

FRANCE'S REINDUSTRIALISATION: THE STATE OF PLAY

Deindustrialisation occurred in all developed countries between the 1970s and 2010s, but it was particularly severe in France, where industry's share of GDP declined from 17% to 11% between 1995 and 2017.

Deindustrialisation has major repercussions; industry plays a key role in the country's economic prosperity and social and regional cohesion. Industry also provides solutions to achieve the green transition and strengthen sovereignty and strategic autonomy. Reindustrialisation is a major economic policy priority for this reason, with the focus on strengthening France's cost competitiveness, targeting investment in the sectors and technologies of tomorrow and establishing an environment conducive to the installation of new businesses through streamlined administrative procedures.

Traditional indicators show that deindustrialisation came to a halt in the mid-2010s and reindustrialisation started to kick in. The COVID-19 pandemic followed by the war in Ukraine disrupted reindustrialisation due to their impact on the prices of strategic commodities, particularly energy, and left global value chains in disarray. Despite these stumbling blocks, reindustrialisation appears to be making a comeback post crises, with 28,000 new jobs created in companies operating in manufacturing sectors in 2023.

However, there are several challenges in measuring reindustrialisation: the line between industry and services has become blurred in recent decades, and there is not a clear definition or close monitoring of some trends in industry. Existing indicators have their limitations in evaluating reindustrialisation. The Directorate General for Enterprise has therefore developed three new indicators for industry in order to provide a more complete snapshot of reindustrialisation by recording employment in industrial occupations, the number of plants currently in operation, and industrial site openings net of closures across France.

These indicators confirm that reindustrialisation is under way, with 57 net openings of industrial sites recorded in France in 2023, up from 49 in 2022.

Authors: Georges Hemery and Balthazar Vatimbella (SCIDE – Competitiveness, Innovation and Business Development Department), Romain Billiard and Lucas Gravit (SI – Industry Department).

1 - Deindustrialisation began in the 1970s and came to a standstill in the mid-2010s

a) Industry plays a key role in addressing current and future challenges

First and foremost, industry plays a major role in the economy. Industry drives economic productivity; between 1990 and 2019, annual per capita **productivity growth** was 2.8% on average in industry, compared with 2.3% in the rest of the economy. Industry is fundamental to **the country's innovation capacity**; domestic research and experimental development expenditure totalled €34.6 billion in 2020, with 68% of expenditure carried out by businesses in the manufacturing industry. **Industry has always been the driving force of French exports** and deindustrialisation in the 2000s led to a trade deficit.

Industry also plays a key role in social and regional cohesion. Industry is critical for **regional employment**. While service industry jobs are concentrated

in large cities and suburban areas, industry tends to be more prevalent in rural and remote towns and cities. 30.5% and 12.4% of jobs in industry are found in rural and remote areas respectively compared with 21.4% and 10.3% of jobs in other sectors respectively. Industry also offers **high-quality, well-paid jobs in sectors requiring staff with intermediate qualifications**, with net monthly full-time salaries in industry averaging 10% higher¹ at €2,780, compared with €2,550 across the economy as a whole. 87.3% of employment contracts in industry were permanent contracts in 2022, compared with 85.3% in other sectors (excluding the public service).

¹ "Wages in the private sector in 2021", Insee Première n° 1938, February 2023.

² "L'action de L'État en faveur de la décarbonation de l'industrie", Les Thématis de la DGE n°8 – March 2023 .

Industry is essential in addressing the green transition. France's manufacturing industry reduced its greenhouse gas emissions by 46% between 1990 and 2022, largely on the back of improvements in technology and energy efficiency gains². Industry's greenhouse gas emissions were 67 MtCO₂ in 2023, i.e. 17% of France's total emissions, but industry will be driving decarbonisation in other sectors with the **development of low-carbon solutions**, particularly in mobility and construction. **Thanks to French industry's high degree of carbon efficiency, locating production in France helps to reduce France's carbon footprint while also cutting global CO₂ emissions.** Establishing manufacturing operations worth €1 billion in value added in France instead of another country would increase emissions by 530 ktCO₂ in France, but that increase would be 1,270 ktCO₂ in other countries, saving 740 ktCO₂ in net global emissions³.

Lastly, industry is central to strategic autonomy and technological sovereignty. The importance for a country to have the capacity to produce some strategic goods domestically was highlighted during the COVID-19 crisis, which drew attention to the vulnerabilities of strategic value chains. Today, 80%⁴ of production sites for active pharmaceutical ingredients used in medicines available in Europe are located outside the European Union. Furthermore, a country's sovereignty will depend on domestic businesses **harnessing certain key technologies** that are vital for the digital and green transitions.

b) Deindustrialisation starting in the 1970s was caused by major events

Deindustrialisation in developed countries was sparked by the first oil shock in 1974 and gathered pace with globalisation at the end of the 1990s. Deindustrialisation occurred in all industrialised countries, but France, alongside the United Kingdom, was one of the hardest-hit countries (see Chart 1). The share of the manufacturing industry in GDP was 11% in 2017, compared with 17% in 1995. With the exception of Germany, deindustrialisation affected all the major European countries and the United States, with their share of industry in GDP declining until 2010, when it then gradually stabilised. During that same period, France lost 900,000 manufacturing jobs, down 27%, compared with decreases of 13% in the EU and 6% in Germany.

Several factors are consistently behind the decline of industry across Europe.

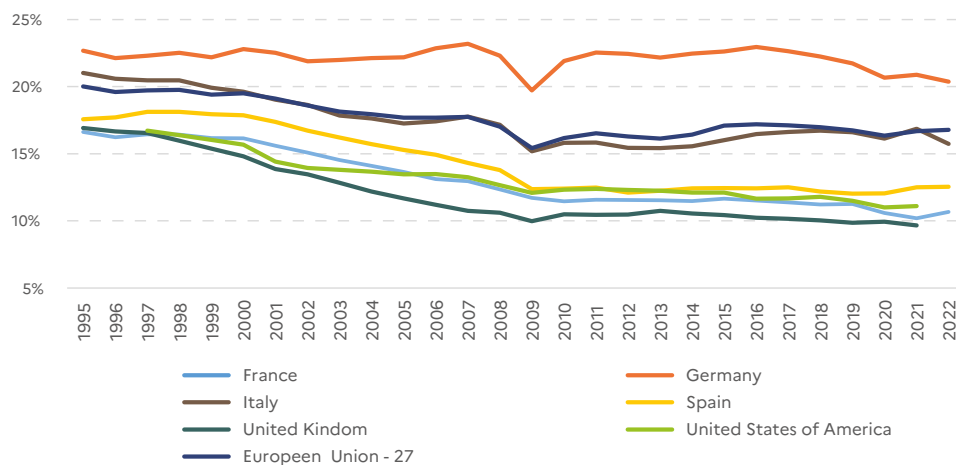
First, increased productivity gains in industry automatically lead to a decline in the price of manufactured products relative to the price of services, in turn causing a drop in the ratio of industry va-

³ A. Bourgeois (Insee), J. Montornes (Banque de France), What are the consequences of producing in France instead of abroad? Insee Analyses, October 2023.

⁴ European and US regulators agree on mutual recognition of inspections of medicines manufacturers, Press release, EMA, 2017.

⁵ Value added is calculated by subtracting intermediate consumption from output. The "price of value added" is the current price. To factor out the effects of inflation on value added, it is measured in volume terms in order to remove the price effect.

Chart 1 - Share of gross value added of the manufacturing industry in GDP (%).



Source: OCDE.

value added to total value added⁵. Between 1990 and 2019, the price of manufacturing value added fell by 2%, whereas it increased by 53% across the economy as a whole. In volume terms, manufacturing value added nonetheless rose by 53%, albeit at a slightly slower pace than GDP overall (up 59%). **Increased productivity gains are also linked to a decline in manufacturing employment**, mainly because of process automation and robotisation.

Second, **the manufacturing industry is seeing a gradual decline in the share of manufactured goods in the basket of goods bought by French households in value terms**. Manufactured goods accounted for 57.3% of final consumption expenditure in value terms in 1950, compared with 36.5% in 2000, 33.4% in 2010 and 32.1% in 2017. Consumer spending tends to shift from goods to services as real incomes grow.

Third, **the emergence of Asia as a powerhouse**, especially China, exerted pressure on Europe's industry, as it is propelled by lower labour costs than in Europe and an aggressive industrial policy. For example, vehicle manufacturing declined by 19% in the EU and the UK between 2000 and 2022, while China's automotive production increased more than twelvefold.

Nevertheless, some of the reasons for industrial decline are specific to France.

The structure of French industry is characterised by a larger share of major corporations, which are susceptible to the risk of offshoring. Several studies⁶ highlight the role played by this particular structure in the rate of offshoring in comparison with industry in Italy and Germany, which both have more small and medium-sized enterprises (SME) and interme-

diate-sized enterprises that are less likely to create employment in their foreign subsidiaries.

Offshoring is partly linked to **a contraction of France's cost competitiveness relative to the rest of the world** in the early 2000s. Between 2000 and 2012 alone, hourly manufacturing labour costs rose by 49% in France, compared with 27% in Germany. In addition, between 2000 and 2019 taxes on production paid by French companies accounted for 5–6% of value added in France, compared with less than 3% on average in the European Union.

c) Reindustrialisation started to take hold in the mid-2010s

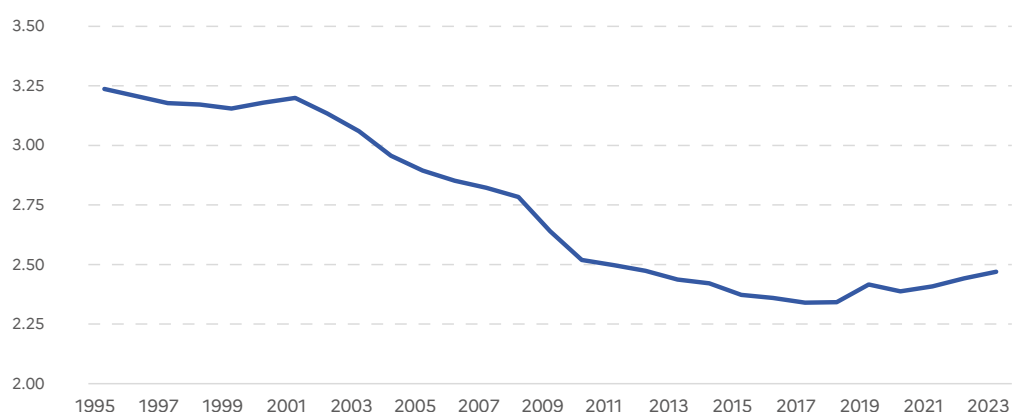
Deindustrialisation came to a halt in the mid-2010s and reindustrialisation picked up.

The share of manufacturing value added stopped falling and stabilised at around 11% in France and roughly 17% on average in the European Union before the COVID-19 crisis. With the pandemic and the war in Ukraine, industry was affected by the disruption to value chains and higher input prices, especially energy prices. The outcome was a decline in the share of industry in value added.

A trend towards reindustrialisation was observed after the crisis, with manufacturing employment contributing **130,000 full-time equivalent salaried**

⁶ "Les multinationales françaises, fer de lance du commerce extérieur français, mais aussi de sa dégradation", La lettre du Cepii No. 427, May 2022 (in French only); "The international strategies of France's business sector", Trésor-Eco No. 267, September 2020.

Chart 2 – Full-time equivalent salaried employment in the manufacturing industry, in millions of people



Source: Insee.

positions in industry since 2017, 28,000 of which were created in 2023 (see Chart 2). These results are particularly noteworthy in the light of the structural trend which has seen industry report a declining share of value added and destroy jobs due to the sector's productivity gains over the past 25 years.

Offshoring also appears to have stopped⁷. According to Trendeo, France has been opening more plants than it has closed since 2016. Over the 2007–2016 period, Trendeo recorded 700 plant closure announcements net of openings, compared with 316 plant opening announcements net of closures between 2017 and 2023.

France's attractiveness has improved. According to the EY Europe Attractiveness Survey, France has been the leading host country for FDI projects since 2019, ahead of Germany and the UK, including for manufacturing investment. France's attractiveness was still strong and continued to grow in 2023 according to Business France, which recorded 1,815 foreign investment decisions, leading to the creation or retention of 59,254 jobs over the subsequent three years (compared with 1,725 investments and 58,810 jobs in 2022). A total of 47% of these investment projects cover new facilities, signalling strong investor confidence, whereas 31% address the priorities of the France 2030 Plan and contribute directly to reindustrialisation.

This reindustrialisation is partly due to the industrial policy implemented in the past decade, with the introduction of "horizontal" measures (lower taxes on production⁸, lower corporation tax rates, lower labour costs with the Competitiveness and Employment Tax Credit, or CICE, and exemptions from social security contributions, streamlined administration, etc.) and "vertical" measures, in key technologies and strategic sectors (the France Relance⁹ recovery plan, the France 2030 Plan¹⁰, the "Green Industry" Act, IPCEI¹¹, etc.).

2 - New indicators help to confirm the reindustrialisation trend and provide greater insight

The Directorate General for Enterprise (DGE) has developed three complementary indicators with a view to monitoring the impact of public policy measures implemented to promote reindustrialisation and to addressing any changes in industry which are not fully detected by standard indicators. These indicators confirm the reindustrialisation trend.

a) Measuring employment in industrial occupations

The dividing line between industry and services has tended to become increasingly blurred. Part of the reason there are fewer jobs in industry is because some service activities previously carried out

in-house have been outsourced. Meanwhile, there is also a trend towards servitisation in industry, i.e. industry has diversified beyond the production of manufactured goods. As a result, the indicator used to measure employment in industrial sectors does not provide a complete snapshot of reindustrialisation.

The DGE has developed an indicator to measure employment in industrial occupations which can address the blurred distinction between industry and services. This indicator focuses on industrial occupations, i.e. manual work or using skills directly related to industry, irrespective of whether these jobs are in industry or in the service sector. It covers industrial occupations carried out by people working for service-sector companies (engineers and managers working in industry hired by consultancy firms, technicians and maintenance personnel hired by sales and marketing firms to work in maintenance and quality control).

Industrial occupation trends show that reindustrialisation is happening on a larger scale and earlier than traditional manufacturing employment indicators suggest. Reindustrialisation emerged as early as 2015, when industrial occupations, which had previously been on the decline, began to stabilise and then rise sharply (industrial occupations increased by 2.5% between 2015 and 2019, i.e. an additional 75,000 jobs). However, traditional manufacturing employment indicators show a rebound in manufacturing employment around the 2017–2018 period, with a slower increase until 2019 (an additional 33,000 salaried jobs in industry between 2017 and 2019, or a rise of 1%). Industrial occupations which have grown at the fastest pace are for unskilled and skilled workers in the electricity and electronics sectors (up 32% and 20%, respectively, between 2016 and 2019). Jobs for workers in the printing industry and for unskilled machine tool operators have declined the fastest in this period (falling by 20% and 18%, respectively).

⁷ "Baisse des délocalisations sur la période 1995-2017", Les Thémas de la DGE n°6 – décembre 2022.

⁸ "La suppression définitive de la cotisation sur la valeur ajoutée des entreprises en 2023/2024", Les Thémas de la DGE n°3, September 2022 (in French only).

⁹ Bilan de l'AAP "Relocalisation de la production dans les secteurs critiques", Les Thémas de la DGE n°12, July 2023 (in French only).

¹⁰ "France 2030 Plan: An Economic Response to Tomorrow's Challenges", Les Thémas de la DGE n°5, November 2022.

¹¹ "Les projets importants d'intérêt européen commun, un outil de politique industrielle européenne", Les Thémas de la DGE n°17, January 2024 (in French only).



Box 1 - Definition and construction of the indicator for employment in industrial occupations

The scope chosen for industrial occupations has been taken from the “Secteurs et métiers industriels: l’industrie n’est plus ce qu’elle était” (2005) publication produced by the Directorate for the Coordination of Research, Studies and Statistics (DARES) which is consistent with the “Prospectives des métiers et qualifications 2030” publication (both publications only in French). In the classification of families of occupations (FAP), these occupations are denoted by the codes C to H, i.e. skilled and unskilled workers, technicians and supervisors and technical managers working in industry.

The indicator for employment in industrial occupations has been developed using data from INSEE’s Labour Force Survey (EEC) for the number of hours worked in industrial occupations as a main job and the number of main jobs in industrial occupations. Data in the Labour Force Survey has a one-year lag. The survey is conducted among individuals aged 15-89 residing in ordinary housing in France during a reference period of one week in a given quarter.

In 2019, just 60% of industrial occupations were in industry. Sales and marketing, scientific and technical activities and transport services sectors made up a significant share of industrial occupations (roughly 10% of employment in these sectors). Half of all occupations in industry are industrial occupations.

Chart 3 - Number of main jobs in industrial occupations (in millions)



Source: Labour Force Survey (EEC), DGE calculations and the “Les métiers en 2030” report produced by DARES and France Stratégie (PMQ) – publication in French only.

Explanatory note: A break in the series was the result of the survey’s overhaul in 2021, which included the adoption of the new PCS classification of occupations and socioeconomic categories from 2020. This had an impact on the construction of the indicator for industrial occupations and prevents the comparison of figures from before and after 2021.

b) Defining and recording plants

A plant can be defined as a production unit which transforms raw materials or semi-finished products into semi-finished or finished goods. Public statistics include industrial businesses and establishments, but not all industrial establishments are necessarily plants according to this definition. Industrial businesses also carry out R&D activities, administrative activities, etc. The fact that half of all jobs in industrial sectors are not industrial occupations according to the indicator detailed above confirms this observation. A plant is not a statistical concept.

The DGE therefore uses an indicator for the number of plants which aims to record plants in France over an extended period of time. The indicator is based on a proposal for a statistical definition of a plant (see Box 2) which is designed to identify industrial establishments that, due their size and actual activity with regard to the occupations of salaried employees, carry out industrial activities.

Changes in the indicator for the number of plants help to confirm the reindustrialisation trend. Following a continued decline reflecting a deindustrialisation trend from 2000 to 2016, reindustrialisation

began to pick up between 2016 and 2019, but was brought to a standstill by the COVID-19 crisis. The fall seen in 2020–2021 was due to the COVID-19 pandemic and its heightened impact on temporary employment, which is highly sensitive to the economic situation. Temporary workers were not protected to the same extent as other workers by the short-time

working scheme implemented during the COVID-19 pandemic. Temporary jobs were quickly wiped out in 2020 then created again just as quickly in 2021. Projections for 2022–2023 indicate that reindustrialisation started again after the COVID-19 pandemic, with 2023 figures estimated to exceed 2019 levels by nearly 200 plants.

Box 2 - Definition and construction of an indicator for the number of plants

The definition chosen of a plant is as follows: A plant is an establishment:

- **whose main activity is classified under the manufacturing industry** according to the French classification of activity (codes 10 to 33), i.e. an activity involving the processing of a raw material or a semi-finished product into a finished or semi-finished product;
- **with a workforce of more than 20**, in order to exclude craft trades, for example;
- **whose salaried employees classified as industrial workers make up at least 50% of the workforce** in full-time equivalent (FTE) employment, including temporary workers, i.e. occupations in the following professional and socioeconomic categories: 47: Technicians/48: Supervisors (excluding supervisory staff in administration)/67: Low-skilled industrial workers/62: Skilled industrial workers.

An establishment can only be classified as a plant with at least 50% of industrial workers/technicians in FTE employment. This criteria takes into account new and changing processes which tend to reduce manufacturing employment through mechanisation and automation, and factors in the most modern, innovative production units. Unlike the indicator for industrial occupations, engineers are not included in this indicator because the focus is on production units in the manufacturing industry, rather than, for example, R&D centres. The criteria has been corroborated by the “Industries énérgo-intensives en 2030” report commissioned from the firm Asterès by the French Union of Energy-Intensive Industries (UNIDEN) – publication only available in French. The report found that an energy-intensive industrial establishment is made up of 50% workers and technicians, 30% engineers and managers and 20% clerical and other staff across nine heavy industry sectors.

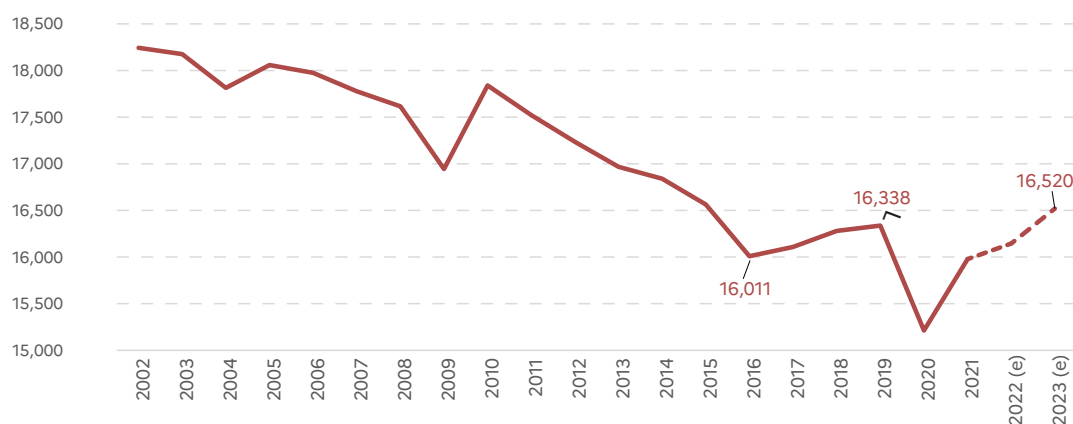
The change in the number of plants over time has been determined by applying the above criteria to INSEE’s All Employees Database for 2002–2021, the last year for which complete data is available.

Temporary employment accounts for a large share of employment in industry: according to the Labour Force Survey, temporary employment accounted for 5.7% of employment in industry in 2021, compared with 1.6% in other sectors. It is therefore important to include temporary employment so we do not underestimate the number of plants. With this data only available as from 2018, the indicator has been retroplated using the average ratio of the number of plants – obtained by including temporary workers – to the number of plants excluding them for the 2018–2021 period. The underlying hypothesis of this adjustment is that the share of temporary employment in industrial establishments has been stable over time, excluding periods of major macro-economic upheaval.

The number of plants in 2022 is estimated using provisional data from the All Employees Database for that year and projected for 2023 with data from the SIREN database, which provides the number of industrial establishments with a workforce of more than 20 until 2023. The underlying hypothesis is that the proportion of industrial establishments with a workforce of more than 20 that are considered plants has remained steady in 2022–2023. That percentage has been around 76% since 2010. Like all projections, this figure is not confirmed and should first and foremost be interpreted as pointing to a trend.

The indicator still depends on the different thresholds used in the conventional definition of a plant. Instead of looking at the figures for a particular year, we need to examine the trends highlighted by the indicator in the broader sense. Furthermore, the method we have chosen for this indicator is different from the method used for the indicator for openings of industrial sites detailed below. The latter is based on a qualitative analysis of data from devolved government departments and the figures are therefore not directly comparable.

Chart 4 - Indicator for the number of plants in France from 2002 to 2021 and projections for 2022 and 2023



Source: All Employees Database (BTS), INSEE; DGE calculations.

c) Rapidly identifying industrial site openings across France

It can be hard to accurately identify new industrial sites opening across France. Public statistics provide accurate data about the characteristics of industrial establishments with a lag of two years¹² and do not always make a distinction between production units and other facilities owned by industrial companies.

The DGE's indicator for the net number of industrial site openings is a new and accurate method of measuring reindustrialisation in France. It aims to monitor industrial site openings and closures throughout France's regional areas. It is based on three core principles:

- **Actual site openings and closures are measured.** This helps to reflect what is happening exactly in the field because it only covers actual manufacturing activity. In other words, it only records openings and closures from the date the site is opened and starts producing the first parts, or when production lines actually cease operating.
- **The indicator is constructed by taking into account the specific features of each region,** using an innovative methodology based on reporting from government departments at département, regional and national levels.
- **The balance of industrial site openings is measured over time,** which indicates a widespread reindustrialisation or deindustrialisation trend, and helps to record the number of plants in France.

The results of this indicator for 2022 and 2023 (176 and 201 net openings including expansions and reductions, respectively) highlight a very positive trend that is consistent with France's reindustrialisation policy.

A breakdown of these results also shows that some sectors and regions are contributing considerably to the trend.

These results highlight a stronger trend than Trendeo's figures in 2023. Trendeo recorded 86 net openings in 2022 and 33 in 2023, compared with 49 and 57 net openings (excluding long-term expansions and reductions) respectively for the DGE's indicator. A major difference is that Trendeo's indicator is based on announcements and is forward-looking, whereas the DGE's indicator is focused on actual openings. For this reason, both indicators are complementary.

¹² The All Employees Database (BTS) can be used to analyse jobs and salaries based on the type of employment (duration, employment conditions, qualifications, pay, etc.), employees (sex, age, département of residence) and employers (business sector, location, size, etc.).

Box 3 - Definition and construction of the indicator for net industrial site openings

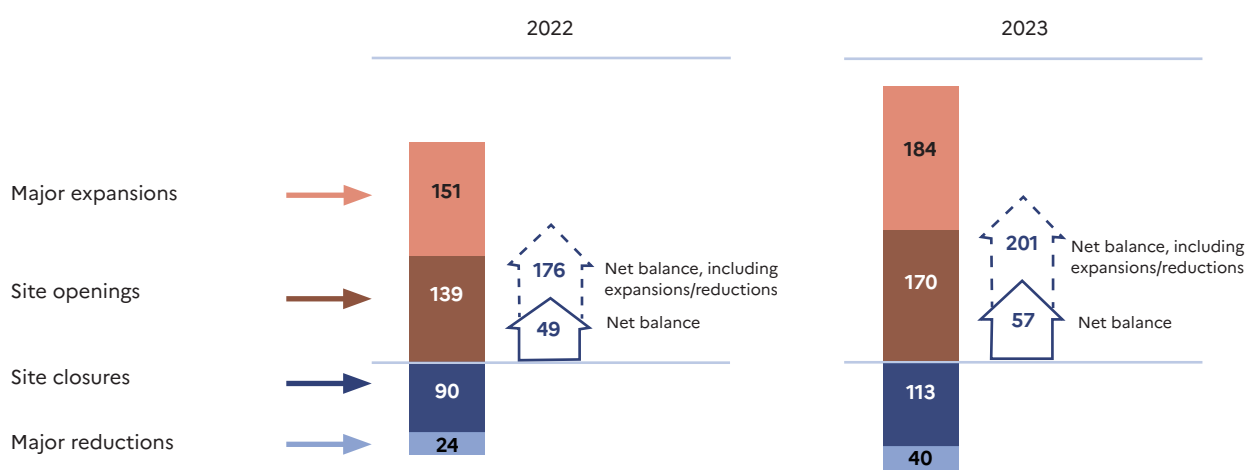
The indicator aims to measure the net number of industrial site openings, i.e. the total number of industrial site openings minus the number of closures. It only counts sites with a workforce of more than 20. The indicator includes major increases and reductions in manufacturing activity on an existing site when their impact on a region is similar to the opening or closure of a new plant. A major increase (or reduction) is defined as follows: (i) a long-term increase (or reduction) of 40% of the plant's production capacity, value added and/or workforce, or (ii) a long-term increase (or reduction) of 50 employees. These thresholds are applied in addition to the previously defined methodology used to determine the plant's industrial activities. Only employment and the value added of industrial activities are taken into account.

The definition of industry we have used for this indicator includes all economic activities which combine factors of production to produce manufactured goods for the market through the processing of raw materials and the use of energy sources. It excludes related activities (waste management, logistics) and craft trades. It mainly includes activities connected to the extractive and manufacturing industries, which are measured based on the company's actual business, rather than the code used to denote its core business (APE code). A company whose core business is a service industry business can open a production unit falling under the manufacturing industry. Similarly, a manufacturing company can open units that do not fall under the manufacturing industry. The sector of activity is allocated based on participation in a value chain. For example, a company that manufactures machines which are only used in the agri-food industry will be classified as an agri-food company.

The new methodology used for this indicator is based on a phase of alternately aggregating and completing data in government databases. Devolved government departments then check the data at the regional level to ensure that the openings/closures identified have actually occurred. The main government databases used are approvals granted for installations classified on environmental protection grounds (ICPE) for openings and job preservation plans (PSE) for closures.

The indicator is focused on recording industrial units without taking into account the unit's value added. A gigafactory and a new, smaller facility are therefore both counted as an industrial unit. Because of this skew, the poorer results of some regions engaged in the reindustrialisation trend through opening high value added plants should therefore be put into perspective. A case in point is the Hauts-de-France region, where a gigafactory was opened in 2023 (ACC in Douvrin) and several others are due to open in the next few years, including Verkor and Prologium.

Chart 5 - Indicator of net industrial site openings in France for 2022 and 2023

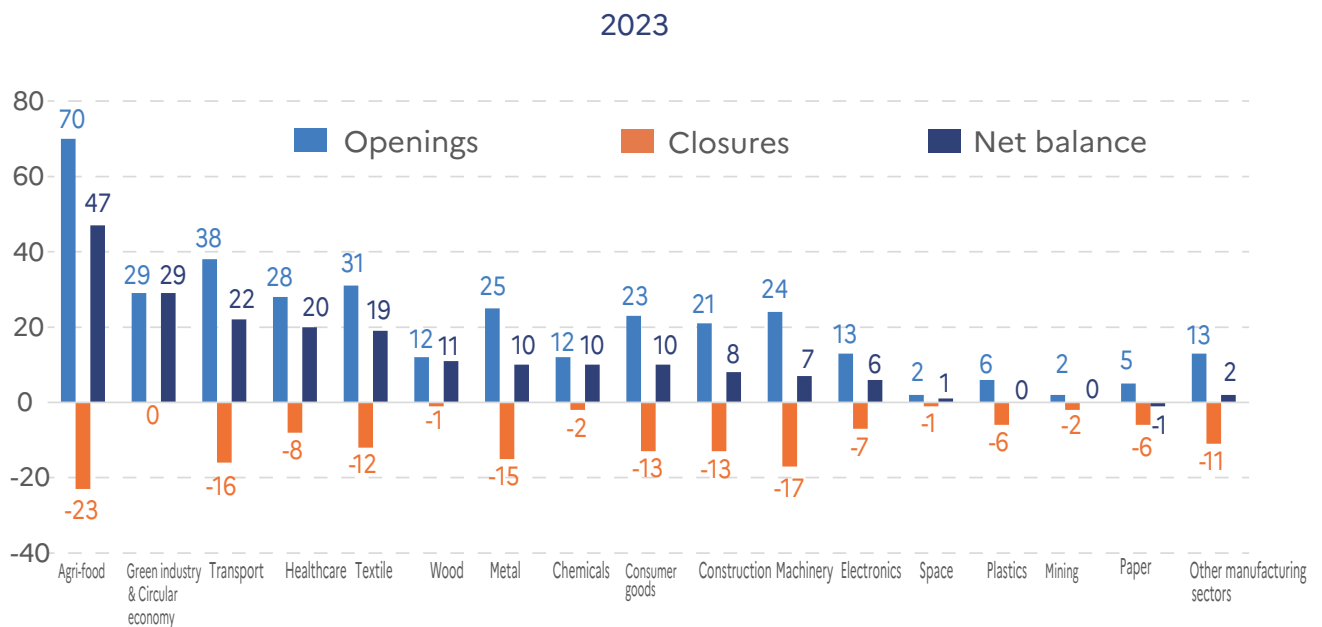
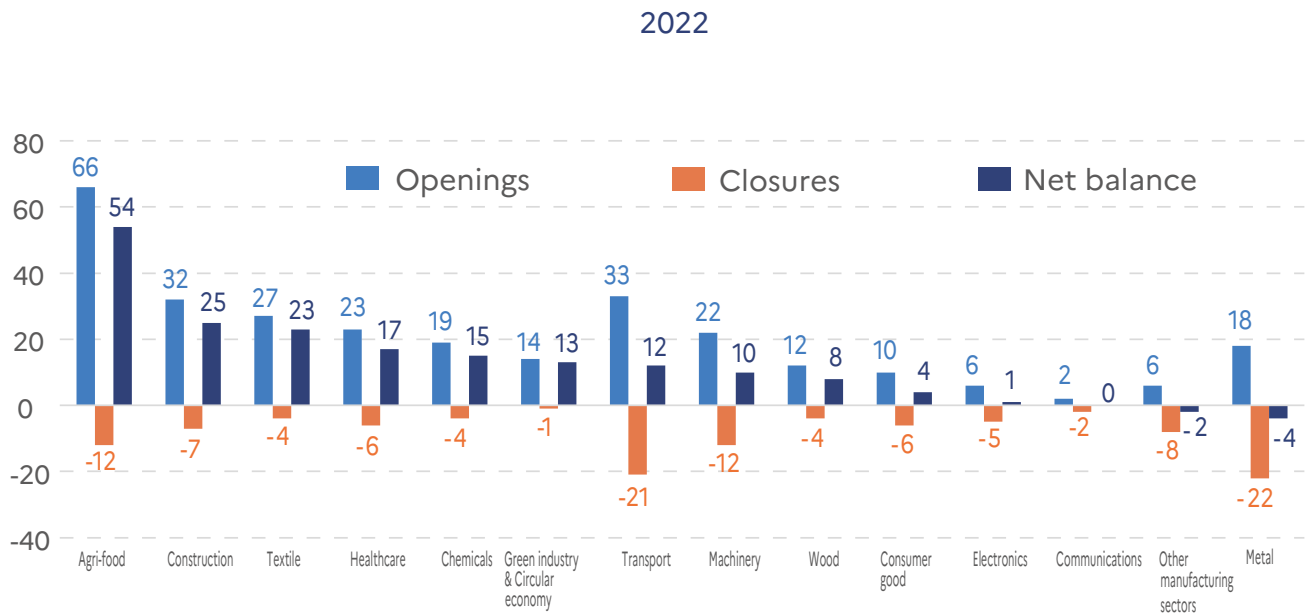


Source: DGE

Looking at site openings and closures alone, green industry and the circular economy are making a significant contribution to reindustrialisation in France, accounting for 37% of net openings nationwide in 2023. In 2023, industrial start-ups, small

and medium-sized enterprises (SMEs) and intermediate-sized enterprises made up 75% of openings recorded, underscoring a major trend in terms of innovation, primarily in key sectors and technologies.

Charts 6 - 7 - Sectoral breakdown of openings/closures by sector of activity

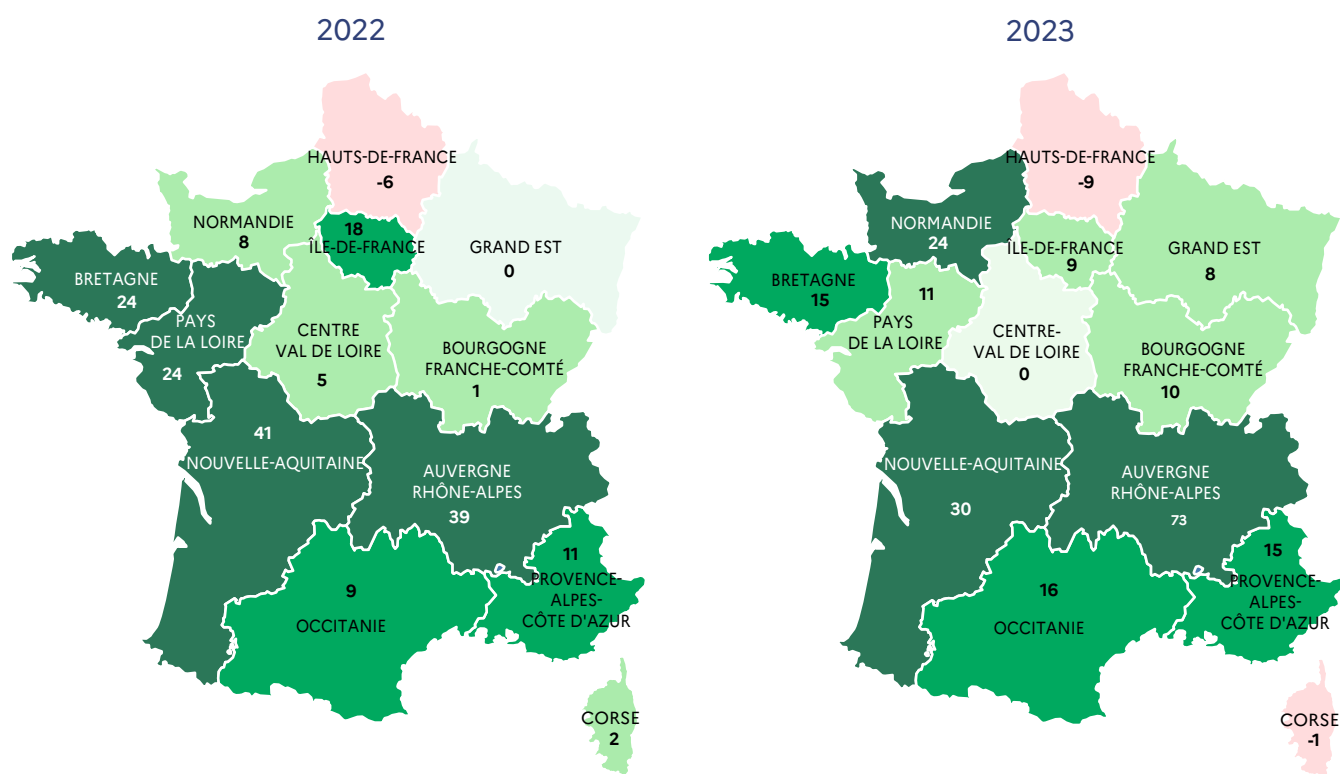


Source: DGE.

From a regional standpoint, the Auvergne-Rhône-Alpes region is a strong driver of reindustrialisation with more than 35% of net openings in 2023. In that region in 2023, nearly 40% of openings were connected to green industry and the circular eco-

nomy, including industrial start-ups which received funding under the France 2030 Plan's "First Plant" scheme (e.g. Dracula Technologies) and openings of battery plants in the Grenoble area (e.g. Verkor and Enwires).

Maps – Regional breakdown of openings/closures



Legend: Each colour from pink to dark green corresponds to a quintile: negative net openings, zero net openings, and net openings between 0 and 10, 10 and 20, and higher than 20.

Source: DGE.

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