



India's R&D data – for the times they are a changin'?

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India's Department of Science and Technology (DST) released the S&T Indicators Tables: Research and Development Statistics 2025-2026 last month. The latest set of data shows an increase in India's R&D spend as a share of GDP from 0.6 percent in FY2021 to 0.8 percent in FY2024, driven largely by industrial R&D expenditure. Three aspects stand out from this data release: first, the reported surge in industrial R&D spending; second, the number of firms that could be considered when computing national industrial R&D; and third, the importance of right sector classifications. We examine these in further detail below.

Making sense of the surge seen in Industrial R&D expenditure

For FY2024, the DST has reported industrial R&D expenditure at Rs 120,600 Cr, more than double the reported amount for FY2021. One possible explanation is that the DST has considered the consolidated financial statements of firms (the combined financial statement of a parent firm and its subsidiaries) when compiling the data for industrial R&D. For example, in the case of Tata Motors, the consolidated R&D data would also include the R&D spend by its subsidiary Jaguar Land Rover. When computing national R&D statistics, industrial R&D should ideally capture the R&D expenditure by firms inside a country, especially when considering R&D expenditure as a share of GDP.

Using data on industrial R&D compiled by the Centre for Technology, Innovation and Economic Research (CTIER) and comparing it with data reported by the DST, the table below highlights the difference between using the consolidated financial statements of firms and their standalone financial statements. In our view, the use of R&D expenditure from standalone financial statements of firms is a better metric as it ensures the R&D expenditure by a parent firm and its subsidiaries are considered separately. This avoids the risk of double counting and also ensures the R&D expenditure undertaken by a firm's subsidiaries outside of India is excluded.


Table 1: Industrial R&D spending in India – a comparison

CTIER Handbook 2025				DST S&T Indicators		
CTIER Industry Classification	No. of Firms (No. of officially* recognised R&D units)	R&D Expenditure in FY2023 (Standalone) (INR Cr)	R&D Expenditure in FY2023 (Consolidated) (INR Cr)	Industry Group	No. of R&D Units	R&D Expenditure in FY2023 (INR Cr)
Automobiles & Parts	44 (78)	12,370	29,676	Transportation	146	28,946
Pharmaceuticals & Biotechnology	84 (177)	19,325	22,078	Drugs & Pharmaceuticals	498	22,426
Software & Computer Services	15 (18)	4,723	6,190	Information Technology	63	6,367
Oil & Gas	8 (16)	5,278	5,278	Fuels	47	5,228
Aerospace & Defence	8 (29)	4,203	4,203	Defence Industries	44	4,849
Chemicals	79 (115)	2,294	3,293	Chemicals (other than fertilizers)	287	3285.22
				Fertilizers		
Total	238 (433)	48,193	70,718	Total	1085	71,102

Source: CTIER Handbook 2025, Firms' annual reports, DST; Note *= R&D units of firms recognised by the Department of Scientific and Industrial Research.

The data in the table is for the period FY2023. For the purpose of the analysis here, I compare the top six industrial R&D sectors based on CTIER data with the corresponding industry groups from the DST data. The total industrial R&D expenditure estimated by CTIER for these six sectors, based on standalone financial statements is Rs 48,913 Cr. If instead, we consider the R&D expenditure on a consolidated basis for just a handful of firms – in particular, Tata Motors in the automobiles & parts sector, Biocon, Sun Pharmaceuticals and Glenmark Pharmaceuticals in the pharmaceuticals & biotechnology sector, Infosys and HCL Technologies in the software & computer services sector, and UPL in the chemicals sector – the data is able to explain close to 99 percent of the DST reported R&D spend for the industry groups mentioned in the table. There are strong reasons to believe that the reported surge in industrial R&D expenditure may be explained in large part by the use of consolidated financial statements of firms.



Tracking the country's top 500 to 1000 R&D spenders suffices for now

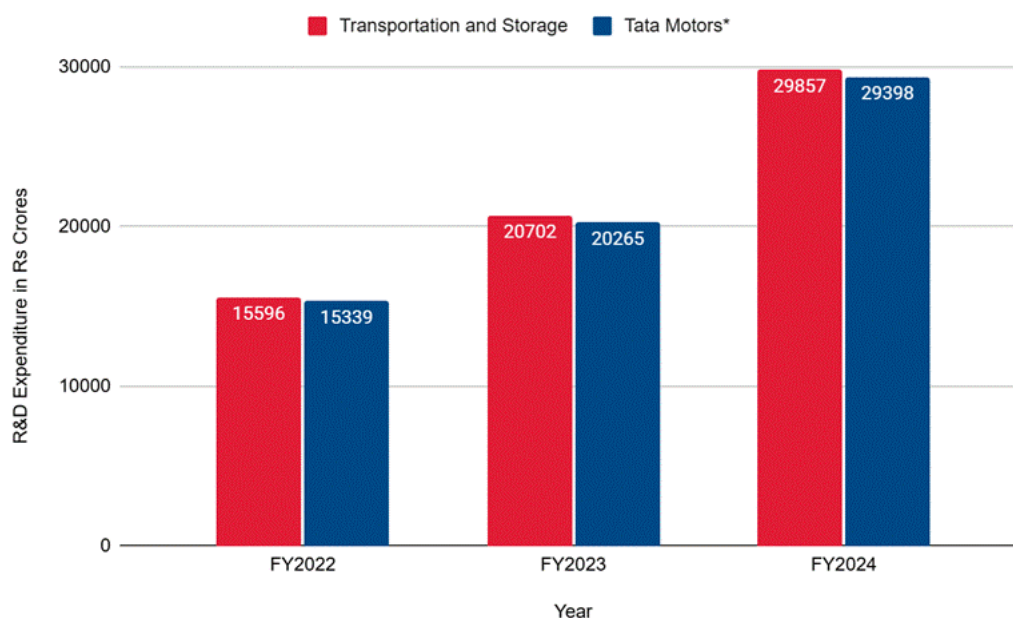
For the purpose of computing national industrial R&D statistics, tracking data from the country's top 500 to 1000 R&D spenders would be a good start. Let me explain. Industrial R&D in India tends to be concentrated in a few large firms across sectors. In computing total national industrial R&D expenditure, the DST reported it had considered data from 2732 private sector R&D units and 104 public sector R&D units. Our analysis, using data from the annual reports of firms as well as other secondary sources, however shows that 430 firms can explain over 90 percent of total industrial R&D in India. Table 1 also illustrates this point about industrial R&D being concentrated, where 238 firms based on CTIER data for six sectors spend nearly the same amount on R&D (using consolidated financial statements) compared to 1085 R&D units reported by DST.

The right classification matters - the curious case of transportation and storage

The right sectoral classification matters for international comparability and importantly for formulating sectoral policies. In the DST data, a large R&D expenditure amount has been reported under transportation and storage for the fiscal years FY2022, FY2023 and FY2024. Transportation and storage by definition covers among other things, the provision of passenger or freight transport via road, rail, air and sea. The reported amount under transportation and storage is similar to the consolidated R&D expenditure reported by Tata Motors for the same period (see the figure below), suggesting the R&D expenditure by Tata Motors has likely been classified under the transportation and storage sector. If this is indeed the case, then this R&D expenditure amount would need to be reclassified under the manufacture of motor vehicles, trailers and semi-trailers sector.



Figure 1: Could Transportation and Storage be housing Tata Motors?



Source: DST, Tata Motors annual reports (various years)

*R&D expenditure on a consolidated basis

Towards a national innovation policy

Given the pace at which global technology is advancing, India needs a strong overarching national innovation policy. Addressing each of the three aspects discussed above would be an important step towards designing a national firm level innovation survey that targets a large set of firms across various sectors. A good survey would be very instructive and extremely useful in guiding the much needed national innovation policy that can boost India's competitiveness going forward, drive economic growth and reduce future macroeconomic vulnerabilities. Getting the data right and getting the right data will be critical to achieving these goals.