SESSION AGENDA

Hardware Product Development Lifecycle Workshop

From the master process chart to practical engineering activities

Explore a structured hardware development framework inspired by engineering practices associated with leading **German and Japanese** organizations. Discover 100+ interconnected activities across the product development lifecycle—from initial requirements to final production—and understand how process steps, deliverables, reviews, and teams connect.

SESSION FLOW | 75 MINUTES

00–30 min	**1. Master-Level Hardware Development Process Chart**	Explore 100+ activities in one connected view. Understand the development sequence, key checkpoints, dependencies, and often-overlooked activities that can affect quality, cost, and timelines.
30–60 min	**2. Stage-Wise Deep Dive into Individual Activities**	Explore selected activities through practical examples. Understand how Hardware, Firmware, Systems, Testing, Quality, Manufacturing, and Project teams coordinate through responsibilities, reviews, decisions, and approval gates.
60–75 min	**3. Q&A and Practical Discussion**	Discuss participant questions and how the framework can be applied to everyday engineering work.

A PRACTICAL ACTIVITY FRAMEWORK

INPUT / TASK → TOOL → OWNER → CRITICALITY → REVIEW → EVIDENCE → OUTPUT → APPROVAL

Understand what needs to be done, when, by whom, what evidence is required, and which deliverables or approvals are expected.

WORKSHOP OUTCOMES

Impact on Attendees

Build a clearer understanding of the full development process, the work expected at each stage, and the coordination needed to move activities forward.

01

Individual Skill Development

- Explore 100+ interconnected activities through the master process chart and detailed subprocess flowcharts.
- Discover critical activities and checkpoints that may be overlooked in routine hardware development.
- Understand what to do, when to do it, which documents to prepare, and what needs to happen next.

02

Organization-Level Process Awareness

- Understand how development activities are structured from requirements through production.
- Explore cross-functional responsibilities, dependencies, review frameworks, and approval workflows.
- Recognize how missing activities, unclear ownership, and skipped approvals can create engineering risks.

03

System-Level Understanding

- See how activities, deliverables, dependencies, reviews, and approvals connect across the lifecycle.
- Understand how individual tasks contribute to the complete product development process.

04

Better Engineering Execution

- Identify overlooked activities, missing inputs, documentation gaps, and approval needs earlier.
- Understand how skipped steps can contribute to PCB redesigns, firmware incompatibility, validation failures, and costly rework.
- Apply a structured, process-driven approach to support coordination, engineering quality, and development efficiency.

WORKSHOP DELIVERABLES

Takeaway Resources

MASTER PROCESS CHART	5 SUBPROCESS CHARTS
Industry-grade overview of the hardware development process.	Detailed views that help explain selected activities and workflows.

SEE THE BIG PICTURE. UNDERSTAND THE STEPS. FIND THE GAPS EARLIER.