

### Since the invasion of Ukraine, the French defence industry has seen increased orders and has stepped up production, however, it is coming up against supply constraints

The French Defence Industrial and Technological Base (BITD), as studied by the Defence Industries Businesses (EID) survey carried out by the French Ministry of the Armed Forces, defined a relevant group of French companies to constitute the defence industries: by studying their responses to INSEE's monthly surveys, short-term economic developments in the defence sector can be identified since 2005.

The invasion of Ukraine by the Russian army in February 2022 and the resulting geopolitical situation have led to major demands being made on the French defence industrial apparatus, in the form of material aid to Ukraine, the equipment needs of the French army and more broadly, the increased defence needs in Europe. Since the beginning of 2022, the short-term situation in the defence industry has therefore been considerably better than in the rest of industry. In particular, the opinion of defence industrialists based on their order books picked up significantly between the end of 2021 and the start of 2022 and has remained at a high level since then. The defence industry output has increased gradually and at the beginning of 2024 was 10% above its 2022 average. However, tensions surrounding supply have increased substantially, in contrast to the change in the rest of industry: supply chain difficulties are greater and the productive capacity is in greater demand.

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#### A general increase in military spending in Europe since the invasion of Ukraine

The recent international context has been marked by rising geopolitical tensions, notably the invasion of Ukraine, signalling the return of armed conflicts on European soil. As well as the warring countries, many others have announced their wish to increase their defence capabilities in order to face this new, more unstable security environment, especially in Europe.

This development is of particular importance for France, which plays a major role in the military industry in Europe and throughout the world. It ranks among the ten most important countries in terms of the amount of military spending and is the second largest arms exporter globally, a long way behind the United States, but ahead of Russia and China, according to the latest data from the Stockholm International Peace Research Institute (SIPRI, technical fact sheets on [Trends in world military expenditure](#) and [Trends in international arms transfers](#)). France has also committed to increasing its defence spending to achieve the target of 2% of GDP set by NATO as, according to estimates by the North Atlantic Alliance, this spending stood at 1.9% of French GDP in 2023, after around 1.8% between 2014 and 2019. These commitments were formalised in the latest French military programming Act (LPM), with more than €400 billion in military spending allocated to the period 2024-2030 (► [booklet presenting the LPM](#)).

In this context, the French military industry must meet the national demand for military materials with a view to modernising and renewing the equipment of the French army, and also a specific demand within the framework

of material aid for Ukraine, and lastly, more broadly, a growing international demand, especially in Europe, due to the new security context. The production capacity of these defence industries is therefore in high demand and is likely to remain so in the coming years.

#### The scope of the defence industry can be reconstructed from the 2018 EID survey

The industrial branches linked to military and defence activities are numerous and varied. In addition to the production of weapons and war materials, where the entire output can be considered as equivalent to the military industry, many branches have activities that can be partially linked to defence. This is the case, for example, for the manufacture of transport equipment, which includes civilian vehicles as well as troop transport vehicles, military ships and combat aircraft. Defence industries also have numerous subcontractors throughout industry, whose activity is at least partially linked to the military industry.

From the current classification of French activities (NAF rev. 2) it is not possible to identify all defence industries. Defining a relevant scope therefore requires additional analyses and the mobilisation of auxiliary data sources.

The Economic Observatory for Defence (OED) of the French Armed Forces is based on the notion of the French Defence Industrial and Technological Base (BITD) as constituting the relevant scope for industrial defence businesses.

The Defence Industries Businesses survey (EID) is used to define this field.<sup>1</sup> According to its results, in 2017, defence businesses consisted of almost 2,000 legal units generating

<sup>1</sup> In what follows, the BITD will include all businesses that declared a defence activity in the 2018 EID survey. This is a simplification as the notion of BITD is more fluctuating.

around €30 billion in military turnover. The majority of these activities were carried out by large companies (over 5,000 employees and/or €1.5 billion turnover) and intermediate-sized companies. This scope includes both companies whose entire activity is devoted to the arms industry and companies which are concerned for only part of their turnover. It is limited to industrial companies and therefore excludes services companies.

### **Most of the businesses that make up the BITD are covered by INSEE's monthly surveys (business tendency and industrial production)**

Every month, INSEE conducts an economic tendency survey of around 4,000 industrial companies, to collect information on recent and future developments in their activity or their recruitment or difficulties they may face regarding their recruitment, their supply chain or insufficient demand. The survey sample, which is exhaustive for the largest industrial entities, includes a large proportion of legal units from the scope of the EID survey and in particular the largest of these companies: almost 300 legal units covering about 90% of the turnover of the defence industries in 2017 responded to the business tendency survey. This source can therefore be used to reconstitute developments in the short-term situation of defence industries.

This exercise provides an overview over a long period: data from the business tendency surveys are available from the 1970s for industry, thus the analysis can theoretically be carried out from this date. In practice, a retropolation is needed, in order to reconstitute the sample of relevant companies year by year. In fact, a certain number of legal units from 2018 may be the result of a restructuring of earlier entities, and it will therefore be necessary, at least for the largest units, to reconstruct the histories of the groups concerned. The analysis presented here goes back to 2005, as data before this date were more difficult to use. On this date there were approximately 100 legal units from the BITD covering about 50% of the total turnover of the BITD, which can still be considered as representative. In the middle of the period, the number of legal units from the BITD present in the monthly business tendency survey in industry as well as the share of their military turnover within the total turnover are close to what is observed currently. Over the entire study period, the scope therefore corresponds to that of the EID survey in 2017. Any businesses leaving the survey between 2000 and 2017 within the scope of defence industries are not taken into account.

At level A38, apart from agrifood, refining and wood/paper/printing, all sub-sectors of industry are represented in the defence industries. Weighted by military turnover, about

half of the legal units in the BITD that were found in the business tendency surveys fall into the manufacture of transport equipment sector, excluding automobiles. The manufacture of electronic, computer and optical products represents a quarter of total military turnover in 2024, metallurgy a little over 10%.

Once the sample has been compiled, the individual responses from the businesses concerned are aggregated in order to reconstruct the balances of opinion, like those published monthly across the entire scope of the manufacturing industry and its different branches: this aggregation is carried out in one step, by weighting the different units according to their turnover in the military field, based on data from the EID survey. It is thus a question of simplification but several precautions need to be taken in interpretation:

- the reconstructed balances reflect the opinion of companies with military activity, but this opinion does not only cover their military activity, as companies are responding to the survey in respect of all their activity;
- in the business tendency surveys, companies declare their turnover each year but the military share is identified in a fixed fashion based on responses to the EID survey covering 2017, the only known point of reference.

From these balances of opinion, a composite business climate indicator is reconstituted for the scope of the defence industry. This indicator is constructed as a weighted sum of the main balances of opinion, then restandardised (mean equal to 100, standard deviation equal to 10): the balances involved in the calculation of this climate and the weight assigned to them are those of the business climate in industry.

INSEE also carries out monthly branch surveys of companies (EMB), in order to calculate a monthly industrial production index (IPI), using an approach via branches and products. An "IPI Defence" can be constructed by selecting only the branches and products concerned in military production.<sup>2</sup> For most of these branches, it is possible to distinguish precisely the products that are for military use from those for civilian use or, failing that, for a given product keep only the responses from companies identified in the EID survey as having a very large proportion of military turnover. For some branches, on the other hand, it is not possible to distinguish between civilian and military production or to isolate companies over a sufficiently long time. In this case, the product included in the calculation of the "IPI Defence" is in fact a "mixed" product. The resulting elementary indices by product are calculated by mobilising the responses of 40 large defence industry businesses. These elementary indices are then aggregated using weightings that represent the value

<sup>2</sup> Some branches in the classification of activities (especially 2013A Enrichment and reprocessing of nuclear materials, 2446Z Production and transformation of nuclear materials and 3040Z Construction of military combat vehicles) are not monitored in the EMB and are therefore not included in the reconstructed IPI Defence. However, companies in these sub-classes represent a limited proportion of defence industries according to the EID survey data.

# French economic outlook

added associated with the military products. All in all, the resulting IPI Defence covers 87% of the value added of the BITD and could be calculated from 2013.

## The business climate in the defence industry has improved significantly since the invasion of Ukraine, driven by the sharp increase in orders

The business climate reconstructed on the basis of the EID summarises the short-term situation in the defence industry, and puts it into perspective with that of the manufacturing industry as a whole. Thus from 2005, the indicator highlights different short-term cycles, some of them in phase with the overall cycle and others more specific to the defence industries (► Figure 1). For example, the financial crisis of 2008-2009 resulted in a short-term economic deterioration for the defence industries, although this effect came later and was less pronounced for the rest of industry. Similarly, the 2020 health crisis constituted an economic low point for the defence industries, and for the rest of the economy.

Over the recent period, the indicator conversely shows a significant improvement in the short-term economic situation in the defence industries from the end of 2021, and which continued throughout 2022. The contrast with the rest of industry appears in particular at the beginning of 2022: while the economic situation in the defence industries continued to improve, that in the rest of industry continued to deteriorate. The business climate in the defence industries even reached unprecedented levels in the summer of 2023. At the beginning of 2024, the situation remained very favourable (the indicator reached 111 in June for a long-term average of 100), but very slightly down compared to the peak in summer 2023, due mainly to the weakening of the balances of opinion on the order books.

Over a long period, the climate mainly reflects fluctuations in balances of opinion on global and foreign order books. General expectations develop in a very similar way, with notably a sharp decline in 2009. Conversely, balances relating to output, both recent and expected, present more specific changes: although they reached high levels recently, they were only slightly affected during the financial crisis. Finally, the balance on inventories makes only a relatively minor contribution to variations in the business climate indicator (► Figure 2).

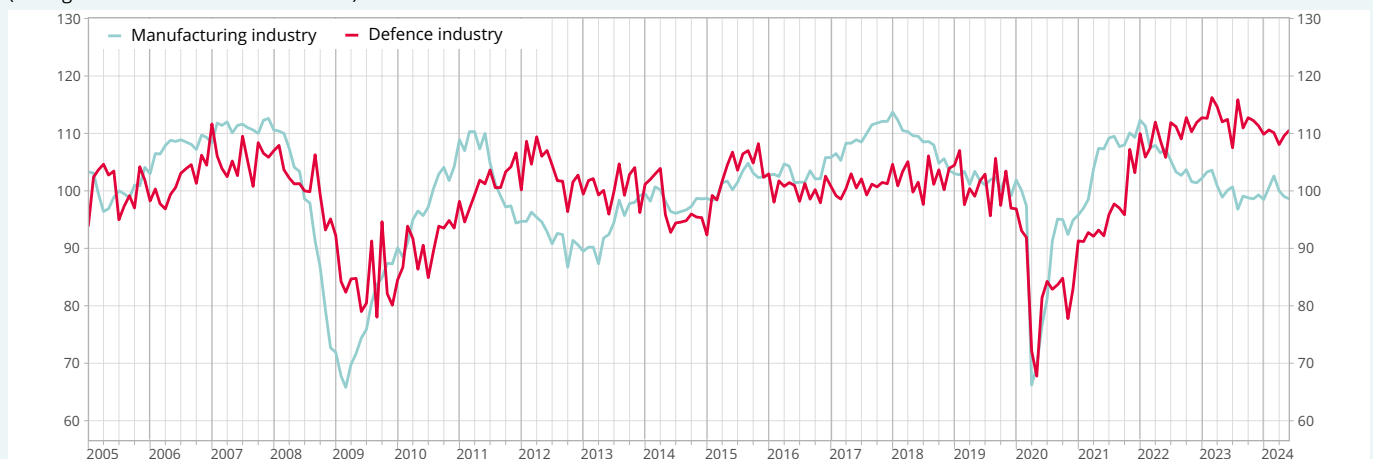
Concerning the industrial production index, the findings are similar to those observed for the business climate (► Figure 3). The increase in production in the defence industries, which was gradual throughout 2023, logically appears a little later than that of the business climate, which rather reflects variations in orders. In addition, since the beginning of 2023, production in the defence industries has been more dynamic than that in the manufacturing industry as a whole. At the start of 2024, production in the defence industries stood at around 10% above its 2022 average.

## Defence industries facing supply chain constraints and relative tension over their production capacities

In addition to constituting a business climate that can provide a summary of the economic situation in the arms industry, the wealth of data in the business tendency surveys can be exploited to study the factors limiting output in these industries. In particular, INSEE interviews industrialists every quarter on their production capacity utilisation rate (CUR). This question is used to assess companies' capacity to increase their production and it provides information on the possible saturation of production capacity.

### ► 1. Business climate in the manufacturing industry and the defence industries

(average 100 and standard deviation 10)



Last point: June 2024.

How to read it: in June 2024, the business climate in the defence industries stood at 111 points, above its long-term average.

Source: monthly industry survey, INSEE, OED, survey of Defense Industry Companies (EID) 2018.

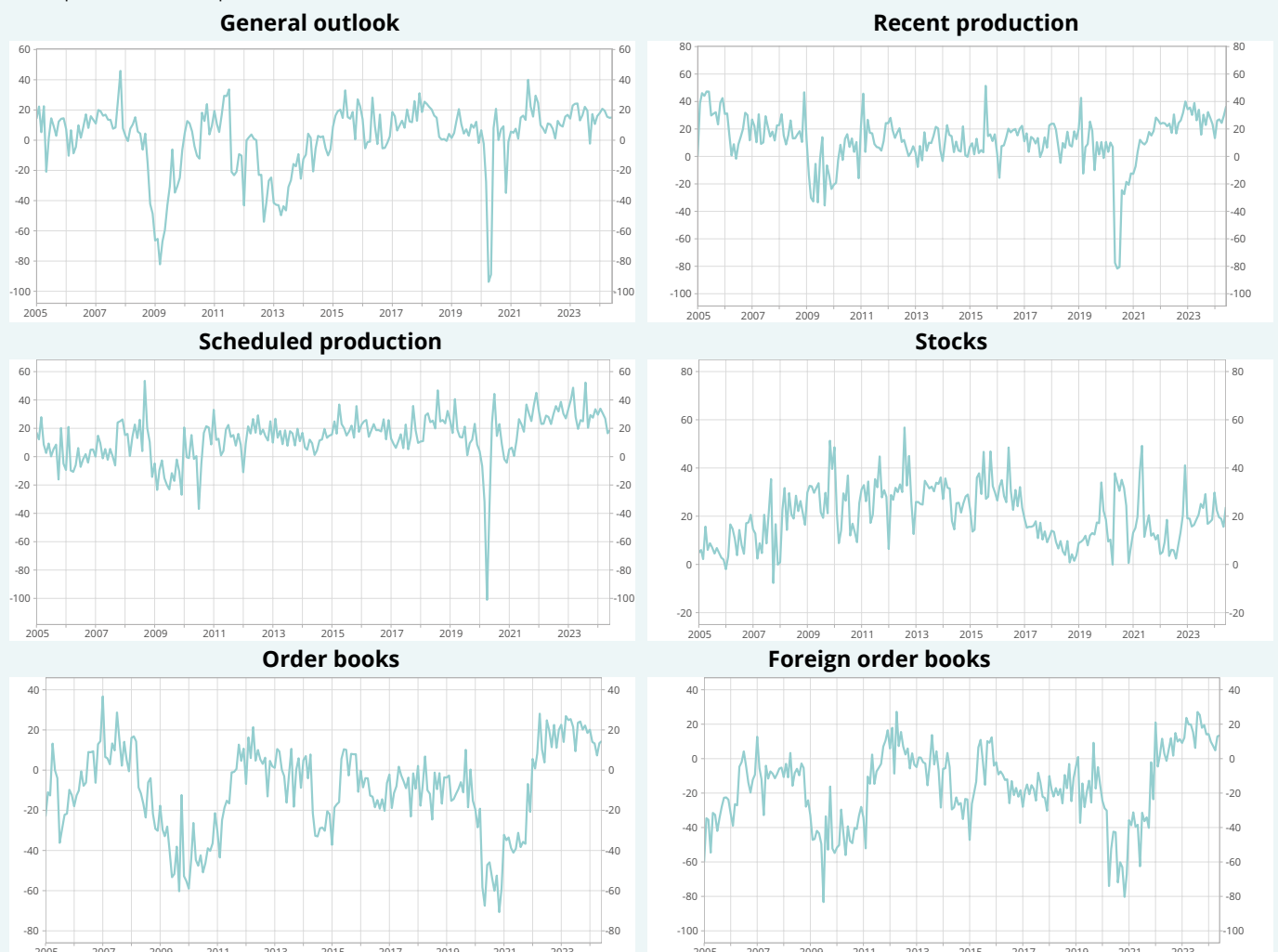
Historically, the CUR of the defence industries remains higher than in the rest of industry, although during the 2010s there was a tendency to converge with that of other industries. This movement has been interrupted since mid-2021 (► **Figure 4**). The CUR of the defence industries rose significantly, reaching levels higher than 90% at the start of 2024, similar to those observed at the start of the 2010s in these industries and about 10 points above the rest of industry.

This increase in the CUR of the defence industries mainly represents a significant increase in demand for defence companies over the last two years. Unlike many industrial branches, defence companies are reporting less and less often that they are experiencing demand difficulties

(► **Figure 5**). Since the beginning of 2022, the share of companies reporting this kind of difficulty has remained generally stable, at a level well below its historic average.

On the other hand, defence industry businesses are facing increasing difficulties over supply. In particular, supply chain difficulties for defence companies, which reached a peak in early 2022, have receded since mid-2022 but levels still remained very high at the beginning of 2024, whereas they had fallen back much more quickly in the rest of industry. At the start of 2024, there were twice as many companies reporting such difficulties in the defence sector as in the rest of industry. Recruitment difficulties are also significant in the defence industries, although not very much different from the rest of industry. ●

## ► 2. Main balances of opinion in defence industries (SA response balances, in points)



**Last point:** June 2024.

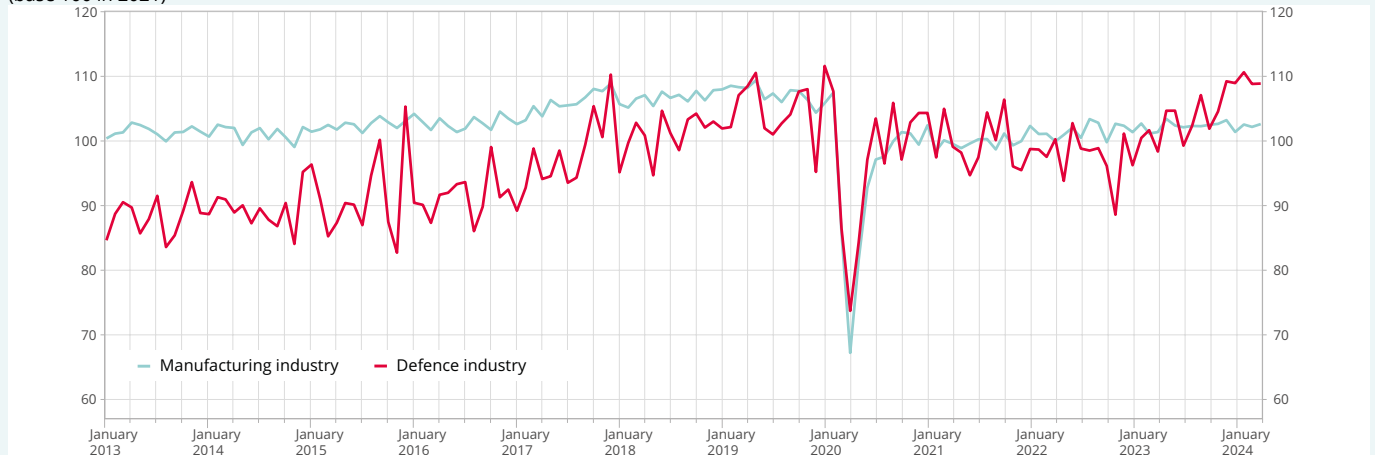
**How to read it:** in June 2024, the balance of opinion on the general expectations for activity stood at +15 points in defence industries.

**Source:** INSEE, monthly industry survey, EID 2018.

# French economic outlook

## ► 3. Industrial production index in the manufacturing industry and in defence industries

(base 100 in 2021)



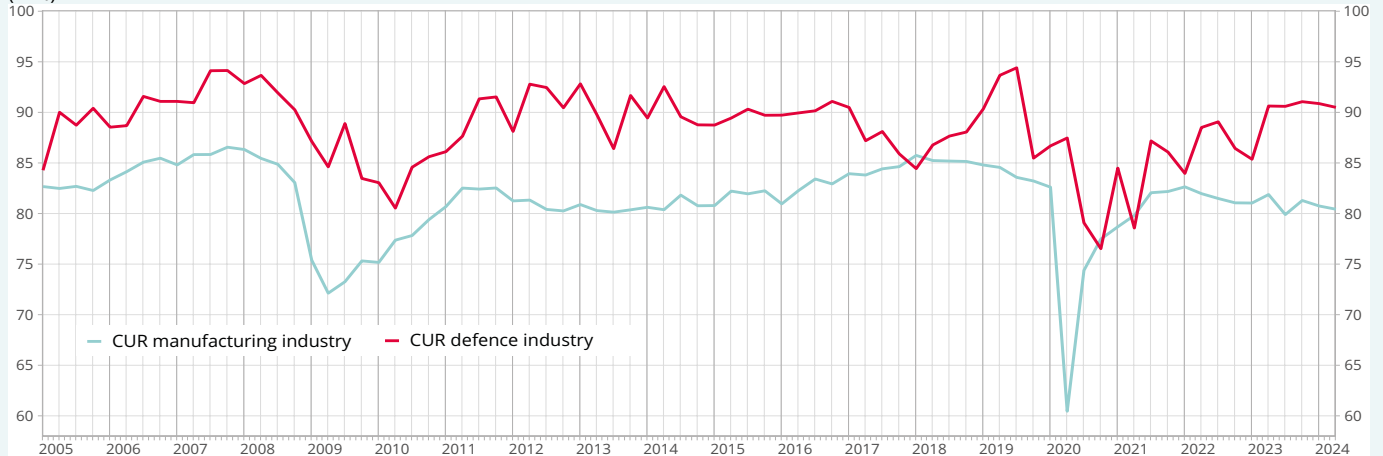
**Last point:** April 2024.

**How to read it:** in April 2024, the industrial production index stood at 109 in the defence industries.

**Source:** INSEE, SSP, SDES, EID 2018.

## ► 4. Production capacity utilisation rate

(in %)



**Last point:** April 2024.

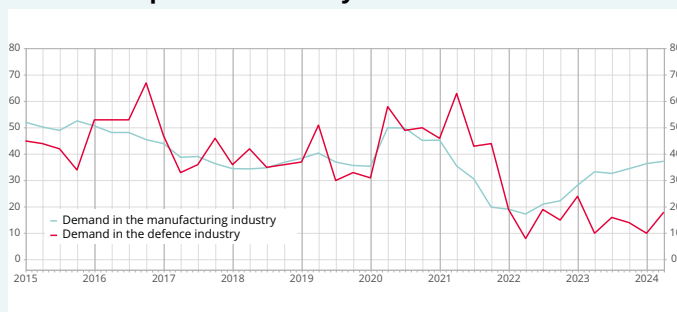
**How to read it:** in April 2024, the production capacity utilisation rate in defence industries stood at 91%.

**Source:** INSEE, quarterly industry survey, EID 2018.

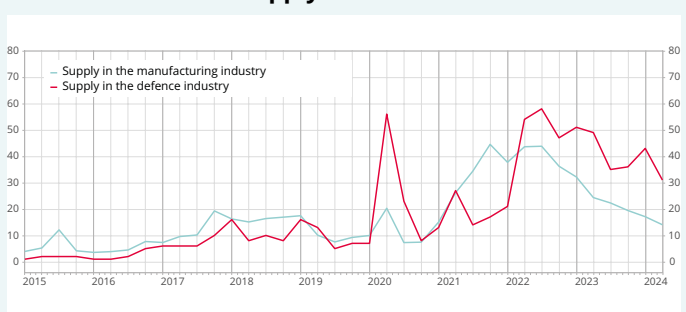
## ► 5. Declared difficulties in the manufacturing industry and defence industries

(in % of companies concerned)

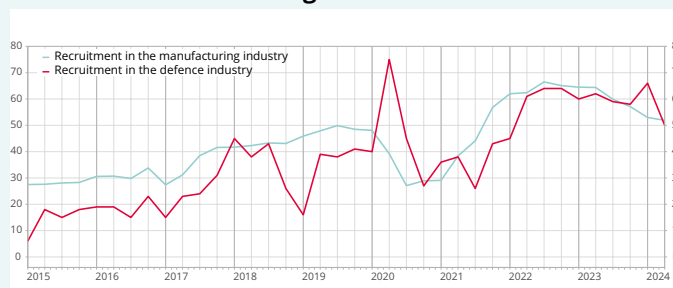
### Companies limited by insufficient demand



### Supply difficulties



### Hiring difficulties



**Last point:** April 2024.

**How to read it:** 18% of defence industry companies report that they are limited by insufficient demand.

**Source:** INSEE, quarterly industry survey, EID 2018.