

MANUFACTURING SECTOR R&D at a glance, 2014/15 - 2018/19

South Africa has experienced a steady decline in the manufacturing sector over the last few years. It is common knowledge that manufacturing can raise productivity and boost a country's R&D spend. In South Africa manufacturing now accounts for less than 15% of GDP, down from 17.5% in 2000. Examining R&D spend, we observe that the manufacturing sector's share of total business R&D spend in 2018/19 was R3.166 billion (22%).

The decline of manufacturing signals structural shifts in the South African economy, with accompanying job losses. COVID-19 has compounded the situation, underscoring the need for resilient, agile business models and new products and services for changing conditions. Government's policy response includes the Department of Trade, Industry and Competition's Industrial Policy Action Plan with a multi billion rand manufacturing and competitiveness enhancement programme (MCEP). This will provide much needed support.

This Fact Sheet includes:

- Manufacturing sector contribution to business enterprise R&D expenditure (BERD)
- Disaggregation of manufacturing sub-sectors with the highest expenditure on R&D
- Researchers in pharmaceuticals and medical manufacturing
- Sources of funding for manufacturing firms
- Geographic concentration of manufacturing firms



FACT SHEET NO. 34

THE BIG PICTURE



Total R&D spend in 2018/19 was **R36.784 billion**



Total business R&D spend in 2018/19 was **R14.448 billion**



Manufacturing sector share of total business R&D spend in 2018/19 was **R3.166 billion**



Business sector R&D by type of research 2018/19



Applied research
68.0%



Experimental development research
25.0%

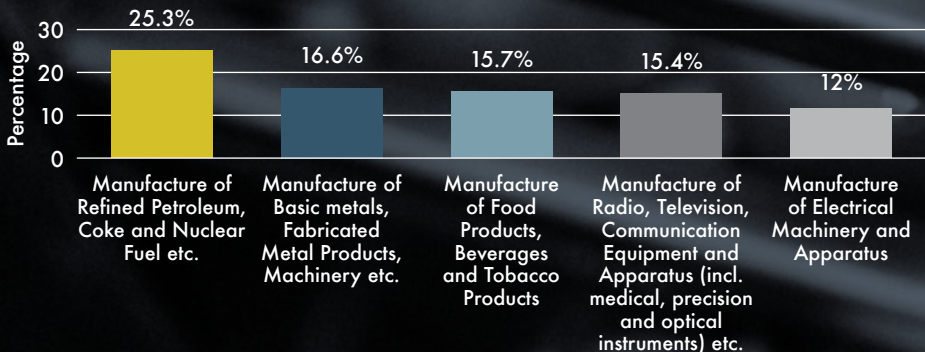


Basic research
7.0%

R&D SPENDING PATTERNS



Sub-sectors with the highest expenditure on R&D in manufacturing, 2018/19*



* Bar chart only accounts for 85% of manufacturing sector R&D in order to illustrate key sub-sectors.

RESEARCHERS



Researchers performing R&D in the **manufacture of chemicals and chemical products including pharmaceuticals, and medical, precision and optical instruments** has **declined** since 2014/15.

730 ↓ **400**
in 2014/15 in 2018/19



Researchers in the manufacture of chemicals (incl. pharmaceuticals)



386 ↓ **363**
in 2014/15 in 2018/19

Researchers in the manufacture of medical, precision and optical instruments

The decline of researchers in these fields **negatively impacts** South Africa's **ability to respond to our burden of disease**, including COVID-19.

SOURCES OF FUNDS



Between 2014/15 and 2018/19, businesses used an **increasing share** of their own funds for R&D, funding **almost all R&D** in 2018/19.

2014/15



79%

2015/16



83%

2016/17



94%

2017/18



93%

2018/19

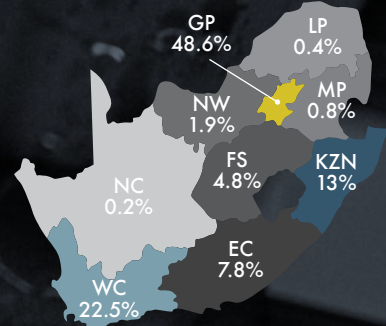


95%

GEOGRAPHIC CONCENTRATION OF EXPENDITURE



Manufacturing industries present **wide variations of concentration**, **highest** was **Gauteng** with **48.6%** and **lowest** was **Northern Cape** with **0.2%**.



BEHIND THE NUMBERS

The annual South African National Survey of Research and Experimental Development and the Business Innovation Survey are conducted by the Centre for Science, Technology and Innovation Indicators (CeSTII) at the Human Sciences Research Council (HSRC), on behalf of the Department of Science and Innovation (DSI). R&D and innovation statistics are collected in terms of the Statistics Act No. 6 of 1999, and are quality assured by Statistics South Africa (Stats SA).

Data collected through the surveys, and their historic data series, inform decision-makers on investment planning, policy making, advocacy, and research in South Africa. Data streams also add to benchmarking and performance comparisons with our international counterparts. Please note that some indicator totals may be subject to rounding errors.

Access previous R&D and Innovation Survey reports:
<http://www.hsrc.ac.za/en/departments/CeSTii/reports-cestii>

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