Methodological Report

EU SNS Scoreboard 2024

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1. Introductory Note

The following methodological notes include all the relevant considerations on the methodological decisions made in the process of producing the Scoreboard 2024. This edition is built upon its previous versions and aims to improve the information gathered continuously and work on the precision of the results, thereby allowing policymakers to use the report as a basis for setting priorities and supporting decision-making when it comes to developing public policies for startups.

The current methodology was previously submitted to the Steering Committee, to collect their additional inputs and finalise the methodological notes of the SNS Report 2024.

2. Data and Methods

The methodology adopted for the Scoreboard 2024 was developed to provide a clear **monitorisation of the implementation of the eight SNS.** The methodology described below in this chapter is sound and offers reliable outputs that can be reproduced on an annual basis.

The previous edition – EU SNS Report 2023 – suggested areas for further methodological considerations such as: addressing a restricted number of indicators and data to cover all eight SNS; improving the survey structure; refining indicators and some gaps in the reference year; analysis methods; and information collection. Consequently, the current edition underwent enhancements to obtain a reliable analysis and reflect the SNS more accurately, presenting a robust methodology.

To this end, advice was also sought from experts in relevant fields by setting up a Steering Committee, and external specialists were consulted to support the Scoreboard Survey 2024 development process.
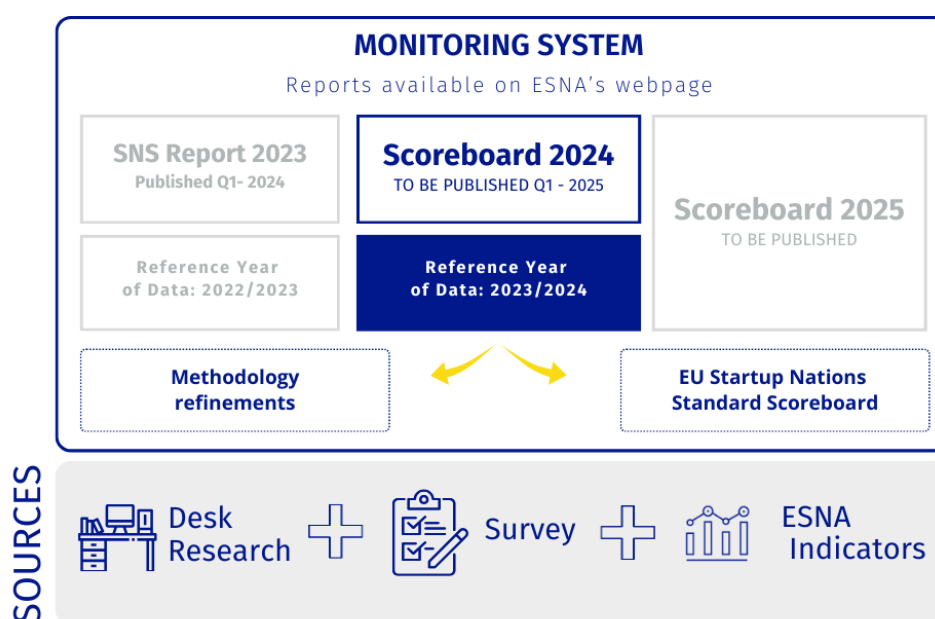

Figure 1. Structure of the SNS monitoring system

SOURCE: ESNA Monitoring System

The Scoreboard 2024 analysis was prepared based on the following main sources: (i) desk research, involving the collection of indicators from reliable third-party sources; (ii) a survey directed at ESNA's FP network, entrusted by national governments; (iii) ESNA's indicators.

2.1 Scope

Framework

The current version covers the following **24 European countries**[1]: Austria (AUT), Belgium (BEL), Bulgaria (BGR), Croatia (HRV), Cyprus (CYP), Czechia (CZE), Denmark (DNK), Estonia (EST), France (FRA), Germany (DEU), Ireland (IRL), Italy (ITA), Lithuania (LTU), Luxembourg (LUX), Malta (MLT), the Netherlands (NLD), Poland (POL)[2], Portugal (PRT), Romania (ROU), Slovakia (SVK), Slovenia (SVN), Spain (ESP), Sweden (SWE), and Ukraine (UKR).

The vast majority of the data is referenced to 2024 to highlight the main progress made by countries during the same year, except indicator 2.2.2 from the Organisation for Economic Co-operation and Development (OECD) which is not updated on an annual basis. Additionally, it is worth highlighting that all numbers presented in this report were **rounded to the closest unit,** which means that a few sums of the scores could be close to 100%. Nonetheless, all the calculations were made with exact values, supported by Microsoft tools, such as Excel.

During the process of preparing the report, ESNA was in close contact with the FPs, through the promotion of webinars, to notably prepare and support the countries in collecting data for the survey and to present the preliminary results, allowing them to share their contributions and necessary clarifications.

Comparability

Even though some changes have been introduced since last year as part of a methodological improvement exercise, the report aims to be comparable with the previous one, as well as to create a solid basis for a progressive analysis in the future. The results from the Scoreboard 2024 will be compared with the previous edition (2023), and the analysis will reveal insights on the progress made from 2023 to 2024. It should be emphasised that although this comparison is made both at the level of country implementation and Standards implementation, the introduction of four new countries may have some influence and should therefore be taken into consideration when interpreting the results.

A comparability test was conducted on the indicators, which revealed that changes in the survey and scoring criteria may impact the direct comparison between the two years in some substandards. It is also worth highlighting the indicators where these conditions apply: 1.2.2, 1.2.3, 4.1.1, 4.2.1, 5.2.1, 5.2.3, 5.3.1, 7.1.1, and 8.2.1.

All improvements introduced that could affect comparability with the past edition were clearly identified to prevent inaccurate conclusions or potentially biased interpretations. In order to address such a possibility, the qualitative analysis refers not only to the new score

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[1] Signatory Countries missing in this analysis: Finland, Greece, Iceland, and Latvia.
[2] Poland partially participated in the Scoreboard Survey 2024, therefore its answers are only considered in the general indicators' calculations, and no specific scoring exercise was made for Poland.

but also to the previous one without breakdown when a new indicator is introduced for the scores' calculation.

Additionally, it was found that some variations in the results between the different years were caused by the fact that, in some countries, different officials had answered the survey - the main source of information for the indicators. Thus, the FPs were also given the opportunity to make any necessary and applicable adjustments to the 2023 results.

2.2 Data Collection

Survey

Data included in the Scoreboard 2024 is collected mainly through a yearly survey, designed to cover all different dimensions of the SNS. The FPs play a fundamental role in the process of gathering information, as they are responsible for providing official information on each country through the survey.

Some areas for improvement were identified in the previous edition of this report, namely concerning the survey structure. With the aim of improving continuously, as well as gathering more and better information in an efficient way, the survey has been subject to significant improvements in this edition.

Questions regarding the #8 SNS

Divided into **8 Standards**
Each Standard consists of:
- **Context** Description of the Standard
- **Content** ≈ 2 questions per substandard
- **Conclusion** 1 question to collect additional information

Novelties in EU Startup Policy
Two questions covering the latest developments in Europe's Startup Policies

+

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European Commission

In collaboration with the EC Joint Research Center, 8 questions were added to study the relocation of startups to other countries or jurisdictions.

Main Goal: provide a summary of public authorities and relevant stakeholders' views on the relocation of domestically-founded startups.
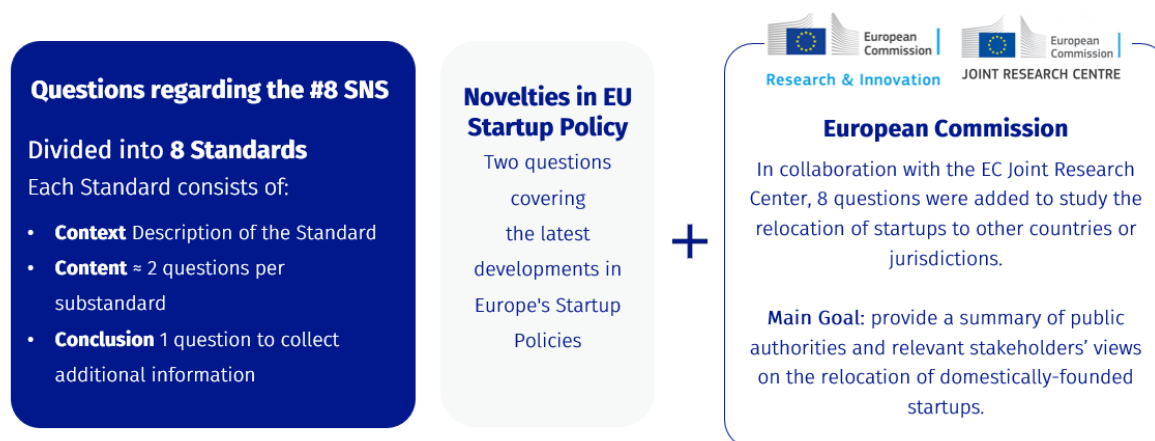
Figure 2. Structure of the Scoreboard Survey 2024

The survey – Scoreboard Survey 2024 – is divided into **three sections**:

- The **first section** is composed of questions related to the eight SNS implementation. It is therefore divided into eight subsections – one for each Standard. Each subsection begins with a description of the Standard and is made up of assessment questions regarding the best practices outlined in the EU SNS Declaration. Additionally, each subsection has an additional field, where the FPs are allowed to provide any sort of additional information, they deem relevant on the topic of each Standard.
- The **second section** refers to new developments in the startup ecosystem of each country, resulting in a new section. Here, FPs share all novelties from the last 12 months, as well as the policies to be prepared and/or implemented, and expectations for the coming year.
- The **last section** is the result of ESNA's collaboration with the European Commission, more precisely the Joint Research Centre (JRC) and the Directorate-General for

Research and Innovation (DGRTD). This collaboration aims to contribute to a different study carried out, over the SNS Scoreboard about the relocation of European startups.

Following the aforementioned changes, it was still possible to increase the quality and quantity of the information gathered while also reducing the workload for the FPs. In 2023, the survey had 73 questions, whereas the survey was shortened to 46 questions plus sub-questions in this year's edition. All main questions are presented to all recipients, however more details on certain topics are only disclosed if applicable.

Another shortcoming identified last year was the time provided to the FPs to collect the information requested and answer the questions. The response time for this year's analysis was therefore extended from one month to approximately three months.

Additionally, some questions were reformulated with greater clarity to reduce potential ambiguity. As a result, the type of questions remains the same as last year, with the survey being organised into closed and open-ended questions, both single and multiple-choice questions (multiple answers and binary questions).

Indicators selection

The data collected from the survey was complemented by information from third parties, as the ESNA team conducted **desk research** by utilising a diverse range of reliable and official sources. The selection of the indicators and their sources has been carefully considered, encompassing different aspects such as the data treatment and methodology used by the third-party sources; a clear framework within the Standard in question; the frequency with which the indicators are evaluated, ensuring the scope of information available every year, and maintaining the comparability with other years; the metadata available; ensuring the geographical coverage of the countries analysed in the report.

The third-party sources used span from international organisations such as the OECD, the World Intellectual Property Organisation (WIPO), World Bank, to European institutions such as the European Commission (EC). Beyond their established credibility, these sources were sought for their relevance considering the topics tackled by the eight SNS.

As a result, ESNA gathered 44 indicators based on the official information provided by the participating countries through the Scoreboard Survey 2024, and additional indicators gathered from third-party sources. The majority of these indicators (40 indicators) were used for the composite index calculation, while the remaining ones were used exclusively in the analysis carried out in this report.

2.3 Data Analysis

Composite index

The composite index represents the degree of implementation of the best practices inscribed in the EU SNS Declaration. Therefore, the **scores**, meaning the respective implementation level by country and indicator, were aggregated in a Composite Index.

The **Composite index** is constructed by combining several variables or indicators, whose objective is - by including all the identified indicators - to reflect the overall status of the set of quantifiable targets - in this case, the eight Standards implementation.

In addition to the advantages described in the table, the decision to aggregate the indicators using a composite index is also based on recognised benchmarks that use this method, such as The World Bank or the OECD.

As ESNA adopted the composite indicators methodology, its generic strengths and limitations are highlighted below. Please note that the table is not exhaustive.

	Strengths	Limitations
Data Aggregation	Simplifies complex data sets into a single, interpretable figure. Single, informative statistic that summarises several indicators into one.	Loss of detailed information when aggregating multiple dimensions.
Comparative Analysis	Allows for comparative analysis between countries.	-
Support decision-making	Useful to guide policymakers and highlight areas of improvement in an easy way.	Focus highly on score rather than complex problems
Multiple dimension	Captures multiple dimensions in a single measure, allowing for a holistic view.	Selection and different weighting
Types of data	Incorporates different types of data: quantitative and qualitative information.	The standardisation may affect the comparability
Weighting	-	Different weights may lead to prioritise specific policies

Table 1. Methodology strengths and limitations

SOURCE: Methodology Report, ESNA (2024)

Nonetheless, it is worth mentioning some limitations such as having indicators with different reference years, since some external indicators, such as indicator 2.2.2 Index of Talent Attractiveness, are not updated on an annual basis. The fact that there is no transversal definition of startup can change from one country to another, impacting the answers and the results. In addition, some indicators assess a broader scope than startups, such as SMEs or even businesses in general.

Despite the limitations, the results and conclusions can be regarded as an additional tool for analysing the complexity of reality, establishing benchmarks between different practices in

various countries, and monitoring the implementation of the EU SNS Declaration across nations.

Categorical scale

A **0-100% categorical scale was adopted for scores** based on closed questions of the survey. Here, 100% denotes evidence of full implementation, and 0% means non-implementation. The formulation of this scale involves distinct criteria tailored to the scope of each question. Cross-checking was conducted using the evidence provided by the FP when available. The scales were developed to include intermediate results, illustrating a gradual approach towards full implementation of the SNS.

Data transformation

The **min-max transformation was used to standardise indicators** expressed into different units. It involves a linear projection to normalise indicators, ensuring they have the same range. This process entails subtracting the minimum observable value and dividing by the range of observable values in the sample. As a result, all data values are rescaled to a value ranging from 0% to 100%, where 0 is the lowest attainable score, and 100 represents the highest possible score. Even though this normalisation method may serve the composite index, it may affect the comparison of the results over the years due to its distortion upon extreme and new values. For more information on the scoring criteria, please refer to A.3 Scoring Criteria.

Aggregation

The Overall index implies that an SNS' score is the simple average of its substandards' scores. Substandards' scores result from the simple average of the indicators it is composed of.

In instances where substandards are composed of a sole indicator, the value of the substandard is equal to the score of the single indicator that comprises it. This rationale is illustrated in Table 2 below.

Overall index	SNS	Substandards	Indicators
EU SNS Declaration Overall index Simple average of the eight Standards' scores	**SNS #1** Simple average of the respective substandards	**Substandard 1.1** Simple average of the indicators	Indicator 1.1.1
			Indicator 1.1.2
			Indicator 1.1.3
		Substandard 1.2 Simple average of the indicators	Indicator 1.1.2
			Indicator 1.2.2
			(...)
		(...)	(...)
	(...)	(...)	(...)

Overall index	SNS	Substandards	Indicators
	SNS #8 Simple average of the respective substandards	(...)	(...)
		Substandard 8.2 Simple average of the indicators	Indicator 8.2.1

Table 2. Structure of the composite index

SOURCE: ESNA (2024)

Simple averages were used in order to respect the principles of the EU SNS Declaration. The decision to calculate the Standards' scores using simple averages was made after some deliberation. In the considerations of the previous report, it was noted that different weights may potentially be used for different indicators. However, the analysis carried out is based on the EU SNS Declaration of Excellence, where there is no discrimination or differentiation in the best practices relevance. It is therefore clear that the EU SNS Declaration can only be monitored correctly if all the principles are considered at the same level. Any changes require unanimity in the policy arena, implying the necessity of a political rectification by the countries that signed the EU SNS Declaration in 2021, conveying a varying relevance of the different indicators.

The overall index was calculated using the following formula:

$$I = \frac{1}{8} \sum_{s=1}^{8} \left(\frac{1}{n_s} \sum_{i=1}^{n_s} \left(\frac{1}{k_i} \sum_{j=1}^{k_i} x_{ij} \right) \right)$$

I: Score of the overall index
n_s: Nº of substandards composing standard s
k_i: Nº of indicators composing substandard i, of the respective standard s
x_{ij}: value of indicator j in substandard i

2.4 Data and sources

The Scoreboard 2024's structure relies on an analysis that **comprises 40 indicators.** The tables below provide a detailed breakdown of the indicators used in this report for each SNS and its substandards, along with their respective sources. For more information on the scoring criteria please see the Annex 2 (A2) in the EU SNS Report 2024.

Substandard	Indicator	Source
1.1 Time & Cost	1.1.1 Number of days to start a business online	Scoreboard Survey 2024, Q7b: "How long does it take for an entrepreneur to establish a startup as a legal entity online?"
	1.1.2 Number of days to start a business in the commercial registers	Scoreboard Survey 2024, Q8: "How long does it take for an entrepreneur to establish a startup as a legal entity in the commercial registers?"
	1.1.3 Administrative costs for establishing a startup	Scoreboard Survey 2024, Q6: "What is the administrative fee for establishing a legal entity in your country?"

Substandard	Indicator	Source
1.2 Startup Fast Lane	1.2.1 Existence of an online service to set up a company	Scoreboard Survey 2024, Q7a: "Is there an online option to set up a company?"
	1.2.2 Existence of fast lane & helpdesk available for entrepreneurs	Scoreboard Survey 2024, Q9a: " Is there a single online location where aspiring entrepreneurs can find all the necessary information about national regulations and funding opportunities?"
	1.2.3 Existence of a virtual helpdesk for regulatory issues for startups and scaleups	Scoreboard Survey 2024, Q10a: "Is remote support available for startups and scaleups from other EU Member States who have encountered regulatory issues or impediments? "
1.3 Cross-Border Services	1.3.1 Index of the cross-border services	European Commission (EC), 2023. eGovernment Benchmark 2024 Insight Report: Connecting Digital Governments
	1.3.2 Utilisation of legal documents from other EU countries for startup establishment or expansion within the single market	Scoreboard Survey 2024, Q11a: "Is it possible to use legal documents from other EU countries as evidence when establishing a startup, or for creating a subsidiary of an existing startup that is expanding within the single market?"

Table 3. SNS #1 "Fast Startup Creation" - Substandards, indicators and sources

Substandard	Indicator	Source
2.1 Visa Applications	2.1.1 Time to complete visa applications for founders	Scoreboard Survey 2024, Q13b: "What is the processing time for visa applications for experienced workers, when submitted by startups?"
	2.1.2 Time to complete visa applications for experienced workers	Scoreboard Survey 2024, Q13a: "What is the processing time for visa applications for founders, when backed by a trusted partner in the Member State?"
2.2 Programmes for Talent	2.2.1 Existence of return of EU tech talent programmes	Scoreboard Survey 2024, Q14a: "Are there any programmes and/or incentives in place to encourage the return of EU tech talent who emigrated to third countries?"
	2.2.2 Index of talent attractiveness for entrepreneurs	Organisation for Economic Co-operation and Development (OECD), 2023. The OECD Indicators of Talent Attractiveness 2023

Table 4. SNS #2 "Attracting and Retaining Talent" - Substandards, indicators and sources

Substandard	Indicator	Source
3.1 Taxation	3.1.1 Taxed only upon cash liquidity	Scoreboard Survey 2024, Q16a: "At what moment(s) are employees' stock options taxable?"
3.2 Non-Voting Rights	3.2.1 Existence of stock options with non-voting rights for startups	Scoreboard Survey 2024, Q17: "Are startups allowed to issue stock options with non-voting rights?"
	3.2.2 Minority Shareholders & Bureaucracy	Not Optional, Index Venture, 2024
3.3 Stock Options Scheme	3.3.1 Existence of a country-specific stock options scheme	Scoreboard Survey 2024, Q18a: "Are there any specific legislations or programmes for stock options in your country?"

Table 5. SNS #3 "Stock Options" - Substandards, indicators and sources

Substandard	Indicator	Source
4.1 "Think Small First"	4.1.1 "Think Small First" principle implementation level	Scoreboard Survey 2024, Q20a: "Are policymakers in your country guided by a 'Think Small First' principle when formulating laws and regulations for startups, with the aim of minimising unnecessary bureaucracy and red tape?"
4.2 Compliance Exemptions	4.2.1 Existence of compliance exemptions/alternatives for startups	Scoreboard Survey 2024, Q21a: "Are there confirmed exemptions or alternative methods for startups to achieve compliance, in areas such as impact assessment?"
4.3 Regulatory Sandboxes	4.3.1 Existence of regulatory sandboxes	Scoreboard Survey 2024, Q22a: "Are there regulatory sandboxes available to encourage and facilitate experimentation and innovation for startups?"
	4.3.2 Number of established regulatory sandboxes in the country	Scoreboard Survey 2024, Q22b: "How many regulatory sandboxes are established in your country?"
	4.3.3 Number of startups engaged in consortia within regulatory sandboxes	Scoreboard Survey 2024, Q22d: "How many startups are participating currently in regulatory sandboxes in your country?"

Table 6. SNS #4 "Innovation in Regulation" - Substandards, indicators and sources

Substandard	Indicator	Source
5.1 Procurement Opportunities	5.1.1 Existence of administrative impediments to startup participation	Scoreboard Survey 2024, Q24: "Are there legal or administrative impediments that would put startups/scaleups at a disadvantage compared to other participants in innovation procurement opportunities overseen by national authorities?"
	5.1.2 Encouraging public buyers and procurement services to procure innovation from startups	Scoreboard Survey 2024, Q22d: "Are public buyers and procurement services officially encouraged to procure innovations from startups?"
5.2 Intellectual Property Rights	5.2.1 Possibility of ownership of IPR for startups in innovation procurement	Scoreboard Survey 2024, Q27a: "Can the ownership of intellectual property rights (IPR) usually be retained by the startup/scaleup participating in innovation procurement opportunities?"
	5.2.2 Intellectual property receipts as percentage of total trade	World Intellectual Property Organization (WIPO), 2024. Global Innovation Index 2023: Innovation in the face of uncertainty
	5.2.3 Existence of exceptions for public sector Intellectual Property Rights (IPR) ownership based on overriding public interests	Scoreboard Survey 2024, Q27b: "Please specify the situations where the public sector can retain ownership of Intellectual Property Rights (IPR)."
5.3 Open-Source Assets	5.3.1 Existence of startups actively supported and contributing with open-source assets	Scoreboard Survey 2024, Q28a: "Are startups actively encouraged to contribute to open-source assets?"
5.4 Tech Transfer Policies	5.4.1 Existence of policies for smooth tech transfer	Scoreboard Survey 2024, Q29a: "Are there policies to facilitate a smooth transfer of the technology developed in universities and research institutes to startups?"

Table 7. SNS #5 "Innovation in Procurement" - Substandards, indicators and sources

Substandard	Indicator	Source
6.1 Public Grants	6.1.1 Existence of RRF for Venture Capital for startups	Scoreboard Survey 2024, Q31a: "Does your country use part of its Recovery and Resilience Facility (RRF) funding to enhance access to venture capital for startups?"
6.2 Indirect Access to Finance	6.2.1 Utilisation of EIB and promotional banks for VC investment gap bridging	Scoreboard Survey 2024, Q32a: "Does your country use European Investment Bank (EIB) programmes, Promotional Banks or other dedicated vehicles, leveraging private investments, and distributing funds to VC firms to address the existing investment gap?"
	6.2.2 Adoption of initiatives to diversify private capital for high-growth startup co-investment	Scoreboard Survey 2024, Q33a: "Have public authorities adopted initiatives to diversify private capital available for co-investing in high-growth startups?"
6.3 Tax Relief Measures	6.3.1 Existence of tax relief for BA	Scoreboard Survey 2024, Q35a: "Are there any tax relief measures in place aimed towards Business Angels to stimulate and support early-stage funding?"

Table 8. SNS #6 "Access to Finance" - Substandards, indicators and sources

Substandard	Indicator	Source
7.1 Incentives for startups	7.1.1 Existence of national awards and policies for startup role models	Scoreboard Survey 2024, Q37a: "Does your country actively promote diverse role models in the startup community through awards, public recognition or mentorship programmes?"
	7.1.2 Existence of social inclusion mobilisation initiatives	Scoreboard Survey 2024, Q38: "Do state or regional authorities engage startups to specifically address issues of marginalisation and social exclusion among underprivileged communities, impacted by low income, limited education, geographic location, cultural background, or disability?"
	7.1.3 Existence of incentives for diversity hiring	Scoreboard Survey 2024, Q39a: "Are there any specific incentives for startups to focus on hiring a diverse workforce, including considerations of ethnicity, gender, religion, age, and sexual orientation?"
7.2 Incentives for Founders	7.2.1 Support to founders from underprivileged backgrounds	Scoreboard Survey 2024, Q40a: "What support is provided to founders from underprivileged backgrounds to create companies?"

Table 9. SNS #7 "Social Inclusion, Diversity and Protecting Democratic Values" - Substandards, indicators and sources

Substandard	Indicator	Source
8.1 "Digital First"	8.1.1 Index of digital public services for businesses	Digital Economy and Society Index (DESI) for the Digital Decade, 2024
	8.1.2 Digital public services availability by percentage of areas covered	Scoreboard Survey 2024, Q42: "Which public services in your country are designed to be carried out digitally?" (The options provided were "company creation'," filing of taxes", "participation in public procurement opportunities", and "consultation of official records")

Substandard	Indicator	Source
	8.1.3 Existence of national digitalisation strategy implementation	Scoreboard Survey 2024, Q43a: "Is your country currently implementing a global and cross-sector digitalisation strategy at national level?"
8.2 Knowledge Sharing	8.2.1 Existence of proactive engagement for digital knowledge sharing and best practices	Scoreboard Survey 2024, Q44a: "Are startups and scaleups proactively approached and engaged by state authorities to share knowledge and best practices regarding digitalisation?"

Table 10. SNS #8 "Digital First" - Substandards, indicators and sources

2.5. Steering Committee

In the current edition of the Scoreboard 2024, a Steering Committee has been set up to advise the ESNA team on several dimensions of the report, giving special attention to the methodology. The Steering Committee thrived to support the present work through accurate recommendations, such as providing new tools, indicators, and sources of quantitative data, contributing to the data collection through the survey and the analysis of the subsequent results, and lastly, valuable insights on the technical tools used and data treatment.

Considering the numerous changes and efforts to improve the analysis, the Steering Committee's contributions were collected at different stages of the Scoreboard's development and incorporated into the analysis.

The invited members were selected based on their expertise and experience in different scientific areas and knowledge relevant to the analysis carried out. It is composed of five members from different organisations: the World Bank, Joint Research Centre - European Commission (EC), IPSOS, NOVA Information Management School (NOVA IMS), Index Ventures and Not Optional. For further information and biographies of the members, please see the Annex 3 (A3) in the EU SNS Report 2024.