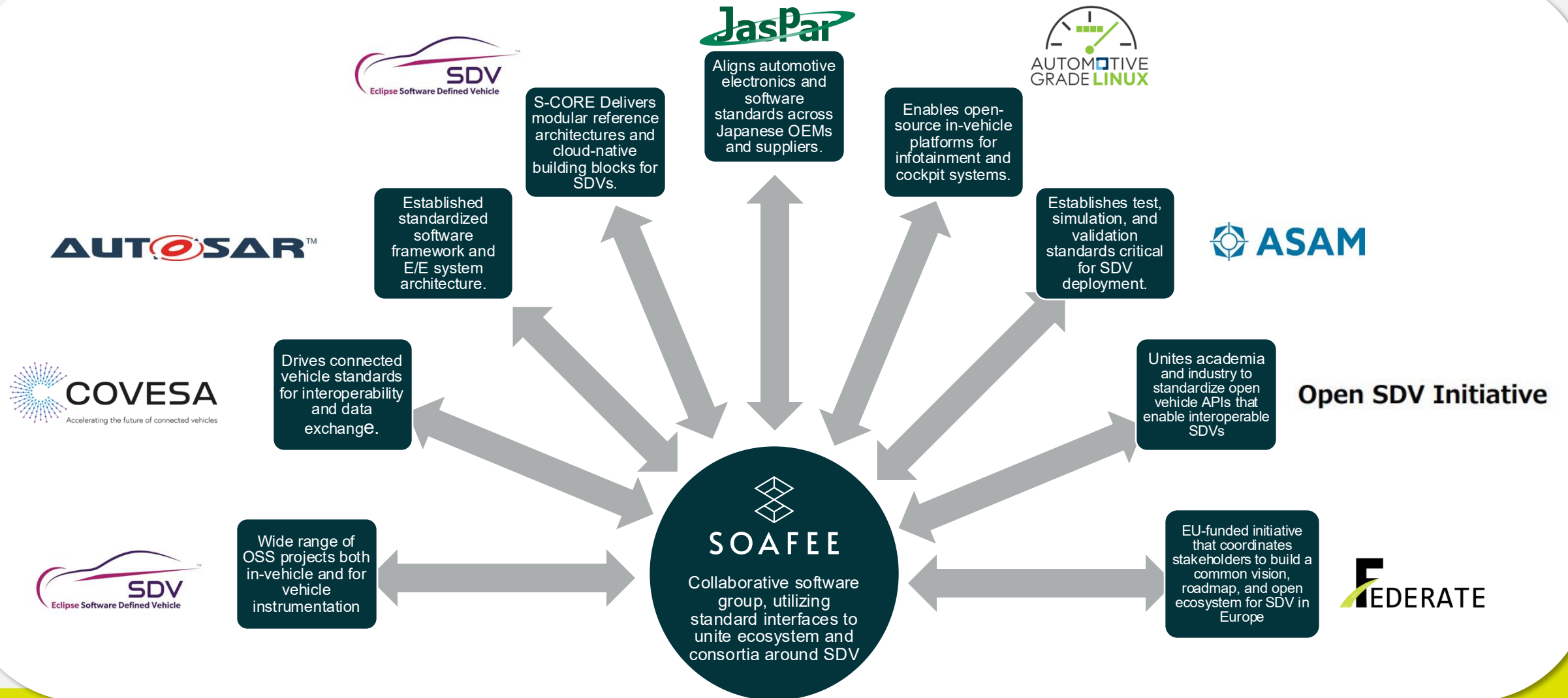
- SOAFEE and members propose consistent, standardized interface layers across the development stack
- Enables portable automotive software and accelerated development cloud to edge
- Brings modern and proven tooling to the automotive software developer
- Building the foundation for standardized AI tools and flows



----- Proposed SOAFEE Standardized Interface Topics

How SOAFEE fits into the consortium landscape

Collaboration extends to other initiatives



SOAFEE Members: Call to action!



Accelerate Standardization & Amplify Portability

- **Identify** the interfaces, your teams and products already use successfully
- **Share** real-world success stories and pain points through TSC or Hub discussions
- **Co-develop** candidate interfaces for validation in Blueprints
- **Demonstrate** interoperability/portability; validate with SOAFEE ecosystem **before taking to 'standards' groups**





Co-create Multi-Member Blueprints that Prove the Power of Collaboration.

- **Work together** across software, platforms, virtual platforms, and tools and more to deliver joint Blueprints that demonstrate real interoperability and portability- not just concepts.
- Examples like Open AD Kit, PICCOLO, and Unified HMI **show what's possible** when members combine expertise.
- Again, can be **OSS or commercial**
- Bring your technology and existing/new SOAFEE members together

How to Get Involved

Participating and Contributing to SOAFEE

- Learn (more) about SOAFEE
 - Browse documents section at soafee.io 
- Use the SOAFEE [slack channel](#)
- Download SOAFEE reference integration and implement it in your system
- Follow SOAFEE on [LinkedIn](#) 
- Consider joining SOAFEE SIG
- Contacts :

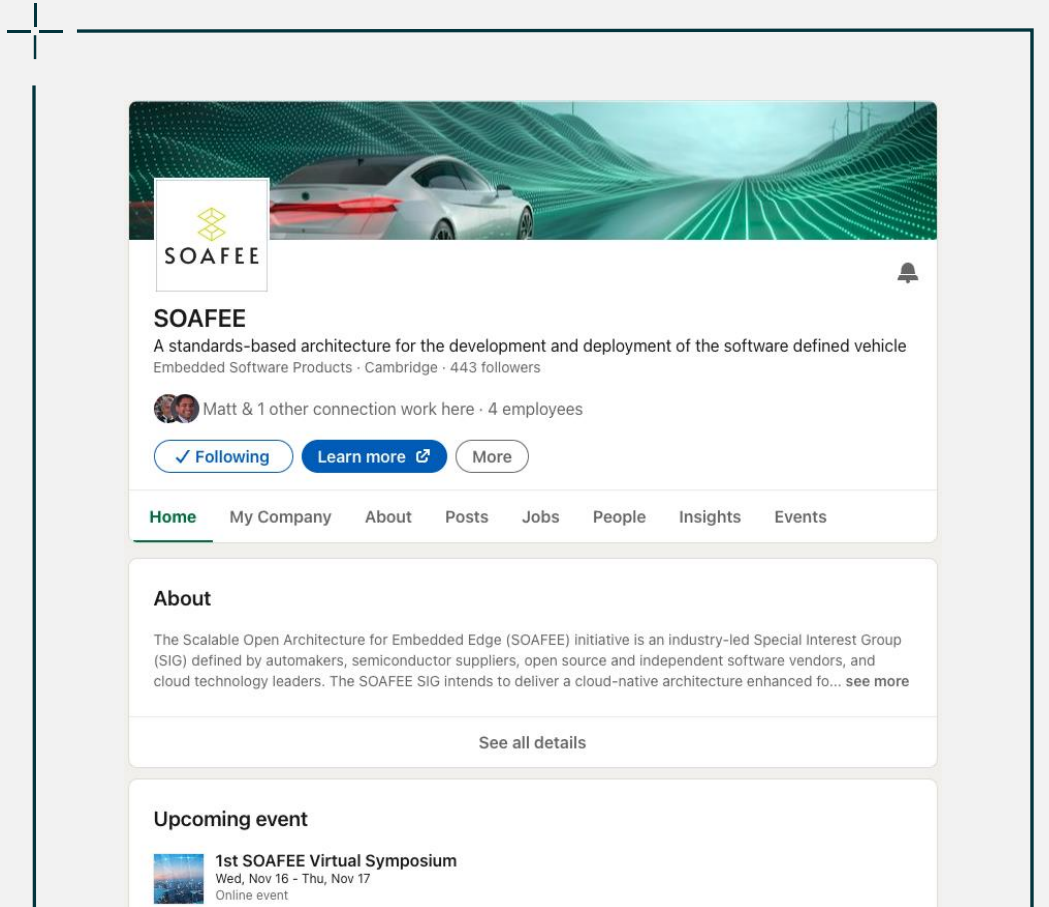
tobias.mcbride@arm.com
for more info on Blueprints &
becoming a SOAFEE member

Robert.day@arm.com
for more information on
SOAFEE marketing (MSC)

John.penn@arm.com
for more information on
SOAFEE technical (TSC)

Andrew.coombes@arm.com
for more information on
joining AUTOSAR JG-SOAFEE

chou.kensou@jp.panasonic.com (Jerry Zhao)
for more information on joining
SOAFEE APAC regional hub





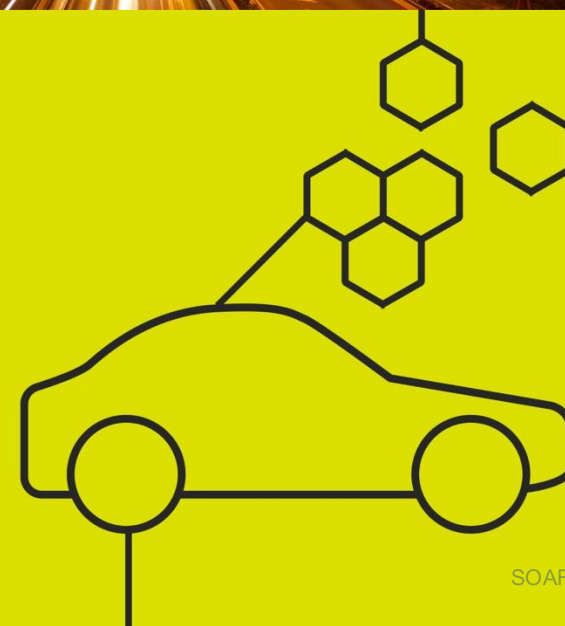
SOAFEE APAC Regional Hub

2025/11/12

Jerry Jiancong, Zhao

Leader of SOAFEE APAC
Regional Hub

Panasonic Automotive Systems
Co., Ltd. R&D Division,
Chief SDV Architect



Self Introduction



Jerry, Jiancong Zhao



Joined Panasonic since graduate in 2017 and now leading the overall standardization and advanced engineering activities of SDV-related virtualization



AGL SDV-EG Leader since 2020



(New) Leader of SOAFEE APAC Regional Hub, Member of SOAFEE Governing Body



Born: Tianjin, China

1993



University: Hong Kong

2012



Work: Yokohama, Japan

2017

Hobby:



Travel



Game



Talk

Background

Barriers for APAC Participants to join Current SOAFEE WG

SOAFEE has 40% APAC members, but



Time-zone Barrier:

- Most SOAFEE WG meetings are held in 3pm or 4pm UK time, which are the midnight in AP.



Language Barrier:

- Fast discussion pace and difficult technical words in English blocks APAC participants to join the meeting.



Cultural Barrier:

- When discussing, APAC members (especially East Asia) tends to be “polite” and “less aggressive”, which causes voices may be not heard.

Setting Regional Hubs could be a Solution



Time-zone:

- No overnight meetings anymore.



Language:

- Communication in the mother tongue or English in a reasonable speed.



Cultural Barrier:

- More organized and comfortable environment for expressing ideas.

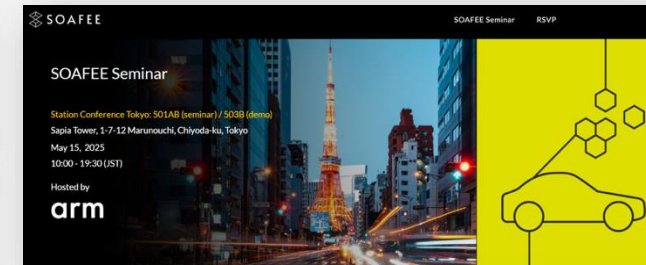
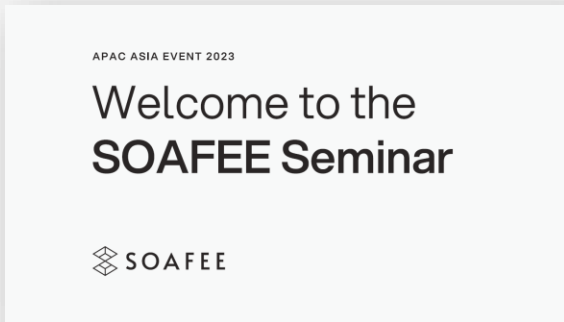
Pathway to SOAFEE APAC Regional Hub

1st SOAFEE APAC Seminar
@Tokyo, 2023.9

2nd APAC Seminar
@Shanghai, 2024.5

3rd APAC Seminar
@Seoul, 2024.9
→ Brainstorming Workshop
for Setting up Regional Hub

4th APAC Seminar
@Tokyo, 2025.5
→ Official launch of
SOAFEE APAC Regional Hub



Agenda

09:00-09:20	Opening
09:20-09:50	SOAFEE SIG update and future plans
09:50-10:00	Break
10:00-10:30	System design and verification for Mixed-Criticality Systems in SDV
10:30-11:00	Enabling a Software-Defined Automotive Edge with VirtIO based Device Virtualization
11:00-11:30	Internet of Vehicles Platform
11:30-12:30	Lunch
12:30-13:00	The Rise of Software-Defined Vehicles and Cloud-to-Vehicle Edge Parity
13:00-13:30	Introduction to Autoware Open AD Kit
13:30-13:40	Break

Agenda

Time	Agenda
10:00-10:10	Opening
10:10-10:40	SOAFEE SIG and APAC Regional Hub
10:40-11:10	SOAFEE NEXT Showcasing - Astemo's Virtual Platform aligned with SOAFEE and evolving towards SOAFEE NEXT
11:10-11:30	Break & Demo Visit
11:30-11:50	Voice of Car OEMs - Promotion of Open Source and Software Supply Chain Management in the SDV Era
11:50-12:10	Voice of Car OEMs - Architectural Innovation Driving SDV Evolution: GAC's Framework Achieving Core Objectives & Advancing SOAFEE Implementation
12:10-12:30	Voice of Car OEMs - Virtual Platform for "Chip to Factory"
12:30-13:30	Lunch & Demos Visit
13:30-13:40	Deterministic SDV Overview
13:40-14:20	Deterministic SDV - Who is Responsible for the Deterministic System?
14:20-15:00	Deterministic SDV - The Curse of Zonal Architecture
15:00-15:40	Deterministic SDV - Deterministic middleware for cloud native development
15:40-15:55	Break & Demos Visit
15:55-16:00	SOAFEE Blueprints: Making the SDV's a Reality
16:00-16:30	Blueprints - Decoupling Cockpit Software and Hardware - Introduction of vSkigden and Unified HMI
16:30-17:00	Blueprints - AesEdge to enable Scalable Deployment & Mixed Critical Orchestration for Virtual and Real
17:00-17:30	Blueprints - LG PICCOLO on EXAMOR, And Next of LG PICCOLO
17:30-18:00	Blueprints - SOAFEE NEXT CYCD with CC, SOAFEE IntegrationLab to test Blueprints
18:00-18:05	Closing
18:05-19:30	Networking with drink & food

- Kickoff preparation & Trial operation with a biweekly call since last Nov.
- 20+ SOAFEE members, 10+ Companies actively joining discussions

Activities

Objective of Regional Hub

Goal: Solve OEM Challenges in Common towards SDV Shift

Five A“ct”

1. **Collect:** Create a platform for unite APAC voices towards SDV
 - a. Address worldwide problems that APAC OEMs are also facing and specific APAC OEMs problems
 - b. Analyze and Commonize to form a consensus towards common problem statements
2. **Enact:** Make standards and reference implementation suitable for APAC needs
3. **Interact:** Play a role of bridge between APAC and World
4. **Connect:** Enhance Collaboration with other APAC OSS/Standardization Organizations
5. **Impact:** Make impact on the region and contribute outcome to the SOAFEE SIG (world)



Cycling at each
APAC Seminar

SOAFEE APAC Regional Hub Topics

SOAFEE: “Working together to build open-source architecture for software-defined vehicles. Together we have one single goal - to create a shared platform for vehicles using **cloud-native architecture** that accommodates multiple hardware configurations. By making SOAFEE **hardware agnostic**, we plan to **simplify vehicle software solutions radically.**”

<https://www.soafee.io/>

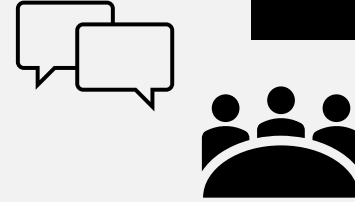
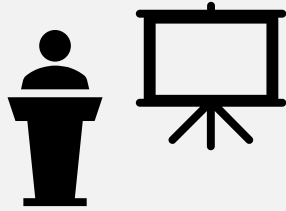
Bottom-up Approach -> From existing SOAFEE direction. Collecting member company SOAFEE blueprints.

- **Abstraction:** To abstract and decouple software from hardware -> Hardware agnostic
 - e.g. VirtIO, Unified HMI
- **Containerization:** To establish simple architecture for microservices and enable migration between cloud and automotive edge
 - e.g. Piccola, Lingua Franca, IOV
- **Cloudification:** To create cloud-native architecture to enable automotive software capable to be developed or executed in cloud environment
 - e.g. Virtual Hardware, Graviton, Virtual Prototyping, vSkipGen

**Top-down Approach -> New approach in Regional Hub. Listen to industry (especially OEMs) needs & voices
-> SOAFEE APAC Seminar & Workshop arranged**

SOAFEE Tokyo Seminar 2025 - Summary

May 2025

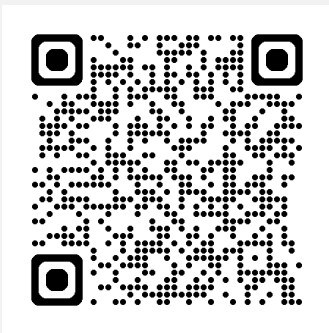


Seminar Highlights:

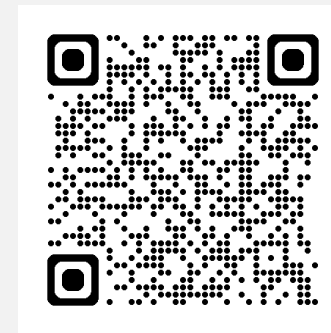
- Thoughts on Virtual Platform, Containerization from several OEMs
- Deterministic SDV
- Blueprint Sharing

Workshop Highlights:

- Pain & Gain of Virtual Platform
- Open Source and Software Supply Chain Management
- SDV Maturity Levels



[SOAFEE APAC Seminar Tokyo 2025 – Blueprints in Motion | Soafee.io](https://soafee.io)



[SOAFEE APAC Seminar Tokyo 2025 Summary - Launch of APAC Regional Hub | Soafee.io](https://soafee.io)

SOAFEE Shanghai Seminar 2025 - Summary

- Held on 2025/11/11 with around 50 industry leaders from OEM/Tier1/Tier2 and etc.
- Covered Topics:
 - Topic 1: Making Virtual ECUs SOP-Ready
 - Virtual ECUs enable shift-left, but real-world use faces challenges like accuracy, cost, and simulating analog/mixed components. Standardized interfaces and proven success stories are also crucial for progress.
 - Topic 2: Cross-Domain on One Compute: Can Containers Deliver?
 - Containerization is a promising strategy for managing complexity and integrating cross-domain software in vehicles, but production deployment faces technical and architectural challenges, such as performance overhead, safety, and selective use cases.
 - Topic 3: Vehicle AI in SOAFEE
 - Effective vehicle AI deployment requires prioritizing concrete use cases, balancing edge and cloud computing for cost, performance and safety.
 - Topic 4: Seeding SOAFEE Blueprint
 - Workshop member encouraged SOAFEE to continue interact and cooperate with other standardization consortium. Also, some members are interested in contributing their technology as SOAFEE blueprint

SOAFEE APAC Regional Hub Biweekly Meeting

- Bi-Weekly regular meeting at 10am – noon of CST.
 - APAC friendly time slot;-)
 - The next meeting is on Nov. 26
- Regular Topics
 - SOAFEE SIG Updates (TSC, MSC and other WGs)
 - Blueprint Sharing & Updates (If any)
- Timely Topics
 - SOAFEE APAC Seminar Follow-up Discussion for specific topics
- How to join?
 - Contact Jerry Zhao or Jerry Shu to add you into the invitation
 - Jerry Zhao <chou.kensou@jp.panasonic.com>
 - Jerry Shu Jerry.Shu@arm.com -> Especially for Chinese companies

Today's Seminar Topics



Thank You

Danke

Gracias

Grazie

谢谢

ありがとう

Asante

Merci

감사합니다

धन्यवाद

Kiitos

شكرًا

ধন্যবাদ

תודה

