



# WHAT IS EnkiBonnet ?

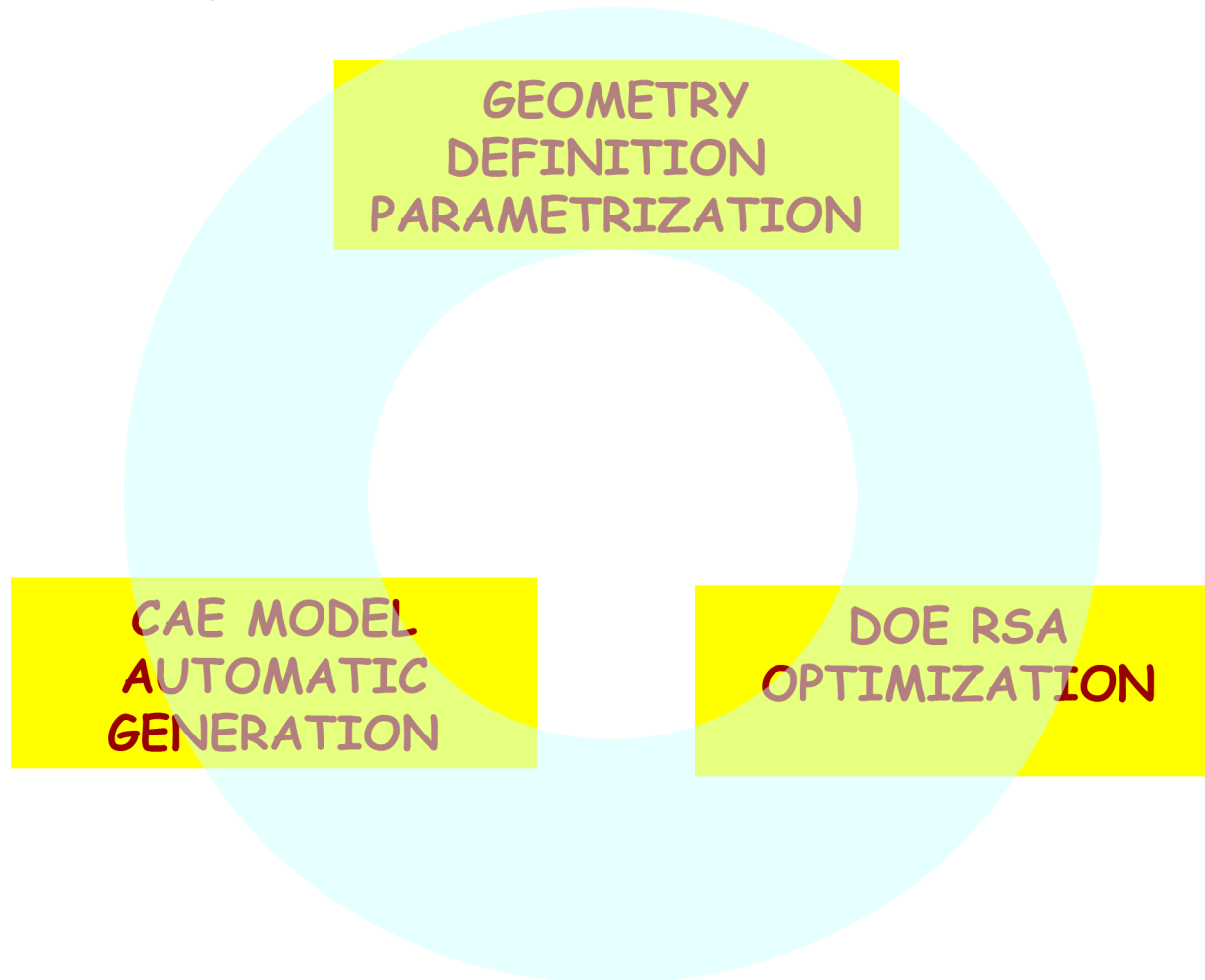
- Environment for bonnet design
- Based on LSDYNA solver  
easy extension to RADIOSS, PAMCRASH, ...
- Manages pedestrian impact  
static performance under development
- Automatic generation of inner panel
- Automatic design features (DOE, RS)
- Automatic post-processing
  
- Belongs to the family of ENKIDOU applications



# EnkiBonnet

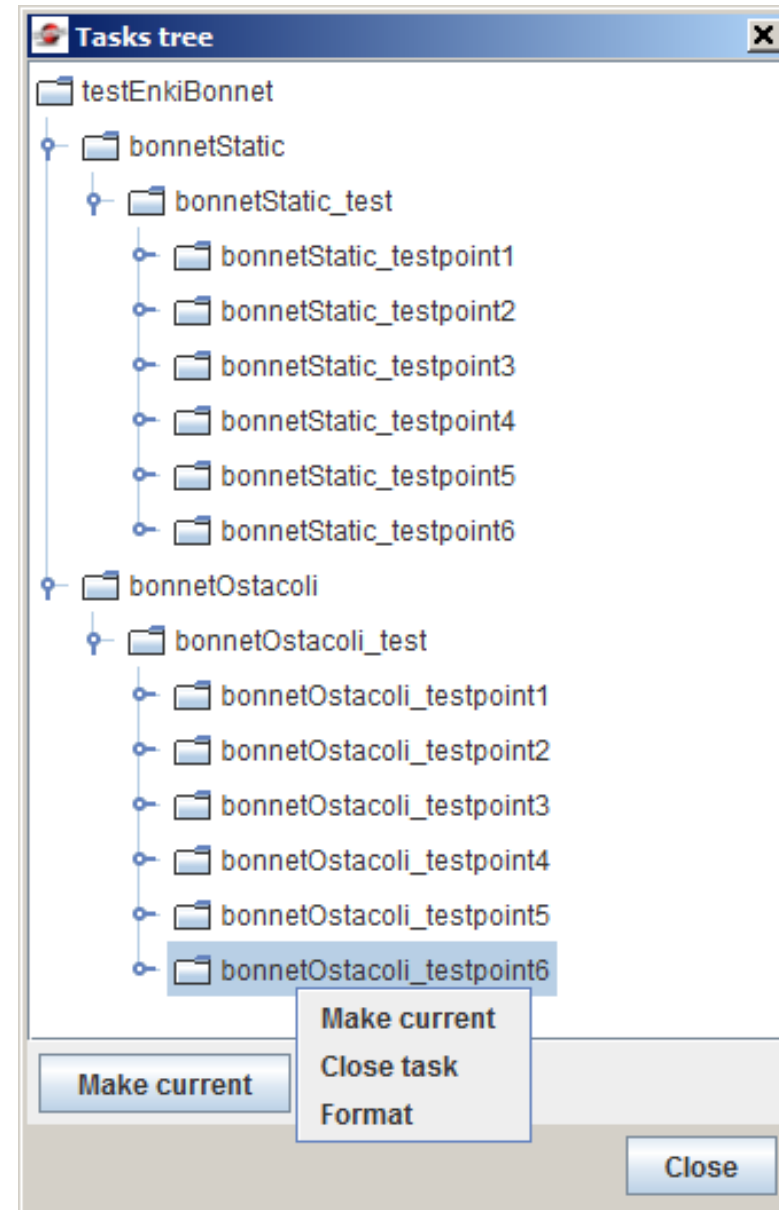
**Design = Simulation + Optimization**

design loops take a few hours instead of 10 days



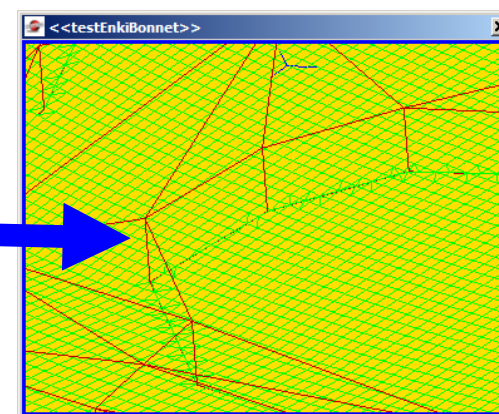
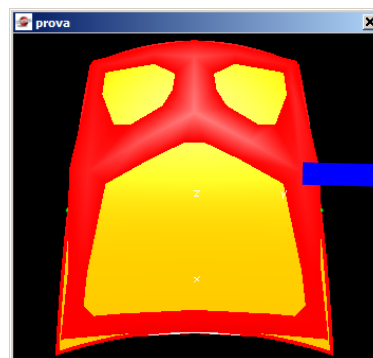
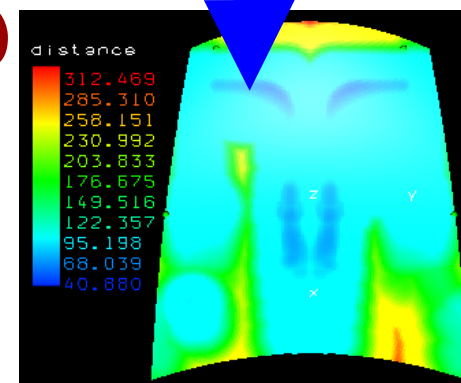
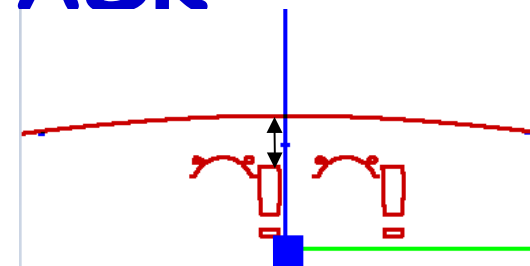
# EnkiBonnet PROJECT STRUCTURE

- Root task
  - Bonnet (obstacle) task
  - TestSet task
  - Bonnet computation task
  - Static computation task (under development)
- EnkiBonnet project structures enables the user to handle hundreds of impact simulations in the same projects



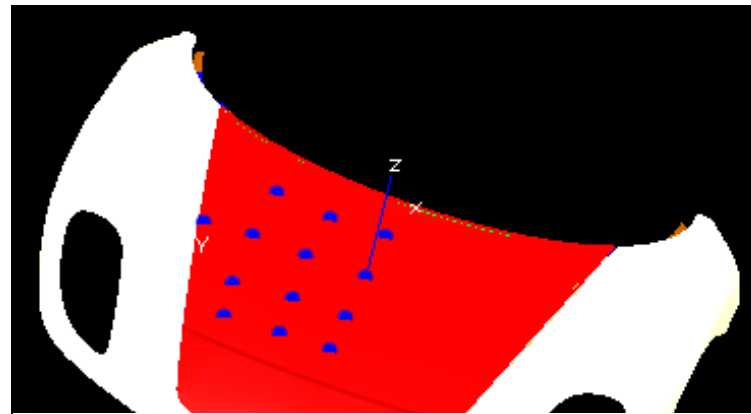
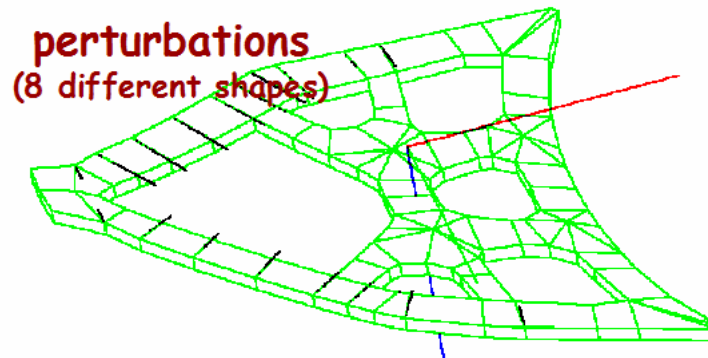
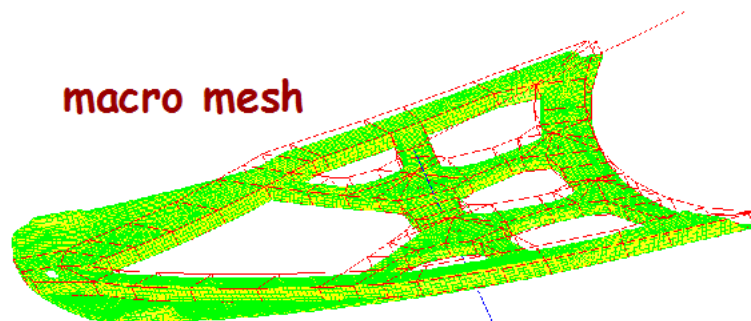
# EnkiBonnet ROOT TASK

- Manage the project unit system
- Import / Export / Create
  - « Skin » meshes
  - Inner panel templates (dubbing mesh)
  - Impactor meshes
- Impactor / Test condition database management
- Distance from underlying obstacles
- Skin adjustment for inner panel
- Add/remove obstacles (shots)



# EnkiBonnet OBSTACLE (bonnet) TASK

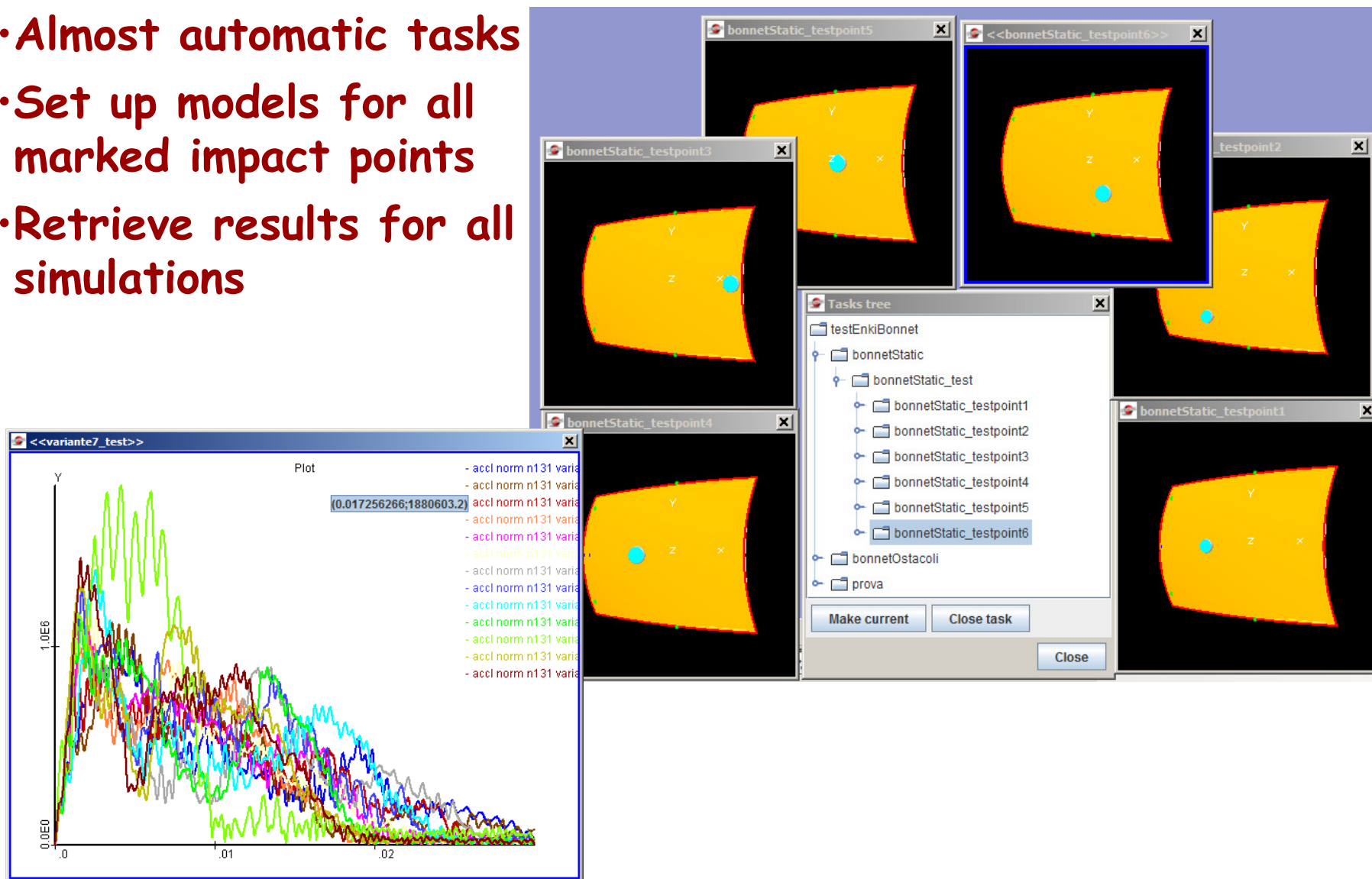
- Define the impact points
- Design control
- Morphing with domain elements
- Add/remove test sets (shots)



N	Visible	Selected	ID	Name	Coordi...	Coordi...	Coordi...	Marked	impactor	testCo...
1	<input type="checkbox"/>	<input type="checkbox"/>	1p		-350.818	0.0	415.05...	<input checked="" type="checkbox"/>	ch...	pedest...
2	<input type="checkbox"/>	<input type="checkbox"/>	2p		-252.105	-583.603	414.63...	<input type="checkbox"/>	<user>	pedest...
3	<input type="checkbox"/>	<input type="checkbox"/>	3p		-421.998	-548.99	350.31...	<input type="checkbox"/>	child	pedest...
4	<input type="checkbox"/>	<input type="checkbox"/>	4p		-444.792	-363.849	362.01...	<input type="checkbox"/>	smallAd	pedest...
5	<input type="checkbox"/>	<input type="checkbox"/>	5p		-298.475	-369.518	419.60...	<input type="checkbox"/>	adultJap	pedest...
6	<input type="checkbox"/>	<input type="checkbox"/>	6p		-470.56	-172.222	363.86...	<input type="checkbox"/>	adult	pedest...
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# EnkiBonnet TESTSET - COMPUTATION TASKS

- Almost automatic tasks
- Set up models for all marked impact points
- Retrieve results for all simulations





# EnkiBonnet: Special Topics

Inner panel parametrization automatic generation

DOE analysis, Response Surface approximation and optimization

Time history analysis features

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