

Open access to data at the Ministry of the Armed Forces



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The Ministry of the Armed Forces, whose priority mission is to ensure the protection of France's territory, population and interests throughout the world, produces data. Some data can be placed in open source, while others are protected by national defence secrecy and are therefore off-limits to the general public. In this binary world, however, there are intermediate cases where the data is both sensitive and of interest for research purposes. The ministry's statistical service, S2E¹, which has the same prerogatives as the fifteen other ministerial statistical services (SSM), is at the heart of what seems at first sight to be an irreconcilable conflict: preserving data security while encouraging openness. In addition to the strict application of statistical confidentiality due to their sensitivity, some data may require additional mechanisms to be implemented to ensure dissemination or access, generating an impression of scarcity or even absence. The first reason for this impression of defence data scarcity is the desire not to allow sensitive information on armaments or the defence industry, or even battlefield data, to be disseminated freely. The second relates more directly to the statistician's environment; the lack of defence-specific nomenclatures requires additional statistical investments. Not all the data produced by the Defence SSM falls into this category, and some do not present any problems of openness. Using a number of examples, this article describes the constraints imposed on the dissemination of statistical data in a context of increasing demand for open data, as well as the innovative mechanisms proposed to overcome them.

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¹ The *Sous-direction Statistiques et Études économiques* [Sub-Directorate of Statistics and Economic Studies] (S2E) formerly known as the *Observatoire Économique de la Défense* [Economic Observatory for Defence] (OED) is the Ministerial Statistical Office (MSO) of the Ministry of the Armed Forces.

During the first part of the Cold War, immediately after Stalin's death, the two powers on either side of the Iron Curtain became involved in a massive amount of data sharing. During the International Geophysical Year² (1957-1958), the United States and the USSR demonstrated that it was possible to share strategic data³ despite a political context that was hardly suited to it, long before the advent of the electronic technologies now used in our daily lives (Aronova, 2017). At that time, the founding principles of data governance, as still practised today, were born: open source data stored centrally in data centres and made widely accessible to researchers. Using an example taken from official statistics, this article demonstrates that providing open access to certain data, in a context that at first may not seem suited to such openness, is possible and is even of interest to the party producing the data.

► Open source data from the Ministry of the Armed Forces

As is the case for all French ministries, data on personnel (consisting of 204,144 military personnel and 61,908 civilian personnel⁴ in 2022) are widely available to the public through the Single Social Report (SSR), which provides details on personnel numbers (*figure 1*) and even remuneration. Some data that describe the armed forces are also available in open source format (open data) via the www.data.gouv.fr website. To date, there are approximately 200 datasets focusing mainly, but not exclusively, on human resources⁵.

However, there is a specific feature, a regulation, in relation to data on military personnel which requires strict anonymity in certain situations (*Box 1*). It is not possible to locate members of the special forces using such data, for example. The issue of the sensitivity

► Box 1. Respect for the anonymity of civilian and military personnel of the Ministry of the Armed Forces

Civilian and military personnel of the Ministry of the Armed Forces* are covered by specific regulations (the Order of 7 April 2011, as updated on 11 May 2020, on respect for the anonymity of military and civilian personnel of the Ministry of Defence and Article 39e of the Law of 29 July 1881 on freedom of the press**). The Order establishes a detailed list of 78 services (the *Direction générale de la Sécurité extérieure* [Directorate-General for External Security] (DGSE), the *Direction du renseignement et de la sécurité de la Défense* [Defence Intelligence

and Security Directorate] (DRSD), the *Direction du Renseignement militaire* [Military Intelligence Directorate] (DRM) etc.) and "units" (regiments, fighter squadrons, flotillas etc.) spread out across 226 geographical entities. In order to respect the strictest conditions of anonymity, it is prohibited to disseminate details on the individuals that make up these populations, such as their home address, the characteristics of their employer establishment and their civil status characteristics.

* The Ministry of Defence is the former name of the Ministry of the Armed Forces for the period 1974–2017. The remit of the Ministry did not change in 2017 with the adoption of the current name "Ministry of the Armed Forces".

** See the legal references at the end of the article.

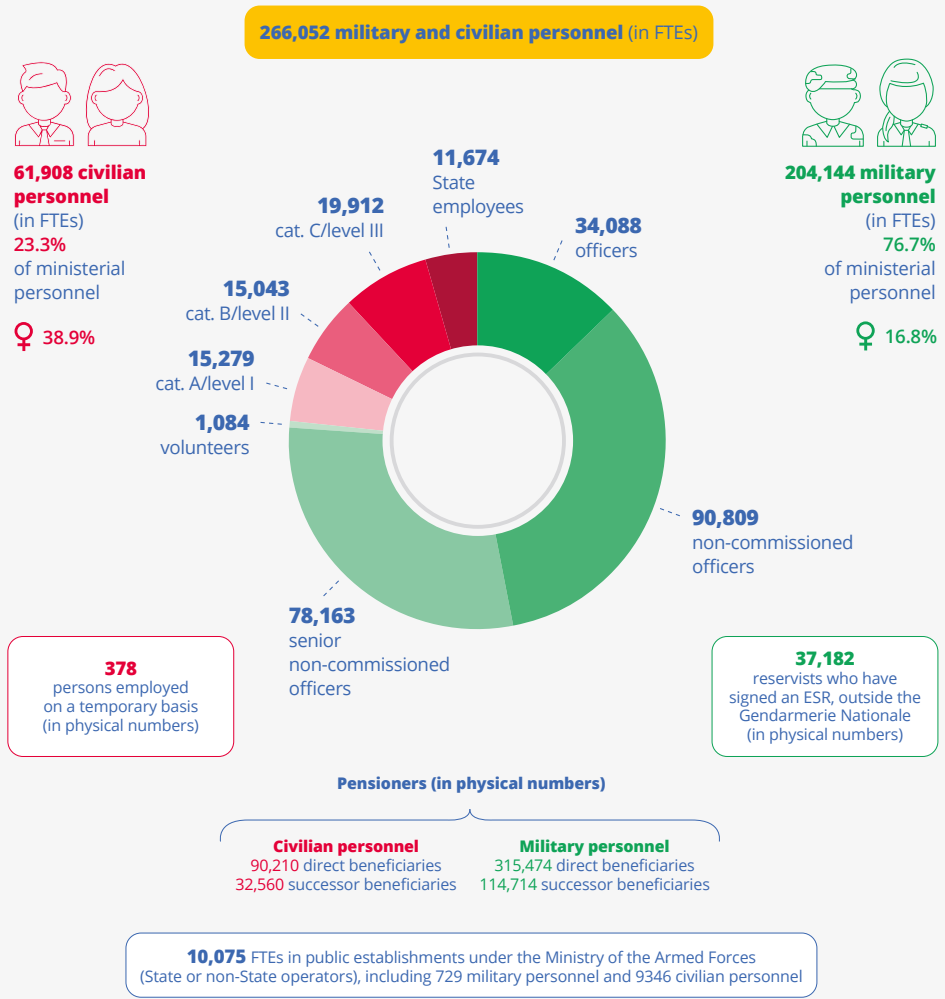
2 The International Geophysical Year was the period from 1 July 1957 to 31 December 1958, which coincided with maximum solar activity, and during which several dozen countries came together in a joint effort around fourteen Earth science disciplines.

3 This concerned data on the geophysical environment: meteorology, geomagnetism, glaciology, gravity, nuclear radiation, oceanography, seismology etc.

4 2022 Single Social Report of the Ministry of the Armed Forces.

5 List of places of remembrance, proportion of low-emission vehicles in the vehicle fleet, 2019-2025 *loi de programmation militaire* [Military Planning Law] (LPM) barometer data.

► **Figure 1 - Ministry of the Armed Forces Personnel in 2022**



ESR: *Engagement à servir dans la réserve* (a commitment to serve in the military reserve for a given number of years)
FTEs: Full-time equivalents

Sources: 2022 Single Social Report – Ministry of the Armed Forces

of the personal information of military personnel was behind the creation, in 1978, of the Central Bureau of Statistics under the Secretary-General for Administration (De Lapparent, 1980), the first iteration of the current Defence MSO.

In addition, the budget data for this Ministry are also accessible to the general public via the portal www.budget.gouv.fr or directly from www.defense.gouv.fr/en.

These data show that the budget for the armed forces is the third largest item of expenditure in the general State budget. This budget is used to equip the armed forces with the equipment needed to carry out their missions. Thus, the Ministry of the Armed Forces is also a leading public economic actor that is characterised by the very high number of investments it makes each year, which benefit not only large industrial groups but also SMEs and VSEs: €16.2

billion⁶ of investment loans included in the 2024 *projet de loi de finances* [Budget Bill] (PLF)⁷, which represents 75% of State investments.

Data in the area of defence are scarce, which is a phenomenon specific to defence.

Beyond these few examples, compared to other ministerial areas such as health, employment and foreign trade⁸, data in the area of defence are scarce, which is a phenomenon specific to defence. Defence statistics are no exception to this phenomenon.

► Statistical data on Defence Economics are scarce

The statistical data describing the economic fabric of the defence sector, known as the “Defence Industrial and Technological Base” (DITB), and its export activity are not available in open source format but in the form of indicators contained in public notes or reports.

In the area of exports, the only publicly available indicators are included in the Annual Report to Parliament⁹ as well as in the annual EcoDef data note¹⁰ from the MSO of the Ministry of the Armed Forces¹¹ on foreign trade data for 2021 (Wyckaert, 2023) (*Direction générale des douanes et droits indirects* [Customs Directorate General] (DGDDI)) (**figure 2**).

The Stockholm International Peace Research Institute (SIPRI) also disseminates data on arms exports (Stockholm International Peace Research Institute (SIPRI), 2023) via its website and using an original method¹² in which the equipment delivered is valued on the basis of a non-monetary unit, the TIV (Trend Indicator Value), which allows historical trends to be followed but does not allow a comparison based on macro-economic concepts such as GDP or arms expenditure. The sources used are public (Defense News, Jane’s Defence Weekly, newspapers, official reports and the UN Register of Conventional Arms) and the data are collected using web scraping techniques.

⁶ <https://www.budget.gouv.fr/documentation/file-download/9508>.

⁷ “The Defence mission remains, however, the largest source of investment expenditure in the State budget, of which it accounts for 78% of the investment loans under Title 5 (compared to 79% in 2020), while it represents (excluding the Special Allocation Account for Pensions) 9.6% of all such expenditure, compared to 11.2% in 2020.”, Court of Auditors, Analysis Note of the 2021 Budget Implementation, Defence Mission.

⁸ <https://www.health-data-hub.fr/> for health, <https://dares.travail-emploi.gouv.fr/donnees> for work, employment and vocational training and https://lekiosque.finances.gouv.fr/site_fr/telechargement/telechargement_SGBD.asp for foreign trade.

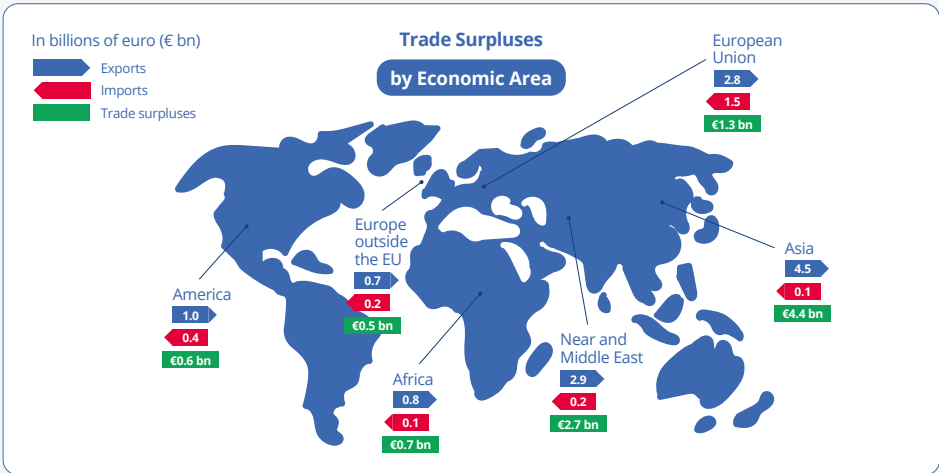
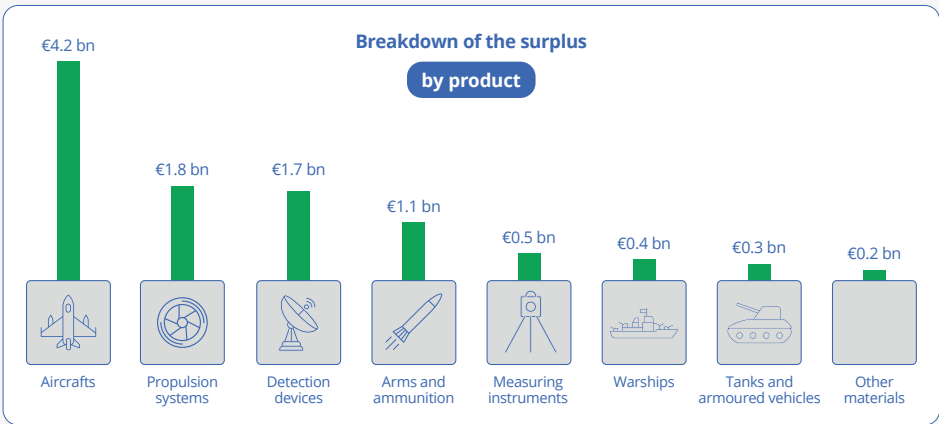
⁹ <https://www.defense.gouv.fr/rapport-au-parlement-2022-exportations-darmement-france>.

¹⁰ <https://www.defense.gouv.fr/ssm/actualites/ecodef-statistiques-ndeg223-2021-lexcedent-commercial-lie-aux-materiels-guerre-est-au-plus-haut-10>.

¹¹ The Ministerial Statistical Office of the Ministry of the Armed Forces has been the Sub-Directorate of Statistics and Economic Studies since November 2022 (Decree No 2022-1414 of 8 November 2022, amending Decree No 2009-1179 of 5 October 2009 establishing the powers and organisation of the Secretariat-General for the Administration of the Ministry of Defence).

¹² <https://www.sipri.org/databases/armstransfers/sources-and-methods>.

► **Figure 2 - Exports of War Materials and Related Products in 2021**



Sources: Customs Directorate General (DGDDI), reprocessing by the Economic Observatory for Defence (OED)

As for the economic description of defence industry activity (DITB), this is carried out by S2E through an official statistics survey that has been conducted twice, in 2018 and 2023. The results of the 2018 edition are included in EcoDef publication No 133¹³ and do not include detailed statistical data on the breakdown by the *nomenclature d'activités française* [French Nomenclature of Activities] (NAF) code or by region, but only aggregated statistical data.

► Statistical nomenclatures that are unsuited to Defence Activity

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For the NAF, for example, sub-class 30.30Z “Aircraft and space construction” does not differentiate between civilian and military aircraft.

With regard to the HS customs nomenclature¹⁵, only 7 headings¹⁶ can describe war materials or even dual-use goods (civilian and military), and there is no clear distinction between civilian equipment and its military equivalent.

Another challenge for statisticians is having a shared international reference framework available to ensure spatial comparability of data.

The absence of a European regulation on statistics in the field of defence activities also makes it impossible to define a common framework for collecting data in this field, and thus to ensure comparability of data across different Member States. However, Annex II to Regulation (EU) 2021/690 of the European Parliament and of the Council of 28 April 2021 includes “providing statistics to support the European defence policy, subject to feasibility studies and duly taking into account the sensitivity of statistical data”¹⁷.

¹³ EcoDef no 133, “Près de 30 milliards de chiffre d'affaires militaire pour les entreprises industrielles de la BITD en 2017” [Almost 30 billion in military turnover for industrial companies included in the DITB in 2017], September 2019.

¹⁴ The article entitled “The challenge of developing a statistical classification of crimes” in *Courrier des Statistiques* issue 7 is a perfect illustration of the need for statisticians to have adapted nomenclatures.

¹⁵ The “Harmonised System” (HS) nomenclature established under the responsibility of the World Customs Organisation.

¹⁶ Headings 84, 85, 87, 88, 89, 90, 93.

¹⁷ See the legal references at the end of the article.

► Producing statistics while navigating confidentiality for National Security

Some data produced by the Ministry of the Armed Forces and which S2E needs for its current statistical output are subject to highly supervised access, particularly in cases in which confidentiality for national security applies¹⁸.

Thus, authorisation is needed to be able to work on these data:

"In accordance with Articles 413-10 et seq. of the French Penal Code, access by unapproved persons to information or media protected by confidentiality for national security is prohibited.

For a natural person to be considered approved within the meaning of the French Penal Code, that person must meet two cumulative requirements:

- *they must have been duly authorised to the required classification level, following an administrative investigation to assess the vulnerabilities that person may present to confidentiality for national security (cf. 3.3) or they must be empowered by law or constitutional status (cf. 3.1.4);*
- *they must provide evidence of their need to know."*

All employees of the Ministerial Statistical Office have such authorisation, but this is sometimes insufficient for access to the various sources necessary for the production of statistics. The regulation also states that *"they must provide evidence of their need to*

know". Also, in order to facilitate S2E's access to the various data sources of the Ministry of the Armed Forces and to generally handle data confidentiality issues, an innovative organisation has been established: the *Comité ministériel pour l'information statistique* [Ministerial Committee for Statistical Information] (CoMIS), a forum for consultation between internal users of statistics at the Ministry of the Armed Forces and the producer, S2E. As such, the CoMIS (**Box 2**) plays, for the Ministry of the Armed Forces, a role identical to that of the CNIS¹⁹ and follows the model of the Statistics Council of the Ministry of Justice²⁰.



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In its current work in the field of official statistics, the MSO therefore faces two difficulties: the particular sensitivity relating to accessing data from the Ministry of the Armed Forces and the absence of a statistical nomenclature dedicated to the issue of defence economics.

To overcome this second technical difficulty, S2E has established a specific statistical system: the *enquête sur les entreprises de défense de l'industrie et des services* [Survey of Defence Companies in Industry and Services] (EDIS).

¹⁸ Order of 13 November 2020 approving General Interministerial Instruction No 1300 on the protection of confidentiality for national security (http://www.sgdsn.gouv.fr/files/files/Nos_missions/igi-1300-20210809.pdf).

¹⁹ The *Conseil national de l'information statistique* [National Council for Statistical Information] (CNIS) facilitates interactions between the producers and users of official statistics.

²⁰ Order of 11 March 1994 establishing a Statistical and Studies Council and a Statistical Programming and Studies Committee of the Ministry of Justice (<https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000000729208>).

► Box 2. The CoMIS

The Ministerial Committee for Statistical Information (CoMIS) is the coordinating body for the production and dissemination of statistical information of the Ministry of the Armed Forces.

In addition, the purpose of this committee is to analyse any potential constraints within the establishment and then the publication of statistical information, due to the Ministry's security and defence missions.

Any partial or total exceptions to the principle of open access to data are assessed by the CoMIS within the framework of the applicable texts in the light of a risk analysis*.

* Instruction No 2804/ARM/CAB of 25 April 2022 on statistical information at the Ministry of the Armed Forces.

In doing so, the CoMIS performs the functions of the CNIS and of the *Comité du secret* [Confidentiality Committee] for the Ministry of the Armed Forces.

The CoMIS follows on from the *Comité statistique de la Défense* [Statistical Committee for Defence] created in 1978, an organisation which, with the Secretary-General for Administration as Chair and the National Armaments Director as Deputy Chair, brought together each of the Chiefs of Staff, the Director of the Gendarmerie and Military Justice, the Head of the Inspectorate-General of the Armed Forces and the Head of the Information and Public Relations Service of the Armed Forces.

► The first official statistics survey on the Defence Industry

When referring to the defence industry, several definitions can be used based on the relationship suppliers have with the Ministry of the Armed Forces. A broad definition could be to view all such companies as they are recorded in Chorus, the tool for managing government spending. The disadvantage of this broad definition is the lack of knowledge of subcontractors and co-contractors involved in the value chain.

The MSO chose a different approach to statistically describe the Defence Industrial and Technological Base (DITB) (**figure 3**): any company with more than 1% of its turnover in the field of defence is considered to fall within this scope.

To form the sampling frame for this survey, in the absence of a dedicated statistical nomenclature, S2E used an empirical approach.

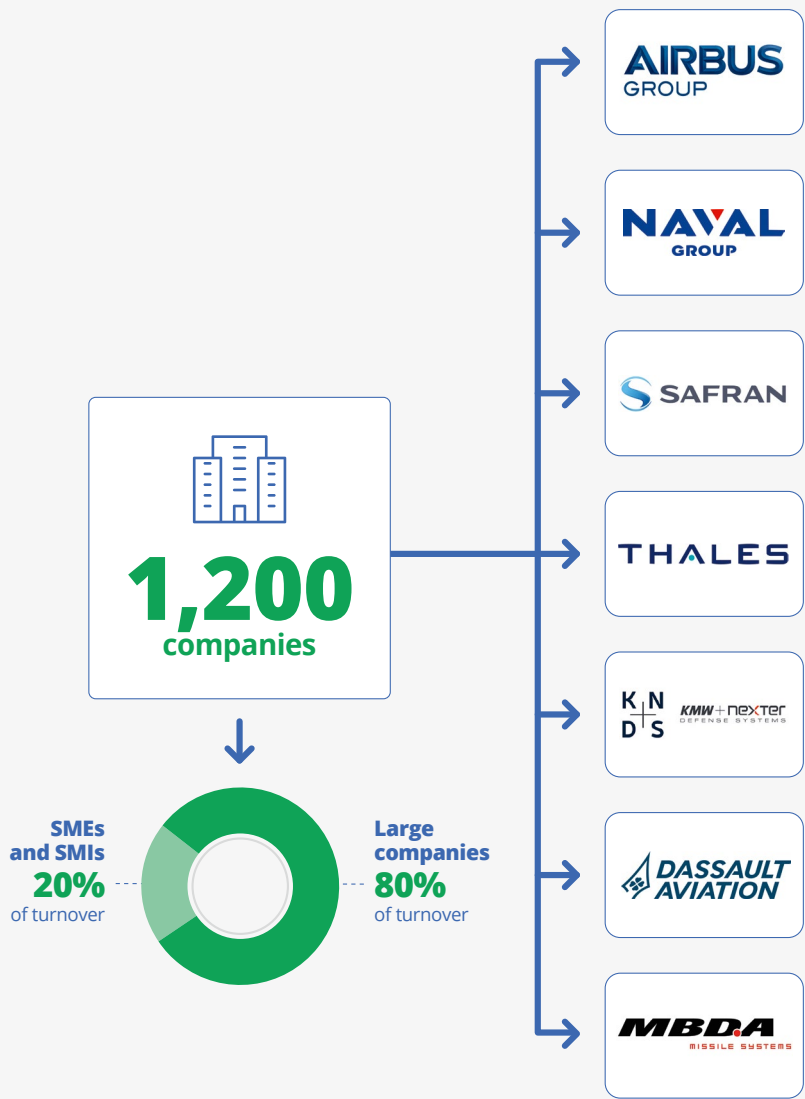
Until 2018, the MSO maintained the *Statistiques Annuelles sur la Défense, son Industrie et ses Entreprises* [Annual Statistics on Defence, its Industry and its Companies] (SANDIE) register of defence-related companies based in French territory. These are companies that directly or indirectly supply goods and services used by the defence community, namely the defence ministries (both French and foreign) and the defence companies themselves (through subcontracting relationships).

The SANDIE register was used by the MSO to monitor defence companies until 2018²¹. It was populated with administrative data (Chorus), official statistics data from INSEE and data sent directly by major industrial contractors. As may be the case for other registers used for statistical purposes (Rivière, 2022), this register encountered difficulties in staying up to date²².

²¹ https://www.irsem.fr/data/files/irsem/documents/document/file/676/EcoDef_55.pdf.

²² In this case, company closures were less well taken into account than creations, leading to biases in the quality of the data.

► **Figure 3 - Companies in the French Defence Industrial and Technological Base (DITB) in 2018**



SMEs: Small- and medium-sized enterprises.
ISEs: Intermediate-sized enterprises.

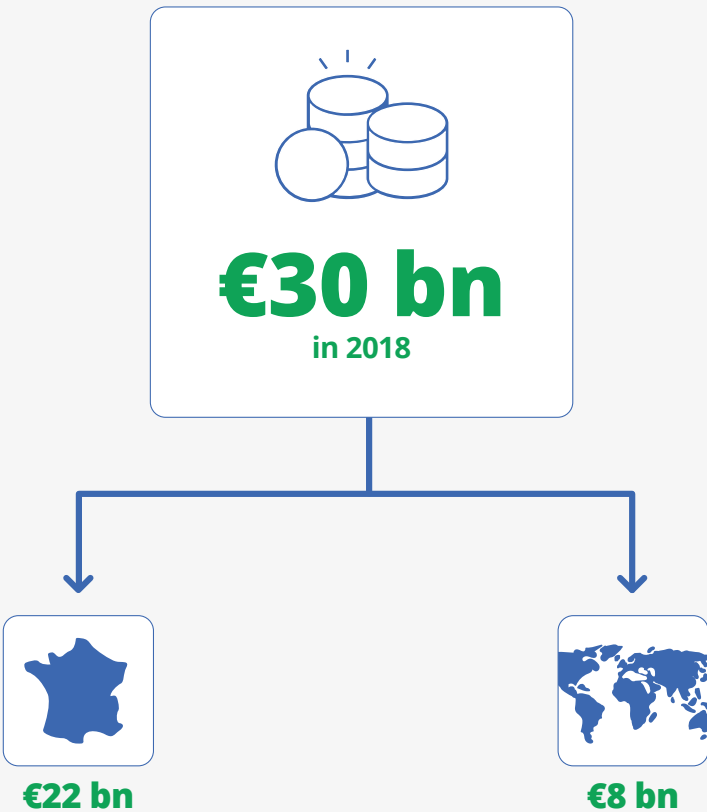
Sources: Economic Observatory for Defence (OED)

In 2014, the SANDIE register included 1882 legal units in the commercial sector. Updates to the register were suspended in 2018. As a result, the MSO launched an official statistics survey, the *enquête sur les entreprises des industries de défense* [Defence Industry Companies Survey] (2018 EID).

A list of NAF codes was created on the basis of the SANDIE register to identify companies with a high probability of being involved in the defence sector.

The collection of data for this Label Committee-approved survey²³ began on 3 September 2018. The final response rate was 85%, a high rate that is likely due to the strong ties between the defence companies and the Ministry of the Armed Forces. The data was collected on the basis of self-administration of the survey via a paper questionnaire.

► **Figure 4 - Turnover of the French Defence Technological and Industrial Base (DITB) in 2018**



Sources: Economic Observatory for Defence (OED)

²³ The EID survey received a favourable opinion from the Label Committee on 14 March 2018.



With the EID survey, an estimate of military turnover in the defence industry was published for the first time: €30 billion in 2018.



With the EID survey, an estimate of military turnover in the defence industry was published for the first time: €30 billion in 2018 (**figure 4**). The results were disseminated in the form of an EcoDef publication posted on the website of the Ministry of the Armed Forces in January 2019²⁴. Four other publication²⁵ have subsequently been produced.

This completely new survey has been widely promoted through EcoDef publications; it has since been updated and its scope has been extended to ensure better coverage at the level of defence-related companies.

► A renewed statistical survey

A new survey was launched in 2022: the *enquête sur les entreprises de défense de l'industrie et des services* [Defence Companies in Industry and Services Survey] (2023 EDIS) (**Box 3**).

Compared to the previous survey, its objectives are to:

- precisely delineate the scope of defence manufacturing and tertiary industries, and measure their weighting in the French economy;
- collect the statistical information necessary to describe how they function, in particular their behaviour in 2020, during a health crisis;
- update the data produced.

► **Box 3. The technical characteristics of the *Enquête sur les Entreprises de Défense de l'Industrie et des Services* [Survey of defence companies in industry and services]: 2023 EDIS**

- Opinion on appropriateness obtained on 07/10/2021;
- Label received on 08/12/2022 ("Companies" commission);
- Statistical units: legal units other than micro-enterprises (29,361 units in the sampling frame);
- Geographic coverage: France excluding Mayotte;
- Variables: the share of the companies' turnover from the military sector, share devoted to R&D, breakdown of turnover by function, breakdown of turnover by military products and share of employment allocated to the production of military goods and services;
- Sampling design: 359 strata and 12,100 legal units;
- Units are selected by the Survey Division of the Département des Méthodes statistiques [Department of Statistical Methods] (DMS) of the INSEE Directorate-General;
- Post-collection processing operations: re-use of those used for the previous survey;
- Operations subcontracted to a service provider via a contract (opinion of the Confidentiality Committee of 06/12/2022): sending paper questionnaires to sampled companies, follow-up by telephone, receiving questionnaires, scanning and data entry;
- Security: encrypted exchanges with the service provider, respect for confidentiality for national security, destruction of all documents and files related to the data collection at the end of the operation.

²⁴ <https://www.defense.gouv.fr/sites/default/files/ssm/EcoDef%20133.pdf>.

²⁵ "Existe-t-il un antagonisme entre défense et environnement?" [Is there a conflict between defence and the environment?], EcoDef No 135, September 2019; "Dépendance stratégique aux matériaux critiques de la BITD française" [Strategic dependence on critical materials of the French DITB], EcoDef No 143, January 2020; "Les déterminants économiques des exportations de matériels militaires des entreprises industrielles de la BITD française" [The determining economic factors for exports of military equipment by industrial companies within the French DITB], EcoDef No 147, February 2020; "Le rôle contracyclique joué par les activités militaires dans la crise économique" [The countercyclical role played by military activities in the economic crisis], EcoDef No 196, October 2021.

This survey is part of the 2021-2027 Multi-Annual Action Plan (MAP) of the European Statistical System. It allows the production of new statistics in the field of defence, where they are still scarce.

The target of the survey is all companies (legal commercial units), excluding micro-enterprises and sole traders, from all over France (including overseas departments and regions but excluding overseas communities), regardless of their size or location within the territory.

Companies included in the *répertoire des entreprises fournisseurs de la défense* [Register of Defence Supplier Companies] (REFD²⁶), those exporting war materials and those identified in the previous survey are surveyed. Approximately 12,100 legal commercial units are surveyed.

An internal steering committee was set up at the Ministry of the Armed Forces to draw up the questionnaire and monitor the progress of the project. S2E is responsible for project management for the entire procedure. The *Direction générale de l'armement* [Directorate-General of Armaments] (DGA) and the professional groups²⁷ have been included.

The data collection took place from March to July 2023. The first results from the survey will be published online in the S2E EcoDef Statistics collection from the beginning of 2024.

In order to expand knowledge in the area of defence economics, and as it is not permitted to administer multiple surveys to companies, it has been necessary to come together with the world of academic research in this field. Since it is not possible to host researchers permanently, the decision was made to create external partnerships with research organisations in the field of defence economics.

► The partnership with public research in Defence Economics is developing

Aware of the difficulties entailed in embarking on a solo adventure to describe defence economics, S2E has always strived to maintain privileged ties with academic research in this field. Knowledge of defence companies is one of the five main themes of the *Chaire Économie de défense* [Defence Economics Chair] (**Box 4**) of the *Institut des hautes études de Défense nationale* [Institute for Higher National Defence Studies] (IHEDN). In view of not only the benefit they offer, but also their scarcity, data on defence economics are in high demand; however, like all statistical data, their use must be supported, in particular to ensure that they are interpreted correctly. To that end, S2E is closely involved with the work of the IHEDN Defence Economics Chair by participating in its Steering Committee, as well as its Scientific Council²⁸. The work carried out jointly takes the form of joint publications with researchers²⁹ and participation in public events³⁰.

²⁶ The REFD is produced by the Defence MSO using data from the Chorus system.

²⁷ The *Groupe des Industries Françaises Aéronautiques et Spatiales* [French Aerospace Industries Association] (GIFAS), the *Groupe des industries françaises de défense et de sécurité terrestres et aéroterrestres* [French Land Defence and Security Industry Association] (GICAT) and the *Groupe des Industries de Construction et Activités Navales* [French Maritime Industry Association] (GICAN).

²⁸ <https://ecodef-ihedn.fr/gouvernance/#:-:text=Le%20Conseil%20scientifique%20de%20la,et%20du%20Fonds%20de%20dotation.>

²⁹ EcoDef No 70, EcoDef No 76, EcoDef No 94, EcoDef No 106, EcoDef No 108-109, EcoDef No 135 and EcoDef No 178.

³⁰ Innovation days, symposia organised by the *Réseau de Recherche sur l'Innovation* [Innovation Research Network] (RRI).

► Box 4. The IHEDN Defence Economics Chair

The IHEDN (*Institut des Hautes Études de Défense Nationale* - Institute for Higher National Defence Studies) Defence Economics Chair is the result of a joint “State-Industry” initiative to support academic research in defence economics. Since its inception in January 2014, the Chair has produced analyses that are used as references by both public and private decision-makers (Ministry of the Armed Forces, Ministry of Higher Education, Research and Innovation, Parliament, companies etc.).

Based at the *École Militaire*, [Military Academy] in the 7th arrondissement of Paris, the Chair is composed of a research team, a Scientific Council and a Steering Committee.

The Steering Committee is composed of representatives of the sponsors (Airbus, Arquus, MBDA, Naval Group, Nexter, Safran and Thales), the IHEDN and the State partners (the *Direction générale de l'armement* [Directorate-General of Armaments] (DGA),

the *Direction générale des relations internationales et de la stratégie* [Directorate-General of International Relations and Strategy] (DGRIS) and the *Secrétariat général pour l'administration* [Secretariat-General for Administration] (SGA)). It sets the main objectives for the Chair and approves the activities.

The main research themes are:

- the economic and social impacts of defence efforts;
- relationships between stakeholders: States and industries;
- defence economics in the international context;
- industrial organisations;
- relationships between defence, research and higher education;
- the economic impact of defence exports;
- the economic benefits of new European cooperation.

The *enquête sur les entreprises des industries de défense* [Defence Industry Companies Survey] (2018 EID) and the *enquête sur les entreprises de défense de l'industrie et des services* [Defence Companies in Industry and Services Survey] (2023 EDIS) form part of this theme of defence economics by identifying the companies concerned and their detailed characteristics.

Given that the defence economics research ecosystem is limited and the work of the Defence MSO is not well known, S2E could approach research teams in different universities, laboratories and economics research centres to present its activity to produce data in this field. This should lead to the establishment of partnerships for research work in areas of interest to the Ministry of the Armed Forces. The potential benefits for researchers would be having the data necessary to carry out their work in the field of defence economics. The Defence MSO, and by extension the Ministry of the Armed Forces, would be able to benefit from additional external insights on the major current and future challenges (war economy, European Defence Industrial and Technological Base (DITB), ties between the army and the nation etc.).

► The promotion of Defence Economics is improving

As part of its activity to promote defence economics among researchers (*figure 5*), S2E organises an annual prize for academic work in this field. It is awarded by a panel chaired by the Director of Financial Affairs of the Ministry of the Armed Forces and composed of academics and representatives from the DGA³¹, DGRIS³² and EMA³³. Order of 9 June 2015³⁴ sets out the regulations.

³¹ *Direction générale de l'armement* [Directorate-General of Armaments].

³² *Direction générale des relations internationales et de la stratégie* [Directorate-General of International Relations and Strategy].

³³ *État-major des armées* [Joint Chiefs of Staff].

³⁴ <https://www.defense.gouv.fr/ssm/prix-deconomie-defense>.

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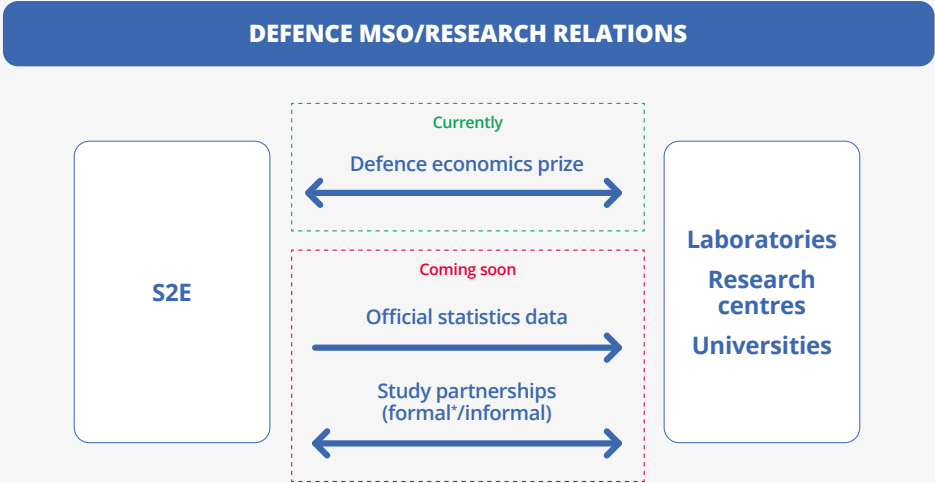
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The thesis or dissertation subjects that have received the prize so far are mentioned in the “Bibliography” section at the end of the article (Droff, 2014; Mie, 2016; Pietri, 2016; Kundu, 2017; Meunier, 2017; Fauconnet, 2019; Fawaz, 2021).

Additional information and awareness-raising work is carried out by S2E for the benefit of the Ministry’s senior authorities through the organisation of quarterly breakfast meetings on the economy involving major stakeholders from various backgrounds.

Since 2021, seven thematic breakfast meetings have been organised on economic subjects of interest³⁵.

► **Figure 5 - Relations Between the Defence MSO and Defence Economics Research**



*Agreements

S2E: Sub-Directorate for Economic Statistics and Studies, formerly known as the Economic Observatory for Defence (OED). It is the Ministerial Statistical Office (MSO) of the Ministry of the Armed Forces.

35 These were attended by Patrick Artus (Natixis), Xavier Ragot (OFCE, the French Economic Observatory), Agnès Benassy-Quéré (Directorate-General for the French Treasury), Jean-Luc Tavernier (INSEE), Jean-Marc Daniel (professor emeritus at ESCP Business School), Julien Malizard (IHEDN) and Maya Atig (French Bank Federation).

► Data sensitivity that may outweigh statistical confidentiality

For their academic work, researchers cannot settle for the statistics published so far on the Defence MSO's website in its EcoDef collections. They need access to the detailed statistical data produced by the MSO.

Since such data come from official statistics surveys, they are registered with the Statistical Confidentiality Committee (Redor, 2023)³⁶. Two sources are referenced: the Defence Industry Companies Survey (2018 EID) and the *enquête sur la fréquentation des lieux de mémoire* [Survey of Visits to Places of Remembrance] (EFLM) (**Box 5**). In terms of sensitivity criteria, the statistical data from these two surveys are not on the same level. The data relating to visits to places of remembrance do not fall under confidentiality for national security or even statistical confidentiality. This survey is the Defence MSO's response to the needs of a ministry that is closely attached to symbols and remembrance³⁷.

► Box 5. The *Enquête sur la Fréquentation des Lieux de Mémoire* [Survey on visits to places of remembrance]

This annual survey is administered to all places of remembrance (museums, memorials, interpretation centres, cemeteries etc.) for contemporary conflicts (the Franco-Prussian War, the First and Second World Wars, conflicts after 1945), located in metropolitan France*, in order to collect detailed data on visits.

The survey covers visits in year N, is carried out by a service provider and takes place from January to mid-May of year N+1. The results are published in an EcoDef** disseminated in October of year N+1 (Prénée, 2023).

The survey received a favourable opinion of appropriateness from the "Enterprises et stratégie de

marché" [Companies and Market Strategy] committee of the National Council for Statistical Information (CNIS) at its meeting of 29 September 2017.

The questions relate to the legal status of the site, the type of event organised there, the conflicts concerned, visits in number of entries, the type of groups, the most represented foreign nationalities and the digital tools available to visitors (interactive kiosks, mobile applications, virtual reality headsets, social media etc.). As the list of sites changes regularly***, each questionnaire for the year covers the two years N-1 and N-2 in order to ensure comparability across two years.

The response rate is approximately 79%.

* 413 sites were surveyed in 2023.

** EcoDef No 219 « *La fréquentation des lieux de mémoire des conflits contemporains en 2021* » [Visits to Places of Remembrance for Contemporary Conflicts in 2021], February 2023.

*** The register currently includes 423 sites.

The individual data from the *enquête sur les entreprises de défense de l'industrie et des services* [Defence Companies in Industry and Services Survey] (2023 EDIS) are of a much higher level of sensitivity with regard to the doctrine of preserving the sovereignty of the French DITB. These data are also covered by statistical confidentiality, which guarantees respect for commercial and business confidentiality.

As with any ministry, the need for access to data is asserted by a certain section of the public, particularly researchers, for whom this resource represents a major scientific challenge. The scarcity of accessible sources and the sensitivity involved in opening up access to them are also common characteristics across all administrative bodies.

³⁶ <https://cdap.casd.eu/referentiel>.

³⁷ The loans allocated to the "Veterans, remembrance and ties to the Nation" mission amount to €1.8 billion in the 2023 *Loi de finances initiale* [Initial Budget Law] (LFI) and the 2024 *Projet de loi de finances* [Budget Bill] (PLF), including loans for the remembrance policy of €19.8 million for the 80th anniversary of the D-Day landings.



The need for access to data is asserted by a certain section of the public, particularly researchers, for whom this resource represents a major scientific challenge.



In general, the response to this legitimate demand for access to survey data covered by statistical confidentiality is based on a formal authorisation procedure which includes the agreement of the authority from which the data originate (usually INSEE or a Ministerial Statistical Office), the opinion of the Statistical Confidentiality Committee³⁸ and then a decision from Archive Management, since statistical surveys are considered to be public archives³⁹. Ultimately, and following agreement from these bodies, access to anonymised data is provided via the Quetelet-Progedo Diffusion network for production

and research files or via the Secure Data Access Centre (CASD, based on its French name *Centre d'accès sécurisé aux données*)⁴⁰ for the most detailed data (micro-data) (Bozio et al., 2017). This so-called "traditional" way of operating would, on first glance, be insufficient to meet the requirements of the Ministry of the Armed Forces and its specific sensitivity regarding data.

For the provision of micro-data from the 2017-2018 EID survey, a decision was made to apply dual authorisation⁴¹: prior authorisation from the competent authorities of the Ministry of the Armed Forces (SGA/DGA) followed by a favourable opinion from the Statistical Confidentiality Committee.

In order to make the micro-data from the EDIS survey available, and due to the establishment of the CoMIS in 2022, adaptations to the procedure for accessing the data should be implemented in accordance with the working assumptions set out below.

The procedure for requesting access, as with any request for access to data from official statistics surveys, would initially be completed via the CDAP⁴² (Confidential Data Access Portal). In a second stage (still being reviewed), in order to take account of the dual authorisation, the opinion of the CoMIS, the body responsible for data dissemination⁴³, would be requested after an initial stage in which the S2E will examine the request in the light of a risk analysis. The opinion of the CoMIS would then be forwarded to the Confidentiality Committee.

This procedure (*figure 6*) would be identical to that put in place for any request for access to data covered by statistical confidentiality submitted via the CDAP of the Confidentiality Committee, except for the addition of the CoMIS examination stage in view of the sensitivity of the data. The CoMIS would provide or refuse access (accreditation) to the Data Room⁴⁴. Referral to the CoMIS would then be systematic for any request for access to the Data Room.

³⁸ Consent must be sought from the *Commission nationale de l'informatique et des libertés* (National Commission for Information Technology and Civil Liberties – CNIL) for any access to data allowing the identification of natural persons.

³⁹ <https://www.comite-du-secre.fr/wp-content/uploads/2017/12/Acc%C3%A8s-%C3%A0-des-donnes-confidentielles-J-P-Le-Gl%C3%A9.pdf>.

⁴⁰ When requests are made for access to data held by the Official Statistical Service via the Confidentiality Committee, it is customary to make them available on the CASD.

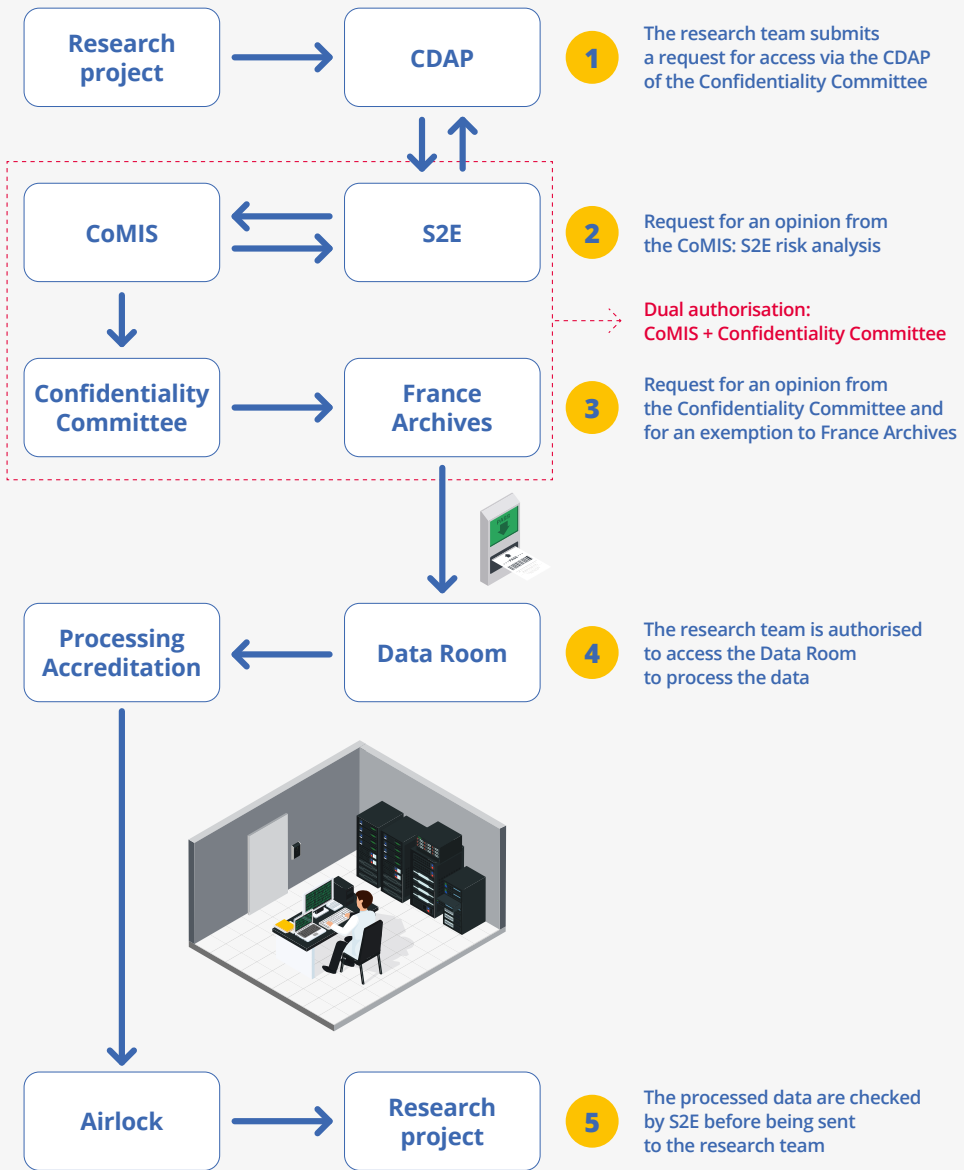
⁴¹ <https://www.insee.fr/en/metadonnees/source/operation/s2056/acces-micro-data>.

⁴² <https://cdap.casd.eu>.

⁴³ "The principle of open access to data and their use may therefore include exceptions, whether partial or total, the nature and scope of which will be assessed by the ministerial committee, in the context of the applicable texts, in the light of a risk analysis." (Ministerial instruction No 2804/ARM/CAB of 25 April 2022 on statistical information at the Ministry of the Armed Forces).

⁴⁴ At the time of writing, the Data Room project and the data access procedure are working assumptions.

► **Figure 6 - Access to Data Room Data for Researchers**



S2E: Sub-Directorate for Economic Statistics and Studies, formerly known as the Economic Observatory for Defence (OED). It is the Ministerial Statistical Office (MSO) of the Ministry of the Armed Forces.
CoMIS: Ministerial Committee for Statistical Information. It is the coordinating body for the production and dissemination of statistical information of the Ministry of the Armed Forces.
CDAP: Confidential data access portal.

Since the security of the data is the responsibility of the producer, namely the Defence MSO, which comes under the Ministry of the Armed Forces, the principle of sovereignty would automatically apply to the statistical data and, therefore, it is inconceivable to entrust the hosting of its data to a third party.

The solution commonly favoured by official statistics stakeholders to make their data available is the use of a third party, a secure remote access data centre (such as the CASD, for example), which allows accredited researchers to access only the data they need for their research project and to comply with the various confidentiality rules applicable to that data.

This method of making data available is not exclusive, other solutions have been implemented in the past by the data producers themselves, such as the Banque de France's Open Data Room (ODR).

A remote data access solution has several vulnerabilities compared to an on-premises solution, as the identity of the user and the way in which the data are used cannot be 100% guaranteed, since, by definition, the user is not on-site.

Moreover, in the current environment in which the threat of cyber attacks is particularly present, remote access to data represents a high degree of vulnerability in information systems and, once again, it is impossible to guarantee their inviolability.

Implicitly, it is necessary to manage the paradox of the obligation to open up access to Label Committee-approved survey data held by the National Council for Statistical Information (CNIS) and the stringent security constraint linked to the very nature of the data concerned.

► **The “Data Room”, an original solution to open up access to data**

To remedy this, the solution for making data available that could be envisaged is based on a simple principle: since the provision of data cannot be entrusted to a third party, access to the data would be provided exclusively from the premises of the Ministry of the Armed Forces.

Thus, the identity of the researchers would be verified by the authorities of the Ministry of the Armed Forces, according to robust and controlled procedures, and the workstation on which they would carry out their work would be completely physically isolated from any connection to a network (principle of the “digital safe”); the risk of a cyber attack would therefore be lower than with a remote access solution.

The proposed solution, the “Data Room”, would consist in providing researchers, in a dedicated room, with equipment accessible only on site and the necessary resources for their research work, once their project has been authorised by the Confidentiality Committee and the CoMIS.

The results of the work carried out on site by the researcher could be returned to them after passing through an airlock system in which manual checks on compliance with the various

confidentiality rules⁴⁵ would be carried out systematically. The rule applied in relation to company data is the one applied by INSEE. Compliance with statistical confidentiality would therefore be systematically checked manually by the competent officials of the Defence MSO, in accordance with the same procedures as those used at the CASD (Gadouche, 2019), as may be the case for the production of EcoDef publications.

In addition, welcoming researchers to the premises of the Ministry of the Armed Forces would enable S2E to have direct contact with the academic world, listen to the expectations of researchers and provide them with the assistance they need to carry out their work, while also allowing those involved to keep each other informed. As the research community interested in these topics is relatively small, it is important for the Ministry of the Armed Forces to support this work, which shines a light on the position of the defence sector in the economy.

Ultimately, a solution incorporating the main principles of the Official Statistical Service Cloud (Comte et al., 2022) with the Onyxia interface would be appropriate to complete the service offered by the Ministry of the Armed Forces for researchers: a private, dedicated and secure cloud computing service certified by the technical authorities of the Ministry of the Armed Forces. As with the technical solution adopted by the SSPLab, it would be a case of placing the user at the centre of the processing and data. The user would be able to build a working environment adapted to their data processing needs based on the “software building blocks” that would be made available to them⁴⁶. Cloud and containerisation technologies would be implemented. Finally, in order to meet the requirements of public research in terms of “scientific quality” and in particular the reproducibility of the results, the solution used for containerisation of the environment would offer all the necessary flexibility.

In conclusion, the fact that official statistics may be produced within the Ministry of the Armed Forces is in no way an obstacle to opening up access to them, even at a granular level (micro-data). Specific procedures could be envisaged that take into account the nature

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of the data and the section of the public that wishes to access them. The working assumption developed should respond to a security constraint imposing the use of an “on-premises” solution instead of remote access offered by the CASD. Such a solution, in addition to the guarantees it would offer in terms of sovereignty, would facilitate discussions between the academic community of researchers focusing on defence economics and the statisticians and economists of the Defence MSO. Bringing the access solution in house would make it easy to develop as needed. The number of accesses to be managed would be relatively low, given the still modest size of the research community in this field. The approach

adopted by the Defence MSO consists in demonstrating the relevance of open access to data; other branches of the Ministry of the Armed Forces could think about the accessibility of their data. This could mean involving a wider community of researchers who are able to respond to the specific needs of the Ministry of the Armed Forces.

⁴⁵ The applicable statistical confidentiality rules are described in the guide available at: https://www.insee.fr/fr/statistiques/fichier/1300624/guide_secret_statistique_juin_2024.pdf.

⁴⁶ IT resources (memory, disk and CPU), software (R and Python) and libraries that are essential for processing (R and Python packages).

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