



Science, Innovation and Electronic
Information Division

Survey of Innovation 1999

Si vous préférez recevoir ce questionnaire en français,
veuillez cocher

Confidential when completed

**Correct pre-printed information if necessary using the
corresponding boxes provided below.**

| | |
|---------------|-------------|
| Legal Name | |
| Business Name | |
| C / O | |
| No. & Street | |
| City | |
| Province | Postal Code |
| Contact | |
| Téléphone no. | |
| Area code | Extension |
| Facsimile no. | |
| Area code | |

Survey Purpose

The information you provide is essential to assure the availability of pertinent information on innovation. The information compiled from the survey can be used by firms for market analysis, by trade associations to study performance and other characteristics of their industries, and by government to develop national and regional economic policies.

Authority

This survey is conducted under the authority of the Statistics Act, Revised Statutes of Canada, Chapter S19. Completion of this questionnaire is a legal requirement under the Statistics Act.

Confidentiality

Statistics Canada is prohibited by law from publishing any statistics which would divulge information obtained from this survey that relates to any identifiable firm without the previous consent of that firm. The data

reported in this questionnaire will be treated in strict confidence, used for statistical purposes and published in aggregate form only. Statistics Canada will create a data base combining individual survey responses with existing Statistics Canada data records. The confidentiality provisions of the Statistics Act are not affected by either the Access to Information Act or any other legislation.

Federal-Provincial Agreement

In order to avoid duplication of enquiry, to reduce the cost of collection and to provide consistent statistics, an agreement has been made with the Bureau de la Statistique du Québec, under Section 11 of the Statistics Act, Statutes of Canada, where data on firms located or operating in Québec will be transmitted to the Bureau de la Statistique du Québec. The Statistics Act of Québec includes the same provisions for confidentiality and penalties for disclosure of information as the Federal Statistics Act.

In this questionnaire, "firm" refers to the legal entity that owns your plant or establishment which operates in Canada.

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Competitive Environment

1. For your firm, how strongly do you agree or disagree with each of the following statements?

Please indicate your opinion by using the following scale where 1 is strongly disagree and 5 is strongly agree. Check 0 if not relevant to your firm.

| | Strongly Disagree | | Strongly agree | | Not Relevant | |
|--|------------------------------|-------------------------|---------------------------|-------------------------|-------------------------|-------------------------|
| | 1 | 2 | 3 | 4 | 5 | 0 |
| | ←—————→ | | | | | |
| a. My client's demands are easy to predict | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| b. My clients can easily substitute my products (goods or services) for the products of my competitors | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| c. My competitors' actions are easy to predict | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| d. The arrival of new competitors is a constant threat | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| e. The arrival of competing products (goods or services) is a constant threat | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| f. My firm can easily replace its current suppliers | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| g. It is difficult to hire qualified staff and workers | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| h. It is difficult to retain qualified staff and workers | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| i. My products (goods or services) quickly become obsolete | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| j. Production technologies change rapidly | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| k. Office technologies change rapidly | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |

Firm Success Factors

2. Please rate the importance of each of the following factors for the success of your firm.

Please indicate your opinion by using the following scale where 1 is low importance and 5 is high importance. Check 0 if not relevant to your firm.

| | Low | Importance | | | | | High | Not Relevant |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------|--------------|
| | 1 | 2 | 3 | 4 | 5 | 0 | | |
| | ←—————→ | | | | | | | |
| Markets and Products | | | | | | | | |
| a. Seeking new markets | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| b. Satisfying existing clients | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| c. Developing niche or specialized markets | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| d. Developing export markets | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| e. Promoting firm or product (good or service) reputation | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| f. Providing after-hour client support services | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| Human Resources | | | | | | | | |
| g. Hiring new graduates from universities | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| h. Hiring new graduates from technical schools and colleges | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| i. Hiring experienced employees | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| j. Recruiting skilled people from outside of Canada | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| k. Training employees | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| l. Using teams within your firm which bring together people with different skills | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| Other | | | | | | | | |
| m. Performing research and development within your firm | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| n. Involvement in collaboration and cooperation with other firms | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| o. Developing new products (goods or services) and processes | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |
| p. Active involvement in developing new industry-wide standards | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> | | |

New and Significantly Improved Products and Processes

3. A **new product (good or service)** is a product which is new to your firm whose characteristics or intended uses differ significantly from those of your firm's previously produced products.

A **significantly improved product (good or service)** is an existing product whose performance has been significantly enhanced or upgraded. A complex product which consists of a number of components or integrated subsystems may be improved by partial changes to one of the components or subsystems. Changes to your firm's existing products which are purely aesthetic or which only involve minor modifications are not to be included.

During the last three years, 1997 to 1999, did your firm offer new or significantly improved **products (goods or services)** to your clients?

- ¹ Yes ³ No → *Go to Question 4*
↓

If yes, please indicate how many new or significantly improved products were offered in the **last three years, 1997 to 1999**?

Please check the appropriate number.

- ¹ 1-2 ⁴ 11-20
² 3-5 ⁵ 21-50
³ 6-10 ⁶ More than 50

-
4. **New production/manufacturing processes are processes** which are new to your firm. They involve the introduction into your firm of new production/manufacturing methods, procedures, systems, machinery or equipment which differs significantly from your firm's previous production/manufacturing processes.

Significantly improved production/manufacturing processes involve significant changes to your existing processes which may be intended to produce new or significantly improved products (goods or services) or production/manufacturing processes. Minor or routine changes to processes are not to be included.

During the last three years, 1997 to 1999, did your firm introduce **new or significantly improved production/manufacturing processes**?

- ¹ Yes ³ No

-
5. **During the last three years, 1997 to 1999**, did your firm have any unsuccessful or not yet completed projects to develop or introduce new or significantly improved products (goods or services) or production/manufacturing processes?

- ¹ Yes ³ No

6. **During the last three years, 1997 to 1999**, did your firm engage in the following activities which are linked to offering new or significantly improved products (goods or services) or to introducing new or significantly improved production/manufacturing processes?

| | Yes | No |
|---|-------------------------|-------------------------|
| a. Research and development (R&D) linked to new or significantly improved products (goods or services) or production/manufacturing processes | 1 <input type="radio"/> | 3 <input type="radio"/> |
| b. Acquisition of machinery, equipment or other technology linked to new or significantly improved products (goods or services) or production/manufacturing processes | 1 <input type="radio"/> | 3 <input type="radio"/> |
| c. Industrial engineering and industrial design linked to new or significantly improved products (goods or services) or production/manufacturing processes | 1 <input type="radio"/> | 3 <input type="radio"/> |
| d. Tooling up and production start-up linked to new or significantly improved products (goods or services) or production/manufacturing processes | 1 <input type="radio"/> | 3 <input type="radio"/> |
| e. Training linked to the introduction of new or significantly improved products (goods or services) or production/manufacturing processes | 1 <input type="radio"/> | 3 <input type="radio"/> |

If all answers to Questions 3 to 6 are "no", please proceed to Question 7.
If at least one answer to Questions 3 to 6 is "yes", please proceed to Question 8.

7. Why did your firm **not** develop or introduce new or significantly improved products (goods or services) or production/manufacturing processes **during the last three years, 1997 to 1999**?

Please proceed to Question 21.

Sources of Information

8. Which of the following played an **important role** as sources of information needed for suggesting or contributing to the development of new or significantly improved products (goods or services) or production/manufacturing processes, **during the last three years, 1997 to 1999**?

Please check all that apply.

INTERNAL sources of information to your firm:

- 1 Research and development (R&D) staff
- 2 Marketing staff
- 3 Production staff

- 4 Management staff
- 5 Other (*please specify*): _____

Conclusion

8. Which of the following played an **important role** as sources of information needed for suggesting or contributing to the development of new or significantly improved products (goods or services) or production/manufacturing processes, **during the last three years, 1997 to 1999**.

Please check all that apply.

EXTERNAL sources of information to your firm:

- | | |
|---|---|
| <input type="radio"/> 6 Related firms in your corporate group (e.g. parent or subsidiary) | <input type="radio"/> 10 Consultancy firms |
| <input type="radio"/> 7 Suppliers of equipment, material and components | <input type="radio"/> 11 Universities and colleges |
| <input type="radio"/> 8 Clients | <input type="radio"/> 12 Federal government agencies and research laboratories (e.g. National Research Council of Canada) |
| <input type="radio"/> 9 Competitors | <input type="radio"/> 13 Provincial agencies and research laboratories |

Generally available sources of information

- | | |
|--|--|
| <input type="radio"/> 14 Trade fairs and exhibitions | <input type="radio"/> 16 Professional conferences, meetings and publications |
| <input type="radio"/> 15 Internet or computer based information networks | |

Other sources of information

17 Please specify: _____

18 None of the above

Objectives

9. Please indicate the main reasons why your firm offered new or significantly improved products (goods or services) or introduced new or significantly improved production/manufacturing processes **during the last three years, 1997 to 1999**.

Please indicate the degree of importance attached to each objective by using the following scale where 1 is low importance and 5 is high importance. Check 0 if not relevant to your firm.

| | Importance | | | | | Not Relevant |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Low | | | | High | |
| | 1 | 2 | 3 | 4 | 5 | 0 |
| | ←—————→ | | | | | |
| Productivity | | | | | | |
| a. To reduce your labour costs | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. To increase production capacity | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. To reduce production time | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. To improve production flexibility | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Product | | | | | | |
| e. To extend product range | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. To improve product quality | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. To increase speed of delivering products to the market | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. To replace products being phased out | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Conclusion

9. Please indicate the main reasons why your firm offered new or significantly improved products (goods or services) or introduced new or significantly improved production/manufacturing processes **during the last three years, 1997 to 1999**.

Please indicate the degree of importance attached to each objective by using the following scale where 1 is low importance and 5 is high importance. Check 0 if not relevant to your firm.

| | Importance | | | | | Not Relevant |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | Low | | | High | | |
| | 1 | 2 | 3 | 4 | 5 | |
| | ←—————→ | | | | | 0 |
| Other | | | | | | |
| i. To reduce materials consumption | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| j. To reduce environmental damage | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| k. To reduce energy consumption | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| l. To deal with or to respond to new government regulations | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |

Problems and Obstacles

10. Which of the following slowed down or caused problems for your firm when it developed new or significantly improved products (goods or services) or introduced new or significantly improved production/manufacturing processes **during the last three years, 1997 to 1999**?

Please check all that apply.

- 1 High cost of developing new or significantly improved products or processes
- 2 Inability to devote staff to projects to develop new or significantly improved products or processes on an on-going basis because of production requirements
- 3 Inability to qualify for government assistance programs or research and development (R&D) tax credits
- 4 Lack of skilled personnel to develop or introduce new or significantly improved products or processes
- 5 Lack of financing for the development or introduction of new or significantly improved products or processes
- 6 Lack of marketing capability to market new or significantly improved products
- 7 Lack of information on technology relevant to the development or introduction of new or significantly improved products or processes
- 8 Lack of external technical support services required to develop or introduce new or significantly improved products or processes
- 9 Lack of access to expertise in universities that could assist in developing or introducing new or significantly improved products or processes
- 10 Lack of access to expertise in government laboratories that could assist in developing or introducing new or significantly improved products and/or processes
- 11 Lack of cooperation with other firms

Conclusion

10. Which of the following slowed down or caused problems for your firm when it developed new or significantly improved products (goods or services) or introduced new or significantly improved production/manufacturing processes **during the last three years, 1997 to 1999?**

Please check all that apply.

- 12 Lack of customer responsiveness to new products
- 13 Organizational rigidities in your firm which prevent the development or introduction of new or significantly improved products or processes
- 14 Government regulations affecting new or significantly improved products or processes
- 15 Other (please specify):

11. Please provide a concrete example of the most significant problem or obstacle your firm encountered when developing new or significantly improved products (goods or services) or production/manufacturing processes **during the last three years, 1997 to 1999.**

Impact

12. Did your firm introduce any new or significantly improved products **during the last three years, 1997 to 1999?**

- 1 Yes 3 No → *Go to Question 13*
↓

If yes, please estimate the percentage of your sales in 1999 (to date) that resulted from new or significantly improved products (goods or services) introduced by your firm **during the last three years, 1997 to 1999.** Please refer to definitions of new and significantly improved products (goods or services) in Question 3.

Please check the appropriate circles.

| | 1 % to 5 % | 6 % to 15 % | 16 % to 25 % | 26 % to 50 % | 51 % to 75 % | 76 % to 100 % |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Sales in 1999 from new products (goods or services) introduced between 1997 and 1999 | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> |
| Sales in 1999 from significantly improved products (goods or services) introduced between 1997 and 1999 | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> |

13. What impact did new and significantly improved products (goods or services) and new significantly improved production/manufacturing processes developed and introduced **during the last three years, 1997 to 1999** have on your firm?

Please indicate your opinion by using the following scale where 1 is strongly disagree and 5 is strongly agree. Check 0 if not relevant to your firm.

| | Strongly Disagree | | | Strongly Agree | | Not Relevant |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | 1 | 2 | 3 | 4 | 5 | 0 |
| | ←—————→ | | | | | |
| a. Increased the productivity of your firm | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| b. Increased the profitability of your firm | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| c. Increased the speed of supplying and/or delivering your products (goods or services) | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| d. Increased your firm's ability to adapt flexibly to different client demands | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| e. Increased your firm's domestic market share | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| f. Increased your firm's international market share | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| g. Allowed your firm to maintain its profit margins | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |
| h. Allowed your firm to keep up with its competitors | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 0 <input type="radio"/> |

Cooperative and Collaborative Arrangements

14. **Cooperative and collaborative arrangements** involve the active participation in joint projects between your firm and other firms or organizations in order to develop new or significantly improved products (goods or services) and/or production/manufacturing processes. Pure contracting-out work, where there is no active participation, is not regarded as collaboration or cooperation.

Was your firm involved in cooperative and collaborative arrangements with other firms or organizations to develop new or significantly improved products (goods or services) or production/manufacturing processes **during the last three years, 1997 to 1999**?

1 Yes 3 No → Go to Question 17
 ↓

If yes, please indicate which of the following reasons are important in determining the involvement of your firm in cooperative and collaborative arrangements to develop new or significantly improved products (goods or services) and/or production/manufacturing processes **during the last three years, 1997 to 1999**?

| | |
|--|---|
| 1 <input type="radio"/> Sharing costs | 6 <input type="radio"/> Accessing critical expertise |
| 2 <input type="radio"/> Spreading risk | 7 <input type="radio"/> Accessing new markets |
| 3 <input type="radio"/> Accessing research and development R&D | 8 <input type="radio"/> Accessing new distribution channels |
| 4 <input type="radio"/> Prototype development | 9 <input type="radio"/> Other (please specify): _____ |
| 5 <input type="radio"/> Scaling-up production processes | _____ |

15. If your firm has **more than one Canadian location**, please proceed to **Question 16**.

If your firm has **only one Canadian location**, please indicate the location of other firms and organizations with which your firm had cooperative and collaborative arrangements to develop new or significantly improved products (goods or services) and production/manufacturing processes **during the last three years, 1997 to 1999**.

Please check the appropriate circles.

| | Within 100 km | In the rest of your province | In the rest of Canada | US | Europe | Pacific Rim | Other |
|---|-------------------------|---------------------------------------|-----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| a. Competitors | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | 7 <input type="radio"/> |
| b. Clients | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | 7 <input type="radio"/> |
| c. Consulting firms | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | 7 <input type="radio"/> |
| d. Suppliers | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | 7 <input type="radio"/> |
| e. Federal government research institutes (e.g. National Research Council of Canada) | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | 7 <input type="radio"/> |
| f. Provincial government research institutes | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | 7 <input type="radio"/> |
| g. Universities | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | 7 <input type="radio"/> |
| h. Other | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | 7 <input type="radio"/> |

↓
Please specify: _____

Please proceed to Question 17.

16. If your firm has **more than one Canadian location**, please check the location of other firms and organizations with which your firm had cooperative and collaborative arrangements to develop new or significantly improved products (goods or services) and production/manufacturing processes **during the last three years, 1997 to 1999**.

Please check the appropriate circles.

| | Canada | US | Europe | Pacific Rim | Other |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| a. Competitors | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> |
| b. Clients | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> |
| c. Consulting firms | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> |
| d. Suppliers | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> |
| e. Federal government institutes (e.g. National Research Council of Canada) | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> |
| f. Provincial government research institutes | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> |
| g. Other firms within your corporate group (e.g. parent or subsidiary) | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> |
| h. Universities | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> |
| i. Other | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> |

↓
Please specify: _____

The Most Important New or Significantly Improved Product or Process

17. Please provide below a brief description of your **most important** new or significantly improved product (good or service) or production/manufacturing process **during the last three years, 1997 to 1999**.

18. Was this most important new or significantly improved product (good or service) or production/manufacturing process:

| | Yes | No | Do not know |
|---------------------------|-------------------------|-------------------------|-------------------------|
| a. a world first? | 1 <input type="radio"/> | 3 <input type="radio"/> | N <input type="radio"/> |
| b. a first in Canada? | 1 <input type="radio"/> | 3 <input type="radio"/> | N <input type="radio"/> |
| c. a first for your firm? | 1 <input type="radio"/> | 3 <input type="radio"/> | N <input type="radio"/> |

19. How long did it take from initial idea generation to the implementation of this most important new or significantly improved product (good or service) or production/manufacturing process?

| | | | | | |
|---|--|--|--|--|--|
| <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> </table> years | | | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td></tr> </table> months | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

20. Did this most important new or significantly improved product (good or service) or production/manufacturing process involve:

| | Yes | No | Do not know |
|---|-------------------------|-------------------------|-------------------------|
| a. The use of new materials? | 1 <input type="radio"/> | 3 <input type="radio"/> | N <input type="radio"/> |
| b. An investment in machinery or equipment? | 1 <input type="radio"/> | 3 <input type="radio"/> | N <input type="radio"/> |
| c. New software developed by or specifically for your firm? | 1 <input type="radio"/> | 3 <input type="radio"/> | N <input type="radio"/> |

Building and Construction Products

21. **During the last three years, 1997 to 1999**, did your firm offer products which were **incorporated into** buildings and other engineering works such as roads, dams, bridges, sewers, transmission lines and pipelines? Some examples of building products are windows, plaster board, bricks, concrete, heating and plumbing systems, roofing, security systems, electrical systems and others.

1 Yes 2 No → *Please go to Question 22*



If yes, please estimate the percentage of your total sales from these products, **during the last three years, 1997 to 1999**.

Please check the appropriate circle.

| | | | | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 1 % to 5 % | 6 % to 15 % | 16 % to 25 % | 26 % to 50 % | 51 % to 75 % | 76 % to 100 % | Do not know |
| 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | N <input type="radio"/> |

22. **During the last three years, 1997 to 1999**, did your firm offer machinery, equipment or tools which were **used during the process** of constructing buildings and other engineering works such as roads, dams, bridges, sewers, transmission lines, and pipelines? Some examples of products used during construction are bulldozers, cranes, power tools, scaffolding, survey equipment and others.

1 Yes 3 No → *Go to Question 23*
 ↓

If yes, please estimate the percentage of your total sales from these products, **during the last three years, 1997 to 1999**.

Please check the appropriate circle.

| 1 % to 5 % | 6 % to 15 % | 16 % to 25 % | 26 % to 50 % | 51 % to 75 % | 76 % to 100 % | Do not know |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | N <input type="radio"/> |

Natural Resource Products

23. Are your products used by natural resource industries?

1 Yes 3 No → *Go to Question 24*
 ↓

If yes, please estimate the percentage of your total sales of products (goods or services) that were used by the following natural resources industries, **during the last three years, 1997 to 1999**.

Please check the appropriate circles.

| | 1 % to 5 % | 6 % to 15 % | 16 % to 25 % | 26 % to 50 % | 51 % to 75 % | 76 % to 100 % | Do not know |
|--------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| a. Mining industry | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | N <input type="radio"/> |
| b. Logging and forestry industries | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | N <input type="radio"/> |
| c. Oil and gas extraction industries | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | N <input type="radio"/> |
| d. Electrical utilities | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> | 4 <input type="radio"/> | 5 <input type="radio"/> | 6 <input type="radio"/> | N <input type="radio"/> |

Research and Development, Intellectual Property and Human Resources

24. **During the past three years, 1997 to 1999**, did your firm undertake research and development (R&D) activities?

¹ Yes ³ No → *Go to Question 25*
 ↓

If yes,

| | Yes | No |
|--|-------------------------|-------------------------|
| Is research and development (R&D) carried out in your firm by a separate and distinct research and development (R&D) department? | 1 <input type="radio"/> | 3 <input type="radio"/> |

| | | |
|--|-------------------------|-------------------------|
| Is research and development (R&D) contracted out to other firms? | 1 <input type="radio"/> | 3 <input type="radio"/> |
|--|-------------------------|-------------------------|

If yes, please indicate if the research and development (R&D) was performed
 ↓

¹ continuously
² occasionally

25. Please indicate which of the following methods have been used by your firm to protect its intellectual property **during the past three years, 1997 to 1999**.

| | Yes | No |
|---|-------------------------|-------------------------|
| a. Patents | 1 <input type="radio"/> | 3 <input type="radio"/> |
| b. Trademarks | 1 <input type="radio"/> | 3 <input type="radio"/> |
| c. Copyrights | 1 <input type="radio"/> | 3 <input type="radio"/> |
| d. Confidentiality agreements ^{sé} | 1 <input type="radio"/> | 3 <input type="radio"/> |
| e. Trade secrets | 1 <input type="radio"/> | 3 <input type="radio"/> |
| h. Other (<i>please specify</i>): _____ | | |

26. Did your firm apply for at least one patent **during the last three years, 1997 to 1999**?

¹ Yes ³ No → *Go to Question 27*
 ↓

If yes, how many patents did your firm apply for **during the last three years, 1997 to 1999**?

Number in Canada
 Number in United States

27. How many people does your firm currently employ?

Number of employees

28. **During the last three years, 1997 to 1999**, has the total number of employees in your firm

- 1 increased?
- 2 decreased?
- 3 remained the same?

Government Support Programs

29. Has your firm used any of the following types of programs sponsored by the federal government or a provincial government **during the last three years, 1997 to 1999?**

Please check the appropriate circles.

| | Government Programs | | Did not use a government program |
|--|-------------------------|-------------------------|----------------------------------|
| | Federal Government | Provincial Government | |
| a. Research and development (R&D) tax credits | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> |
| b. Government research and development (R&D) grants | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> |
| c. Government venture capital support | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> |
| d. Government technology support and assistance programs | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> |
| e. Government information or Internet services | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> |
| f. Government support for training | 1 <input type="radio"/> | 2 <input type="radio"/> | 3 <input type="radio"/> |
| g. Other (<i>please specify</i>): _____ | | | |

Comments

30. In your view, what can be done to improve the ability of Canadian firms to develop new and significantly improved products (goods or services) or production/manufacturing processes?

Thank you for your co-operation.