

# Models in Engineering

## WEEK 4: MODELS IN VERIFICATION AND VALIDATION

Week 4>When are Models the Right V&V Strategy>

### OPTIONS

	Product		Process	
System	Models	<i>Product simulations, Videos, FMEA</i>	Models	<i>Discrete event, simulation</i>
	Prototype	Functional tests	Prototype	Early pilots
	Production	Reliability testing, user testing	Production	Launch
	Post-prod.	<i>Warranty analysis,</i>	Post-prod.	KPI
Sub-system/ Function	Models	<i>Dimensional analysis Life cycle simulation</i>	Models	<i>Virtual assembly,Digital mockups</i>
	Prototype	Bench tests Functional testing Design of experiments	Prototype	DFA analysis, design for ergonomic Pilot factories
	Production	Reliability/cycle testing Functional testing	Production	Piloting
	Post-prod.	OPT	Post-prod.	
Part	Models	<i>FEA</i>	Models	<i>Process simulation</i>
	Prototype	Bench tests	Prototype	DFM
	Production	FPI	Production	Design of experiments
	Post-prod.	On-going inspection	Post-prod.	KPIs
Feature	Models	Process capability analysis	Models	Process simulation
	Prototype	3-d printing	Prototype	Prototype mfg process
	Production	Metrology/GD&T	Production	SOPs/Pilot
	Post-prod.	SPC	Post-prod.	SPC/Process Auditing