

# SOUTH AFRICAN BUSINESS INNOVATION SURVEY 2019 – 2021



This survey collects information on your enterprise's innovations and innovation activities between 2019 and 2021 inclusive.

## DETAILS OF PERSON COMPLETING THE QUESTIONNAIRE

Title:

Name:

Surname:

Job Title:

Telephone:

Email:

Address 1:

Address 2:

Address 3:

Postal code:

## PLEASE NOTE:

### About this survey

This survey collects information about innovations and innovation activities in the business sector during the three-year period 2019 to 2021 inclusive. The survey is meant to produce statistical information for understanding the business sector innovation performance, its determinants and impacts. Among other uses, the statistics will inform the government in developing policies to stimulate innovation, productivity and competitiveness.

An **innovation** is a new or improved product [good/service] or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process).

### Scope

The statistical unit for the survey is the **enterprise** as defined by Statistics South Africa. An enterprise is "a legal unit or a combination of legal units that includes and directly controls all functions necessary to carry out its production activities". It refers to a business, company or firm that is capable in its own right to own assets, incur liabilities and conduct economic activities, and can range from a very small concern with only one or two employees to a much larger and more formal business or firm.

### Authority

The Department of Science and Innovation (DSI), as a partner within the National Statistics System, mandated the Centre for Science, Technology and Innovation Indicators of the Human Sciences Research Council (HSRC) to perform this survey.

### Confidentiality

All information gathered by this survey will be held in strictest confidence. The data may be used for statistical purposes to complement research and analysis of innovation indicators. Under no circumstances will the HSRC, DSI or Statistics South Africa publish, release or disclose any information on or identifiable with, individual firms or business units.

### Who should complete this questionnaire?

This questionnaire should be completed by the CEO, Managing Director, or a senior manager who has adequate knowledge of the strategy and innovation matters of the enterprise.

KEY:



Definition



Instruction



# Intellectual property rights:

*In this section you are asked whether your enterprise employed any form of protection methods for its intellectual property*

1.1 During the three years 2019 to 2021, did your enterprise use any of the following methods to protect its intellectual property:

|   | <b>Formal methods of protection</b>  | Yes                      | No                       |
|---|--|--------------------------|--------------------------|
| A | Secure a patent in South Africa?   | <input type="checkbox"/> | <input type="checkbox"/> |
| B | Apply for a patent outside of South Africa?                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| C | Register an industrial design?   | <input type="checkbox"/> | <input type="checkbox"/> |
| D | Register a trademark?  | <input type="checkbox"/> | <input type="checkbox"/> |
| E | Claim copyright?   | <input type="checkbox"/> | <input type="checkbox"/> |
| F | Use trade secrets or confidentiality agreements                                | <input type="checkbox"/> | <input type="checkbox"/> |
|   | <b>IP transactions</b>   |                          |                          |
| G | Grant a licence on any intellectual property rights resulting from innovation? | <input type="checkbox"/> | <input type="checkbox"/> |

# 2

## Business capabilities:

*In this section you are asked to provide information regarding your enterprise's business capabilities for innovation*

| 2.1 During the three years 2019 to 2021, did your enterprise develop or use any of the following advanced or emerging technologies? |   | Developed                | Used                     | Did not use or develop   |
|---|---|--------------------------|--------------------------|--------------------------|
| A   | Material handling, supply chain and logistics technologies  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| B   | Computerised design and engineering   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C   | Business intelligence technologies<br><i>e.g., cloud-based computing systems and big data analytic tools</i>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| D   | Green technologies  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| E   | Advanced manufacturing, including additive manufacturing (3D printing)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F   | Geomatics or geospatial technologies  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| G   | Nanotechnology  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| H   | Biotechnologies/bioproducts   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I   | Internet of things<br><i>Include systems where devices and objects have the networking capability that allow for information to be sent and received using the Internet e.g., fixtures and kitchen appliances</i> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| J   | Artificial intelligence (AI)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| K   | Robotics  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| L   | Blockchain technologies<br><i>e.g., crypto-currency, distributed ledgers, secure value exchange protocols, smart contracts</i>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| M   | Virtual, mixed or augmented reality   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| N   | Other types of advanced or emerging technologies, please specify  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

# 3

## Competition

*This section asks about competition in your main market*

3.1 How many competitors do you have in your main market?  Cannot provide an estimate = -99

 If none, put 0 and go to 4.1.

- 
- 3.2 Is your main competitor:
- |  |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| → A South African multinational enterprise (MNE)?  | Yes                      | No                       | Don't know               |                          |
| → A digital firm?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |
|  | Larger                   | Smaller                  | About the same size      | Don't know               |
| → Larger, smaller or about the same size as your firm (in terms of number of employees)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|  | Yes                      | No                       | Don't know               |                          |
| → A foreign firm?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                          |

# 4

## Product (goods or services) innovation

In this section you are asked questions about your enterprise's product innovations



A product innovation is a **new or improved good or service** that differs significantly from the firm's previous goods or services and that has been introduced on the market. Product innovations must provide significant improvements to one or more characteristics or performance specifications. This includes the addition of new functions, or improvements to existing functions or user utility. Relevant functional characteristics include quality, technical specifications, reliability, durability, economic efficiency during use, affordability, convenience, usability, and user friendliness.

The innovation must be new to your enterprise, but it does not need to be new to your industry sector or market. It does not matter if the innovation was originally developed by your enterprise or by other enterprises.

Product innovations **do not** include the simple resale of new goods purchased from other enterprises, minor aesthetic changes, routine changes or updates, or customisation for a single client that doesn't include significantly different attributes compared to products made for other clients.

- |   | Yes                      | No                       |
|---|--------------------------|--------------------------|
| 4.1 During the three years 2019 to 2021, did your enterprise introduce:   |                          |                          |
| → <b>Entirely new goods</b><br><i>Exclude the simple resale of new goods purchased from other enterprises and minor changes that only alter the appearance of the product</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| → <b>Significantly improved goods</b><br><i>An existing product whose performance has been significantly enhanced or upgraded</i>   | <input type="checkbox"/> | <input type="checkbox"/> |
| → <b>Entirely new services</b>  | <input type="checkbox"/> | <input type="checkbox"/> |
| → <b>Significantly improved services</b>  | <input type="checkbox"/> | <input type="checkbox"/> |



If no to all, please go to section 5.

4.2 By whom were these **product (goods and services)** innovations developed? *Tick all that apply.*

- A Mainly your enterprise
  - B Other enterprises in your enterprise group
  - C Your enterprise together with other enterprises or institutions
  - D Your enterprise by replicating products already available from other firms or organisations
  - E Your enterprise by modifying products available from other firms or organisations, including reverse engineering
  - F Your enterprise by drawing substantially on ideas and knowledge sourced from other firms or organisations
  - G Mainly other enterprises or institutions
- 

4.3 Did these innovations originate **mainly** in South Africa or abroad? South Africa  Abroad

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4.4 Were any of your product innovations (goods and services) during the three years 2019 to 2021 new to your market or new to your firm? Yes No

→ **New to your market?**    
Your enterprise introduced a new or significantly improved good or service onto your market before your competitors (it may have already been available in other markets).

→ **Only new to your firm?**    
Your enterprise introduced a new or significantly improved good or service that was already available from your competitors in your market.

- 4.5 To the best of your knowledge, were any of your product innovations during the three years 2019 to 2021:
- |  | Yes                      | No                       | Don't know               |
|--|--------------------------|--------------------------|--------------------------|
| → <b>New to the world?</b><br>Your enterprise introduced a good or service that is entirely new to the world | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| → <b>A first in South Africa but not the world</b>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| → <b>A first in your industry within South Africa but not new to South Africa or to the world</b>            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

4.6 Using the definitions above, please estimate the **percentage** of your **total turnover** in 2021 from:

2021 % turnover distribution

- |  |  |
|--|--|
| → Goods and service innovations introduced during 2019 to 2021 that were <b>new to the world</b>   | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> % |
| → Goods and service innovations introduced during 2019 to 2021 that were <b>new to your market</b>   | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> % |
| → Goods and service innovations introduced during 2019 to 2021 that were only <b>new to your firm</b>  | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> % |
| → Goods and services that were <b>unchanged or only marginally modified</b> during 2019 to 2021<br><i>Include the resale of new goods or services purchased from other enterprises</i> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> % |

**Total turnover in 2021 = 100%**

**1 0 0 %**

4.7 Briefly describe your most **important product innovation** during the three years 2019 to 2021:

*This could be the product innovation that was most profitable, or most significant in terms of improvement or novelty.*



# 5

## Process innovation

*In this section you are asked questions about your enterprise's process innovations*



A business process innovation is a new or improved business process for one or more business functions that differs significantly from the firm's previous business processes and that has been brought into use in the firm. The term business process includes the core business function of producing goods and services and supporting functions such as distribution and logistics, marketing, sales and after-sales services; information and communication technology (ICT) services to the firm, administrative and management functions, engineering and related technical services to the firm, and product and business process development.

The innovation (new or improved) must be new to your enterprise, but it does not need to be new to your industry sector or market. It does not matter if the innovation was originally developed by your enterprise or by other enterprises.

| 5.1 | During the three years 2019 to 2021, did your enterprise introduce any: | Yes                      | No                       |
|-----|---|--------------------------|--------------------------|
| →   | Entirely new or improved production of goods or services                | <input type="checkbox"/> | <input type="checkbox"/> |
| →   | Entirely new or improved distribution and logistics                     | <input type="checkbox"/> | <input type="checkbox"/> |
| →   | Entirely new or improved marketing and sales                            | <input type="checkbox"/> | <input type="checkbox"/> |
| →   | Entirely new or improved information and communication systems          | <input type="checkbox"/> | <input type="checkbox"/> |
| →   | Entirely new or improved administration and management                  | <input type="checkbox"/> | <input type="checkbox"/> |
| →   | Entirely new or improved product and business process development       | <input type="checkbox"/> | <input type="checkbox"/> |



If no to all questions, please go to section 6.

5.2 By whom were these process innovations developed?

*Tick all that apply.*

- A Mainly your enterprise
  - B Other enterprises in your enterprise group
  - C Your enterprise together with other enterprises or institutions
  - D Your enterprise by **replicating** processes already in use by other firms or organisations
  - E Your enterprise by **modifying** processes in use by firms or organisations, including reverse engineering
  - F Your enterprise by **drawing substantially on ideas** and knowledge sourced from other firms or organisations
  - G Mainly other enterprises or institutions
- 

5.3 Did these innovations originate **mainly** in South Africa or abroad?

South Africa  Abroad

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5.4 Were any of your process innovations during the three years 2019 to 2021 new to your market or new to your firm?

Yes No Don't know

→ **New to your market?**

Your enterprise introduced a new or improved process onto your market before your competitors (it may have already been in use in firms in other markets).

→ **Only new to your firm?**

Your enterprise introduced a new or improved process that was already in use by your competitors in your market.

5.5 To the best of your knowledge, were any of your process innovations during the three years 2019 to 2021:

Yes No Don't know

→ **New to the world?**

Your enterprise introduced a process that is entirely new to the world

→ **A first in South Africa but not the world**

→ **A first in your industry within South Africa but not new to South Africa or to the world**

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5.6 Briefly describe your **most important process innovation** during the three years 2019 to 2021:

*This could be the process innovation that had the greatest cost savings, or was most significant in terms of improvement or novelty.*

# 6

## Ongoing or abandoned innovation activities

In this section you are asked questions about any of your enterprise's innovation activities that were abandoned or still ongoing at the end of 2021



Innovation activities include the acquisition of machinery, equipment, software, licenses, engineering and development work, training, marketing and research and experimental development (R&D) when they are specifically undertaken to develop and/or implement a product or process innovation.

6.1 During the three years 2019 to 2021:

→ Did your enterprise have any innovation activities that did not result in a product or process innovation because the activities were:

### Product Innovation

Yes No

→ Abandoned

 

→ Still ongoing at the end of 2021

 

### Process Innovation

Yes No

→ Abandoned

 

→ Still ongoing at the end of 2021

# 7

## Innovation-relevant activities and expenditures

*This section asks for information about your enterprise's expenditure on innovation-related activities, regardless of whether it was intended for innovation*

| 7.1   | During the three years 2019 to 2021, did your enterprise engage in the following innovation-related activities?   | Yes                      | No                       |
|---|---|--------------------------|--------------------------|
| A   | <b>Systematic</b> , intramural (in-house) Research and Experimental Development (R&D)<br><i>Creative work undertaken on a <b>systematic basis</b> within your enterprise to increase the stock of knowledge and its use to devise new and improved products and processes (including software development).</i> | <input type="checkbox"/> | <input type="checkbox"/> |
| B   | <u>R&amp;D contracted out</u> to others (including enterprises in own enterprise group)   | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Other innovation-related activities:</b> |   |                          |                          |
| C   | Engineering, design, and other creative work activities   | <input type="checkbox"/> | <input type="checkbox"/> |
| D   | Marketing and brand equity activities   | <input type="checkbox"/> | <input type="checkbox"/> |
| E   | IP-related activities   | <input type="checkbox"/> | <input type="checkbox"/> |
| F   | Employee training activities  | <input type="checkbox"/> | <input type="checkbox"/> |
| G   | Software development and database activities  | <input type="checkbox"/> | <input type="checkbox"/> |
| H   | Activities related to the acquisition or lease of tangible assets   | <input type="checkbox"/> | <input type="checkbox"/> |
| I   | Innovation management activities  | <input type="checkbox"/> | <input type="checkbox"/> |



If 7.1A = No, skip 7.2.

7.2 Did your enterprise perform **in-house** R&D during 2019 to 2021 continuously or occasionally? Continuously  Occasionally

7.3 Please estimate the total amount of expenditure in 2021 only for the activities listed below. Include personnel and related costs. Please provide exact expenditure e.g. Five hundred thousand Rand should be entered as 500 000. Please put zero (0) if your enterprise had no expenditure in 2021. Cannot provide an estimate = -99; Refused = -98

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Please report for 2021 only

7.4 Please indicate whether the expenditure in 2021 was intended for innovation, not for innovation, or both.

- A **Systematic**, intramural (in-house) Research and Experimental Development (R&D)  
*Creative work undertaken on a **systematic basis** within your enterprise to increase the stock of knowledge and its use to devise new and improved products and processes (including software development).*
- B R&D contracted out to others (including enterprises in own enterprise group)
- C-H All other innovation-related activities mentioned above (excluding innovation management activities)

R           ,

R           ,

R           ,

| Intended for innovation  | Not intended for innovation | Both                     |
|--------------------------|-----------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/>    | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/>    | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/>    | <input type="checkbox"/> |



If your enterprise engaged in in-house R&D (A) or out-sourced R&D (B), and it was intended for innovation, then answer 7.5. Otherwise, skip to 7.6.

7.5 How important were your R&D-led innovation activities to your firm's business strategy?

**Level of importance:** High  Medium  Low

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7.6 Please provide the approximate number of employees that were involved in the activities that were intended for innovation, accounted for in 7.3 above, according to the following categories:

*Ensure that the totals are the same for each of the three demographic categories.*

7.6.1 Male  Female  Total

7.6.2 

| South African        |                      |                      |                      |                      | Non-SA               | Total                |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| African              | Coloured             | Indian/Asian         | White                |                      |                      |                      |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

7.6.3 18-25 years  26-35 years  35-60 years  >60 years  Total

# 8

## Funding for Innovation

*In this section you are asked to provide information about your enterprise's funding sources for its innovation activities*



If you answered 'No' to all options in 4.1, 5.1 and 6.1 (i.e. your enterprise did not have any product or process innovations, and no on-going or abandoned innovation activities, during the three years 2019-2021) AND you did NOT engage in any activities intended for innovation (7.4), then skip 8.1 and proceed to 8.2.

8.1 During the three years 2019 to 2021, were your innovation activities funded through any of the following sources?

- Own Funds (retained profits or income from asset disposal)
- Debt funding
- Equity finance
- Other sources (e.g. crowdfunding) not including public funding

Yes No

|                          |                          |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> |

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8.2 Are you aware that government offers financial or non-financial support for innovation?

Yes No

|                          |                                     |
|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--------------------------|-------------------------------------|



If 'No', skip to Section 9.



8.3 During the three years 2019 to 2021, did your enterprise apply for and/or receive any form of government financial or non-financial support for innovation activities?

*(The support can be from the Department of Science and Innovation, Department of Trade and Industry or any national or provincial government department or their agencies such as the Technology Innovation Agency, National Research Foundation, Industrial Development Corporation, Medical Research Council, etc.)*

|   | Applied for/<br>requested support |                          | Accessed/Obtained<br>the support |                          |
|---|-----------------------------------|--------------------------|----------------------------------|--------------------------|
|   | Yes                               | No                       | Yes                              | No                       |
| <b>Type of support</b>  |                                   |                          |                                  |                          |
| <b>Financial support</b>  |                                   |                          |                                  |                          |
| → Covid-19 grants/support packages  | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>         | <input type="checkbox"/> |
| → Tax incentive for R&D   | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>         | <input type="checkbox"/> |
| → Other financial support   | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>         | <input type="checkbox"/> |
| <b>Non-financial support</b>  |                                   |                          |                                  |                          |
| → Training or mentoring (including incubation)                              | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>         | <input type="checkbox"/> |
| → Access to ICT infrastructure, research equipment or laboratory facilities | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>         | <input type="checkbox"/> |
| → Export support  | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>         | <input type="checkbox"/> |
| → Other, please specify   | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>         | <input type="checkbox"/> |

 If you did not apply for/ request any type of government support, proceed to 8.4. Otherwise, skip to Section 9.

8.4 If you have not applied for government support for innovation activities please indicate the reasons for not doing so:

*Tick all that apply.*

- Process too complicated
- Risk of exposure of confidential information
- Time Constraints
- Lack of knowledge about support options or processes of applying
- Other: Please specify



\*The public sector includes government owned organisations such as local, regional and national administrations and agencies, schools, hospitals, and government providers of services such as security, transport, housing, energy, etc.

9.1 During the three years 2019 to 2021, did your enterprise have any procurement contracts to provide goods or services for:

Yes No

→ South African public sector organisations\*

→ Foreign/International public sector organisations\*



If no to both questions, skip question 9.2.

9.2 Did your enterprise undertake any innovation activities as part of a procurement contract to provide goods or services to a public sector organisation?

*If your enterprise had several procurement contracts, tick all that apply*

→ Yes and innovation activities required as part of the contract

→ Yes, but innovation activities not required as part of the contract

→ No, innovation activities not performed and not required



If you answered 'No' to all options in 4.1, 5.1 and 6.1 (i.e. your enterprise did not have any product or process innovations, and no on-going or abandoned innovation activities, during the three years 2019-2021), AND you did not engage in any activities intended for innovation (7.4), please go to question 12.1 Otherwise continue to section 10.

# 10

## Collaboration and sources of information

In this section you are asked about your enterprise's collaboration and sources of information for its product and process innovation activities

10.1 During the three years 2019 to 2021, did your enterprise collaborate on any of your innovation activities with other enterprises or institutions? Yes  No   
**Collaboration** requires co-ordinated activity across different parties to address a jointly defined problem, with all partners contributing. Collaboration requires the explicit definition of common objectives and it may include agreement over the distribution of inputs, risks and potential benefits. Collaboration can create new knowledge, but it does not need to result in an innovation. Each partner in a collaboration agreement can use the resulting knowledge for different purposes.

 If no, please go to 10.4.

10.2 Please indicate the type of collaboration partner and their location. *Tick all that apply.*

| Type of collaboration partner                               | South Africa             | Rest of Africa           | Europe                   | USA                      | Asia                     | Other countries          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| A Other enterprises within your enterprise group            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| B Suppliers of equipment, materials, components or software | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C Clients or customers                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| D Competitors or other enterprises in your sector           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| E Consultants and commercial labs                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F Universities / higher education institutions              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| G Government or public research institutes (e.g. CSIR)      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| H Private research institutions                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I Other (please specify)                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

10.3 Which type of collaboration partner was the most valuable for your enterprise's innovation activities?   
 Give corresponding letter from 10.2. For example, if you selected Clients or customers, write 'C'.

10.4 During the three years 2019 to 2021, how important to your enterprise's innovation activities were each of the following information sources?  
 Include information sources that provided information for new innovation projects or contributed to the completion of existing projects.

| Information source              |   | Degree of importance     |                          |                          |                          |
|---------------------------------|---|--------------------------|--------------------------|--------------------------|--------------------------|
|                                 |   | High                     | Medium                   | Low                      | Not used                 |
| <b>Internal sources</b>         | Sources within your enterprise or enterprise group                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Market resources</b>         | Suppliers of equipment, materials, components or software                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                 | Clients or customers (businesses)   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                 | Individuals/users   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                 | Competitors or other enterprises in your sector                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                 | Consultants, commercial laboratories  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Education &amp; research</b> | Universities / higher education institutions  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                 | Government or public research institutes  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                 | Private research institutes   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Other sources</b>            | Conferences, trade fairs, exhibitions   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                 | Scientific journals and trade/technical publications                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                 | Professional and industry associations  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                 | Other searchable repositories/databases (e.g., Innovation Bridge)<br>(please specify) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

# 11

## Outcomes and objectives



If you answered 'No' to all options in 4.1 and 5.1 (i.e. your enterprise did not have any product or process innovations during the three years 2019-2021), please go to question 11.2. Otherwise continue to question 11.1.

11.1 How successful were each of the following types of outcomes for your product (goods or services) and process innovations introduced during the three years 2019-2021?

*Tick "Not relevant" if there were no innovation outcomes.*

| Innovation outcomes                 |   | Level of success of outcomes |                          |                          |                          |
|-------------------------------------|---|------------------------------|--------------------------|--------------------------|--------------------------|
|                                     |   | High                         | Medium                   | Low                      | Not relevant             |
| <b>Product outcomes</b>             | Increased range of goods or services                        | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                     | Improved quality of goods or services                       | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                     | Create new markets  | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Strategic/marketing outcomes</b> | Entered new local markets or increased local market share   | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                     | Entered new export markets or increased export market share | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                     | Increased the Intellectual Property portfolio               | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Process outcomes</b>             | Improved flexibility of production or service provision     | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                     | Increased capacity of production or service provision       | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                     | Reduced labour costs per unit output                        | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                     | Reduced materials and energy per unit output                | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                     | Reduced lead times  | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

*Continues overleaf...*

| Innovation outcomes                     |   | Level of success of outcomes |                          |                          |                          |
|---|---|------------------------------|--------------------------|--------------------------|--------------------------|
|   |   | High                         | Medium                   | Low                      | Not relevant             |
| <b>Business organisation</b>            | Improved absorption and transfer of knowledge   | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   | Improve or develop new relationships with external entities (other firms, universities, etc.) | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   | Increase business resilience and adaptability to change                                       | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   | Improve working conditions, health or safety of the firm's personnel                          | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   | Implement a new business model  | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Economy, society and environment</b> | Reduced environmental impacts   | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   | Improved public health and safety   | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   | Met governmental regulatory requirements  | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   | Improve social inclusion  | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   | Improve gender equality   | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|   | Improve quality of life or well-being   | <input type="checkbox"/>     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

11.2 How important were the following innovation objectives in relation to your business strategy?

| Innovation objectives  | Level of importance of objectives |                          |                          |                          |
|--|-----------------------------------|--------------------------|--------------------------|--------------------------|
|  | High                              | Medium                   | Low                      | Not relevant             |
| Upgrade employee skills  | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Organisation of innovation activities                                      | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing risks that can impede innovation (security and cyber risks, etc.) | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

# 12

## Factors hampering innovation

In this section you are asked about barriers that your enterprise encountered during its innovation processes, and barriers to knowledge interactions

12.1 During the three years, 2019 to 2021, how important were the following factors in hampering your innovation activities or projects or influencing a decision not to innovate?

| Factor hampering innovation |   | Degree of importance     |                          |                          |                          |
|-----------------------------|---|--------------------------|--------------------------|--------------------------|--------------------------|
|                             |   | High                     | Medium                   | Low                      | Not experienced          |
| <b>Cost factors</b>         | Lack of funds within your enterprise or group                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Innovation costs too high   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Lack of private external finance, credit or private equity            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Difficulty in obtaining government grants or subsidies for innovation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Knowledge factors</b>    | Lack of managerial skills   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Lack of engineering skills  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Lack of technicians   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Lack of information on technology                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Lack of information on markets  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Difficulty in finding co-operation partners for innovation            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Market factors</b>       | Market dominated by established enterprises                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Uncertain demand from domestic customers                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Limited access to international markets                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Too much competition in your market                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                             | Lack of digital platforms (ecommerce)                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Continues overleaf...



| Factor hampering innovation    |   | Degree of importance     |                          |                          |                          |
|--------------------------------|---|--------------------------|--------------------------|--------------------------|--------------------------|
|                                |   | High                     | Medium                   | Low                      | Not experienced          |
| <b>Institutional factors</b>   | Lack of Infrastructure                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                | Weakness of Intellectual Property (IP) rights | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                | Legislation, regulations, standards, taxation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Reasons not to innovate</b> | No need due to prior innovations              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|                                | No need because of no demand for innovations  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Other (specify)</b>         |   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

12.2 During the three years, 2019 to 2021, did you experience any of the following barriers or constraints to interacting with other parties in the production or exchange of knowledge?

|   | Yes                      | No                       |
|---|--------------------------|--------------------------|
| → Loss of control over valuable knowledge | <input type="checkbox"/> | <input type="checkbox"/> |
| → High co-ordination costs                | <input type="checkbox"/> | <input type="checkbox"/> |
| → Loss of control over strategy           | <input type="checkbox"/> | <input type="checkbox"/> |
| → Difficulty finding the right partner    | <input type="checkbox"/> | <input type="checkbox"/> |

# 13

## Effects of Covid-19 on innovation

*In this section you are asked about the effects of the Covid-19 pandemic on your innovation activities*

|   | Completely               | Partially                | Not affected at all      | Not relevant             |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 13.1 Did the Covid-19 pandemic influence your decision not to engage in innovation activities?                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| .....   |                          |                          |                          |                          |
| 13.2 Were your innovation activities or projects put on hold, delayed or abandoned as a result of Covid-19?                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| .....   |                          |                          |                          |                          |
| 13.3 Did you engage in any new innovation activities as a result of Covid-19?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| .....   |                          |                          |                          |                          |
| 13.4 Did the Covid-19 pandemic lead to a reprioritisation of existing innovation activities?                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| .....   |                          |                          |                          |                          |
| 13.5 Were existing, innovation-related funding sources compromised/affected by Covid-19 (local and international sources)?    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| .....   |                          |                          |                          |                          |
| 13.6 Has your expenditure on innovation activities been reduced due to the reprioritisation of funds as a result of Covid-19? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| .....   |                          |                          |                          |                          |
| 13.7 Has Covid-19 resulted in more innovation activities being outsourced/contracted out by your enterprise?                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

# 14

## General information about the enterprise, business, company or firm

14.1 Please provide a short description of your main business activity

14.2 Is your enterprise part of an enterprise group?

*A group consists of two or more legally defined enterprises under common ownership. Each enterprise in the group may serve different markets, as with national or regional subsidiaries, or serve different product markets. The head office is also part of an enterprise group.*

Yes No

 

If no, skip to 14.5.

14.3 In which country is the head office of your group located?

14.4 Does your enterprise have a subsidiary(ies) outside South Africa?

Yes No



If your enterprise is part of an enterprise group, please answer all further questions only for your enterprise in South Africa. Do not include results for subsidiaries or parent enterprises.

14.5 Please provide the year in which your enterprise was established

14.6 During the three years 2019 to 2021, did your enterprise:

Yes No

- |   |                          |                          |
|---|--------------------------|--------------------------|
| → Merge with or take over another enterprise            | <input type="checkbox"/> | <input type="checkbox"/> |
| → Sell, Close or outsource parts of your enterprise     | <input type="checkbox"/> | <input type="checkbox"/> |
| → Establish new subsidiaries in other African countries | <input type="checkbox"/> | <input type="checkbox"/> |
| → Establish new subsidiaries outside Africa             | <input type="checkbox"/> | <input type="checkbox"/> |

14.7 In which geographic markets did your enterprise sell goods or services during the three years 2019 to 2021?

*Tick all that apply.*

- |                                      |                          |
|--------------------------------------|--------------------------|
| → South Africa (national)            | <input type="checkbox"/> |
| → South Africa (only some provinces) | <input type="checkbox"/> |
| → Rest of Africa                     | <input type="checkbox"/> |
| → Europe                             | <input type="checkbox"/> |
| → United States                      | <input type="checkbox"/> |
| → Asia                               | <input type="checkbox"/> |
| → Other countries, please specify:   | <input type="checkbox"/> |

14.8 Please indicate the share of total enterprise sales from exports for each geographic group.

|   |   |
|---|---|
| <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | % |
| <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | % |
| <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | % |
| <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> | % |



14.14 What was the total value of your physical assets in 2021?  
*Cannot provide an estimate = -99; Refused = -98*

2021 R

---

14.15 In which province(s) is your enterprise located? *Select all that apply*

- Western Cape
- Eastern Cape
- Gauteng
- KwaZulu-Natal
- North West
- Northern Cape
- Free State
- Mpumalanga
- Limpopo

## Dear Respondent,

You've come to the end of the questionnaire. Thanks for taking the time to respond to our questions, and for interacting with us in the process.

We're planning to deliver the results to your business and the rest of South Africa in late 2023 or early 2024.

You can now send us your completed questionnaire. We may contact you again should we have any queries regarding any of your question responses.

Your participation matters.

**The Business Innovation Survey 2019-2021 Team**

### For more information



Access previous survey reports >  
<https://hsrc.ac.za>



Contact the survey team >  
[innovation@hsrc.ac.za](mailto:innovation@hsrc.ac.za)

**BUSINESS INNOVATION**  
**SURVEY 2019 - 2021**

For a more innovative South Africa

