

Hexpresso
hex meshing in a jiffy



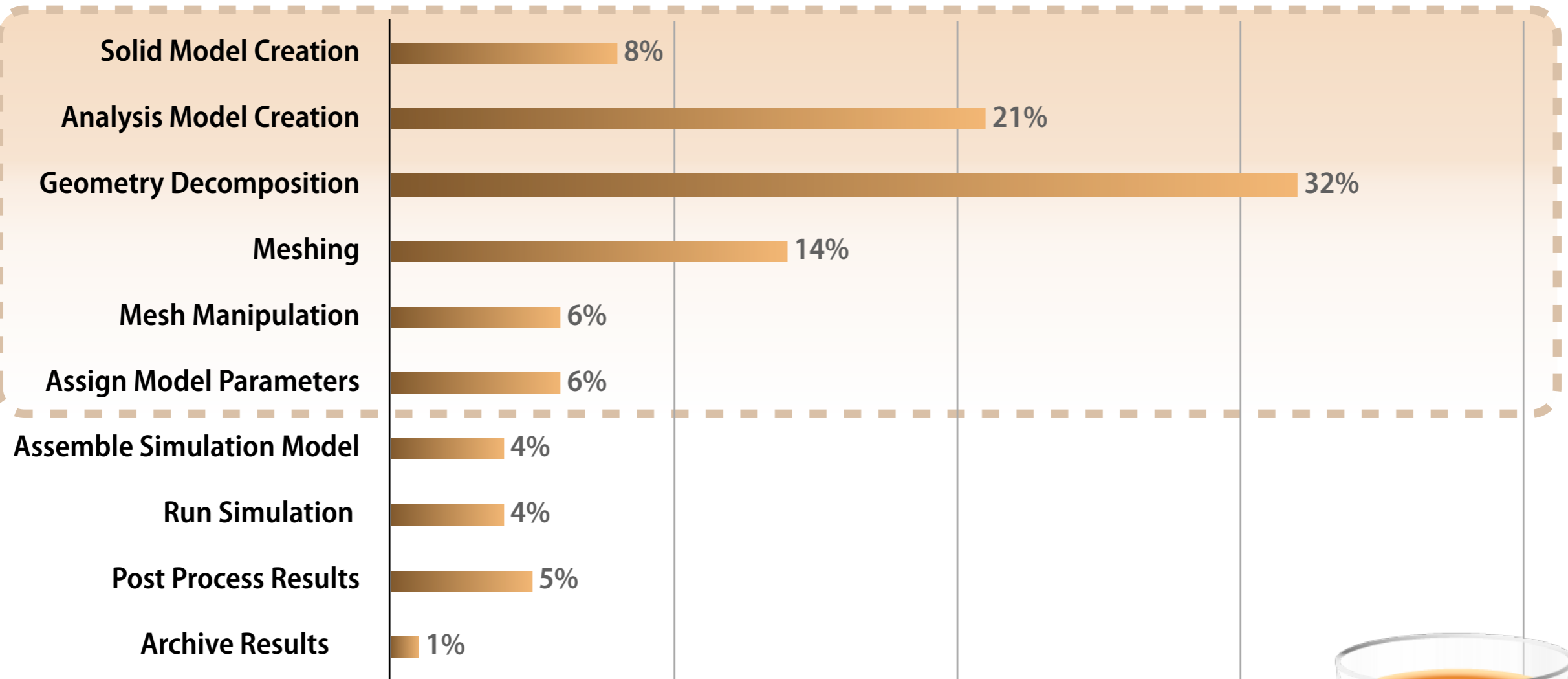
Hexpresso

hex meshing in a jiffy

- One click meshing
- 100% hexahedral meshes
- Mask to mesh
- Process based meshing
- Adaptive meshing
- Quick and robust mesher

Hexpresso eliminates ~80% of the grunt work...

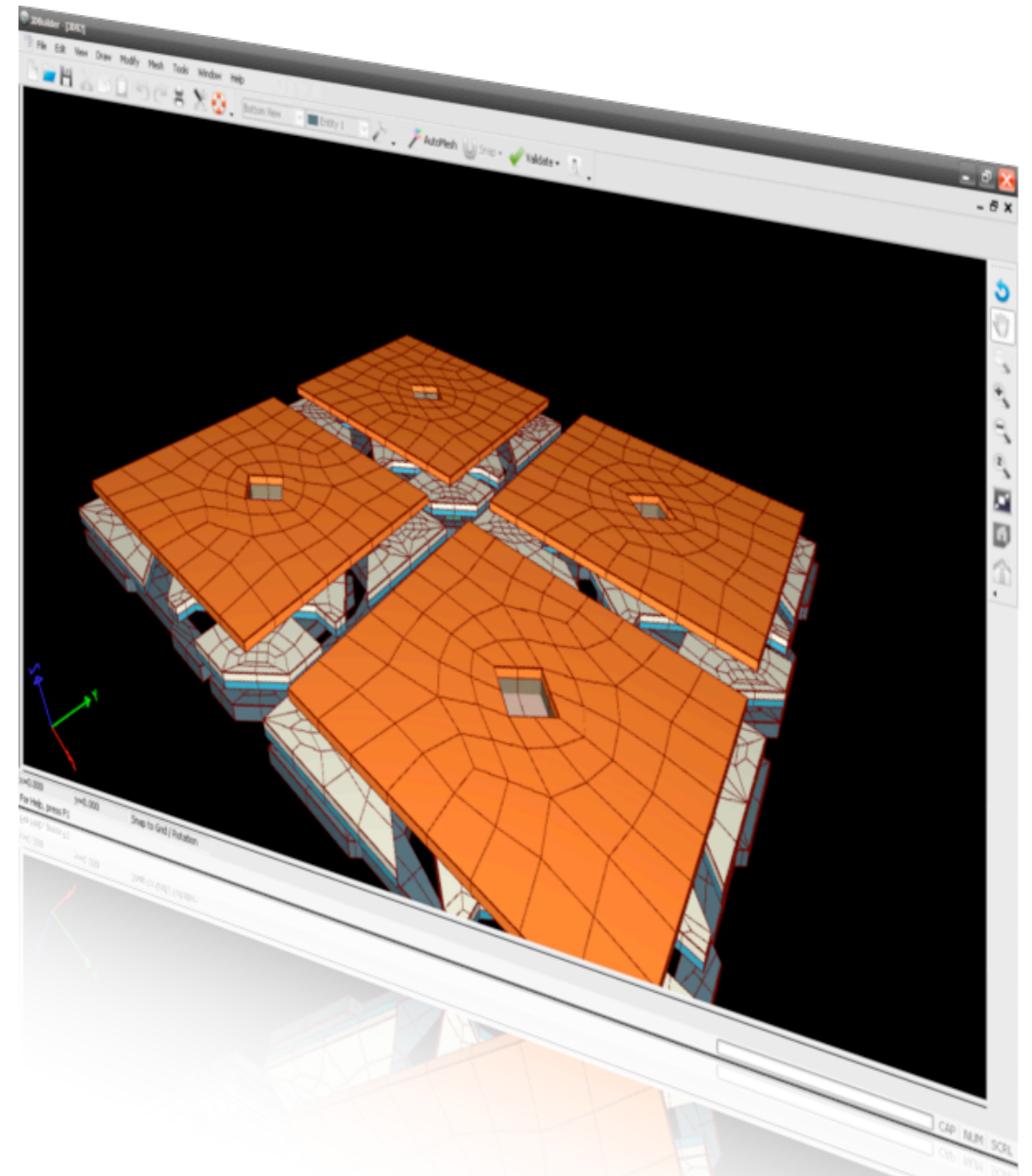
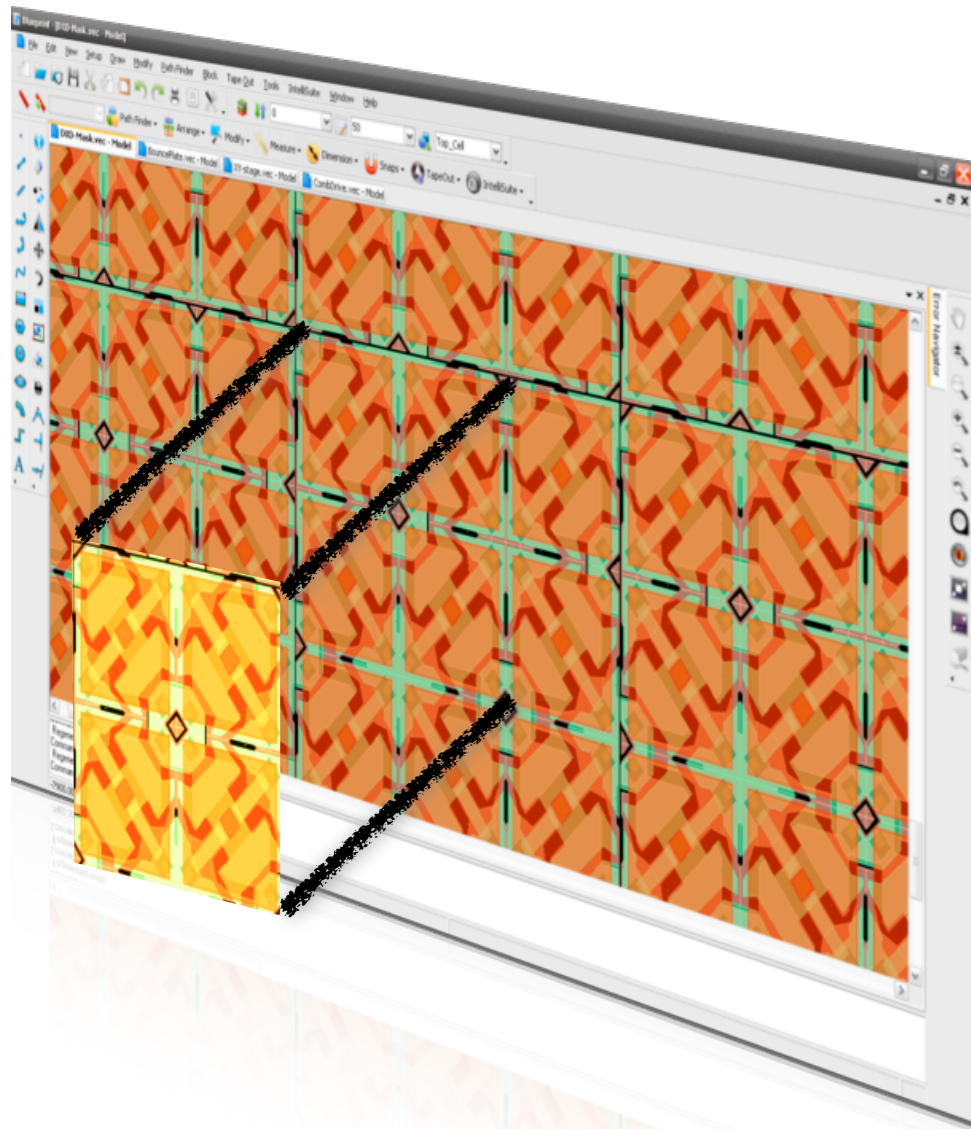
Automatically handled by Hexpresso...



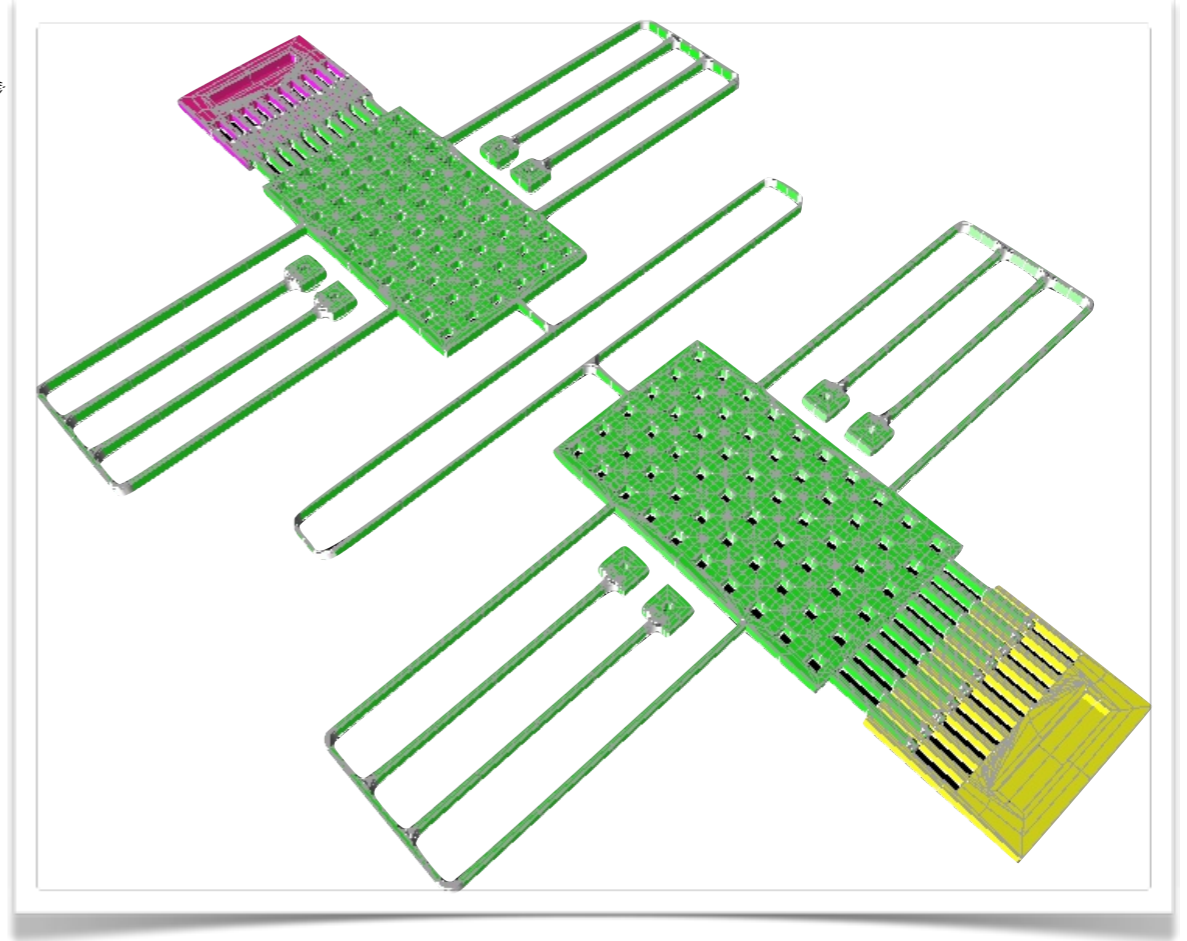
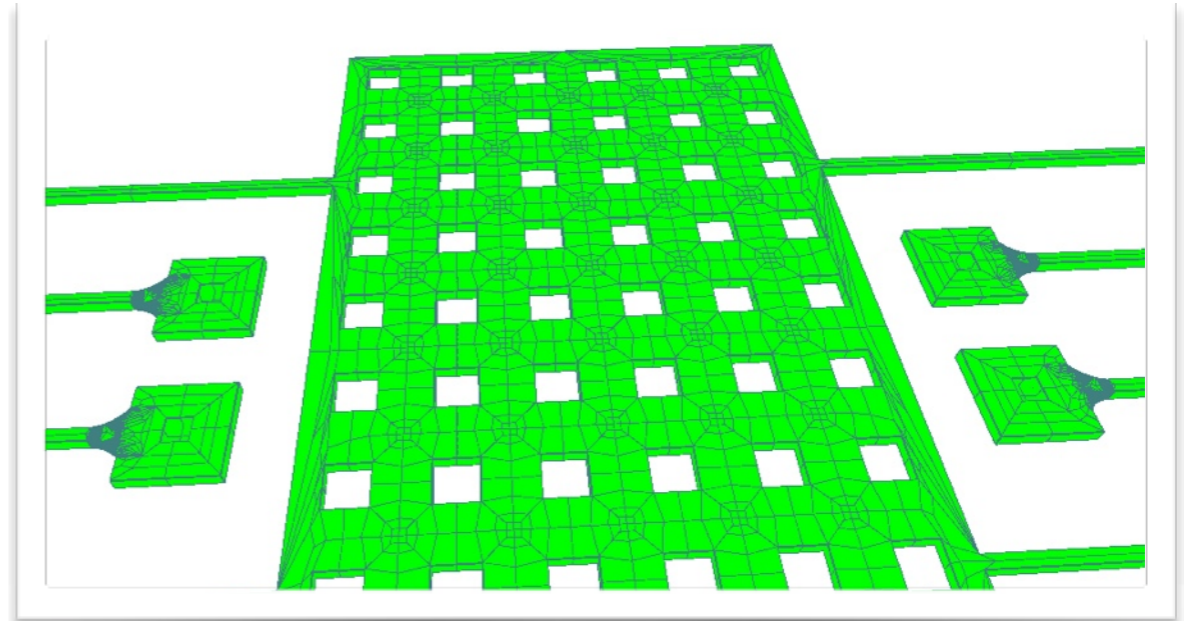
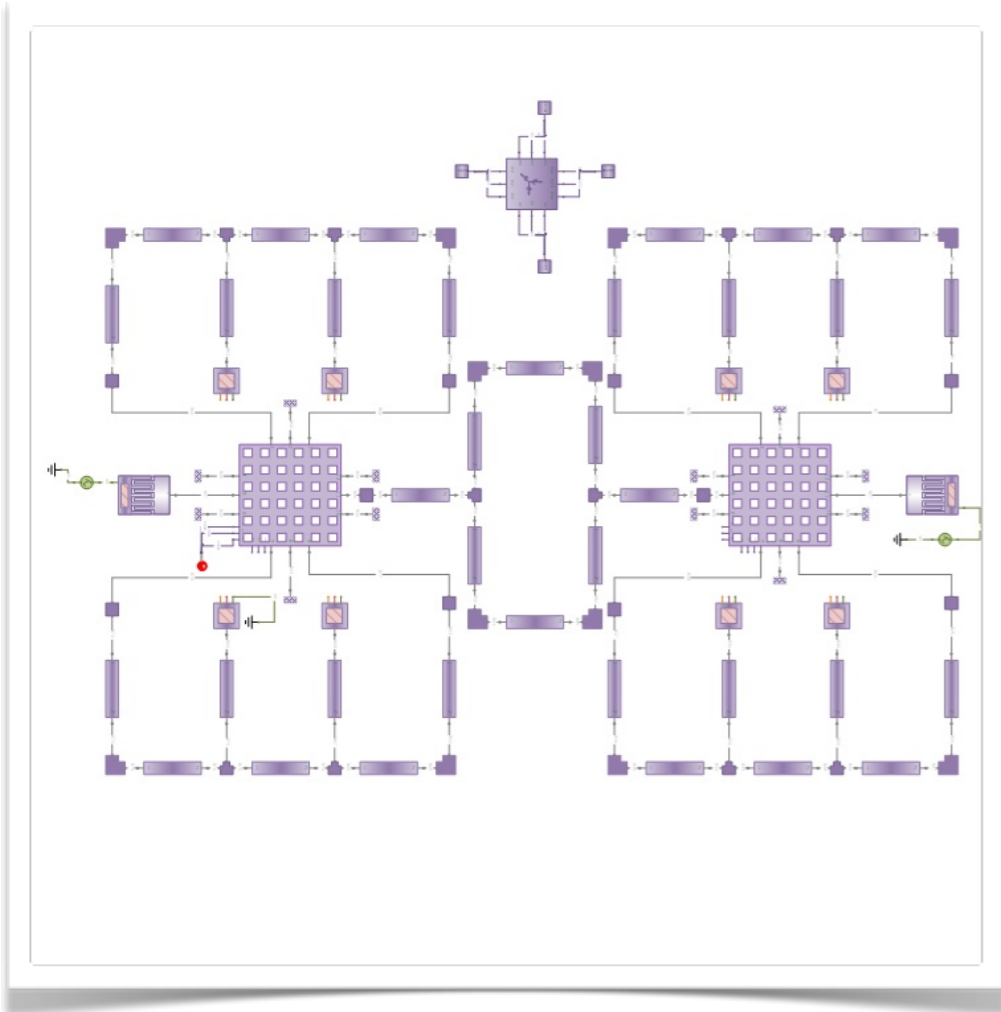
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Mask to mesh

Automated meshing of a micromirror array

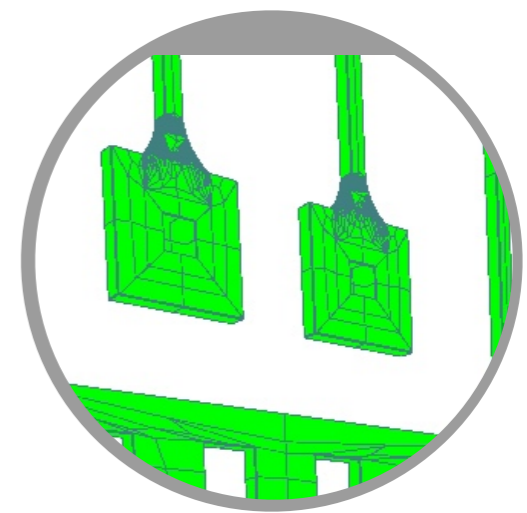
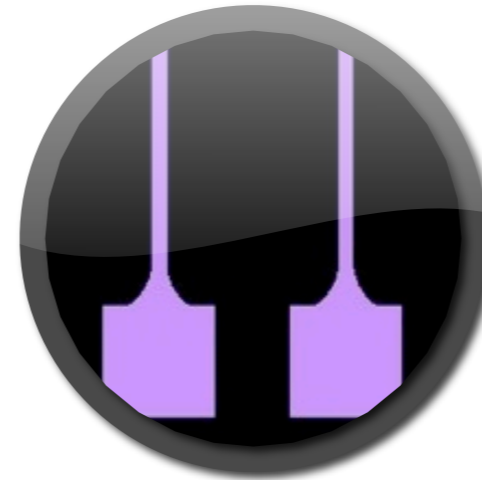
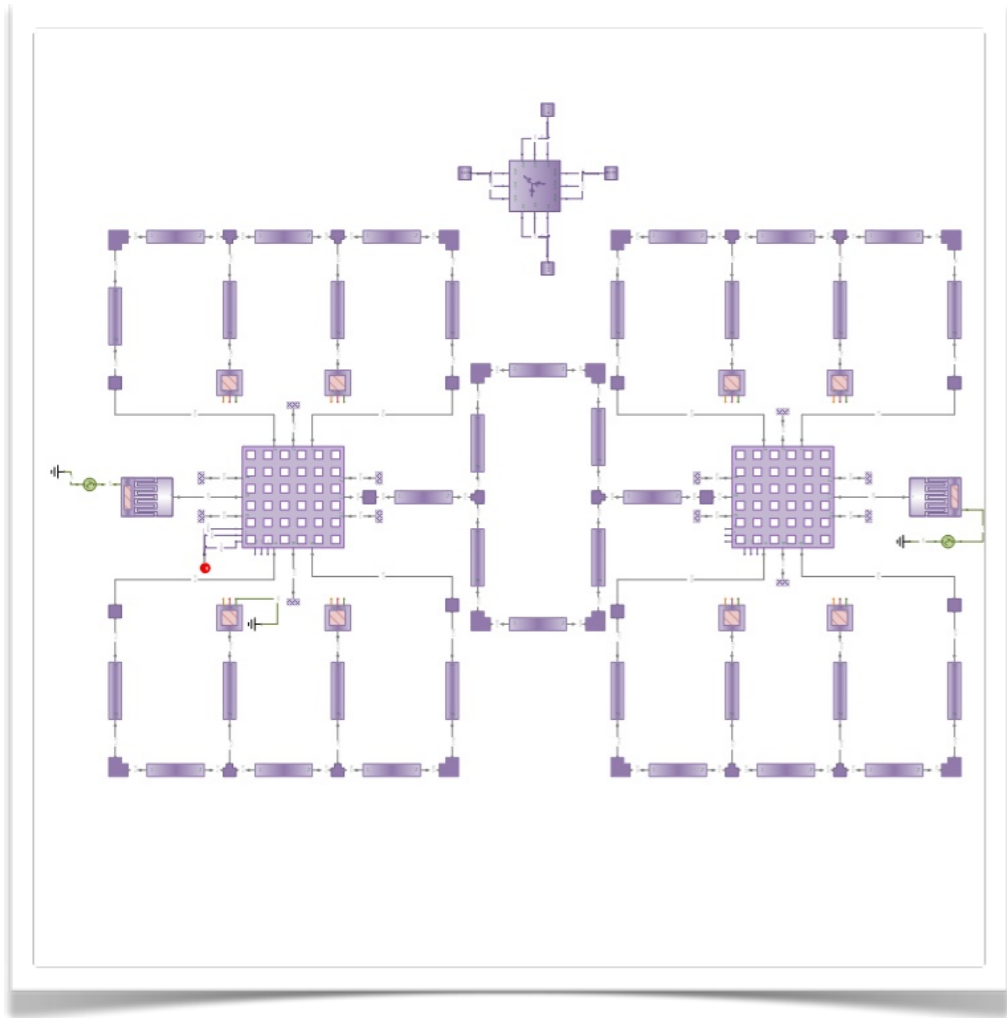


Schematic to mesh



Automated Hexahedral Meshing of the Structure

Automated refinement of high stress areas ...



Stress relief curves are identified and meshed

Apply mask transforms on the fly...

Generate parametric meshes for each of the process corners

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Properties

- Mesh Setup
- Transform Mask
- Adaptive Mesh
- Global Parameters
- About

Layer ...	Layer Name	$\Delta X(\mu\text{m})$	$\Delta Y(\mu\text{m})$	Rotation($^\circ$)	Offset(μm)
<input checked="" type="checkbox"/>	Layer 1	-1	-1	2	0.5
<input checked="" type="checkbox"/>	Layer 2	0	0	0	-0.5
<input checked="" type="checkbox"/>	Layer 3	0	1	0	0.5
<input checked="" type="checkbox"/>	Layer 4	1	0	0	-0.5
<input checked="" type="checkbox"/>	Layer 5	0	1	0	1
<input checked="" type="checkbox"/>	Layer 6	1	0	2	-1

Parameters

$\Delta X(\mu\text{m})$: Lateral Misalignment (X-axis)
 $\Delta Y(\mu\text{m})$: Lateral Misalignment (Y-axis)
Rotation($^\circ$): Rotational Misalign (About Origin)
Offset(μm): Mask Offset (Grow/Shrink)

Save Setting... Load Setting... Mesh Cancel

Parameters

$\Delta X(\mu\text{m})$: Lateral Misalignment (X-axis)
 $\Delta Y(\mu\text{m})$: Lateral Misalignment (Y-axis)
Rotation($^\circ$): Rotational Misalign (About Origin)
Offset(μm): Mask Offset (Grow/Shrink)

Mask transforms such as lateral and rotational misalignments, offsets (mask grow/shrink) can be applied on the fly...

Benefits...

- **High quality meshing**

All hexahedral mesh creation

- **Drastically reduce your design time**

80% savings compared to standard methods

- **Auto mesh refinement**

Identifies and refines areas of high stress

- **Parametric meshing**

Change device parameters without remeshing

- **Mask transformations**

Easily account for process corners including mask misalignments and mask offsets

- **Speed**

Typical meshes in under 1 minute



Hexpresso
wakeup and smell the coffee...

