# Technology Planning Questionnaire

- All respondents complete Parts A & C …
- Complete Part B if you have applied the Technology Route / Road Mapping technique …
- There is space for additional / expanded comments on pg. 4 (annotate questionnaire as required) …

Please return the survey in the Freepost envelope enclosed. We would be grateful to receive replies by 1st October 1999.

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<tr>
<th>Name</th>
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All respondents complete part A…

## PART A - Technology Planning - General

(This section identifies experience in technology planning, in terms of planning horizon, drivers, approach and tools)

### A.1 What is your company’s planning horizon?

- [ ] < 1 year  
- [ ] 1 to 2 years  
- [ ] 2 to 5 years  
- [ ] 5 to 10 years  
- [ ] 10 - 20 years  
- [ ] > 20 years  

**Comments …**

### A.2 What is the typical time between new product releases in your business? Typical product life-cycle? (in years)

- Incremental product improvements: □□□□□
- Radical product improvements: □□□□□
- Typical product life-cycle (years): □□□□□

**Comments …**

### A.3 Where on the following scale would you place your company? (i.e. market ‘pull’ vs. technology ‘push’)

1  2  3  4  5  6  7

**Technology driven**

**Market driven**

### A.4 Do you have a structured process for technology planning?  
- [ ] Yes  
- [ ] No

Please describe your approach briefly (e.g. step-by-step approach, regular review meetings, R&D project management, HR strategy, etc.) …

### A.5 What drivers motivate you to carry out technology planning?

- **External** factors (e.g. regulation, competition) …
- **Internal** factors (e.g. strategy, new products) …

### A.6 Tools, techniques or methods for supporting technology planning

What tools, techniques or methods do you use to support technology planning?

Where is there need for tools, techniques or methods to support technology planning? (i.e. gaps)
A.7 Technology Route / Road Maps (TRMs) are sometimes used to support technology planning (see box).

Have you: (Tick one option)
- Never heard of TRM?
- Heard of TRM, but have not considered it a potentially useful approach?
- Heard of TRM, and consider it a potentially useful approach?
- Used TRM?

If you have used technology route / road mapping, please continue to Part B, below …
If you have not used technology route / road mapping, please go to Part C, page 3 …

PART B - Technology Route / Road Mapping

(B.1) What were your objectives in starting Technology Route / Road Mapping? (Tick all that apply; circle most important)

- General business strategy and planning
- Technology strategy initiatives
- Technology planning initiatives
- Communication of technology plans
- Use of structured tools / business processes
- Development of new products or services
- Development of competences, capabilities or skills
- Risk management
- Exploration of future business / technology scenarios
- Improvement of synergy across multiple business units / sites

Why did you select TRM? (i.e. as opposed to other approaches)

B.2 How far did you get? (Tick one option)

- Did not complete first application
- Has been done more than once
- Done once, don’t plan to do again
- Is an ongoing process (e.g. part of annual strategy / planning cycle)

B.3 What did you do? (i.e. what form did the technology route / road map process / initiative take? - e.g. no. of workshops)

How long did you initially plan for the process? (i.e. how long did you think it would take?)

[Approx. labour effort (person-days)] [Approx. elapsed time (calendar months)]

How long did it actually take?

[Approx. labour effort (person-days)] [Approx. elapsed time (calendar months)]

What was the key challenge in implementing technology route / road mapping? (Tick one option)

- Starting up the TRM process
- Developing a robust TRM process
- Linking TRMs across the business
- Keeping the TRM process ‘alive’ on an ongoing basis

Other (please describe) …

B.4 Overall, was the application successful in meeting the objectives selected in B.1? (Tick one option)

- All the objectives achieved, including unexpected benefits
- All the objectives achieved
- Useful exercise, with most of the objectives achieved
- Useful exercise, with objectives partially met
- Objectives achieved to a limited extent
- Objectives achieved
- None of the objectives were achieved
- To early to tell
B.5 What factors contributed to success, and what were the barriers? (Tick all that apply; circle most important)

**Success factors:**

- Clear business need
- Desire to develop effective business processes
- Company culture & politics supported participation / progress
- Right people / functions were involved
- Commitment from senior management
- Required data / information / knowledge available
- Timing of the initiative was appropriate
- Clear and effective process for developing route map
- Effective tools / techniques / methods
- Effective facilitation / training
- Right people / functions were involved
- Commitment from senior management
- Required data / information / knowledge not available
- Timing of the initiative was inappropriate
- Lack of clear and effective process for developing map
- Lack of effective tools / techniques / methods
- Lack of effective facilitation / training

**Barriers to success:**

- Lack of clear business need
- Initiative overload / distraction from short-term tasks
- Company culture & politics impeded participation / progress
- Right people / functions were not involved
- Lack of commitment from senior management
- Required data / information / knowledge not available
- Timing of the initiative was inappropriate
- Lack of clear and effective process for developing map
- Lack of effective tools / techniques / methods
- Lack of effective facilitation / training

Other(s) / comments …

Other(s) / comments …

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B.6 Tools, techniques or methods for supporting technology route / road mapping

What tools, techniques or methods do / did you use to support technology route / road mapping?

Where is there need for tools, techniques or methods to support technology route / road mapping? (i.e. gaps)

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Please continue to Part C, below …

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**PART C - Business Context**

(This section identifies contextual factors that may affect technology planning practice, in terms of organisation size, sector, manufacturing, change and culture)

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C.1 Organisation size  
(tick one option in each case, for organisation as a whole, and for your business unit, if applicable)

**Total number of employees in:**

- Organisation: 
  - < 25
  - 25 to 100
  - 100 to 250
  - 250 to 500
  - 500 to 1,000
  - 1,000 to 5,000
  - 5,000 to 20,000
  - ≥ 20,000
- Business Unit: 
  - < 25
  - 25 to 100
  - 100 to 250
  - 250 to 500
  - 500 to 1,000
  - 1,000 to 5,000
  - > 5,000

**Turnover of:**

- Organisation: 
  - < £1 million
  - £1 million to £10 million
  - £10 million to £100 million
  - £100 million to £1,000 million
  - > £1,000 million
- Business Unit: 
  - < £1 million
  - £1 million to £10 million
  - £10 million to £100 million
  - £100 million to £500 million
  - > £500 million

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C.2 Which option best describes your industry sector?  
(tick one option)

- Aerospace & defence
- Automotive
- Beverages
- Chemicals
- Construction & building
- Diversified industrial
- Electricity
- Electronic & electrical equipment
- Engineering & machinery
- Food production & processing
- Forestry & paper
- Household & textiles
- IT hardware
- Oil & gas
- Personal & household products
- Pharmaceuticals
- Steel & other metals
- Software & computer services
- Telecommunications
- Transport
- Water
- Other (please describe) …

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C.3 How would you describe your main manufacturing facilities?  
(tick one option)

- Project based
- Unit manufacture
- Small batch
- Large batch
- Cellular
- Flow / production line
- Continuous flow / process
- Other (please describe) …
C.4  Which statement best describes the technological complexity of your business? (tick one option)

- Multiple product families incorporating complex or rapidly evolving technology
- Single product family incorporating complex or rapidly evolving technology
- Multiple product families incorporating mature or slowly evolving technology
- Single product family incorporating mature or slowly evolving technology
- Other (please describe) …

C.5  How has your organisation developed in the last 10 years? (i.e. organisational history / change; tick all that apply; circle most influential)

- Maintenance of status quo
- Organic growth
- Growth by acquisition / mergers
- Development of partnerships and joint ventures
- Down sizing
- Focus on core business / competence
- Business process re-engineering
- Other(s) - please describe …

C.6  Which description below best describes your organisation’s culture? (tick one option)

- Flexibility, Discretion & Dynamism
- Stability, Order & Control
- External Focus, Differentiation & Rivalry
- Internal Focus, Integration & Unity
- The Clan Culture
- The Adhocracy Culture
- The Hierarchy Culture
- The Market Culture

Comments (impact of culture on technology management & planning) …

Note, this organisational culture model is based on the ‘Competing Values Framework’ developed by Cameron KS & Quinn RE, ‘Diagnosing and changing organisational culture’, Addison-Wesley, 1999

Additional comments

(This section allows you to expand on any issues that were not captured on previous pages, or to add other comments you feel are important)