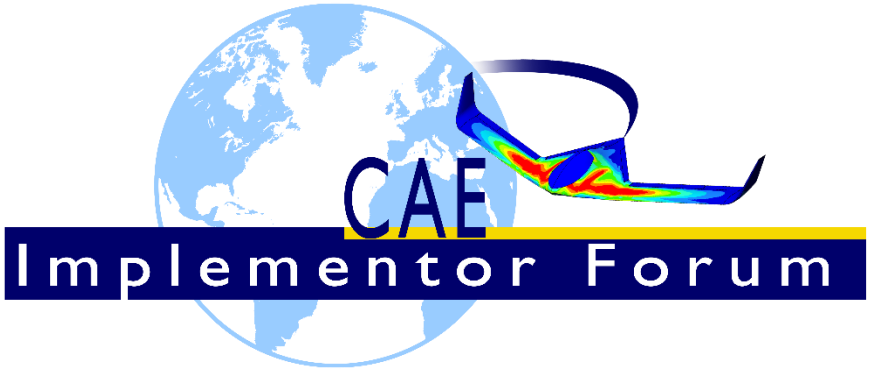
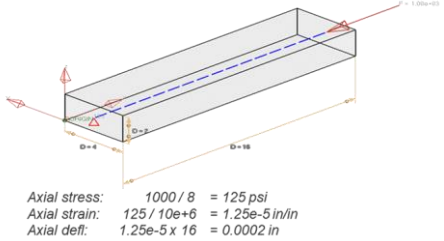


CAE-IF R1S SUMMARY

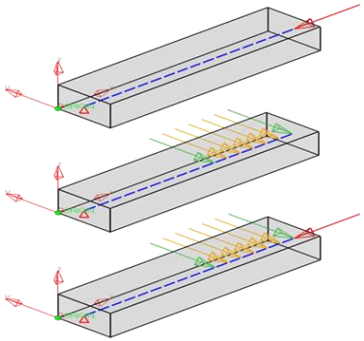
Darmstadt - Dec, 2017

R1S : Test Cases

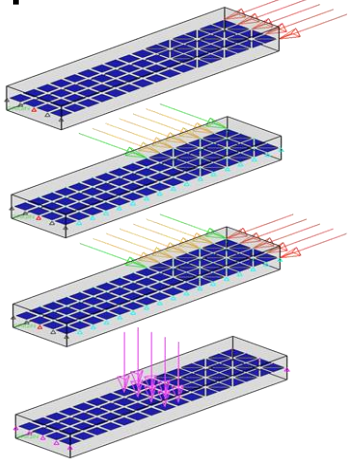
- Beam modeled with rod, bar, shell or solid elements
- Lumped and/or distributed applied forces



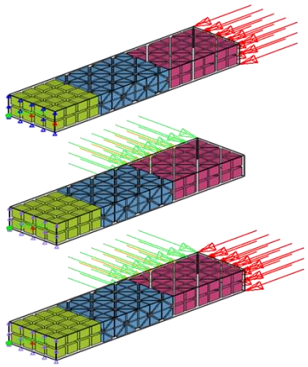
ATS1



ATS2



ATS3



ATS4

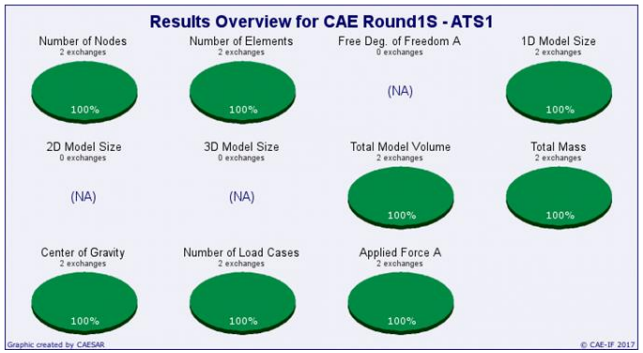
- Participants : Jotne, Core Technologie

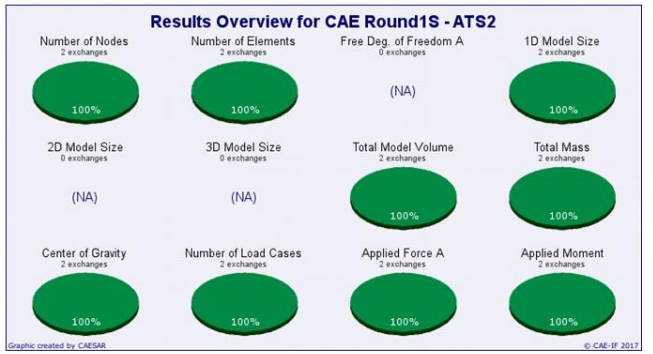
R1S : Statistics

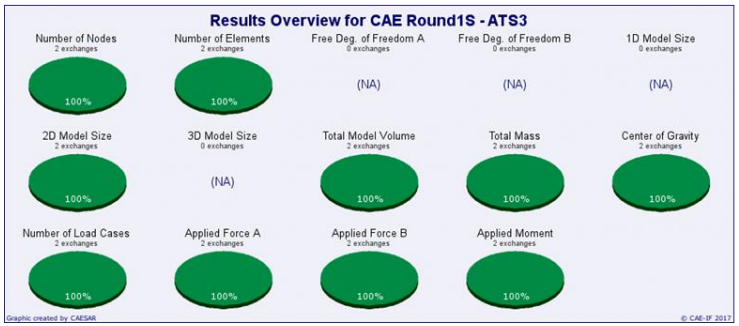
Discretized geometrical data	• Number of nodes • Number of elements • Total length of 1D elements, Surface of 2D elements, Volume of 3D elements • Total volume of the model (including section area for 1D elements and Thickness for 2D elements)
Material data	• Total mass of the model • Position (X, Y, Z) of the center of gravity (taking into account the mass of each element) *NB : Total Inertia characteristics will be considered later*
Boundary conditions & Applied loads	• Number of different loadcases • ~~Number of free DOF (*)~~ • Resultant of applied forces (Fx, Fy, Fz) (*) • Resultant moment of applied forces at origin + resultant of applied moments (Mxx, Myy, Mzz) (*) *(*) depending of the selected loadcase(s)*

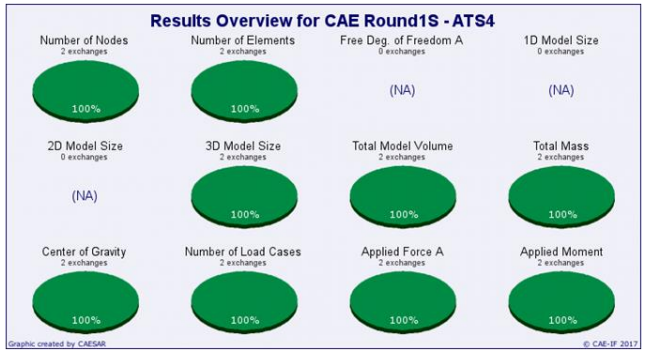
R1S Deliverables review

ATS1-4 results overview





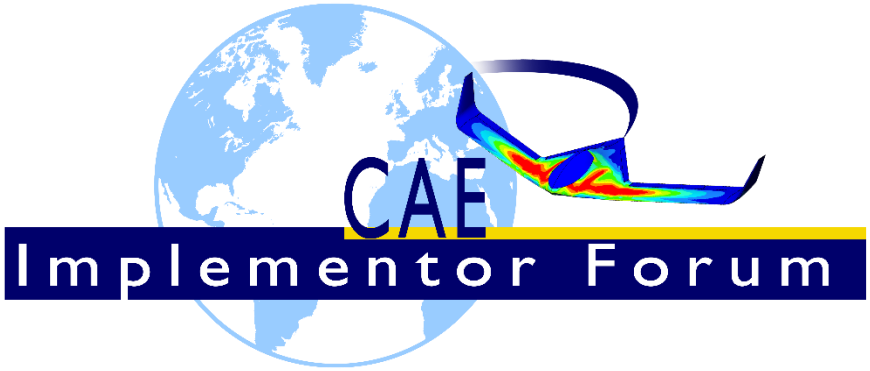




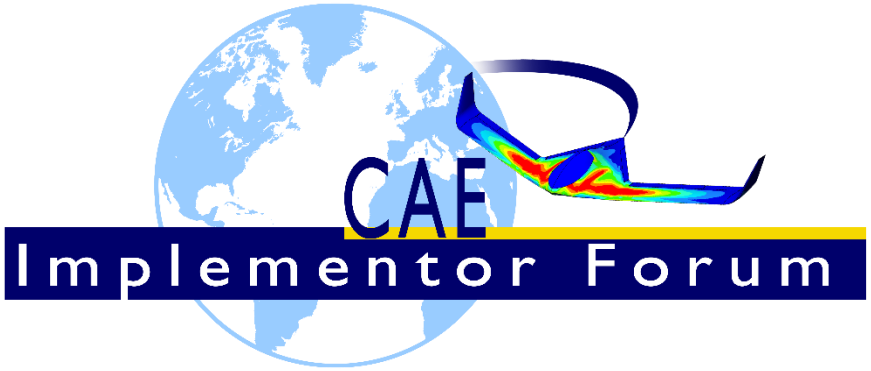
Key points :
- STEP files : all syntax issues fixed
- Native and target Statistics : no remaining errors

R1S : Lessons learned

		Brutus	Rec. Pract.	Other doc.
STEP file syntax				
	SURFACE_3D_ELEMENT_BOUNDARY_CONSTANT_SPECIFIED_ SURFACE_VARIABLE_VALUE • SCALAR versus CONTEXT_DEPENDENT_MEASURE		X	X Handbook
	SURFACE_3D_ELEMENT_DESCRIPTOR • LINEAR_ORDER. versus .LINEAR	X		
	Units SHOULD be defined in the step file (reminder)		X	
Statistics				
	Need to create statistics related to Boundary Conditions			
	Level of details needed for statistics calculation adjusted			X Test suite



See you in the R2S in March ‘18



APPENDIX