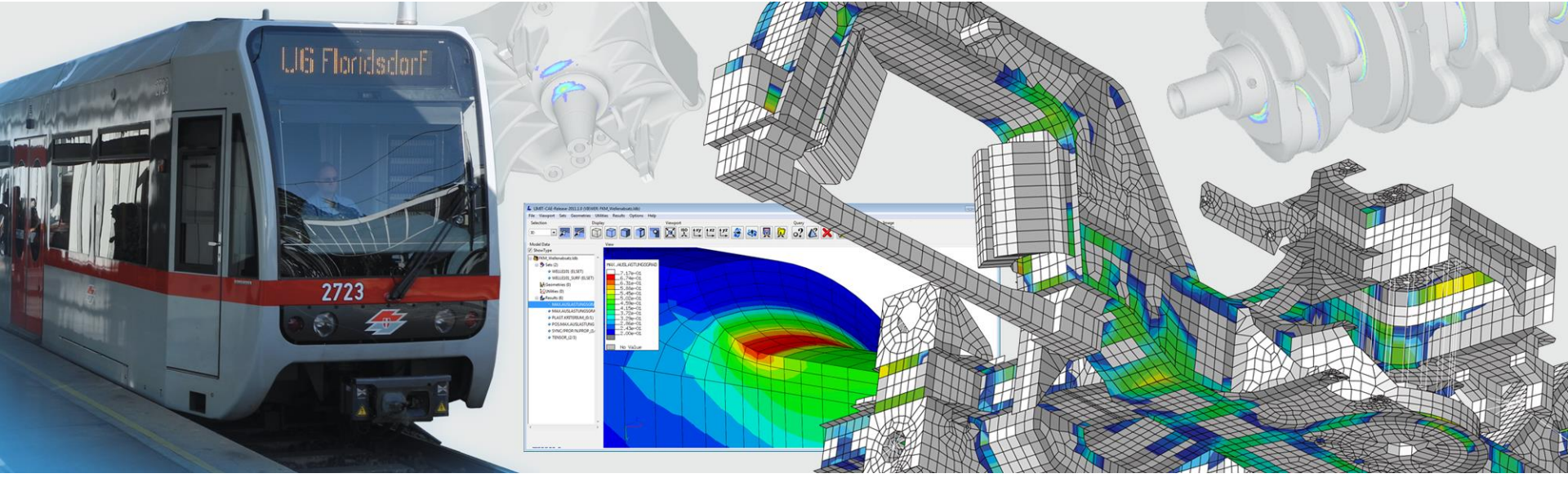


Interface LIMIT – Abaqus

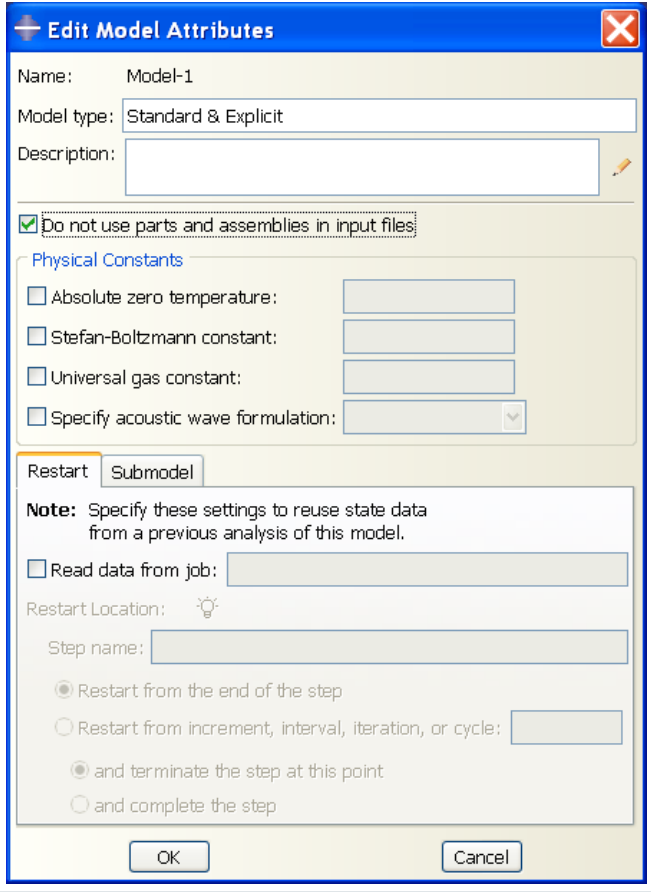
Supported Abaqus Versions in Release Package

- 6111, 6113
- 6121, 6123
- 6131
- 6141, 6143, 6146
- 6161 (=2016)
- 6171 (=2017)

If you need a different version please contact LIMIT support (limit@cae-sim-sol.com)

Importing the .inp-file into LIMIT-CAE:

- Abaqus (.inp; must be a ‚NoPartsInput'!)
- Activate ‚do not use parts and assemblies in input files' in the Abaqus CAE Model manager/Edit Model Attributes



Specification of the interface

- **Maximum nodenumber respectively elementnumber :**
  - Windows 64 bit (x64): 20000000
- **Maximum number of nodes :**
  - Windows 64 bit (x64): 3000000
- **Maximum number of elements :**
  - Windows 64 bit (x64): 4000000
- **These LIMITS can be changed by the user. See document LIMIT_2017, section: *Redimensioning of Arrays***

Following elements can be analyzed:

- **Solids (stress gradients are only calculated for C3D):**
  - C3D.. (linear and quadratic 3D-Solids)
  - CPE.., CPEG.. (linear and quadratic 2D-Solids)
  - CAX.., (linear and quadratic AXI-Solids)

- **Membranes:**
  - M3D.. (linear und quadratic 3D-Solids)

- **Shells:**
  - S.., STRI.., SC.. (linear and quadratic shells)

Solid assessment:

- **Goal of a LIMIT FKM proof of strength:**
  - Assessment of surface stresses (2D-tensors)
  - Popular method and conservative
- **Free surfaces:**
  - Are necessary for the consideration of stress gradients normal to the surface
  - Are identified by the software LIMIT
  - Can be generated by covering the solids with 2D-elements (skin) in the preprocessor.
- **2D-skin elements can be assessed as well**
  - But without supporting effect => conservative
  - This leads to considerable less data
- **Supporting effect is only possible with solids!**
  - Results of a 3D analysis with good element quality and fine meshing are more precise than results of 2D-skin elements.

- **Modifications to the .Inp-File for Fil-File-Output:**
  (without these adjustments the assessment doesn‘t work!)

  *EL FILE, Position=NODES, Directions=YES

  S

- **Modifications to the .Inp-File for Odb-Output:**
  (without these adjustments the assessment doesn‘t work!)

  *OUTPUT, FIELD

  *ELEMENT OUTPUT, POSITION=NODES

  S

Note: both adjustments are not supported by Abaqus-CAE!
The commands have to be edited in ‚Edit Keywords‘ or directly in the .Inp-File

Last Slide