10SPE
automotive PHY
multidrop topology proposals

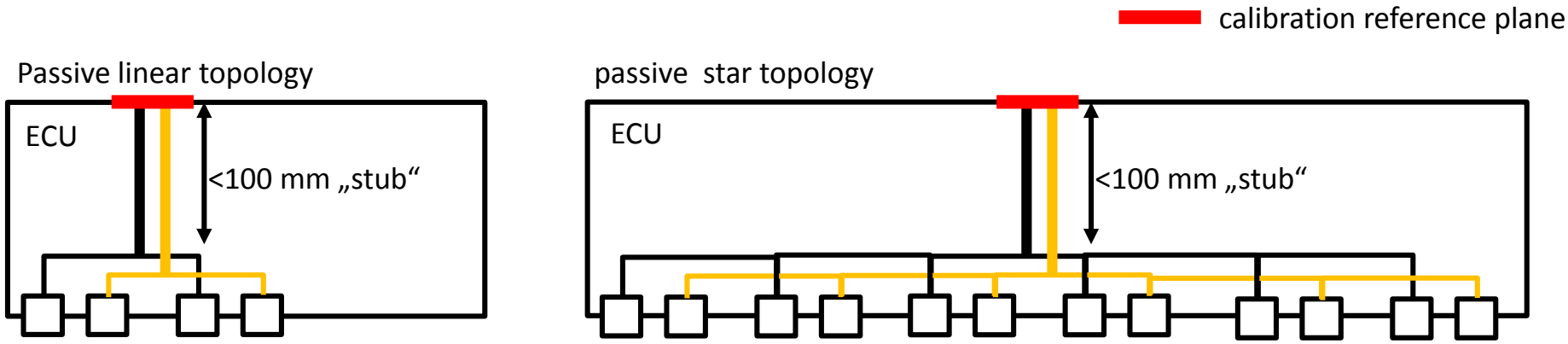
Stefan Buntz - Daimler AG

supporters

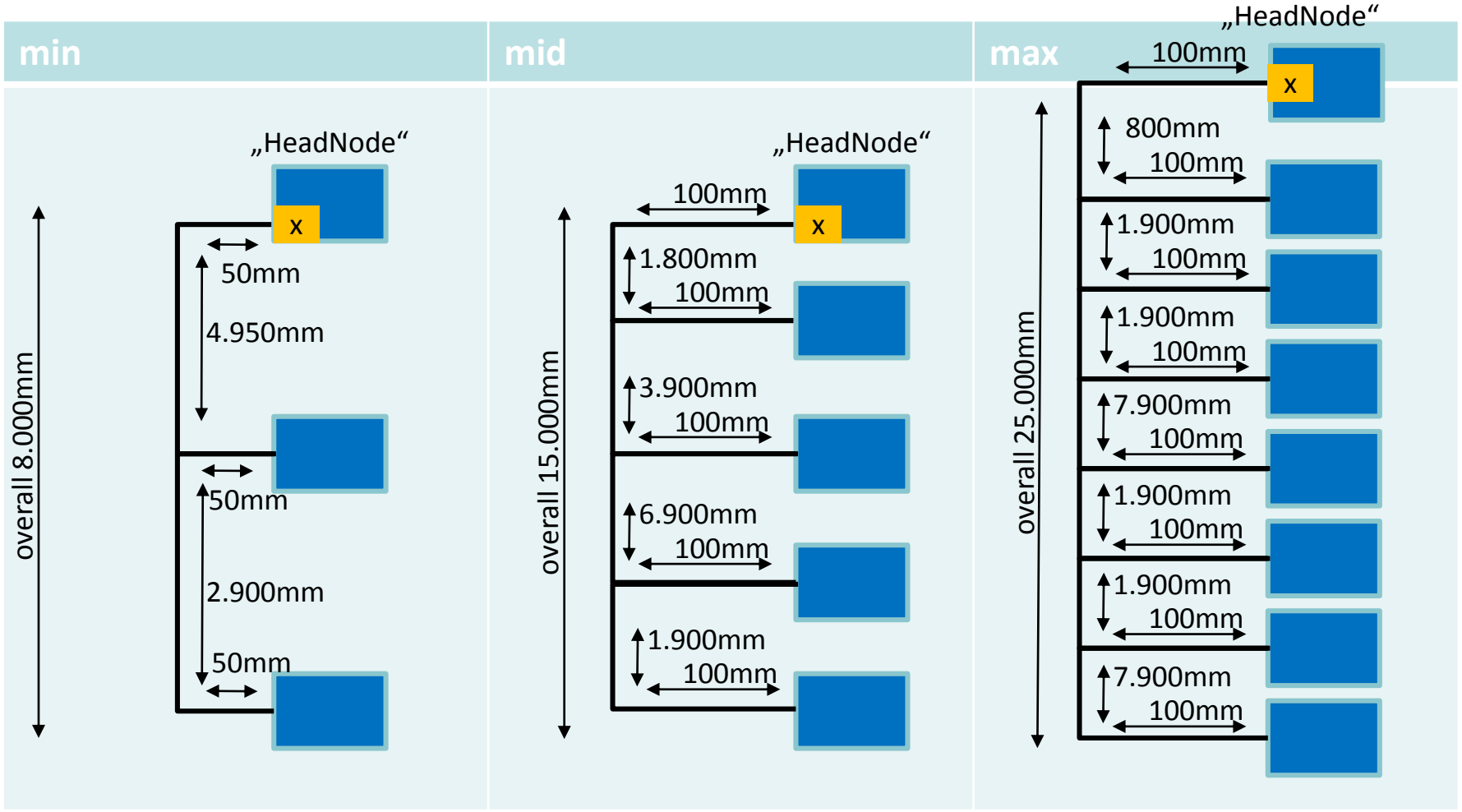
- Kirsten Matheus / BMW
- Helge Zinner / Continental
- Olaf Krieger / VW
- Christoph Wechsler / Audi

motivation

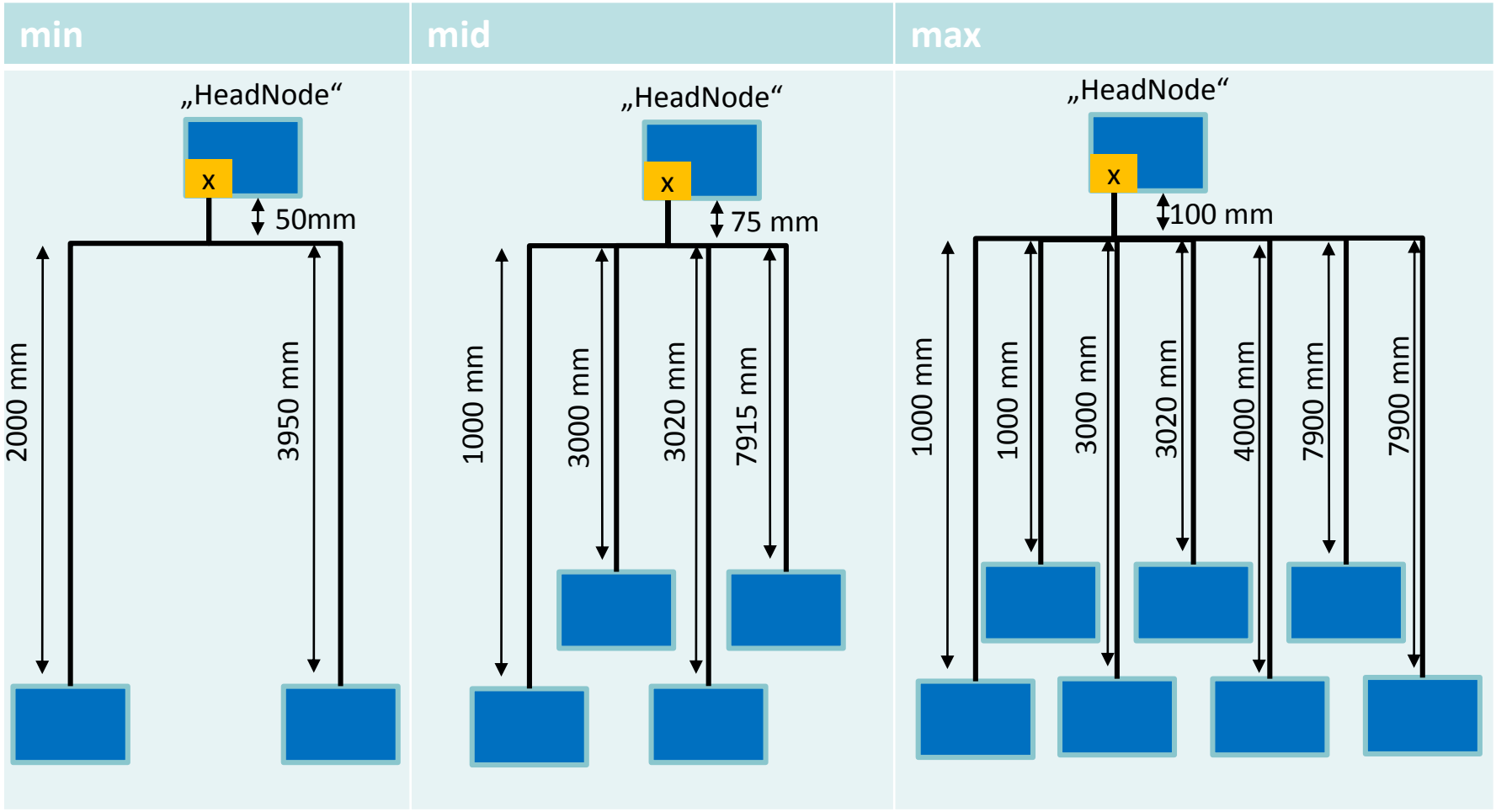
- propose some topologies to guide cable, connector and harness vendors for s-parameter measurements.
- Either double crimp, splice or „double header“ connector (4pins, 2IN/2OUT with 100mm stub on the measurement PCB) can be used for the „short stubs“ in the linear topology.
- Either splice or „multiple pin header“ connector (N*2pins, with 100mm stub on the measurement PCB) can be used for the „short stubs“ in the linear topology.



Passive linear topologies



Passive star topologies



Conclusion

- the presentation shows some exemplary multidrop topologies for 10SPE@15m.
- This is intended to give cable, connector and harness vendors a proposal for s-parameter measurement setups.
- Everyone is asked to provide input (s-parameter data) to the group, so semiconductor suppliers can simulate.
- For empirical evaluation (based on simulations or calculations) the identical lengths between nodes can be applied.
- Question on requirement of PoDL capability:
  From automotive perspective one of the potential applications is low data rate sensors, therefore PoDL could be an interesting option.
  Question: Would PoDL (as it is) be able to power multiple devices (head node is PSE, other nodes are PD)? Or would this lead to changes/additional effort for „multidrop PoDL“ compared with „P2P PoDL“
- Open discussion from ad-hoc: define min and max spacing between two nodes in a passive linear topologie: TBD