

# UNECE IWG EqOP Task Force Virtual Crash-Testing

IWG EqOP - TF VCT; 4<sup>th</sup> Meeting

# Agenda

- 1.) Approval of agenda & Minutes from last meeting
- 2.) What should be shown at the next GRSP meeting?
- 3.) Load-case independent model management
- 4.) Discussion on load-case selection requirements
- 5.) Next steps

# Slide for GRSP

Anything to add?

# Task force 3 – Virtual testing

- 4 meetings
- Discussion on using 4 possible procedures (EqOP-TF3-03-02e - 2024-02-07-TF-VCT-WS3):
  - Option 1 & 2: the OEM's vehicle simulation model
  - Option 3 & 4: a generic vehicle simulation model calibrated to a specific car
- TF agreed that
  - generic model-based approaches should be seen only as a back up if OEM models are not available (either processed at OEMs or at authority/technical service).
  - it will be difficult to replicate the necessary behavior of the vehicle relevant for type approval with the generic model, which is why the usage of the detailed models is preferred (Option 1 & 2).
  - **the focus of further discussions will be therefore the Options 1 & 2**
- Next step: define the load cases for which **virtual crash testing as a method** is investigated applying Options 1 & 2
- Next meeting on August 29th 13:00

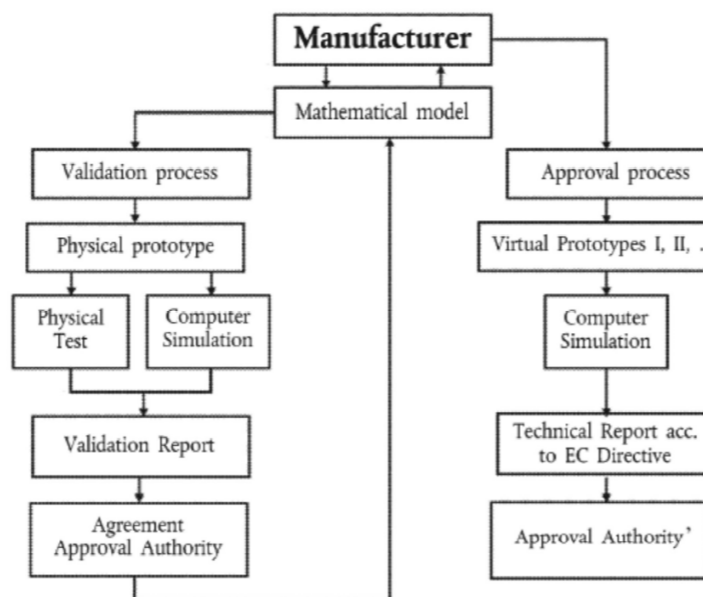
# Building blocks under discussion



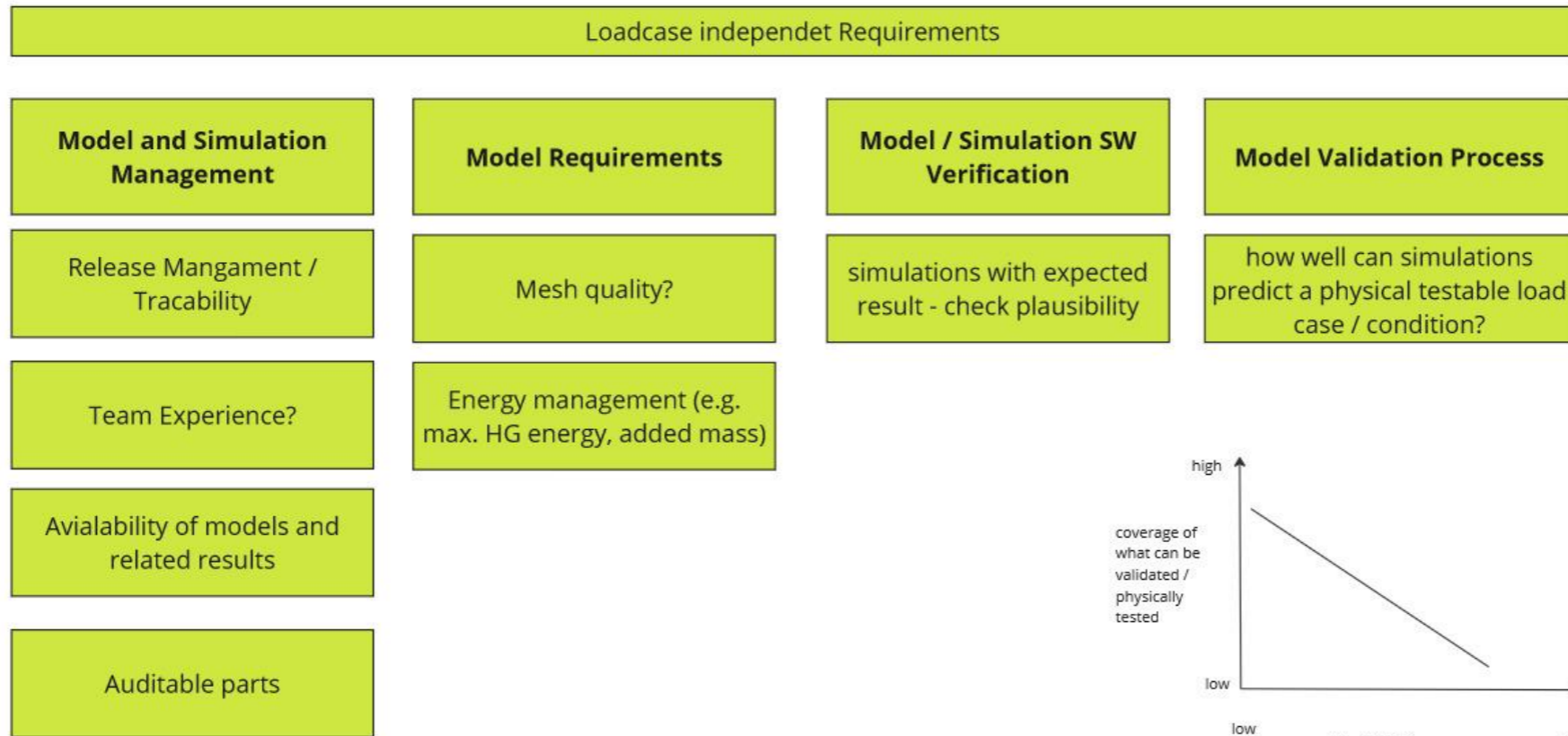
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# Load-case independent model management / requirement

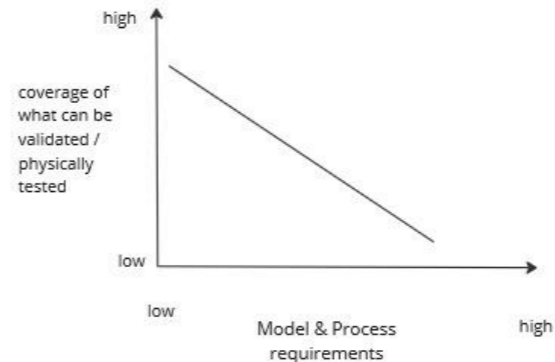
**Appendix 3  
Validation process**



# Load-case independent model management / requirement



Independent of the options, they can be only applied if models are good enough - quality has to be proven



# Requirements for load cases

- 1. Inequality identified in the assessment / outcomes of injuries →  
Address a problem in the field**
2. Cover a range of different complexities (well known reference load case up to load cases with the biggest real-world benefit) to develop process that is robust enough to be applicable for higher complexities



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# Next meeting

August 29th 13:00

# Next steps

1. *Define wording / glossary (starting point presented in the second workshop; to be refined during the work if needed)*
2. Sketch General Process
3. **Definition of loadcases**
4. Requirements for occupant simulation models (ATDs & HBM)
5. Requirements for vehicle model validation (Standards)
6. Processes to combine occupant and vehicle model to a simulation loadcase/scenario
7. Requirements for FE Software
  - a. Process for traceability of model changes and linked results
  - b. Process for running models at technical service
8. Requirements for outputs / documentation
9. Collaborations with other groups / experts?
  - Forum i.e. as policy lab
  - Cyber security
  - GRVA (e.g. R157)
  - SAR (specific absorption rate)
  - WP6 (Standardisation...)
  - Ask SAE to organise a workshop to better link with other disciplines?



## Vehicle Safety Institute

Graz University of Technology

Inffeldgasse 13/6

8010 Graz Austria

[www.vsi.tugraz.at](http://www.vsi.tugraz.at)