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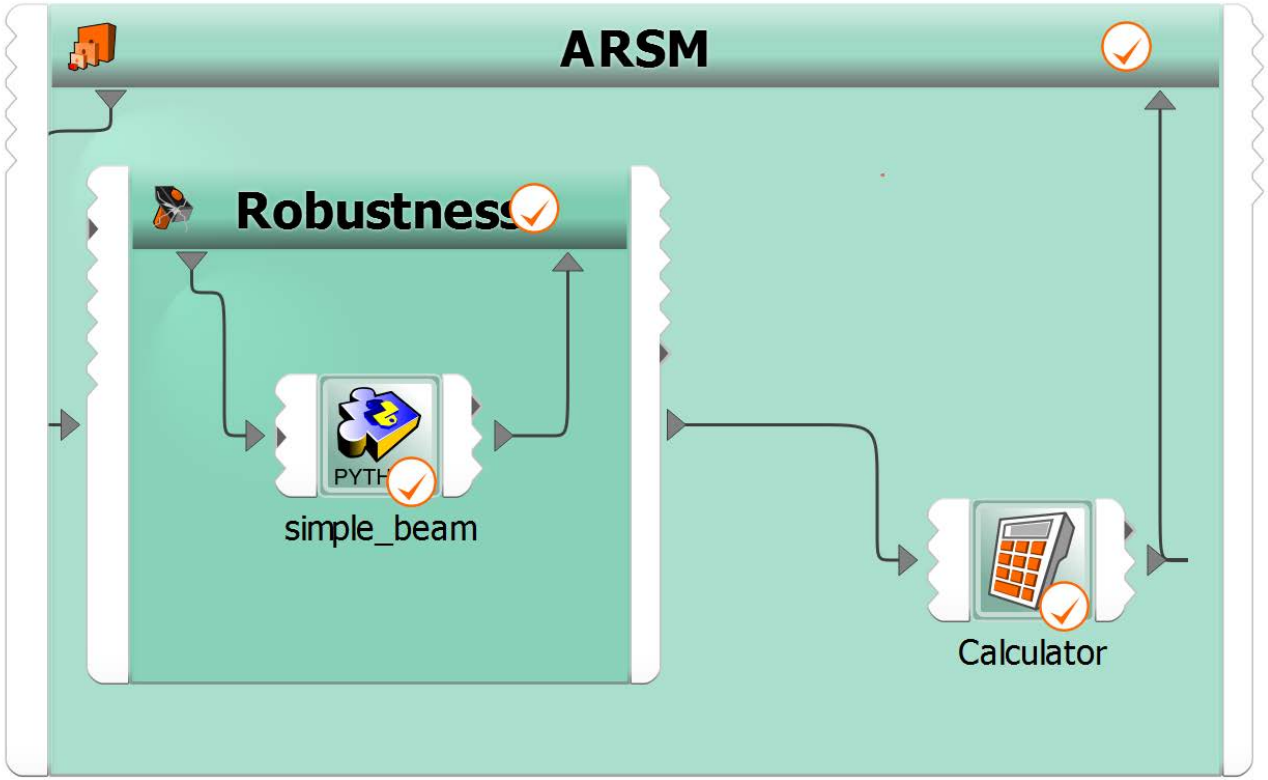
optiSLang® 4.1

optiSLang – recent developments

Nested Algorithms (v-RDO)

Build loop in loop systems

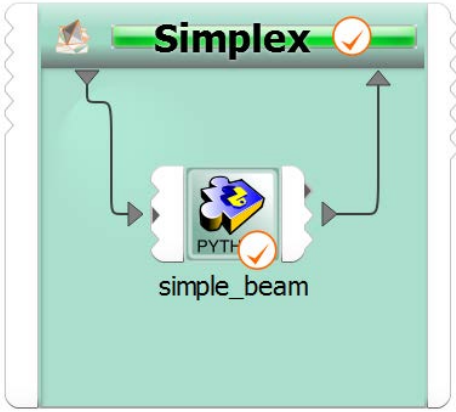
e.g. variance based Robust Design Optimization



New Algorithms

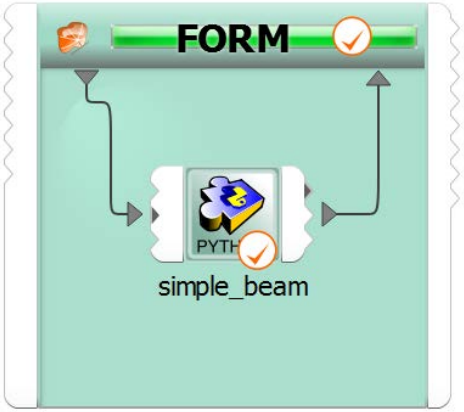
Optimization

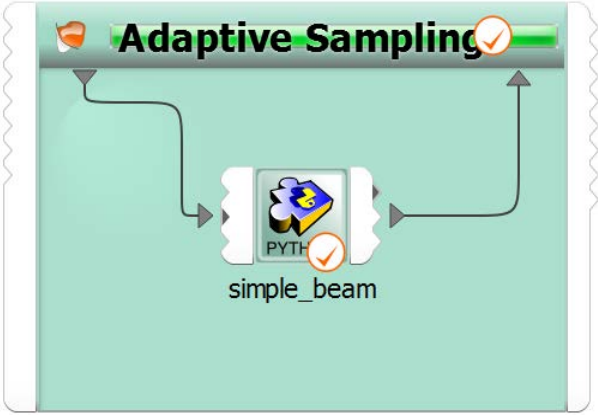
- Simplex

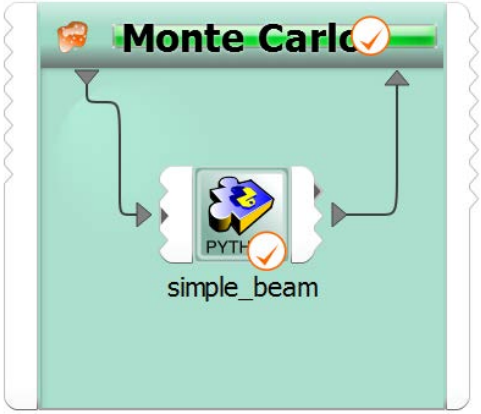


Reliability

- Monte Carlo
- FORM
- Adaptive Sampling





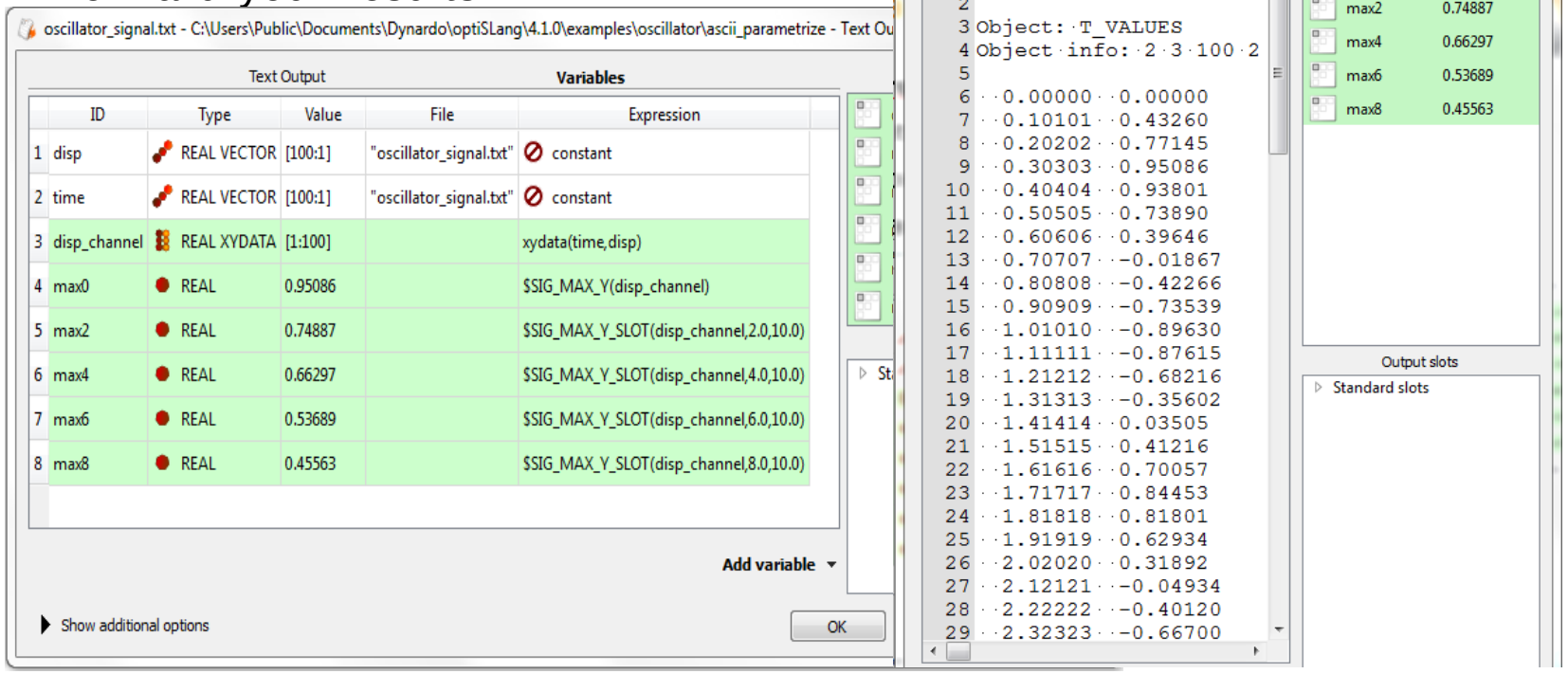


Variables Tab

Postprocess Outputs

Calculator in each integration node

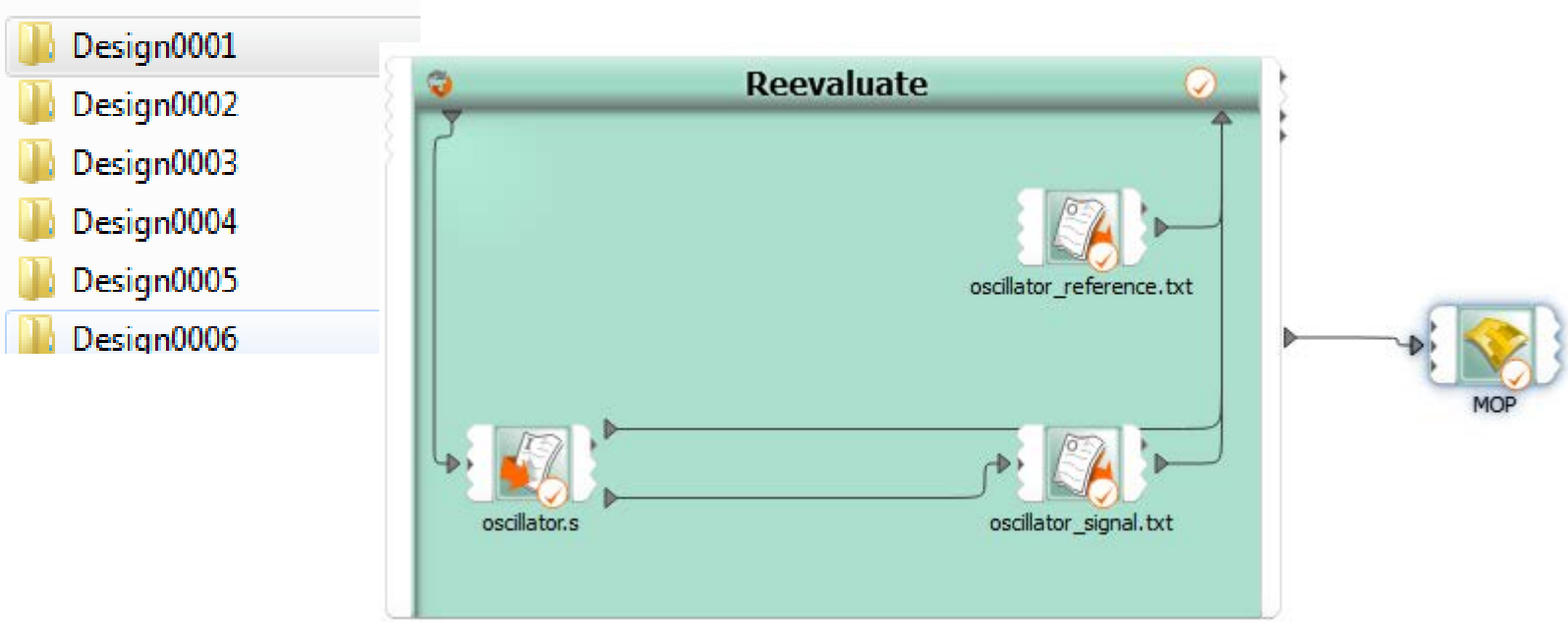
- Combine Signals, Outputs, …
- Forward your results



Re-evaluate

Read designs from directories

- Inputs and Outputs
- Add Postprocessing
- Merge with previous analysis results



Automate Your Flow

Python scripts for

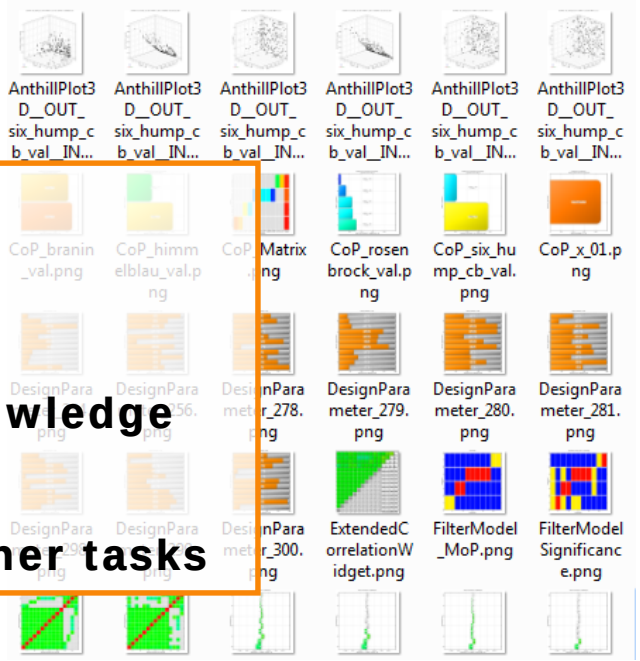
- Build and modify analysis flow in batch

  (Sensitivity – MOP – Opt on MOP – Validate – Robustness)

- Automatic plot generation

```
from py_os_design import *
from py_os_parameter import *
from py_visualize_convenience import *

s=find_actor("Sensitivity")

d=s.GetDesigns()
p=s.parameter_manager

o=OSLConvenience(d,p)
```

```
o.LinearCorrelation(False, Fals
o.Filtermodel(False, False, "",
o.CloudPlot("area01", "area02"
o.LinearCorrelationCoefficient(

o.DesignParameter(1,False, "",
o.ResponseValues(1,False, "", "
o.ObjectiveData(1,False, "", "",
o.ParameterHistory("area01",Fals
```



End user

- **Saves time**
- **Uses qualified flow**
- **Needs no detailed knowledge**

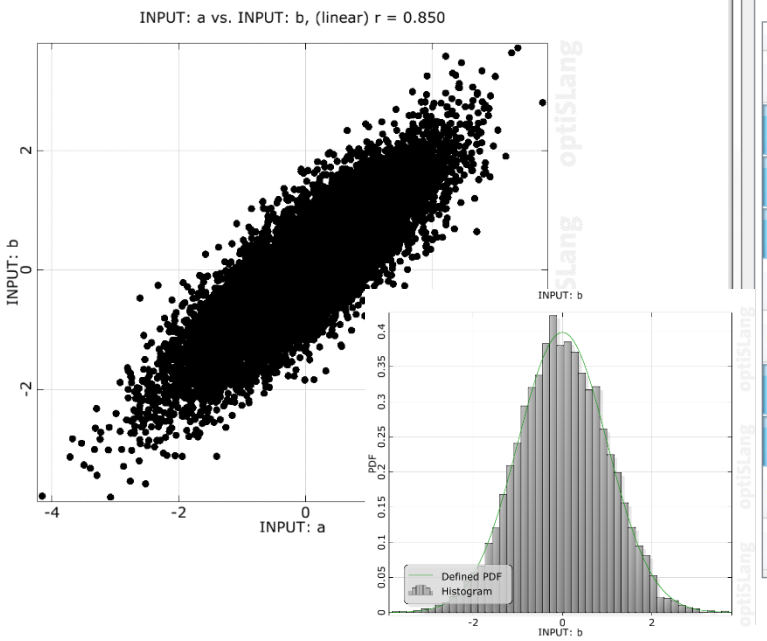
  About optiSLang ;)

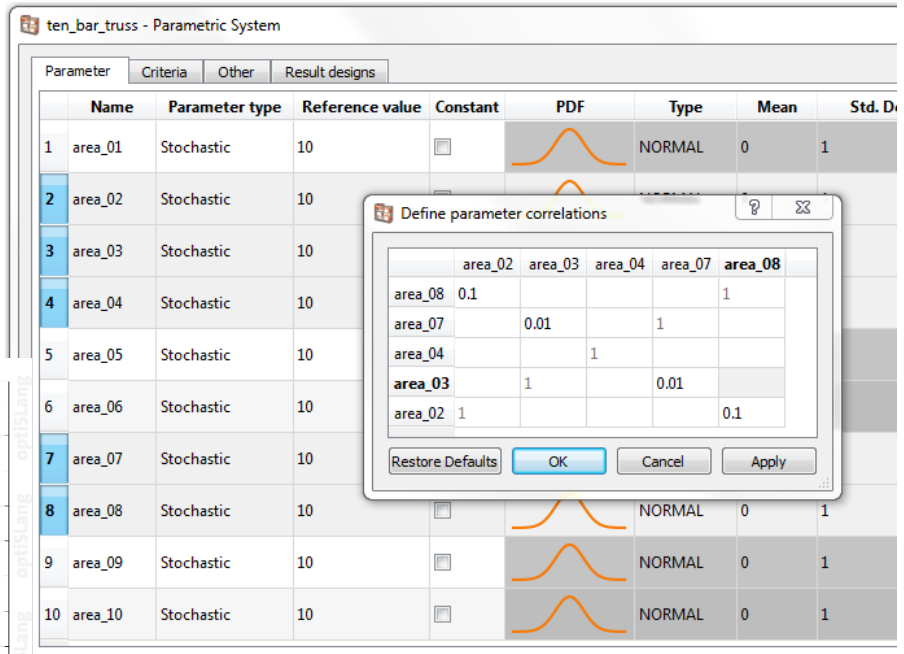
- **Can spend time for other tasks**

Input Correlations

Parametermanager supports correlations

- stochastic and mixed parameters
- for all parameters or a selection
- check validity “on click”

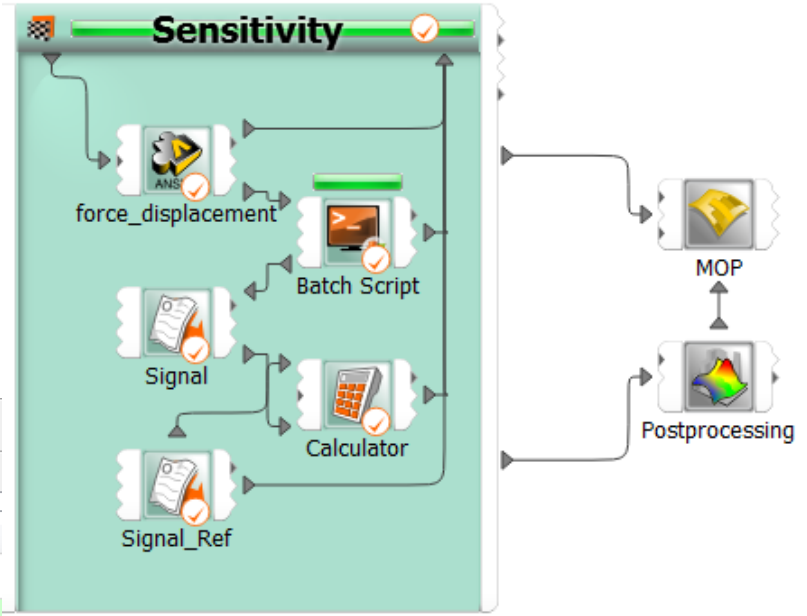


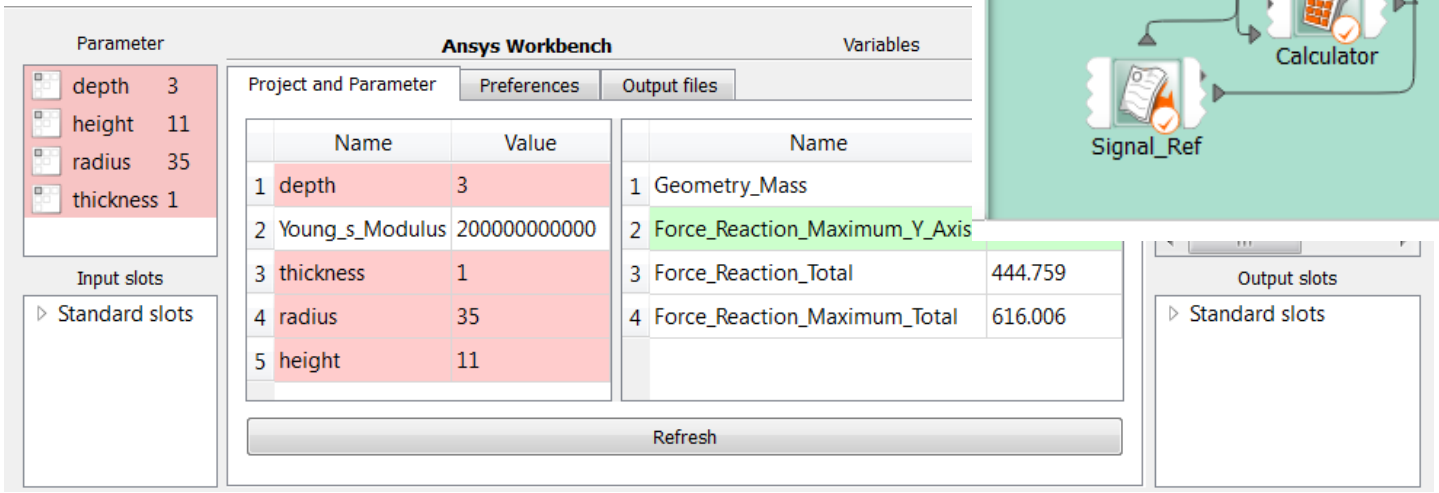


Workbench Node

Use ANSYS WB in your optiSLang flow

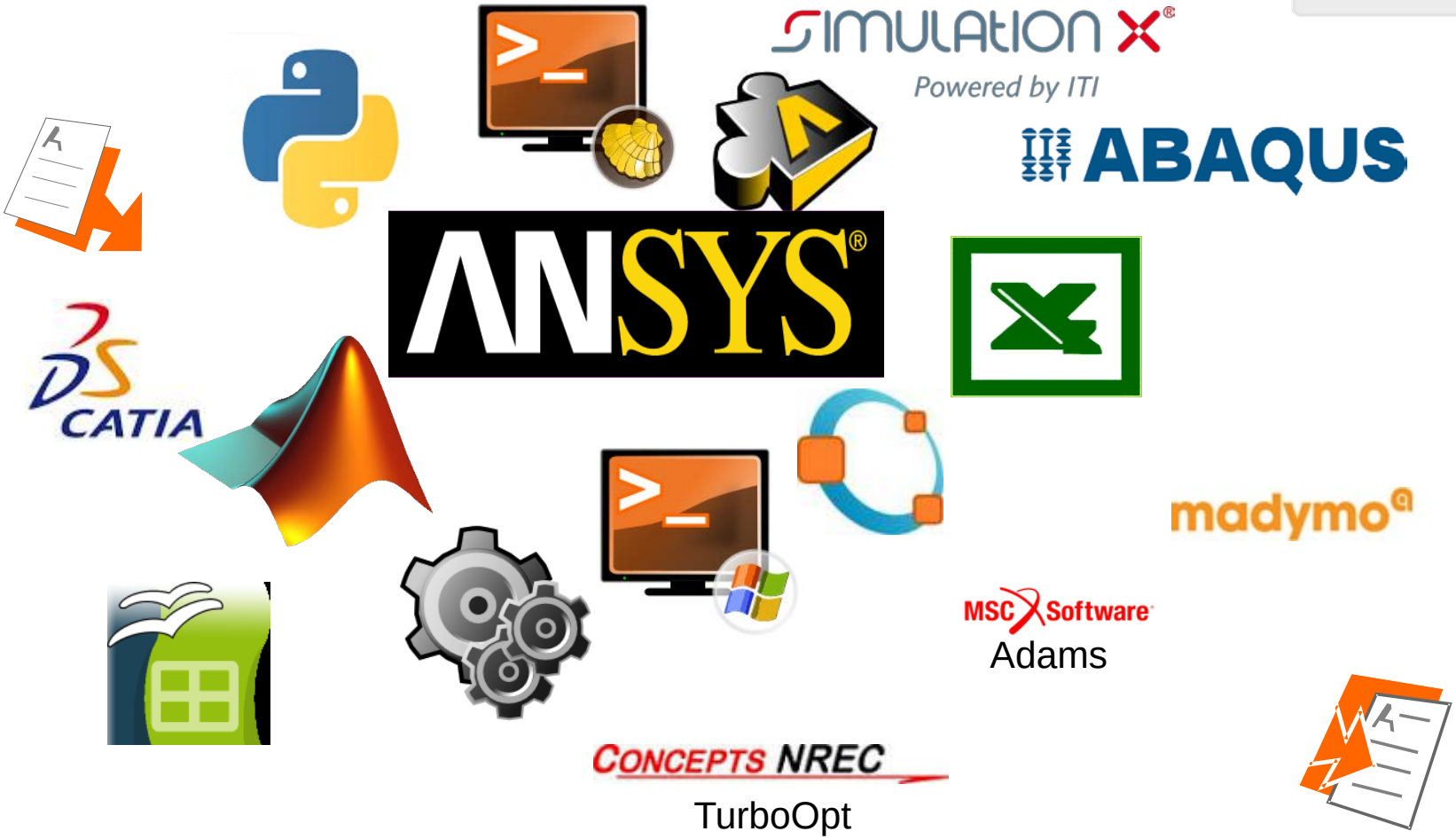
- More flexibility (compared to “inside”)
  - e.g. use signals for calibration
- Pre-processing (beta)
- Batch call using parametric pack
- …



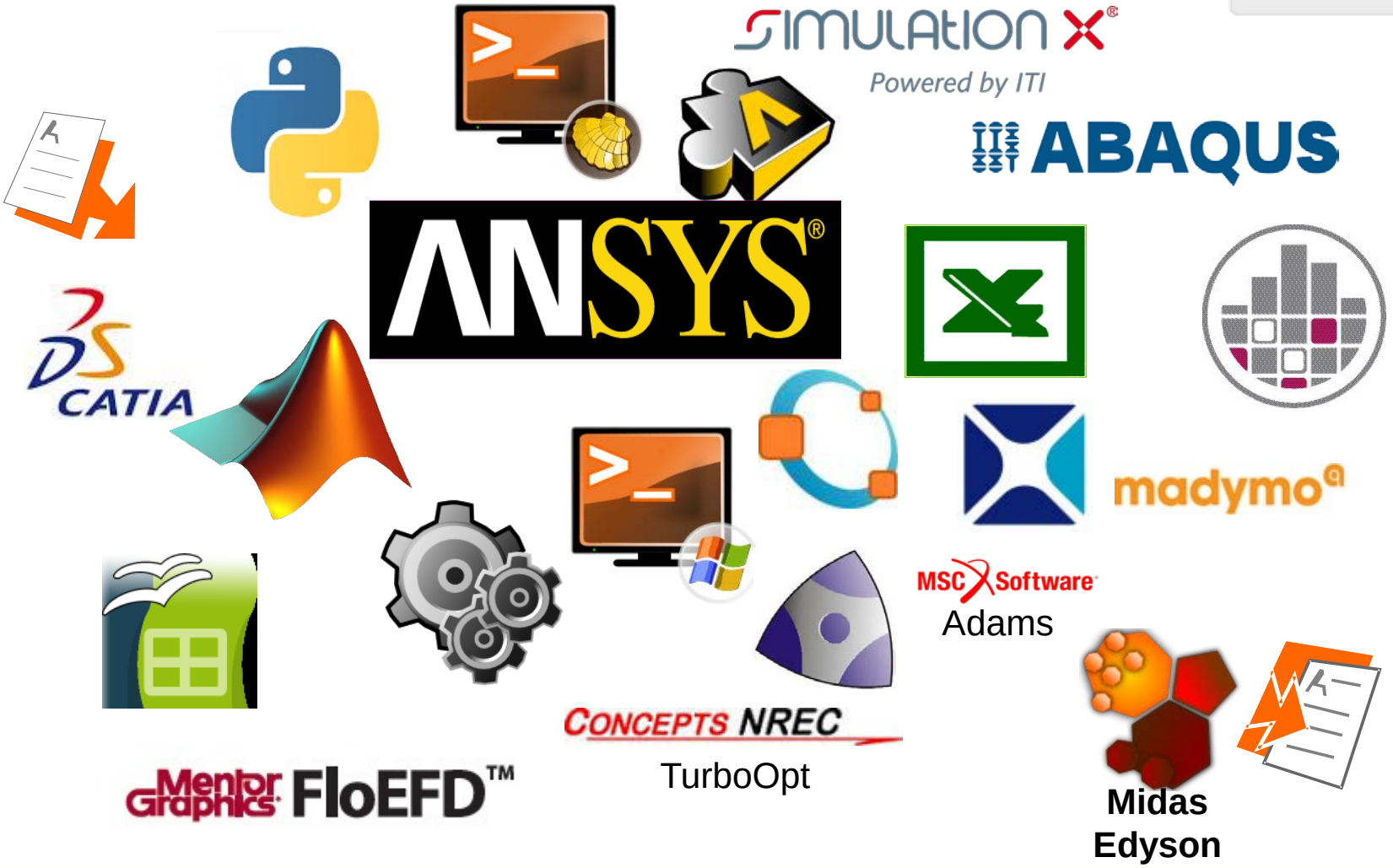


Integrations v4.0

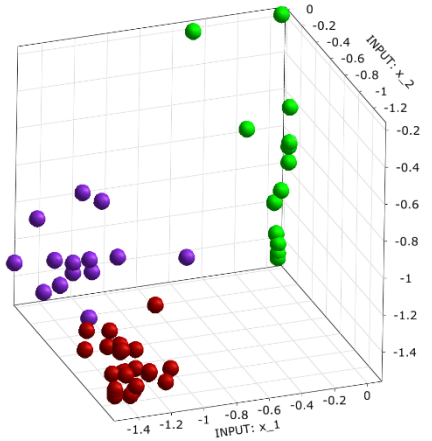
Integrations v4.1



Integrations v4.2

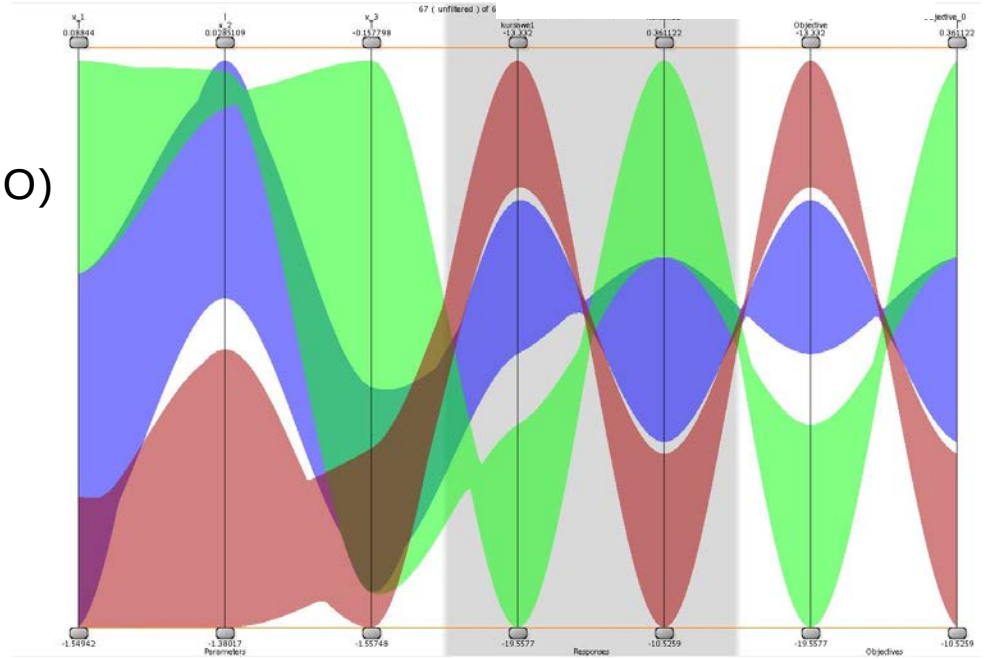


Next Releases: 4.1.x - 4.2



Algorithm

- Cluster (in v4.1: beta)
- More support on multiobjective tasks
- Reliability: ARSM, Directional Sampling, ISPUD
- Probability based RDO
- Performance optimized MOP
- External metamodels (ASCMO)
- Template handling
- ...



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WOST is your user conference

So feel free to request, ask, propose ...

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optiSLang – recent developments