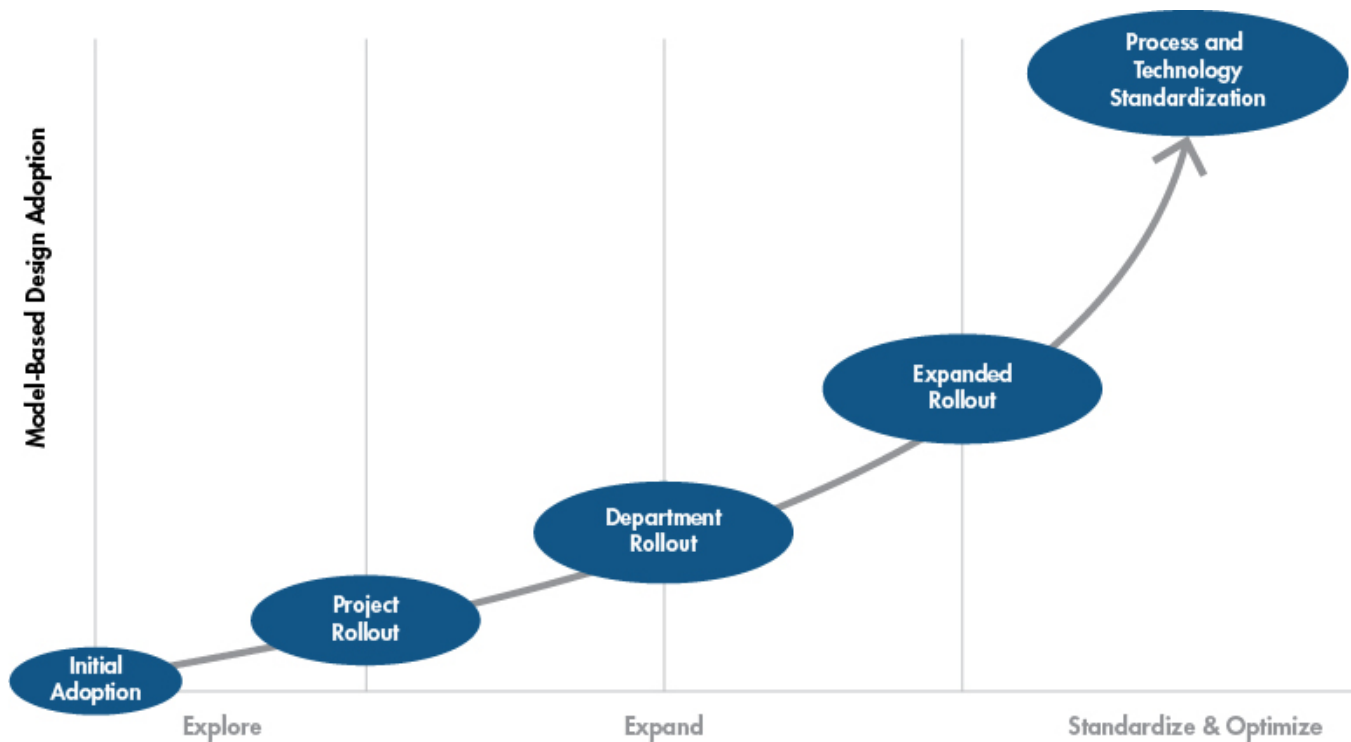


# Phased Approach to Model-Based Design Adoption

Successful adoption of Model-Based Design involves taking incremental steps that can help a project along without slowing it down. Refer to the chart below to see a sample implementation plan that shows how your organization could gradually adopt Model-Based Design.



- Organizations of all sizes begin their initial adoption of Model-Based Design at the small group level.
- A best practice is to apply Model-Based Design to a select project as a quick win.
- After gaining experience, successful teams roll out Model-Based Design at the department level so that models are the center of all of the group's embedded systems development.
- As the department proves the benefits of Model-Based Design (including faster development and higher quality), they champion the use more broadly in the organization with an expanded rollout.
- Over time, Model-Based Design becomes the de facto standard for all embedded systems projects. Teams continue to optimize their use of Model-Based Design.

### Sample Implementation Plan

Phase	0 – Getting Ready	1 – Feature Explore	2 – Component Expand	3 – Application Standardize	4 – Enterprise Optimize
<b>Theme</b>	<b>Commit</b>	<b>Explore</b>	<b>Expand</b>	<b>Standardize</b>	<b>Optimize</b>
<b>Prerequisites</b>	<ul style="list-style-type: none"> <li>Management support</li> <li>Organizational commitment</li> <li>Current state assessment</li> <li>Funding</li> </ul>	<ul style="list-style-type: none"> <li>Feature selection</li> <li>Project scope, goals, and constraints (refine for each phase)</li> <li>Requirements (refine for each phase)</li> </ul>	<ul style="list-style-type: none"> <li>Component selection</li> <li>Expanded training (physical modeling, )</li> </ul>	<ul style="list-style-type: none"> <li>Application selection</li> <li>Project-level training</li> </ul>	<ul style="list-style-type: none"> <li>Enterprise vision and goals</li> <li>Enterprise-level assessment</li> <li>deployment plan</li> <li>training</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>Learn the core tools</li> </ul>	<ul style="list-style-type: none"> <li>Modeling</li> <li>Simulation</li> <li>Refine requirements</li> <li>Generate code and execute on target</li> <li>(optional) Perform verification and validation (V&amp;V) (can be traditional or model-based)</li> </ul>	<ul style="list-style-type: none"> <li>Expand modeling</li> <li>Simulate at component level</li> <li>Introduce plant modeling</li> <li>Introduce model-based V&amp;V</li> <li>Infrastructure: build, configuration management, etc.</li> <li>Define and automate some processes</li> </ul>	<ul style="list-style-type: none"> <li>Expand plant modeling</li> <li>Simulate at the system level</li> <li>Perform full model-based V&amp;V</li> <li>Increase tool automation</li> <li>Create reusable libraries</li> <li>Complete process definition, and best practices</li> </ul>	<ul style="list-style-type: none"> <li>Introduce enterprise-level reuse</li> <li>Fully automate processes</li> <li>Standardize and tailor processes</li> <li>Create a Model-Based Design steering team</li> <li>Report on enterprise-level metrics and process optimization</li> </ul>
<b>Engineers</b>	Controls, Software	Controls, Software Team Size: 2 to 4	Systems, Controls, Software, Test, Process, and Tools Team Size: 5 - 10	Systems, Controls, Software, Test, Process, and Tools Team size: 8 - 15	Systems, Controls, Software, Test, Process, and Tools Team size: varies
<b>Recommended Support</b>	Training: 5 days	Consulting: ~10 days (Project set up, modeling, simulation, and code generation)	Consulting: ~10 -20 days (Plant modeling, model architecture, process, and infrastructure) Training: 5 days	Consulting: varies (Assessment, system architecture, V&V, process, and infrastructure)	Consulting: varies (Assessment, implementation and deployment plan, and automation)
<b>Duration</b>	1-3 weeks	3- 6 weeks	3 – 6 months	6 – 9 months	Continuous
<b>Cost</b>					
	<ul style="list-style-type: none"> <li>Tools</li> <li>Training</li> <li>Consulting</li> </ul>				