

Final Event
24-25th of May 2022

Key innovation PANDA: e-drive multi-level models



Powerful **A**dvanced **N**-Level **D**igital **A**rchitecture
for models of electrified vehicles and their components

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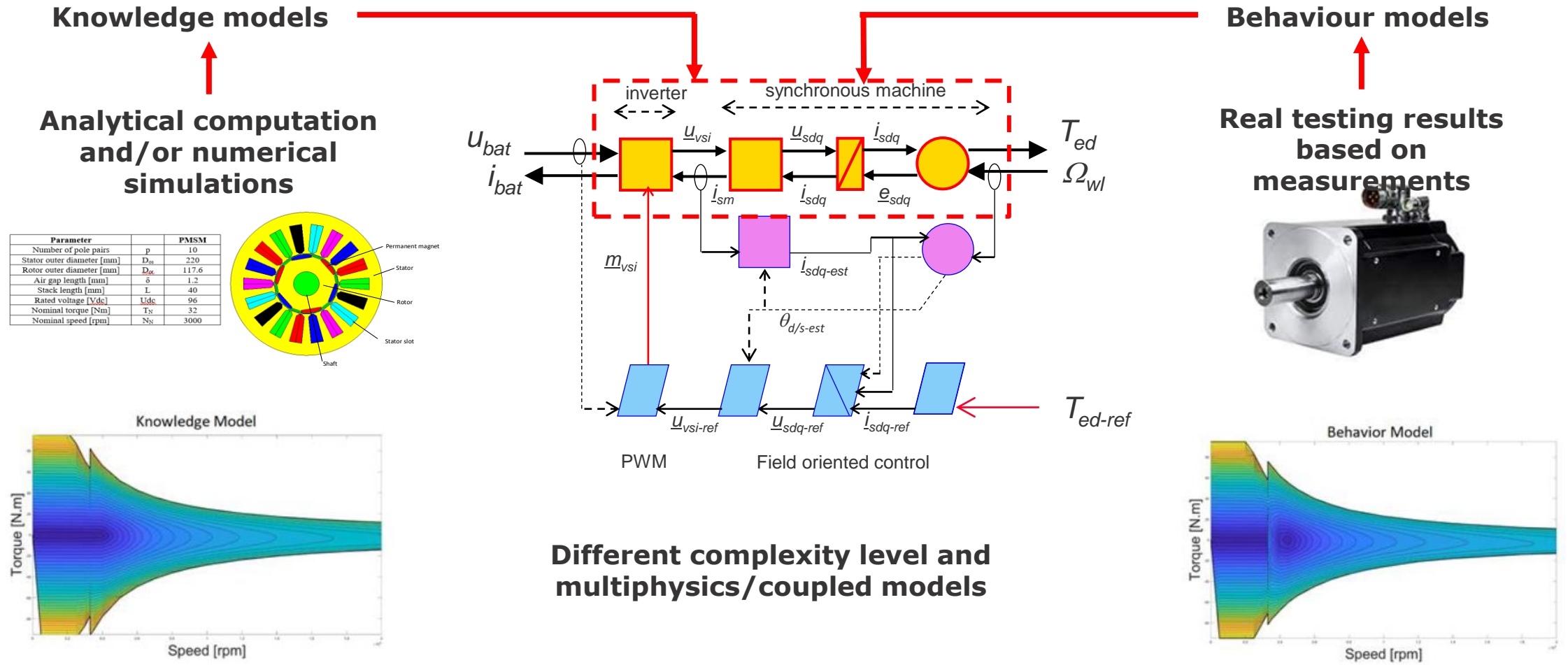
Key innovation aspects



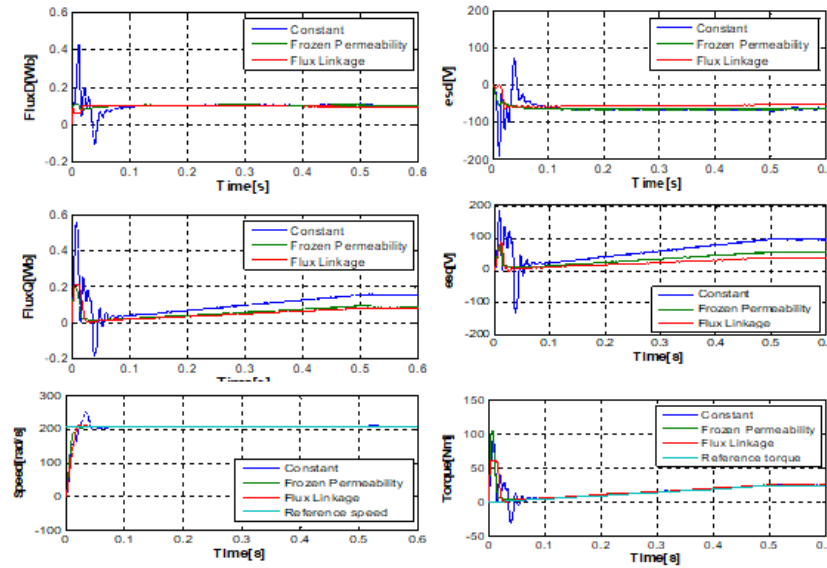
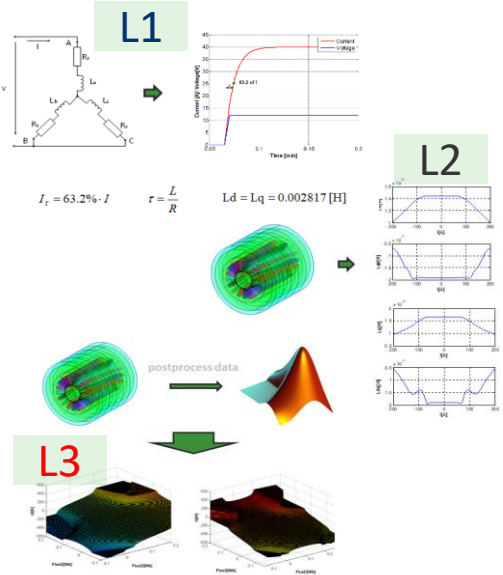
- 🐼 **Integration of EMR-based knowledge and behaviour models in the same approach of e-drive modelling and testing**
- 🐼 **Different complexity levels and multiphysics/coupled models**
- 🐼 **Stand-alone and cloud based HiL testing for WRSM and PMSM based BEV and P-HEV e-drives models**
- 🐼 **Cloud computing fuzing HiL testing and real-time long distance computations**



- Integration of EMR-based knowledge and behaviour models in the same approach of e-drive modelling and testing

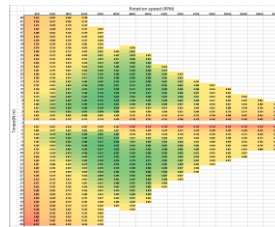


▪ Different complexity levels and multiphysics/coupled models

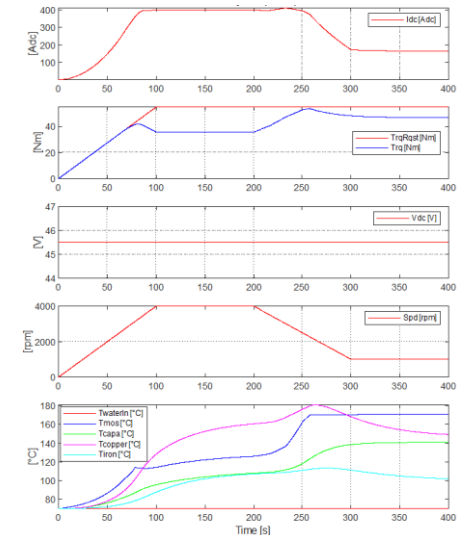
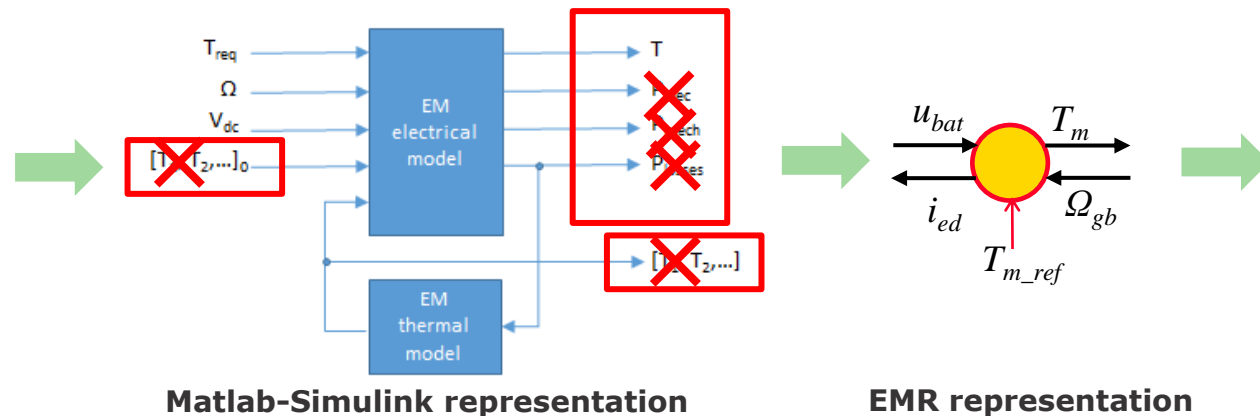


Knowledge models complexity levels and results

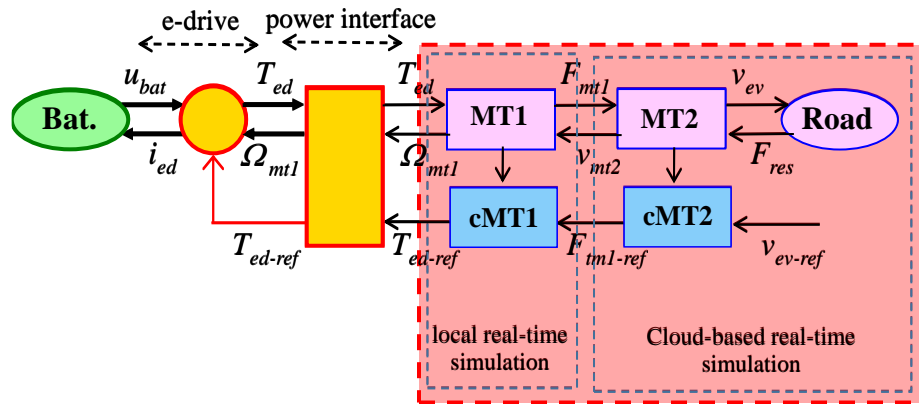
Behaviour coupled models and results



Data from measurements

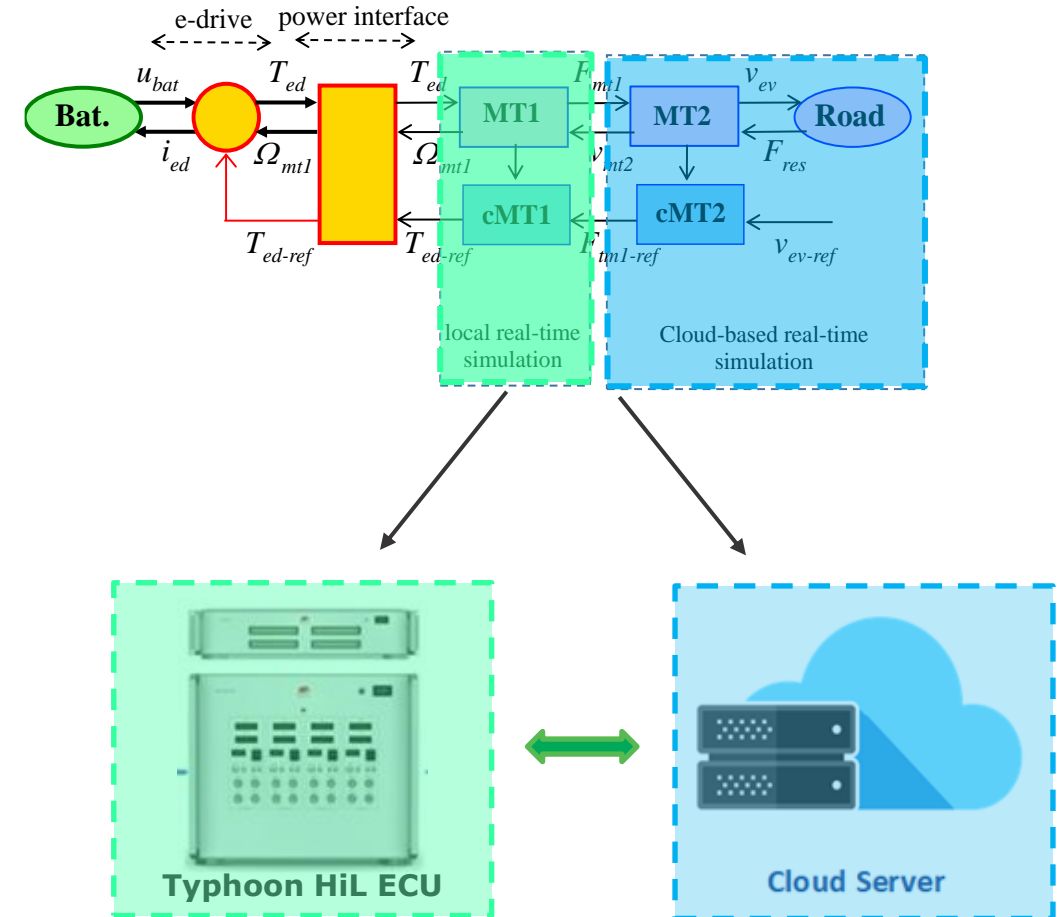


- Stand-alone and cloud based HiL testing for BEV and P-HEV e-drives models



Typhoon HiL ECU

Stand-alone HiL testing

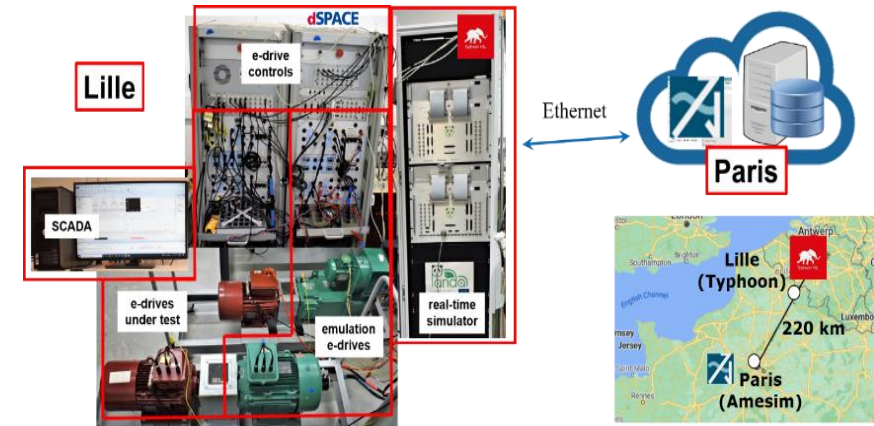
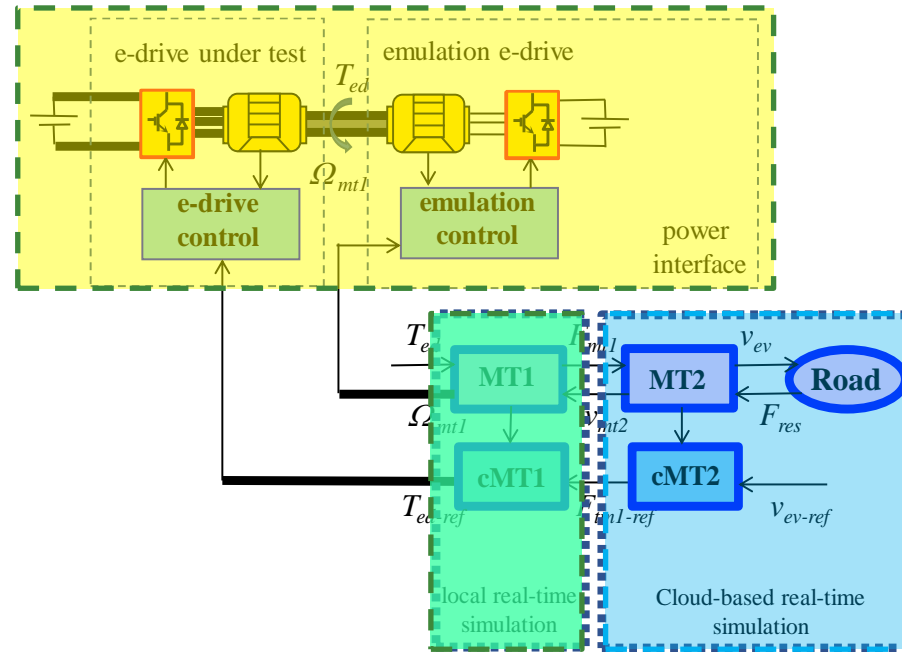
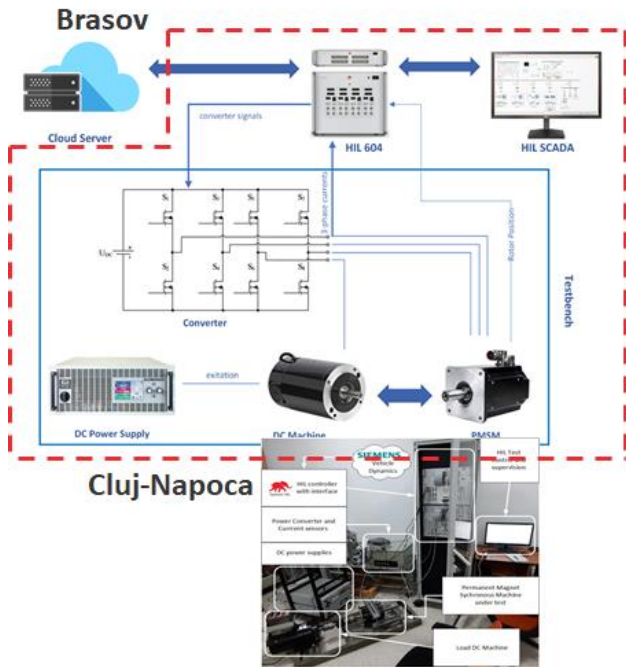


Typhoon HiL ECU

Cloud Server

Cloud-based HiL testing

- Cloud computing fuzing HiL testing and real-time long distance computations



- Easy parallel development thanks to the method
- Same ECU, same cloud for better sharing experience
- Several decomposition of real-time simulation thanks to the method (fixes I/Os)





End of presentation

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