



SOCIETY OF CONCURRENT ENGINEERING BODY OF KNOWLEDGE



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STRATEGY	PEOPLE	PROCESS	TOOLS	TECHNOLOGY
Business & product strategy Market research Competitive analysis Product planning & management R&D management Innovation management Technology deployment Variation & risk management Project funding Project prioritization & selection Process funding & planning Portfolio management Product life cycle management Modularity & design re-use Resource & capacity management	Leadership Cross-functional teams Teamwork Empowerment Collocation Communication Consensus decisionmaking Team leader Early involvement Defined roles & responsibilities Flat organizations Career development Common team charter Resource management Performance measures Recognition & reward systems	Reengineering Concurrency Structured, documented processes Managed, optimized processes Phases, milestones, & gates Systems engineering Customer requirements Product definition Design guidelines Reverse engineering Product specifications Project management Supplier involvement Design reviews Lessons learned Benchmarking Continuous improvement Metrics & measures Groupware & workflow Collaborative computing	Quality function deployment [QFD] Standard parts libraries, preferred parts lists Design to cost Product & life cycle cost models Robust design Design of experiments Design for manufacture & assembly [DFM/A] Design for maintainability & serviceability Design for reliability Design for the environment [DFE] Design for testability [DFT] Failure mode & effects analysis [FMEA] Failure reporting & corrective action system Reliability prediction models Group technology [GT] Value engineering	Digital product model Design repositories Solids modeling Electronic mock-up Frameworks Top-down design Industrial design modeling & rendering CAE simulation & analysis Rapid prototyping Computer-aided process planning Knowledge-based engineering CASE CAM/NC programming Computer-aided test Engineering & product data management Product data standards (STEP, IGES, EDIF, ...) Geometric tolerancing EDI & CALS Decision support Integration