



Evolving Models for IVI Programs

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GENIVI Technical Product Manager

Anders Lindbom, Volvo

Senior Manager, Strategy & Concepts for Driver Interaction and Infotainment

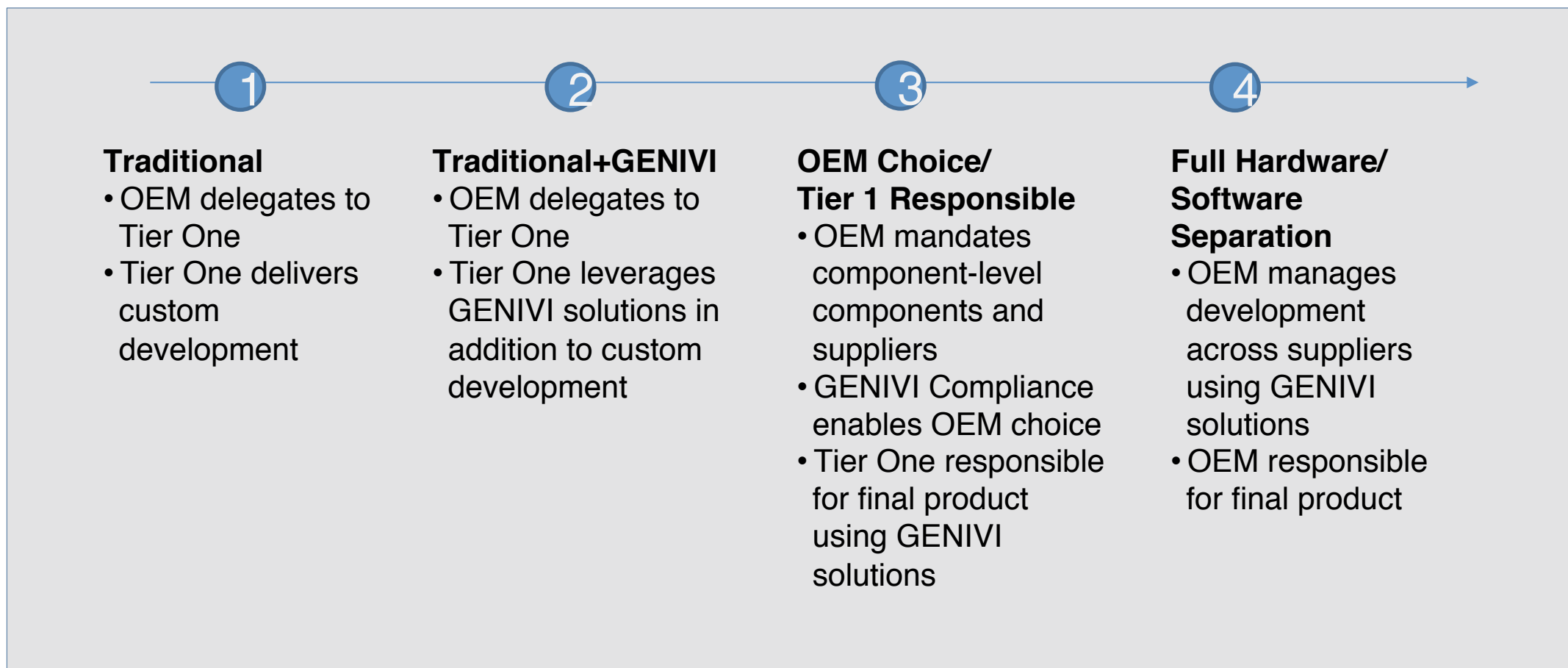
25 years of automotive experience in different roles and companies. Has been focusing the last three years to achieve a transformation from a requirement-based approach to a software-based approach to IVI.

Karl-Friedrich Rauterberg, Bosch

VP Engineering Software

More than 30 years experience in software business in telecom-, automation-, automotive- and industry sector. 9 years within Bosch, responsible for software platform development

Business Models



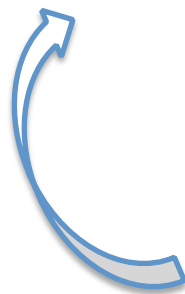
BMW Case Study

Business Goals

Create a new model for software delivery that:

- Reduces development cycle time and cost,
- Eliminates the need to recreate non-differentiating In-Vehicle Infotainment (IVI) features across multiple products,
- Leverages a shared open development model that spreads the burden of creating new and maintaining existing features across multiple organizations, and
- Opens transparent dialogs with suppliers and partners to create a more agile delivery method.

- Business model(s) experienced ?
- Business Goals ?
- Results and lessons learnt ?



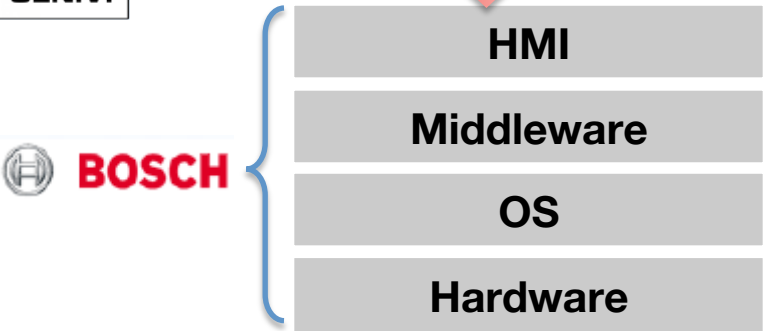
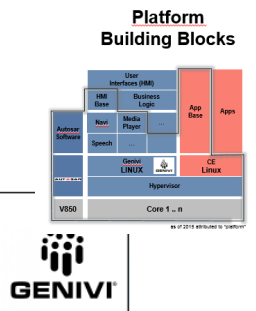
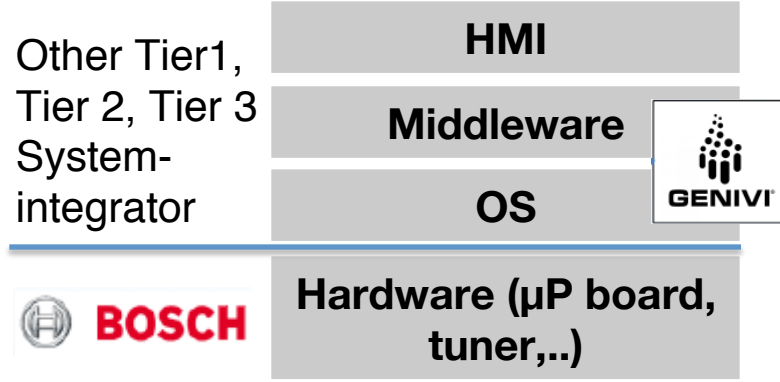
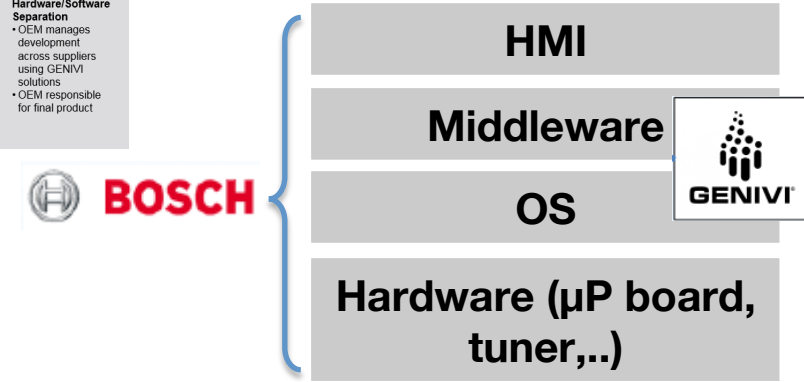
Bosch case study

New Approach for Volvo cars

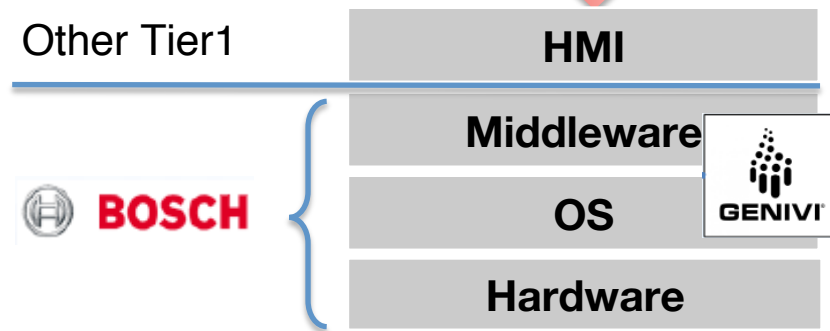


GENIVI usage within Bosch

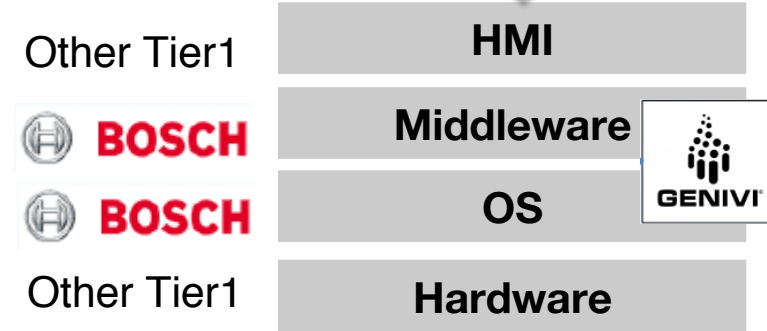
- 1 Traditional**
 - OEM delegates to Tier One
 - Tier One delivers custom development
- 2 Traditional+GENIVI**
 - OEM delegates to Tier One
 - Tier One leverages GENIVI solutions in addition to custom development
- 3 OEM Choice/ Tier 1 Responsible**
 - OEM mandates component-level components and suppliers
 - GENIVI Compliance enables OEM choice
 - Tier One responsible for final product using GENIVI solutions
- 4 Full Hardware/Software Separation**
 - OEM manages development across suppliers using GENIVI solutions
 - OEM responsible for final product



2 Several OE

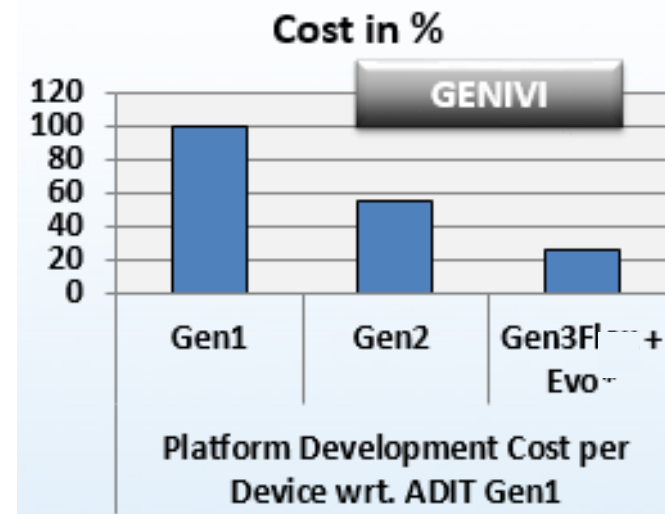
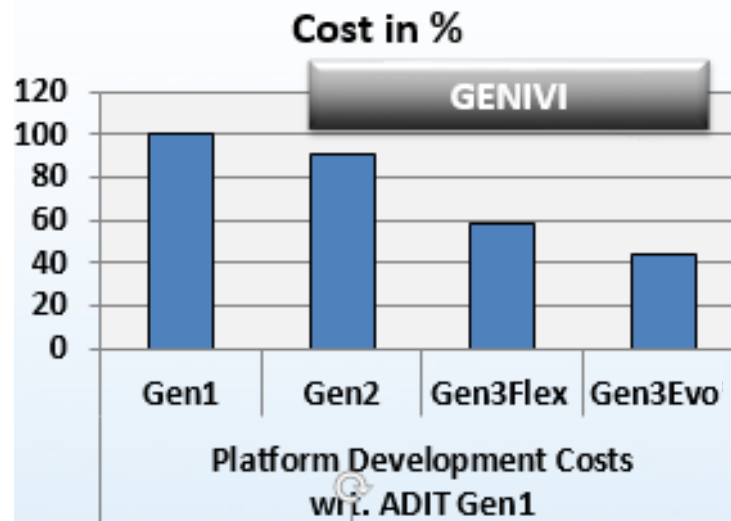
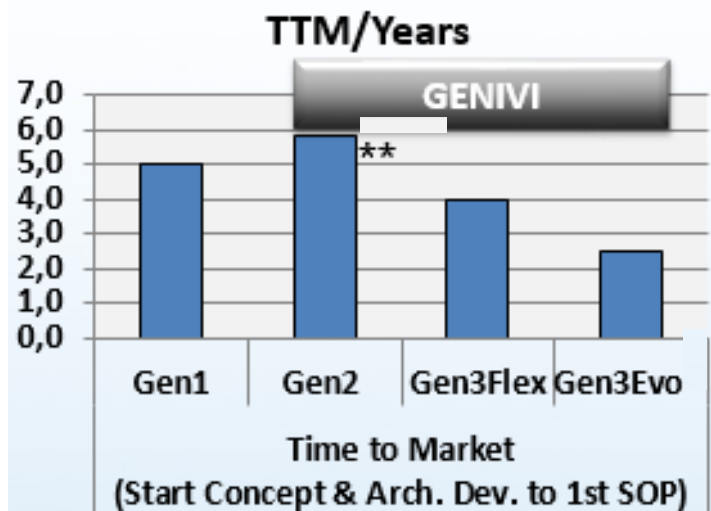


4 OE 4



4 OE 5

What you'll get out of it



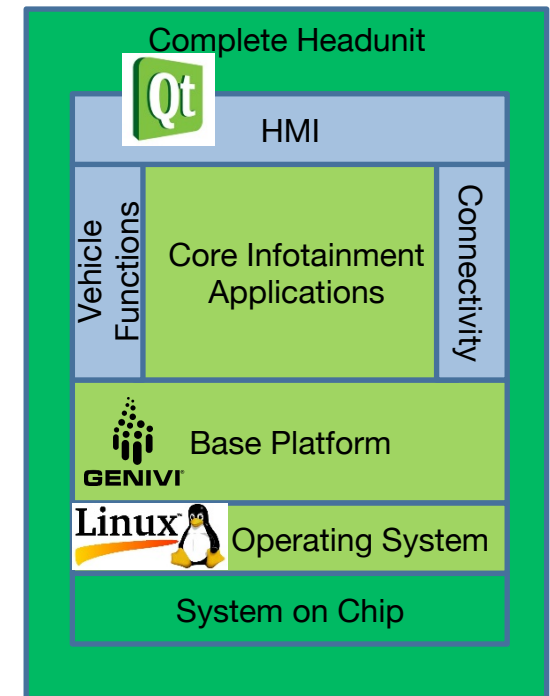
- ✓ Reduced time to market
- ✓ More feature development capacity
- ✓ Scalability (more projects)
- ✓ Flexibility
- ✓ Variants



Source: GENIVI AMM Stuttgart

New approach for Volvo Cars

- Full-scale project just started
- Crawl – Walk – Run approach
- Fairly traditional setup for the green parts
- Mixed local development of blue parts
- VCC heavily involved in architecture
- Transparency is key
- Agile approach where applicable
- Software BOM to clarify licensing and ownership
- In-house prototyping platform at VCC



Adoption of GENIVI Solutions



Labels: *Solutions deployed now / To be deployed in next two years*

- Market Trend ?
- How can GENIVI get faster adoption ?

Your Questions?

**Key success factors when adopting
a new business model ?**



Key Success Factors (Bosch)

- Use GENIVI technology
 - Get pre-developed mature SW components
- Use GENIVI eco system
 - Get competition in your supply chain
- Use GENIVI tools
 - Get state of the art SW engineering knowhow
- Manage your variants
 - Get reasonable life time cost