

**Product Features**

Standard Package	Optional Add-on
<ul style="list-style-type: none"> <li>Mesh Project</li> <li>Parallel Processing (x4)</li> <li>Flow</li> <li>Cure</li> <li>Cool</li> <li>Warp</li> <li>Multiple Component Molding</li> <li>Stress</li> <li>FEA Interface</li> </ul>	<ul style="list-style-type: none"> <li>Viscoelasticity</li> <li>Compression Molding</li> <li>Underfill</li> </ul>

# Moldex3D IC Packaging

## Ensure Your Encapsulation Quality

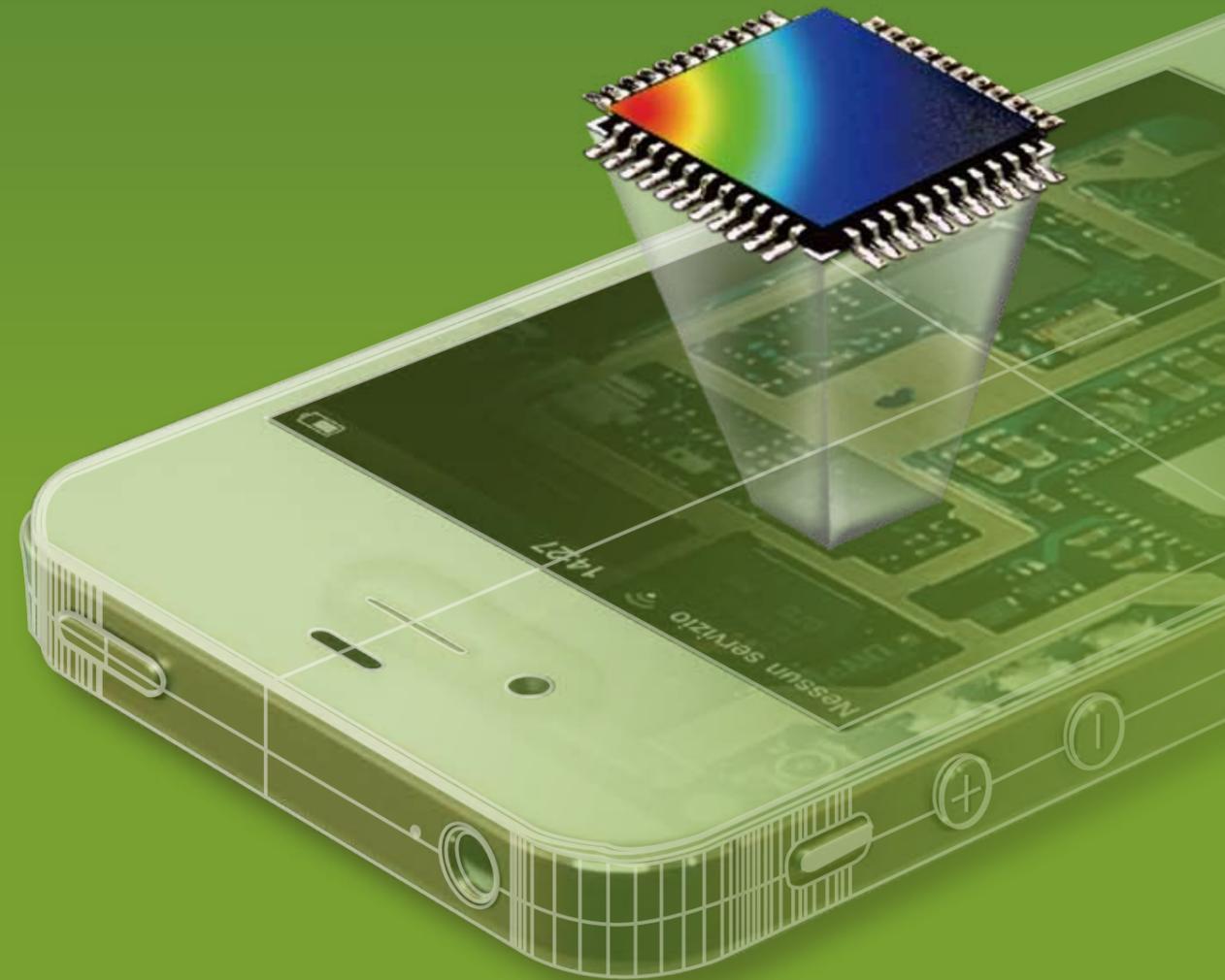
- Simulate chip encapsulation process and validate mold design
- Optimize process conditions and reduce cycle time
- Enhance chip quality and prevent potential defects

**Reference Customers in IC Industry**



**System Requirements:**

Platform	Windows	Microsoft Windows 8, Windows 7, Windows Vista, Server 2012, 2008, 2003
Hardware	Minimum	Intel® Core 2 Quad processor, 4 GB RAM, and at least 100 GB of free space
	Recommended	Intel® Core i7 or Intel® Xeon® processor, 16 GB RAM, and at least 200 GB of free space



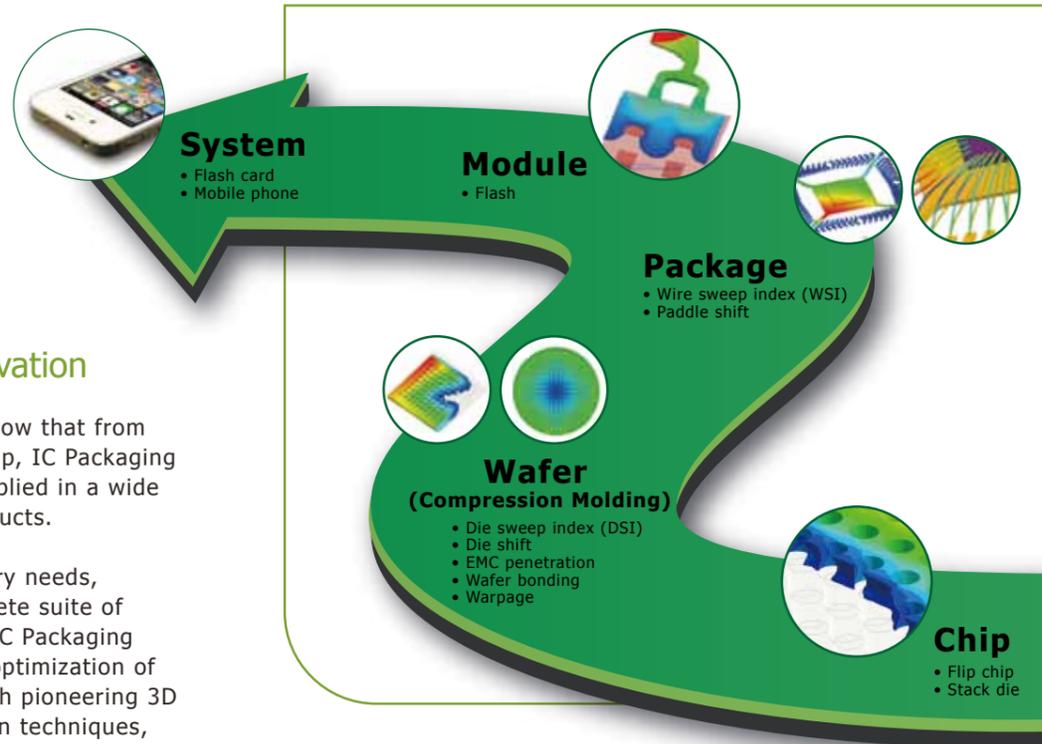
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## Chip Process Innovation

Industry professionals know that from wafer boarding to flip chip, IC Packaging has been increasingly applied in a wide variety of microchip products.

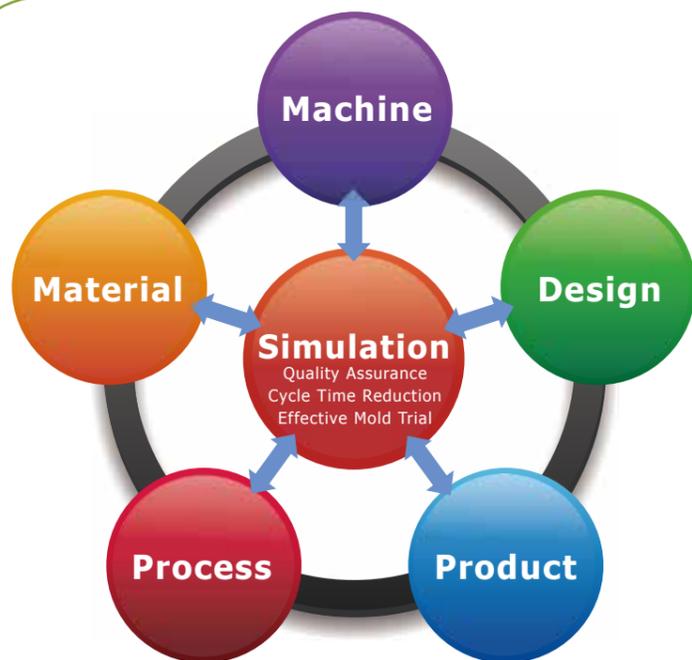
Based on growing industry needs, Moldex3D offers a complete suite of simulation solutions for IC Packaging ensuring validation and optimization of complex chip design. With pioneering 3D dynamic flow visualization techniques, potential defects such as wire sweep, paddle shift, and voids can be predicted and addressed before manufacturing.



## Pioneering Molding Solutions

Moldex3D simulation combines the full consideration of chip design, product life cycle, process control, material properties and machine. Accurate 3D dynamic flow visualization allows users to observe the structure variation when the melt flow passes through wires and evaluate the manufacturability.

Moldex3D promising solutions surely bring quality reliability and process efficiency.

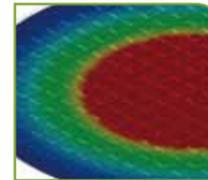


## Comprehensive Troubleshooting Capabilities



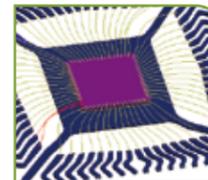
### Evaluate and optimize EMC flow patterns

- Visualize dynamic melt flow behaviors
- Evaluate gate, runner, and cooling designs
- Optimize flow balance and reduce cycle time
- Predict potential defects, such as welding line or air trap



### Visualize the effects of process design variations

- Evaluate temperature-dependent material properties
- Evaluate thermal stress due to temperature distribution
- Predict residual stress and permanent deformation
- Optimize thermal performance and avoid overheating



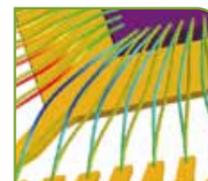
### Analyze wire sweep, wire crossover, paddle shift

- Observe wire sweep behaviors to optimize wire layout design
- Observe paddle shift behaviors to optimize thickness design
- Predict wire and paddle displacement in each direction
- Pinpoint crossed wires resulted from deformation



### Study complex composite material properties

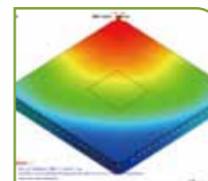
- Analyze filling and curing phenomena of thermoset materials
- Evaluate the effects of thermal expansion coefficient on stress
- Evaluate warpage due to the PVTC relation of EMC
- Support material elastic data to enhance analysis accuracy



### Validate your design with advanced FEA analysis

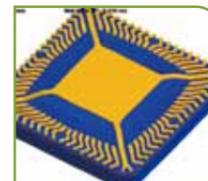
- Integrate with FEA software, including ANSYS and ABAQUS
- Analyze thermal stress based on temperature variations
- Improve wire sweep and paddle shift predictions

## Advanced Solution Add-ons



### Annealing Simulation

- Visualize the filling behavior through the annealing process
- Deliver temperature and stress distributions
- Predict potential deformation or cracking



### Compression Molding Simulation

- Predict potential defects and optimize process conditions
- Evaluate the correlation between die shift behavior and shear stress distribution
- Simulate the plunger movement to observe the filling pattern inside the pot
- Support particle tracking to improve the filling simulation



### Underfill Molding Simulation

- Visualize the filling pattern between die and substrate driven by the capillary flow
- Analyze dispensing parameters and consider constant contact angle
- Evaluate the effects of bump pitch and bump pattern on flip chip underfill
- Predict the locations of voids