

MAXiT
PRODUCT DEVELOPMENT CHECKLIST

Courtesy of High Performance Concepts, Inc., Atlanta, GA.
 For information on our methodology and workshops, please call us at 770-859-0161 or visit our web site at www.hpcinc.com.

Project _____ Sheet _____ of _____
 Company/Unit _____ Date _____
 By _____ With _____

| PRIMARY GOALS / OBJECTIVES | | TARGET PROCESSES OR AREAS | | | | | | | | | |
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| EXPLORATION/IMPACT RATINGS | REJECTION REASONS | EXPLORE (Vowel Rating) | REJECT (Reason #) | Responsible | Introduce more products | Faster market introduction | Rate/degree of success | Development / testing costs | Life cycle costs (mfg, mktg) | Return on devel. resources | IMPACT CODE |
| | | | | | | | | | | | |
| IDEAS - METHODS - APPROACHES | | ACTION ? | | | POTENTIAL IMPACT | | | | | COMMENTS | |
| DEFINE / REFINE STRATEGY | 1. Define goals and mission for development process and individual projects | | | | | | | | | | |
| | 2. Define / refine ideal and achievable levels of product variety | | | | | | | | | | |
| | 3. Change mix of line extensions vs. cost projects vs. totally new products, etc. | | | | | | | | | | |
| | 4. Adopt a first-to-market strategy | | | | | | | | | | |
| | 5. Adopt a fast-follower strategy | | | | | | | | | | |
| | 6. Define internal & external customers | | | | | | | | | | |
| | 7. Examine assumed internal product development competencies | | | | | | | | | | |
| | 8. Consider licensing | | | | | | | | | | |

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| | | IDEAS - METHODS - APPROACHES | ACTION ? | | | | | | | | |
| ORGANIZE | 9. Centralize / distribute across business units or divisions | | | | | | | | | | |
| | 10. Outsource entire development process for certain product groups | | | | | | | | | | |
| | 11. Joint development with complementary firms | | | | | | | | | | |
| | 12. Redefine roles of customers, marketing, engineering and suppliers | | | | | | | | | | |
| | 13. Organize cross-functional teams around product groups | | | | | | | | | | |
| | 14. Organize cross-functional teams around customer groups | | | | | | | | | | |
| | 15. Organize teams around projects (temporary teams) | | | | | | | | | | |
| | 16. Create regional development centers | | | | | | | | | | |
| | 17. Create a "Skunkworks" organization, apart from other development resources | | | | | | | | | | |
| | 18. Establish a new division for development and delivery of the new product or service | | | | | | | | | | |
| | 19. Change organizational structure | | | | | | | | | | |
| | 20. Assign strong product champions | | | | | | | | | | |
| 21. One consistent owner throughout the entire development life cycle | | | | | | | | | | | |
| 22. Co-locate personnel from many functions | | | | | | | | | | | |

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| | | | | | | | | | | | | IDEAS - METHODS - APPROACHES |
| MOTIVATE | 23. Reassign roles for departments, managers, and/or personnel | | | | | | | | | | | |
| | 24. Enhance skill base through hiring | | | | | | | | | | | |
| | 25. Enhance skill base through training | | | | | | | | | | | |
| | 26. Tie individual performance measures to project goals | | | | | | | | | | | |
| | 27. Increase impact of cross-functional project contributions on within-function appraisals | | | | | | | | | | | |
| | 28. Development champion shares in profit of specific product profitability | | | | | | | | | | | |
| | 29. Bonus for champion | | | | | | | | | | | |
| | 30. Stock options for champion | | | | | | | | | | | |
| | 31. Development team bonuses | | | | | | | | | | | |
| | 32. Development team stock options | | | | | | | | | | | |
| | 33. Development team share in profit of specific product profitability | | | | | | | | | | | |
| | 34. Development team award dinners, plaques and recognition | | | | | | | | | | | |
| | 35. Development team "comp" time | | | | | | | | | | | |
| | 36. Equal rewards for proper go and no-go decisions | | | | | | | | | | | |
| 37. Allow time and budget for associates to explore unrestricted entrepreneurial endeavors | | | | | | | | | | | | |

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| | | | | | | | | | | | |
| GENERATE NEW PRODUCT IDEAS | 38. Increase / formalize customer involvement | | | | | | | | | | |
| | 39. Increase visits to customer points of use | | | | | | | | | | |
| | 40. Focus on lead users (early adopters) for product improvement ideas | | | | | | | | | | |
| | 41. Institute / improve employee suggestion process | | | | | | | | | | |
| | 42. Implement or increase rotation of field personnel into development positions | | | | | | | | | | |
| | 43. Implement or increase frequency of brainstorming sessions & off-site retreats | | | | | | | | | | |
| | 44. Formalize or Increase involvement of suppliers and other supply chain partners | | | | | | | | | | |
| | 45. Increase focus groups and market research | | | | | | | | | | |

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| | | IDEAS - METHODS - APPROACHES | ACTION ? | POTENTIAL IMPACT | | | | | | | |
| PRIORITIZE & PLAN PROJECTS | 46. Implement a formal project prioritization process | | | | | | | | | | |
| | 47. Redefine optimum number of projects per staff member | | | | | | | | | | |
| | 48. Increase/reduce customer input on prioritization | | | | | | | | | | |
| | 49. More / less senior management direction on prioritization | | | | | | | | | | |
| | 50. Establish formal budgets for all development phases | | | | | | | | | | |
| | 51. Create sensitivity analysis for changes to product cost and other key attributes | | | | | | | | | | |
| | 52. Develop contingency plans based on sensitivity analysis | | | | | | | | | | |
| | 53. Establish plan for disbanding team upon success or failure; go or no-go | | | | | | | | | | |

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| REFINE & ANALYZE IDEA | 54. Identify product features via Quality Function Deployment | | | | | | | | | | |
| | 55. Establish clearly defined financial feasibility hurdles | | | | | | | | | | |
| | 56. Early input from operations on ease of manufacture, delivery & maintenance | | | | | | | | | | |
| | 57. Early input from legal & regulatory agencies | | | | | | | | | | |
| | 58. Early formation of cross-functional teams | | | | | | | | | | |
| | 59. Analyze changes to product cost and other key attributes | | | | | | | | | | |
| | 60. Increase use of focus groups and other market research techniques | | | | | | | | | | |
| | 61. Formal risk analysis process | | | | | | | | | | |

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| DESIGN & PROTOTYPE -- PROCESS & ORGANIZATION | <u>Process</u> | | | | | | | | | | | |
| | 62. Formal documentation of product performance criteria prior to start | | | | | | | | | | | |
| | 63. Formal cut-off date for changes to performance criteria and features | | | | | | | | | | | |
| | 64. Reduce number of approvals and sign-offs | | | | | | | | | | | |
| | 65. Allow overlapping of development phases while awaiting sign-offs | | | | | | | | | | | |
| | 66. Reduce number of prototype and test cycles | | | | | | | | | | | |
| | 67. Use existing parts whenever possible | | | | | | | | | | | |
| | 68. Re-use existing designs whenever possible | | | | | | | | | | | |
| | 69. Concurrent engineering | | | | | | | | | | | |
| | 70. Design for ease of manufacture, assembly, delivery, and/or maintenance | | | | | | | | | | | |
| | 71. Expand use of common, sub-product modules | | | | | | | | | | | |
| | 72. Increase recyclability or re-usability of products | | | | | | | | | | | |
| | 73. Prototyping by production people on production equipment | | | | | | | | | | | |
| | 74. Establish formal part categories and reduce variation within categories | | | | | | | | | | | |
| | <u>Organization</u> | | | | | | | | | | | |
| | 75. Cross functional design teams | | | | | | | | | | | |
| 76. More / earlier supplier involvement | | | | | | | | | | | | |
| 77. Measure cycle time of all individuals involved in approvals | | | | | | | | | | | | |
| 78. Outsource prototyping | | | | | | | | | | | | |

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| DESIGN & PROTOTYPE -- SYSTEMS & FACILITIES | <i>Information & Systems</i> | | | | | | | | | | |
| | | 79. CAD Systems | | | | | | | | | |
| | | 80. Computer Aided Engineering Systems | | | | | | | | | |
| | | 81. Computer Aided Manufacturing Systems | | | | | | | | | |
| | | 82. Finite Element Analysis | | | | | | | | | |
| | | 83. Rapid Prototyping Systems | | | | | | | | | |
| | | 84. Product Data Management Systems | | | | | | | | | |
| | | 85. Component & Supplier Management Systems | | | | | | | | | |
| | | 86. Document Management Systems | | | | | | | | | |
| | | 87. Workflow Routing Systems | | | | | | | | | |
| | | 88. Imaging Systems | | | | | | | | | |
| | | 89. Simulation Tools | | | | | | | | | |
| | | 90. Groupware (e.g.. Lotus Notes) | | | | | | | | | |
| | | 91. Project Management Software | | | | | | | | | |
| | | 92. Common systems across development centers | | | | | | | | | |
| | <i>Facilities and Equipment</i> | | | | | | | | | | |
| | 93. Production equipment dedicated or semi-dedicated to prototype trials | | | | | | | | | | |
| | 94. In-house prototyping, model shop and testing facilities | | | | | | | | | | |
| | 95. Pilot facilities | | | | | | | | | | |

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| TEST MARKETING | 96. Eliminate test marketing | | | | | | | | | | |
| | 97. Involve design engineers in observation of focus groups | | | | | | | | | | |
| | 98. Formal, predefined test market success hurdles | | | | | | | | | | |
| | 99. Predefined test marketing duration | | | | | | | | | | |
| | 100. Systems and processes to convert test market comments into features (QFD) | | | | | | | | | | |
| PRODUCT INTRODUCTION | 101. Early identification of and consent from candidate production facilities | | | | | | | | | | |
| | 102. Pre-launch preparation by marketing, maintenance, and customer service | | | | | | | | | | |
| | 103. Variety management incentives for production facilities | | | | | | | | | | |
| | 104. Formal Engineering Change Process | | | | | | | | | | |
| | 105. Integration of engineering systems with ERP bill of materials and routings | | | | | | | | | | |
| | 106. Early identification of regional and global suppliers | | | | | | | | | | |
| | 107. Predetermined financing decisions for new supplier manufacturing equipment | | | | | | | | | | |