

Paris Session 2022

HITACHI
Inspire the Next



The right model for the purpose

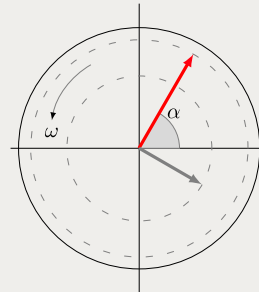
Study Committee B4
DC systems and power electronics
PS1 – Question 1

Erik Kilander, Sweden

What model and when?

- **Detailed RMS model**

- Project integration
- Maybe relevant for project feasibility
- Real code and performance

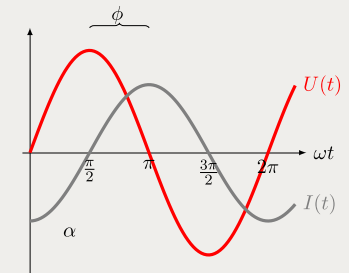


- **Generic RMS model**

- Project feasibility
- Simplified code and performance
- Project integration (if no other option)

- **Detailed EMT model**

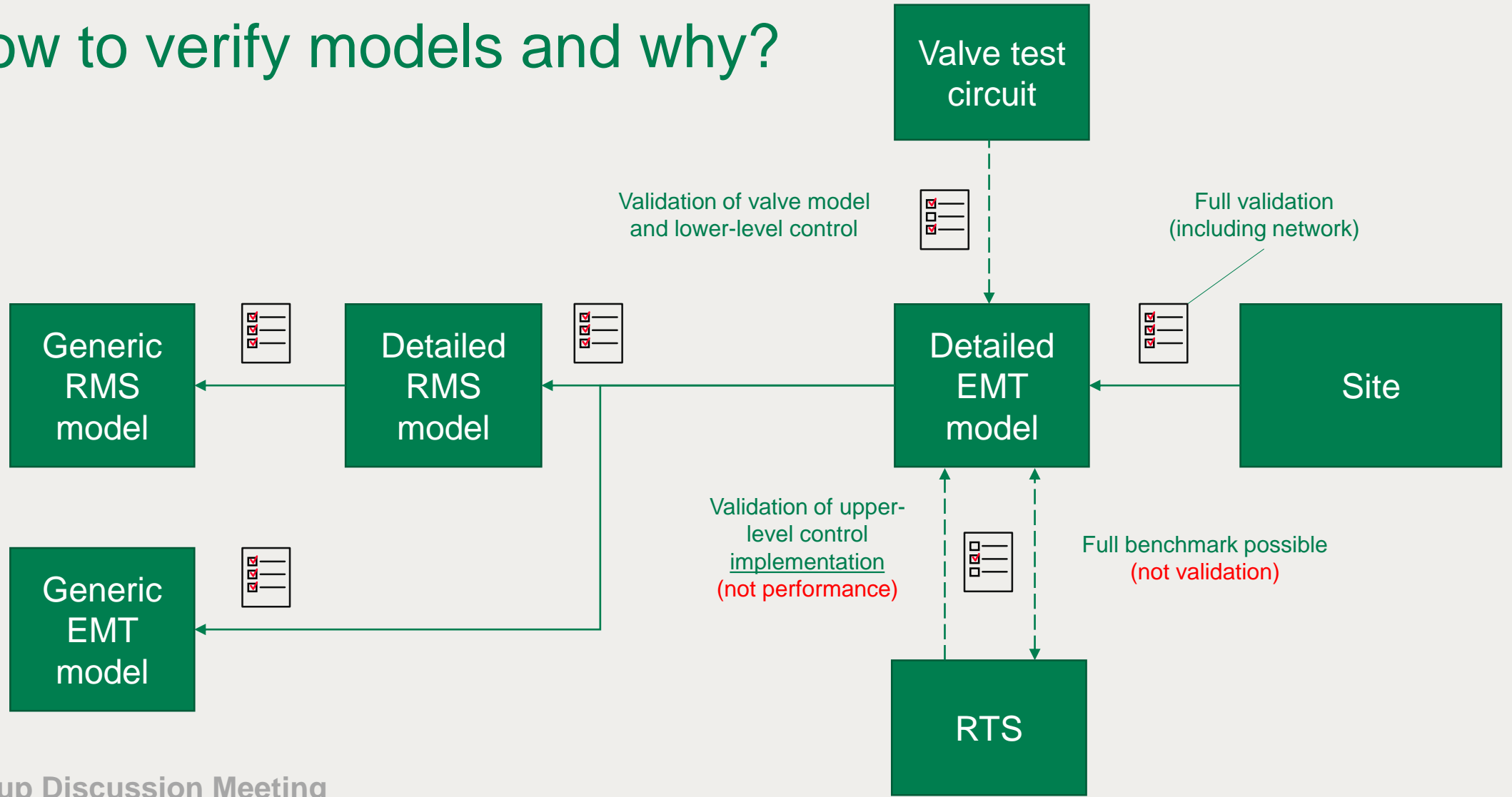
- Project integration
- Not relevant for project feasibility
- Real code and performance
- Hardware emulation
- Required when many IBRs



- **Generic EMT model**

- Project feasibility
- Simplified code and performance
- Project integration (if no other option)

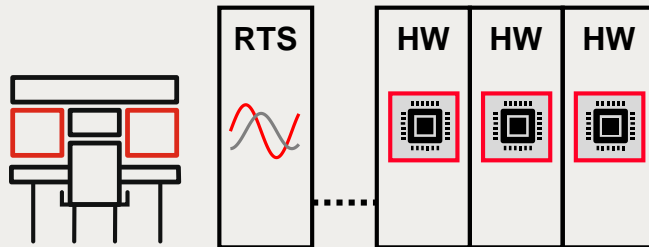
How to verify models and why?



Real-time or not real-time?

- **Online (real-time)**

- Requires RTS + HW
- Start in sequence
- Simulation speed dictates model design
- Scaling requires new HW
- Test in sequence



- **Use only for HW tests**

Group Discussion Meeting

- **Offline (not real-time)**

- Requires PC
- Start from snapshot
- Model design dictates simulation speed
- Scaling requires new SW
- Test in parallel



- **Use for all tests not requiring HW**