European Commission

Study on Industrial Permitting Processes in the EU: Challenges and Opportunities for Digitalisation

Final Report

Written by

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Special thanks to all the stakeholders who participated in the consultations and provided valuable feedback.

Abstract

This document is the Final Report of the "Study on Industrial Permitting Processes in the EU: Challenges and Opportunities for Digitalisation", undertaken by Intellera Consulting (Part of Accenture Group) and Accenture between March and November 2025. This Study was meant to assist the Commission (i) in supporting policies aimed at making permitting processes faster and simpler in Member States and (ii) in facilitating the sharing of best practices on the governance and digitalisation of permitting processes among Member States.

This represents the first initiative to assess the governance and digitalisation status of industrial permitting processes in EU Member States. The Study builds on a shared analytical framework and draws on evidence collected across the reference period. The Study focuses on permitting processes in **four key industrial sectors**: (i) Renewable energy projects and clean technologies, (ii) Critical raw materials, (iii) Semiconductors and (iv) Pharmaceuticals. A group of **14 EU Member States** was selected to cover four different geographical areas: Denmark, Finland, Latvia, Sweden, France, Germany, Ireland, the Netherlands, Greece, Italy, Portugal, Spain, Czechia, Hungary.

The report provides a comparative qualitative analysis of permitting systems in these countries and an in-depth digital maturity assessment of the most relevant digital platforms in place. In addition, it provides recommendations for EU and national policy makers on how to improve permitting systems through digitalisation.

Résumé

Ce document constitue le rapport final de l'« Étude sur les procédures d'autorisation industrielle dans l'Union européenne : défis et opportunités pour la numérisation », réalisé par Intellera Consulting (filiale du groupe Accenture) et Accenture entre mars et novembre 2025. Cette étude visait à aider la Commission européenne à (i) soutenir les politiques destinées à rendre les procédures d'autorisation plus rapides et plus simples dans les états membres et (ii) faciliter le partage des bonnes pratiques en matière de gouvernance et de numérisation des procédures d'autorisation industrielle entre les Etats membres.

Il s'agit de la première initiative visant à évaluer l'état de la gouvernance et de la numérisation des procédures d'autorisation industrielle dans les états membres de l'Union européenne. L'étude repose sur un cadre analytique commun et s'appuie sur des sources recueillies au cours de la période considérée. Elle porte sur les procédures d'autorisation dans quatre secteurs industriels clés : (i) les projets d'énergies renouvelables et les technologies propres, (ii) les matières premières critiques, (iii) les semi-conducteurs et (iv) l'industrie pharmaceutique. Un groupe de 14 États membres de l'Union européenne a été sélectionné afin de couvrir quatre zones géographiques différentes : Danemark, Finlande, Lettonie, Suède, France, Allemagne, Irlande, Pays-Bas, Grèce, Italie, Portugal, Espagne, Tchéquie, Hongrie.

Le rapport présente une analyse qualitative comparative des systèmes d'autorisation dans ces pays ainsi qu'une évaluation approfondie de la maturité numérique des principales plateformes numériques en place. Il formule en outre des recommandations à l'intention des décideurs européens et nationaux sur la manière d'améliorer les systèmes d'autorisation grâce à la numérisation.

Zusammenfassung

Dieses Dokument ist der Abschlussbericht der „Studie zu Industriellen Genehmigungsverfahren in der EU: Herausforderungen und Chancen der Digitalisierung“, die von Intellera Consulting (Mitglied der Accenture-Gruppe) und Accenture im Zeitraum von März bis November 2025 durchgeführt wurde. Ziel der Studie war es, die Europäische Kommission dabei zu unterstützen, (i) politische Maßnahmen zur Beschleunigung und Vereinfachung von Genehmigungsverfahren in den Mitgliedstaaten zu fördern sowie (ii) den Austausch bewährter Verfahren hinsichtlich Steuerung und Digitalisierung von Genehmigungsverfahren zwischen den Mitgliedstaaten zu erleichtern.

Hierbei handelt es sich um die erste Initiative zur Bewertung des Stands der Steuerung und Digitalisierung industrieller Genehmigungsverfahren in den Mitgliedstaaten der Europäischen Union. Die Studie stützt sich auf einen gemeinsamen analytischen Rahmen und basiert auf Nachweisen, die im Referenzzeitraum erhoben wurden. Der Schwerpunkt der Studie liegt auf Genehmigungsverfahren in vier zentralen Industriesektoren: (i) Projekte im Bereich erneuerbare Energien und saubere Technologien, (ii) kritische Rohstoffe, (iii) Halbleiter sowie (iv) Pharmazeutika. Zur Abdeckung von vier unterschiedlichen geografischen Regionen wurde eine Gruppe von 14 EU-Mitgliedstaaten ausgewählt: Dänemark, Finnland, Lettland, Schweden, Frankreich, Deutschland, Irland, die Niederlande, Griechenland, Italien, Portugal, Spanien, Tschechien und Ungarn.

Der Bericht enthält eine vergleichende, qualitative Analyse der Genehmigungssysteme in diesen Ländern sowie eine vertiefte Bewertung des digitalen Reifegrads der zentral eingesetzten digitalen Plattformen. Darüber hinaus formuliert er Empfehlungen für politische Entscheidungsträger auf EU- und nationaler Ebene, wie Genehmigungssysteme durch Digitalisierung verbessert werden können.

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CZ	Czechia
DEPA	Danish Environmental Protection Agency
DK	Denmark
E2E	End-to-End
EIA/ EIAR	Environmental Impact Assessment
EID/DIA	Environmental Impact Declarations
CRMA	EU Critical Raw Materials Act
EU	European Union
FI	Finland
FR	France
FTEs	Full-Time Equivalent
DE	Germany
EL	Greece
HU	Hungary
IE	Industrial Emissions
IPC/IPPC	Integrated Pollution Control permit
IE	Ireland
IT	Italy
LV	Latvia
LGMA	Local Government Management Agency
NZIA	Net-Zero Industry Act
PT	Portugal
RED III	Renewable Energy Directive III
RAAs	Renewables Acceleration Areas
SPOCs	Single Points of Contact
ES	Spain
SUAP	Sportello Unico Attività Produttive
SCM	Standard Cost Model
SAMLV	State Agency of Medicines of Latvia
SEA	Strategic Environmental Assessment
SE	Sweden
NL	The Netherlands
DESÚ	Transport and Energy Building Authority
WCAG	Web Content Accessibility Guidelines

1 Introduction

This document is the Final Report of the **"Study on Industrial Permitting Processes in the EU: Challenges and Opportunities for Digitalisation"** (hereinafter also referred to as the "Project" or the "Study"), undertaken by Intellera Consulting (Part of Accenture Group) and Accenture between March and November 2025. This Study was meant to assist the Commission (i) in **supporting policies aimed at making permitting processes faster and simpler** in Member States and (ii) in facilitating the **sharing of best practices on the governance and digitalisation of permitting processes** among Member States.

This represents the first initiative to assess the governance and digitalisation status of industrial permitting processes in EU Member States. The Study builds on a shared analytical framework and draws on evidence collected across the reference period. The Study focuses on permitting processes in **four key industrial sectors**: (i) Renewable energy projects and clean technologies, (ii) Critical raw materials, (iii) Semiconductors and (iv) Pharmaceuticals. A group of **14 EU Member States** was selected to cover four different geographical areas:

Figure 1-1 Geographical scope of the Study

- **Northern Europe and Baltics**: Denmark (DK), Finland (FI), Latvia (LV), Sweden (SE),
- **Western Europe**: France (FR), Germany (DE), Ireland (IE), the Netherlands (NL),
- **Southern Europe**: Greece (EL), Italy (IT), Portugal (PT), Spain (ES),
- **Central Europe**: Czechia (CZ), Hungary (HU).

Accordingly, this Report is structured into the following sections:

- **Section 2** presents an overview of the theoretical framework which defines permitting procedures and processes in an industrial setting.
- **Section 3** reports on the methodology used in the Study to collect and analyse data.
- **Section 4** assesses the distribution of competences and processes involved in the permitting processes in the Member States covered by the Study.
- **Section 5** assesses the digital maturity of digital tools implemented in the Member States to streamline and facilitate industrial permitting processes.
- **Section 6** elaborates on the findings of the Study and provides recommendations for simplifying and speeding up permitting processes at both EU and national levels.

The Report is complemented by a set of relevant Annexes. In particular, **Annex C** provides the analysis of five best practices identified for the use of digital tools to streamline permitting processes.

2 Theoretical framework

The starting point of the Study concerned the elaboration of a **theoretical basis** for structuring the data collection and analysis of the most relevant elements that define industrial permitting processes.

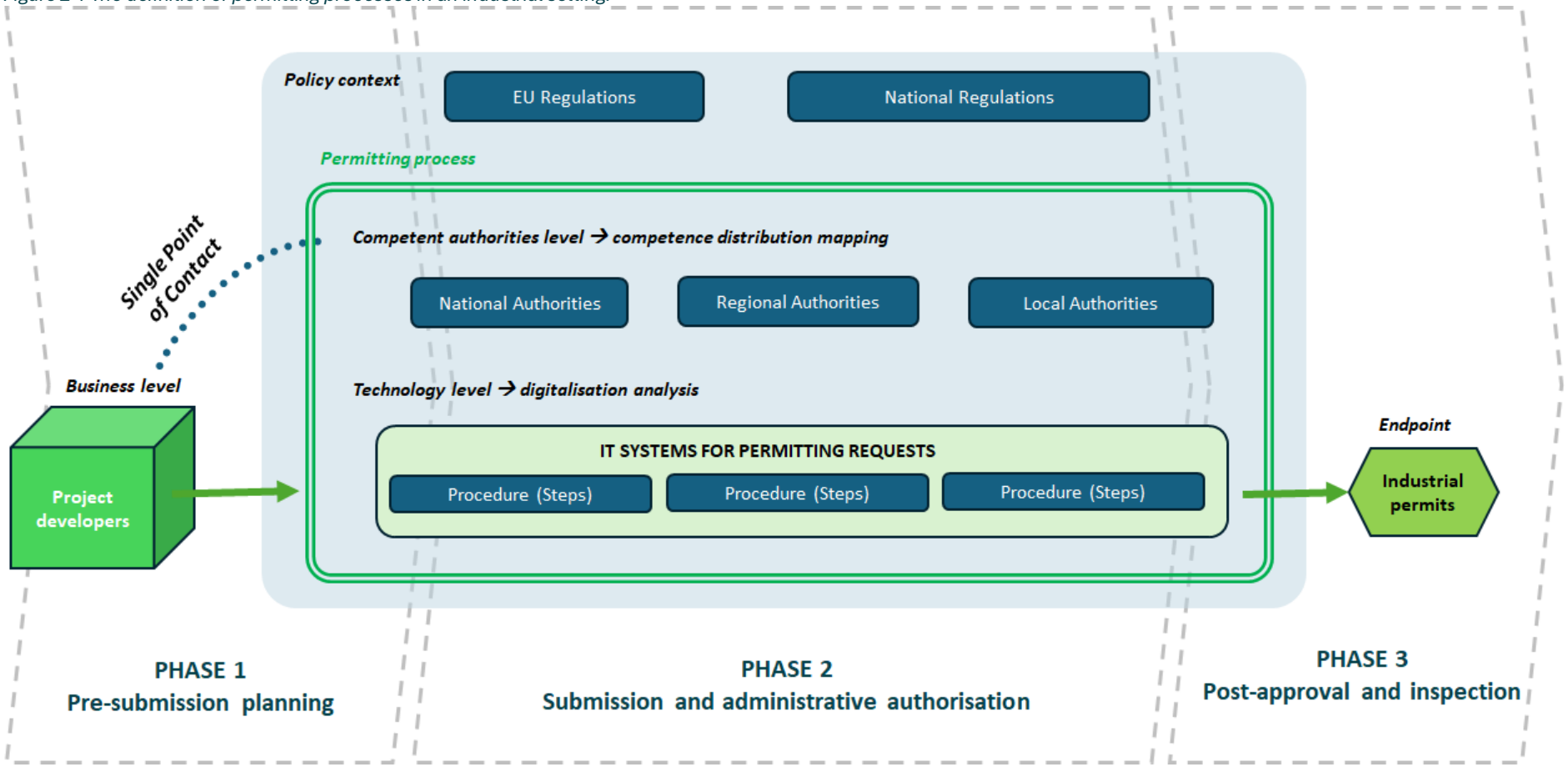
As depicted in the figure below, a permitting process starts with **project developers** (business level) initiating the process by submitting one or more permitting requests. These requests enter a **structured permitting system** shaped by both **EU and national regulations**, which define the overall policy context. The process is then structured in two main layers, which are mutually linked:

- **the competence layer**, where **competent authorities** - national, regional, and local - act according to their specific responsibilities.
- **the digitalisation layer**, where **IT systems** enable the permitting procedures. The IT systems structure the processes into a series of **procedural steps** that must be undertaken to request the necessary industrial permits.

Both layers of the permitting process are more broadly defined in laws and implementing acts at the EU and national levels. The process can be facilitated by **Single Points of Contact (SPOCs),** which can support communications and information-sharing between authorities and project developers. At the conclusion of the process, **permits** are either granted to project developers, postponed pending additional information, or denied, requiring developers to provide further details or restart the process entirely. Considering this process, and all the elements envisaged within, **three main phases** stand out:

- **Pre-submission planning phase**: when project developers engage in all preparatory activities before the formal application is submitted. These activities include the technical design of the project, preliminary environmental and feasibility assessments, internal checks of regulatory requirements, and any informal consultations with authorities or stakeholders to identify critical issues and align the project with the applicable permitting framework.
- **Submission and administrative authorisation phase**: the project developer formally submits the permit application and supporting documentation to the competent authorities. The application is registered, verified for completeness, and circulated among the relevant bodies. Authorities carry out substantive assessments, request clarifications or additional information.
- **Post-approval and inspection phase**: the project is carried out in accordance with the authorised conditions, and competent authorities undertake monitoring and inspection activities to verify adherence to permit requirements.

Figure 2-1 The definition of permitting processes in an industrial setting.



3 Methodology

Based on the theoretical framework above, this Study focuses on two main assessments:

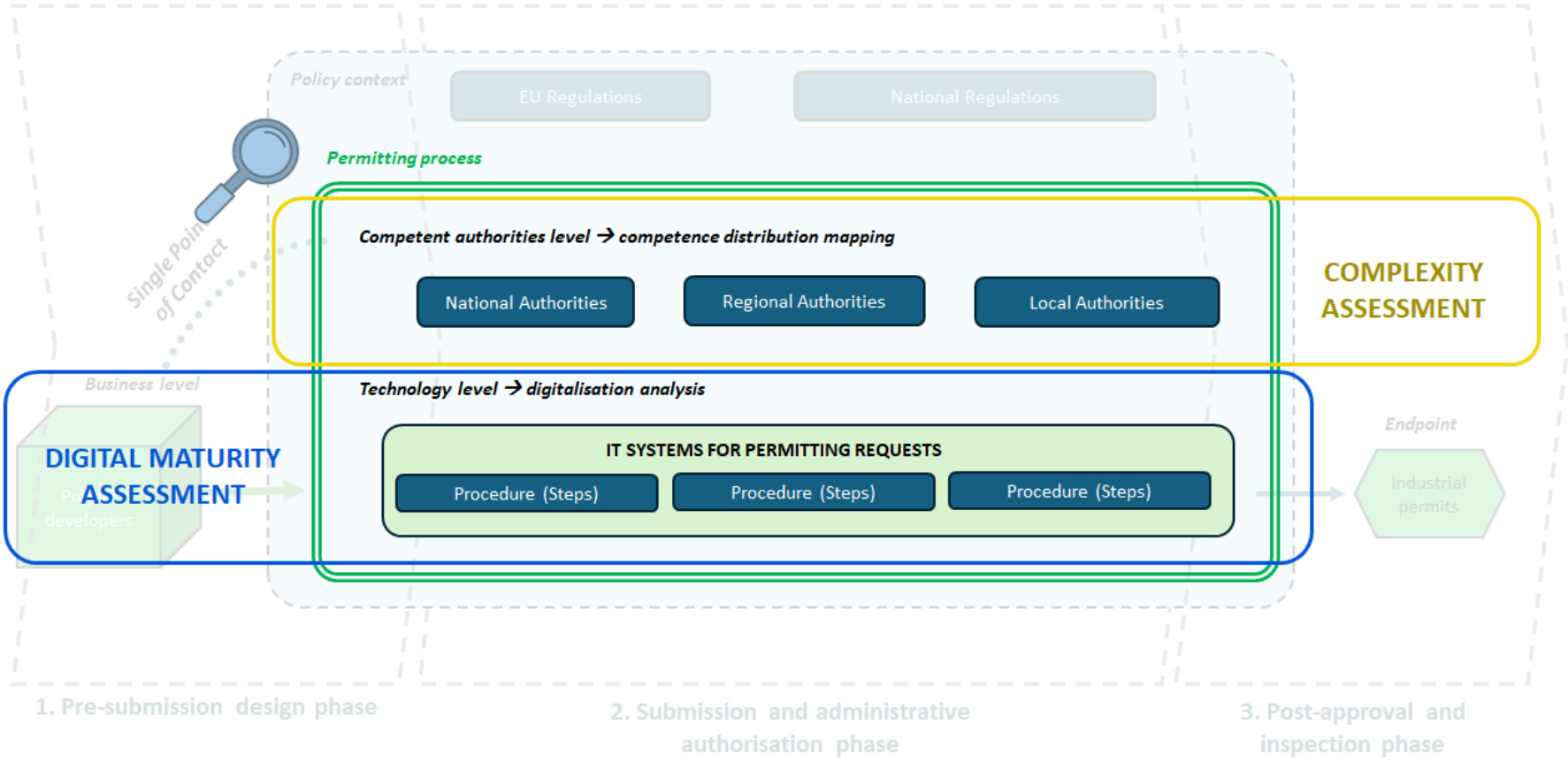
- An assessment of **competence distribution** – namely **"complexity assessment"** - which examines how responsibilities are distributed in each Member State across national, regional and local authorities.
- An assessment of "**digital maturity**" that maps and analyses the digital tools and services used by public authorities, across the 14 Member States, for industrial permitting.

These two assessments reflect the two main levels of analysis of the current study (i.e., the mapping of competences among the competent authorities and the digital maturity of permitting systems in use). Together, these two levels of analysis provide a coherent basis for comparing permitting processes across Member States.

In the context of this study, "competence distribution" refers to the **number and combination of competent authorities involved in the permitting process across different levels of government** (national, regional and local). It captures the extent to which applicants are required to interact with multiple administrations to obtain the necessary permits and therefore serves as a proxy for institutional fragmentation and coordination needs within the overall permitting pathway.

While the competence distribution assessment focuses on **institutional set-up and allocation of responsibilities**, the digital maturity assessment examines **how permitting procedures are supported and managed through digital solutions**. It maps the digital tools and services made available by public authorities (e.g. online submission, tracking, document management, interoperability features) and assesses whether these tools operate as **integrated end-to-end platforms** or as detached solutions across multiple systems. This allows the analysis to distinguish not only the presence of digital tools, but also in the extent to which digitalisation contributes to simplification and procedural streamlining.

Figure 3-1 Focus of the Study



3.1 Data collection and validation

To inform the two assessments, the Study relied on a **mixed-methods approach**, combining desk research and primary data collection (stakeholder interviews and surveys). More specifically:

- **Desk research**: information from official European and national sources - including the European Commission, national ministries, regulatory authorities, academic research and business studies - was comprehensively reviewed to map permitting and licensing processes.
- **Interviews and online surveys**: findings from the desk research were then triangulated with interviews and surveys aimed at **three key stakeholder groups**: **competent authorities** (at local, regional, and national levels), **project developers**, and **IT experts or companies** involved in permit management.[1]
- **Validation:** for the complexity assessment, the analysis of evidence was gathered in structured country reports. Each report was sent to the relevant permitting authorities to be validated.
- **Best practices**: additional in-depth interviews were conducted for selected specific cases to better illustrate how digitalisation is helping to streamline permitting procedures in five specific national contexts (see Annex C).
- **Workshops:** two stakeholder workshops, one with authorities and one with project developers, were added to discuss and confirm the lessons learned and recommendations provided in this Final Report (section 6).

More details of these activities are provided in Annex B.

Box 1. Complexity assessment: rationale

In this study, "complexity assessment" is employed to capture the **degree of complexity inherent in public action**, rather than in a narrow or classical sense of administrative complexity. Specifically, complexity is understood as emerging from the **fragmentation of permitting authorities' action** and from the challenges associated with the coordination of policies, actors, and instruments across sectors and levels of governance. Literature on this topic shows that complex public problems are often addressed through fragmented institutional arrangements and exchanges - variously described as disjointed government, policy fragmentation, departmentalism, etc. While these labels differ, they converge on a common insight: **when governmental action remains fragmented, complex problems can only be partially addressed**. From a public management perspective, coordination has traditionally been considered the primary response to such complexity, yet coordination alone does not exhaust the governance challenges involved.[2]

For the purposes of this analysis, complexity also stems from the **digital organisation of public services**, particularly those related to permits and authorisations. Empirically, service provision is often distributed across multiple digital platforms, administrative channels, and procedural formats. The process of obtaining permits may involve:

- the use of different, only partially interoperable, digital platforms.
- fragmented user journeys combining online portals, email exchanges, and standardised document templates.
- digital and paper-based procedures, often without a clearly integrated logic.

[1] The Study team carried out a total of 43 interviews, while the survey involved 48 respondents. See Annexes for further details.

[2] See for instance: Ferrari, A., Witschel, H. F., Spagnolo, G. O., & Gnesi, S. (2018). Improving the quality of business process descriptions of public administrations: Resources and research challenges. *Business Process Management Journal, 24*(1), 49–66. https://doi.org/10.1108/BPMJ-05-2016-0096 and Trondal, J. (2025). The multilevel administrative state and the future of public administration research. *International Journal of Public Administration, 48*(5–6), 321–333.

As noted in the literature on digitalisation and multilevel governance, the expansion of digital tools does not necessarily simplify public action. Rather, it may reconfigure and, in some cases, amplify existing fragmentation, a dynamic further accentuated during the Covid-19 pandemic.[3]

For these reasons, in the complexity assessment we considered the number of digital tools employed by project developers as an indicator. This includes tools supporting documentation exchange and permit submission or management.[4] Accordingly, the complexity assessment should be seen as a context-sensitive indicator to guide empirical analysis, rather than a definitive account of administrative and governance complexity.[5]

3.2 Analysis of competences distribution and IT systems

The two types of assessments were based on specific dimensions of analysis. For each dimension, specific variables were observed and judged on a qualitative basis. The **four key dimensions of the complexity assessment** are reported in the following table.

Table 3-1 Complexity assessment - key dimensions of analysis

Dimension	Description	Variable / categories	Judgment criterion
Governance	Describes how responsibilities for permitting are organised within the country	Centralised vs Decentralised, and number of permitting authorities per administrative level	Classified as **centralised** when one main authority (often at the national level) leads and coordinates the procedure; classified as **decentralised** when responsibilities are distributed among multiple authorities at regional/local level, with no single primary leader in the procedure.
Single Point of Contact (SPOC)[6]	Indicates whether project developers can rely on a SPOC for the management and coordination of permits	Established vs Not established	Indicated as **established** when a formal single point of contact (e.g. one-stop shop, single contact point, coordination office) is in place and officially mandated; **not established** when no such structure exists
Legislative intervention to streamline permitting	Confirms the existence of a dedicated legal framework aimed at simplifying or accelerating permitting procedures	Established vs Not established	Marked as **established** when a specific national law, decree or equivalent regulatory act explicitly **addresses the streamlining of permitting; not established** when such an act is absent or only indirectly relevant.

[3] *Cf.* Balaji, K. (2025). E-Government and e-Governance: Driving digital transformation in public administration. In *Public Governance Practices in the Age of AI* (pp. 23–44).

[4] While the complexity assessment considers a broad ecosystem of authorities and tools, the digital maturity assessment in Section 5 focuses more narrowly on platforms that directly support the permit lifecycle. For more information see Section 5.1.

[5] Relevant sources about the complexity assessment theoretical configuration: (i) Alfredsson Ågren, K., Kjellberg, A., & Hemmingsson, H. (2018). Access to and use of the Internet among adolescents and young adults with intellectual disabilities in everyday settings. *Journal of Intellectual & Developmental Disability*, 45(1), 89–98. https://doi.org/10.3109/13668250.2018.15188. (ii) Eriksson, Camilla, and Jens Ineland. "Ideals, governance and competencies: The complexity of implementing digitalisation in disability organisations." *British Journal of Learning Disabilities* 52.1 (2024): 76-86. (iii) Cejudo, G.M., Michel, C.L. Addressing fragmented government action: coordination, coherence, and integration. *Policy Science*, 745–767 (2017). https://doi.org/10.1007/s11077-017-9281-5.

[6] A *single point of contact* refers to an arrangement in which users interact with public administration through a single access channel that centralises communication and guidance, while underlying procedures may remain distributed across multiple offices. Sometimes in the report the SPOC is referred as a *one-stop shop*, which is an advanced level of integration, as several services, procedures, and decisions are substantively coordinated or delivered within a unified organisational and operational framework.

Dimension	Description	Variable / categories	Judgment criterion
Digitalisation of permit management	Reflects the extent to which digital tools are used to support the management of permits	Developed vs Not developed and extent to which IT systems are available	Considered **number of IT systems** per sector and per country, also taking notes of cross-sectoral digital tools (e.g. environmental permit platform)

For the assessment of **Digital Maturity**, we evaluated the characteristics and features of the digital platforms along five key dimensions: **process and workflow**; **technical capabilities**; **interoperability and compliance**; **data security, privacy and resilience** and **user experience**. Each dimension was scored on a Likert scale from 1 to 5, reflecting different levels of capacity.

Table 3-2. Digital maturity assessment of IT systems - key dimensions of analysis

Dimension	Description	Judgment criteria
Process and workflow	Extent to which the platform supports the end-to-end permitting workflow (e.g. submission, validation, consultation, decision, follow-up).	The scoring system for all these dimensions is based on an ordinal scale, where higher values indicate greater levels of digital maturity and integration. A proper description of each judgment criteria is provided in Annex A section 7.1.4.
Technical capabilities	Functional and technical features of the system (e.g. online forms, document management, automation, search functions, APIs).	
Interoperability and compliance	Ability of the platform to exchange data with other systems and comply with relevant technical and legal standards.	
Data security, privacy and resilience	Measures in place to ensure secure processing, protection of personal and sensitive data, and continuity of service.	
User experience	Quality and usability of the system from the perspective of end-users.	

Further details on the two assessments are provided in Annex A.

3.3 Comparative analysis

After the 14 Member States were analysed in terms of permitting complexity and their IT systems were evaluated in terms of digital maturity, a **qualitative comparative analysis** was elaborated to extract meaningful findings, patterns and differences at the sectoral and national level. The results are presented in Section 4 and Section 5 of this report. This analysis required the elaboration of qualitative scoring systems which are explained in detail in Annex A.

4 Complexity assessment

The first assessment conducted for the purpose of this Study was the complexity assessment. This section reports on the findings of the assessment for each industrial sector with an analysis across the 14 Member States.

4.1 Renewable energy & clean technologies

Renewable energy production projects and clean technology manufacturing are among the first sectors in which the European Commission has decided to intervene, asking Member States to simplify and speed up permitting procedures. Among the challenges faced by project developers in undertaking the green transition in Europe, complex and burdensome permitting processes hampered the capability of EU Member States to respond rapidly to renewable energy production targets and broader decarbonisation objectives. The EU regulatory interventions affecting the permitting framework for this sector included:

- The **Renewable Energy Directive III** (RED III or Directive (EU) 2023/2413), which raises the EU's binding target for renewable energy to a minimum of 42.5% of gross final energy consumption by 2030, with an aspiration to reach 45%, setting new statutory deadlines for permitting of new renewable energy facilities in **"Renewables Acceleration Areas"** (RAAs) at 12 months maximum (and 24 months elsewhere). It mandates binding increases in renewable energy use for heating/cooling and requirements for innovative technologies and community engagement.[7]
- The **Commission Recommendation (EU) 2024/1343,** which focuses on streamlining permit-granting procedures for renewable energy production and related infrastructure. A key focus is on applying binding maximum deadlines for all stages, particularly environmental impact assessments, and ensuring that these projects "enjoy the status of the highest national significance possible, where such status exists in national law." The Recommendation additionally calls for the introduction of single integrated procedures, their full digitalisation and improved internal coordination between all administrative authorities to prevent delays.[8]
- **The Net-Zero Industry Act** (NZIA, Regulation (EU) 2024/1735), which sets a goal for the EU to domestically manufacture at least 40% of its annual deployment needs for strategic net-zero technologies (related to solar, wind, batteries, heat pumps, and others) by 2030. With respect to permitting processes, the Regulation aims to accelerate procedures for net-zero technology manufacturing projects by establishing the concept of "Net-Zero Strategic Project" status, which provides projects a shorter maximum timeline for administrative approval and "priority status" at the national level. Most importantly, it mandates Member States to introduce single points of contact to deal with project developers.[9]

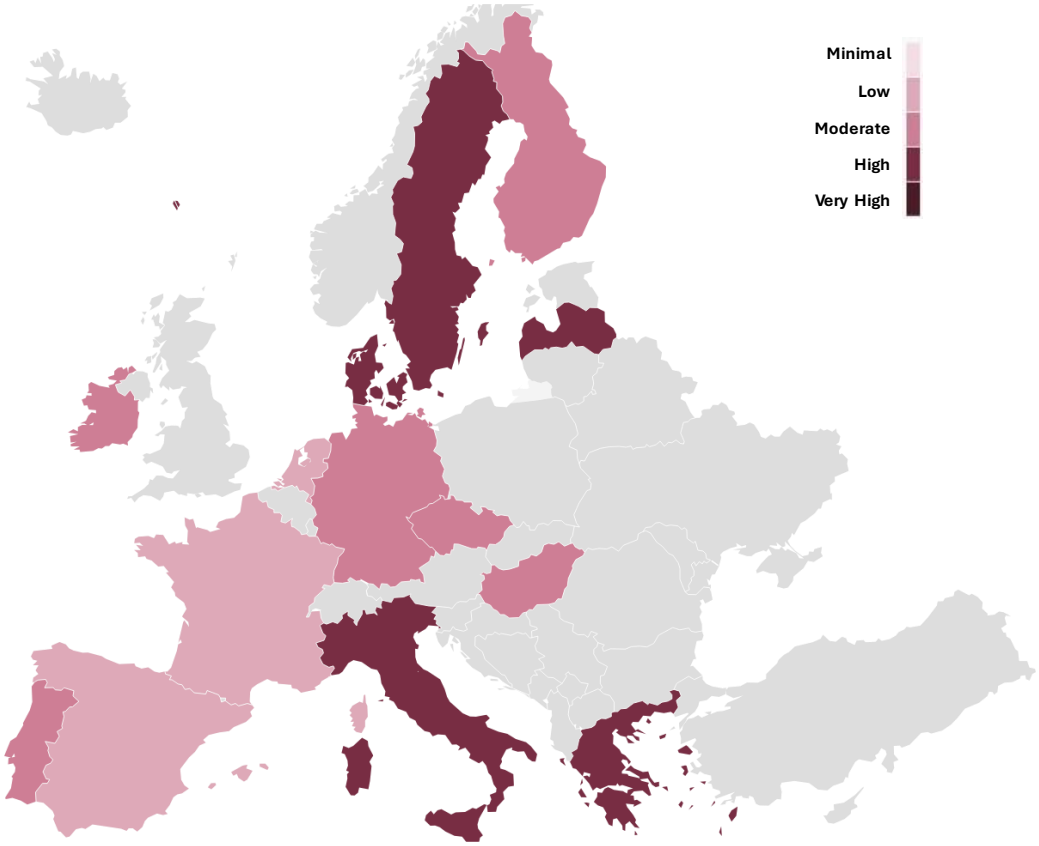
The figure below presents the results of the complexity assessment in the 14 Member States in the renewable energy and clean tech manufacturing sector.

[7] European Parliament and Council of the European Union. (2023). *Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652*. Official Journal of the European Union, L 2023/2413. https://eur-lex.europa.eu/eli/dir/2023/2413/oj/eng

[8] European Commission. (2024). *Commission Recommendation (EU) 2024/1343 of 13 May 2024 on speeding up permit-granting procedures for renewable energy and related infrastructure projects*. Official Journal of the European Union, L 2024/1343. https://eur-lex.europa.eu/eli/reco/2024/1343/oj/eng

[9] European Parliament and Council of the European Union. (2024). *Regulation (EU) 2024/1735 of the European Parliament and of the Council of 13 June 2024 on establishing a framework of measures for strengthening Europe's net-zero technology manufacturing ecosystem and amending Regulation (EU) 2018/1724*. Official Journal of the European Union, L 2024/1735. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202401735

Figure 4-1 Renewable energy & clean technologies - Map of countries according to their complexity level



Three groups of countries can be observed:

- The first group of countries (SE, LV, IT and EL) has a **high distribution of competences** across many authorities (more than 4) and **multiple digital tools** (more than 3 platforms), therefore showing a **high level of complexity.**
- The second group of countries (CZ, FI, DE, IE and PT) has a high distribution of competences across many authorities (more than 4) but relies on few digital tools (less than 3 platforms), therefore showing a **moderate level of complexity.**
- The third group of countries (FR, PT and ES) has a lower distribution of competences (less than 4) and few digital tools (2 platforms), therefore showing a **low level of complexity**. In this group, NL has a high distribution of competences, but only one national tool in which all environmental and planning permits are integrated, therefore lowering the level of complexity.

In terms of the **technical scope of competences**, some trends can be identified. **Planning, zoning and building permits are mostly overseen by local authorities across all Member States**, with national authorities intervening in specific cases, such as the designation of Renewable Energy Acceleration Areas, where local authorities are mandated to reduce the burden of permitting processes for renewable energy projects. Similarly, environmental impact assessments and evaluations are mostly overseen by either regional or local authorities. Grid connection and electricity production licences on the other hand are overseen mainly by national authorities.[10]

[10] Some exceptions may be represented by islands, which sometimes have specific rules, as described in the reporting by the Clean Energy for EU Islands Secretariat: https://clean-energy-islands.ec.europa.eu/

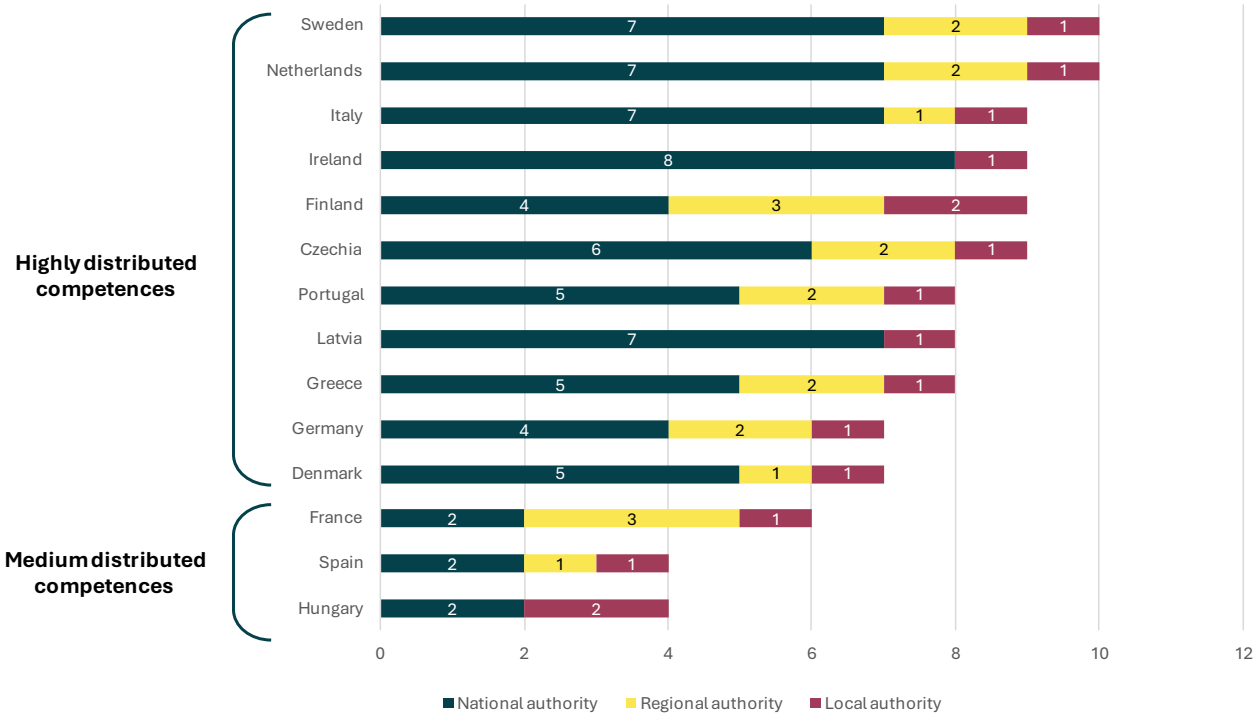
The following sections analyse in detail each of the dimensions under the complexity assessment: (i) governance structure and number of authorities involved, (ii) existence of single points of contact, (iii) existence of simplification policies and (iv) adoption of digital tools for permitting procedures.

4.1.1 Authorities involved

The number of authorities involved in permitting processes, either through policy-making roles or administrative checking and permit-granting roles, varies across Member States and administrative levels. The permitting governance framework in the Member States depends also on the political and administrative structure, which can either be centralised (national authorities with more direct permit-granting roles) or decentralised (regional and local authorities). Depending on the number of authorities and their distribution across the levels of administration (i.e., national, regional and local), each country can be categorised into one of three categories: high level of competence distribution, medium level of competence distribution and minimal level of competence distribution.[11]

As shown in the Figure below, the number of authorities involved ranges from a total of 4 in Spain to a total of 10 in FI, NL and SE. This indicates that permitting processes are decentralised everywhere, varying only in their distribution across administrative levels. Four countries (ES, HU, FR and DK) have a **medium** distribution, while the remaining ten countries have a **high** distribution (SE, PT, NL, LV, IT, IE, EL, DE, FI and CZ). In general, it is also worth mentioning that some countries show a higher level of involvement of regional authorities (FI, DE, CZ, EL, SE, PT, FR and NL).

Figure 4-2 Renewable energy & clean technologies - Distribution of competences across authorities



[11] When less than 4 permitting authorities are involved, the distribution of competences is considered to be minimal. When permitting authorities involved range between 5 and 6, the distribution of competences is considered to be medium. When 7 or more permitting authorities are involved, the distribution of competences is considered to be high.

This analysis does not consider the third-party actors involved in permitting processes, including civil society organisations, chambers of commerce, which could be, however, very relevant. For instance, in Italy it was reported that more than 25,000 actors are directly or indirectly involved in such processes across the country.[12] **While these third-party actors do not issue permits directly, they are integral part of the processes** as authorities must collaborate with them for the issuance of complementary permits or legal and expert binding opinions (e.g., environmental agencies must provide authorities with expert opinions on environmental impact assessments and they might rely also on third-party actors), joint evaluation of projects (e.g., construction and zoning at the local level), dispute resolution, impact assessments, data or information sharing, and analysis of documents or project materials. In terms of the communication channels, most authorities that responded to the targeted survey declared that e-mail exchange is still the most common mechanism (80%), followed by integrated digital platforms (50%), while in-person meetings were only cited in the 20% of cases.

The **collaboration among permitting authorities and other actors** is therefore a key aspect to consider. When coordinating various activities, competences might overlap, and a higher number of actors can increase the time required to obtain permits in each country; a single delay can affect the overall process. According to the results of the survey with project developers, the respondents perceived that the involvement of multiple public authorities in the permitting processes increased the inter-agency exchange delays and lengthened the project timeline significantly: by several months or more in 76% of cases and by a few weeks or a couple of months in 18% of cases.[13]

4.1.2 Single point of contact

The establishment of a Single Point of Contact (SPOC) is mandated by the RED III for renewable energy projects and by the Net-zero Industry Act for clean technology manufacturing industrial projects (see above).

All 14 MS established at least one of the two single points of contact, with varying degrees of operativity. The level of operativity and implementation of such SPOCs is a key aspect that is not possible to comprehend from the publicly available data. Based on findings from the stakeholder consultation carried out during the Study, it was however reported that SPOCs are new and are still building up the administrative and financial capacities to effectively carry out their duties.[14] Furthermore, this additional layer of administration must interact with all the existing permitting authorities. As per the RED III requirements, all single points of contacts should be already operating by the time of writing, while NZIA single points of contact are currently being implemented across Europe as well.[15]

Two insightful examples were identified. **IE has indeed established the Sustainable Energy Authority** of Ireland to deal with all renewable energy projects and offer guidance to project developers for the development of wind, solar and other renewable energy projects.[16] **CZ**, on the other hand, has established a new single permitting authority – the **Transport and Energy Building Authority (DESÚ)** - which directly manages and issues permits for transport and energy projects, therefore introducing the idea of a SPOC that not only coordinates existing authorities, but replaces them.[17]

[12] Source: survey and interviews with permitting authorities
[13] Source: stakeholder consultation with project developers through targeted surveys and interviews.
[14] Source: stakeholder consultation with permitting authorities through targeted surveys and interviews.
[15] European Commission. (2025). *Streamlined permitting and information for project promoters*. Single Market Economy. Retrieved November 21, 2025, from https://single-market-economy.ec.europa.eu/industry/sustainability/net-zero-industry-act/streamlined-permitting-and-information-project-promoters_en
[16] More information on this single point of contact can be found at the following link: https://www.seai.ie/.
[17] More information on this single point of contact can be found at the following link: https://desu.gov.cz/.

Table 4-1 Renewable energy & clean technologies - List of countries with a single point of contact

A single point of contact is established	A single point of contact is not established
CZ, DE, DK, EL, ES, FI, FR, HU, IE, IT, LV, NL, PT, SE	-

4.1.3 Simplification policies

13 out of 14 Member States show commitment to the simplification of permitting processes. In most cases, such simplification policies were the result of the transposition into national legislation of the RED III requirements, which in some cases happened only after infringement procedures were activated by the Commission. In fact, all Member States were required to transpose the Directive by May 2025. In the case of Germany, a federal state, most of the *Länder* have introduced *Land*-level legislation to further support the renewable energy goals and to simplify permitting processes.

In the case of NZIA initiatives, the Member States under scope have mostly intervened with financing initiatives for clean technology manufacturing projects as the Regulation is directly applicable to Member States. For example, Germany has established acceleration areas for clean tech manufacturing and is supporting related strategic projects through targeted assistance and funding.[18]

Table 4-2 Renewable energy & clean technologies - List of countries with simplification policies

At least one simplification policy adopted	No simplification policy adopted
CZ, DE, DK, EL, ES, FI, FR, IE, IT, LV, NL, PT, SE	HU

4.1.4 Digital tools for permitting process

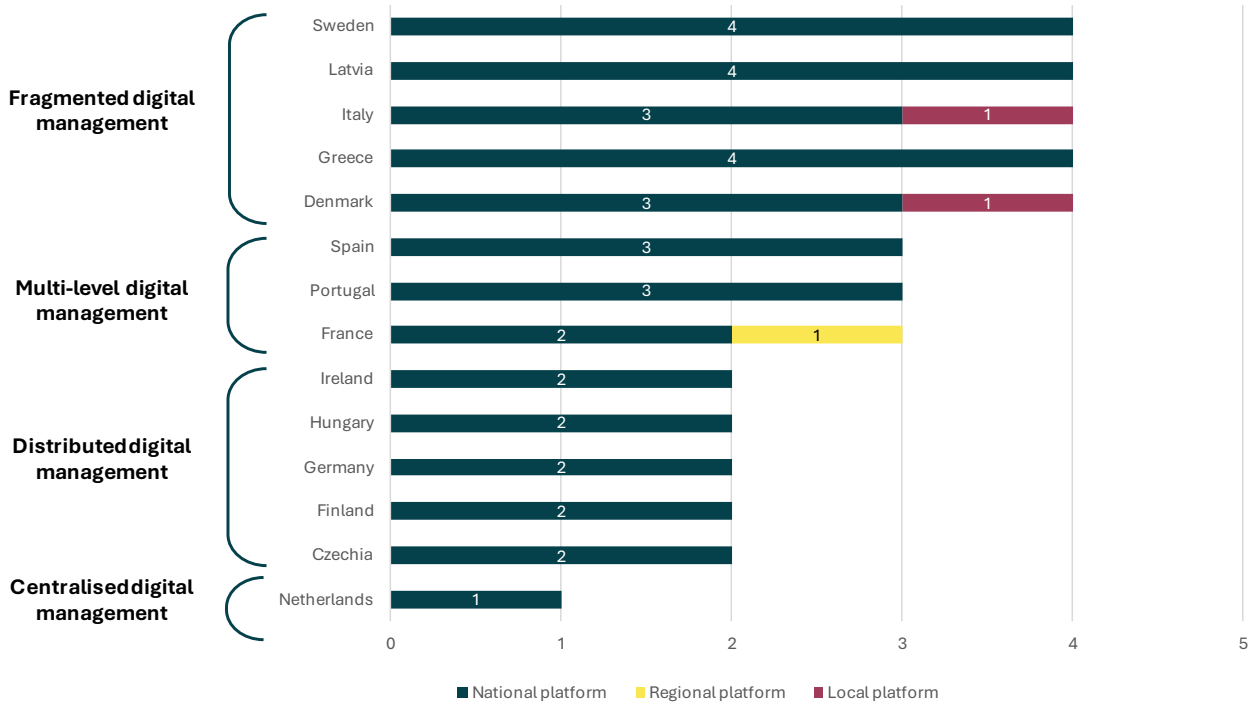
All 14 Member States have implemented at least one national digital platform where some permits are managed and issued for renewable energy and clean technology manufacturing projects. Additionally, DK and IT also have local platforms, and FR has a regional one specifically for renewable energy projects permits[19].

However, fragmentation is still possible despite digital tools, where inefficiencies that exist in the "physical environment" of permitting system are replicated in the digital domain. When project developers must interact with multiple authorities, the simple digitalisation of fragmented processes might not increase efficiency. Accordingly, we grouped countries according to the total number of digital tools adopted:

- NL appears to be the only country with a **centralised digital management of permits,** thanks to the introduction of *Omgevingsloket*, a platform where all requested permits are integrated together and that multiple authorities involved in the processes are required to use.[20]
- IE, DE, FI, CZ and HU have a **distributed management** of digital tools based on two platforms at national level.
- PT, ES and FR have a **multi-level management** system, with three platforms each.
- SE, LV, IT, EL and DK have 4 or 5 digital tools each, with IT and DK having one at the local level. This makes their systems **fragmented**, increasing the complexity for project developers.

[18] More information is available at the following link: https://www.gtai.de/en/invest/net-zero-industry-act.
[19] For methodological purposes, it should be pointed out that only digital tools were considered in this Study, while it is impo rtant to remember that partially digital management practices through e-mail exchanges or paper-based processes are still widely used across all the countries. Additionally, national platforms might not regard all permits, but only specific ones, such as for example environmental or p lanning permits.
[20] More information on the platform is available at the following link: https://omgevingswet.overheid.nl/checken.

Figure 4-3 Renewable energy & clean technologies - Number of IT systems devoted to permitting processes, per country



The digital tools are analysed in Section 5, "Digital maturity assessment".

4.1.5 Administrative burden

The Study collected data on the effort put into the handling of permitting processes through a survey with project developers and permitting authorities (see Annex B). It should be noted that these kinds of activities are not handled by *ad hoc* staff. The administrative personnel of one developer or authority can manage permitting processes among other tasks. Accordingly, **the burden caused by permitting processes is not systematically measured at business or administration levels.**

Nonetheless, we relied on some relevant data collected in the survey as well as some educated assumptions, which are clearly detailed in Annex A, section 7.1.5. On this basis, we applied a Standard Cost Model (SCM) to elaborate the costs which can be directly linked to handling the permitting process for a project in these sectors.[21]

As explained in Annex A, section 7.1.5, these findings summarise useful insights from a limited number of datapoints. More detailed research is needed to further develop these results and draw robust conclusions on impacts.

4.1.5.1 Burden on project developers

The effort dedicated by project developers to handling permitting processes in this sector is significant and varies widely. The total number of Full-Time Equivalent (FTEs)[22] employed by one project developer to handle permitting processes for one project could range from **2 FTEs to more than 10 FTEs.** This wide range reflects the

[21] Based on: European Commission. 2023. *Better Regulation Toolbox. Tool #58 EU standard cost model.* Available at: https://commission.europa.eu/law/law-making-process/better-regulation/better-regulation-guidelines-and-toolbox/better-regulation-toolbox_en

[22] Full-Time Equivalent (FTE) is a unit of measurement that expresses the workload of an employee (or group of employees) in terms of a full-time schedule.

fact that the magnitude and scale of projects undertaken may vary. Considering these figures and the average cost of one employee working full time for a project developer in all 14 Member States[23], **the average cost could vary from around € 119,000 to € 460,000** and could raise in some Member States up to more than € 700,000, per project. While based on a limited number of datapoints, these figures are consistent with additional evidence. In fact, it should be considered that renewable energy plants are very large projects and could cost well beyond € 20 million[24]; on this basis, the relative majority of respondents to the survey (38%) confirms that **the administrative cost of permitting processes could represent between the 2% and 5% of the overall costs of one project**.

Project developers perceive that major challenges depend more on permitting authorities' capabilities than on their own efforts. Responses to a qualitative inquiry in the survey showed that the reduction of administrative burden is not consistently perceived as a potential driver of improvement in permitting processes. A significant number of respondents did not flag it as a desired improvement needed to shorten permitting processes, even when reporting a substantial effort (in terms of FTEs "invested") in handling the processes. Conversely, there is much more shared consensus on **other desired improvements** (above or slightly below 80% of respondents) that **all depend on permitting authorities' capabilities**: "Improved coordination between different permitting bodies" (see Section 4.1.1 for more findings on this), "Better staffing or resourcing of competent authorities", and "More transparent timelines and status updates from authorities". These additional factors should be considered as important as the administrative burden, in line with the findings of Business Europe and IOGP in a wider consultation of industrial sectors.[25]

Delays in permitting processes may cause relevant indirect impacts on businesses. There is a wide consensus of respondents to the survey (from 82% to 100%) on the fact that delays can lead to: (i) reduced project profitability (e.g. increased sunk costs, delayed revenue), (ii) increased project risk (e.g. legal challenges, public opposition), (iii) postponed investments or resource mobilisation, and (iv) loss of competitiveness or market opportunity. This is in line with the findings of Business Europe and IOGP in a wider consultation of industrial sectors.[26]

4.1.5.2 Burden on public administrations

The effort dedicated by public administrations to handling permitting processes is equally significant. The total number of civil servants employed by one public administration to handle permitting processes could range from **5 to more than 30 employees.** These resources tend to be involved in **managing several projects at the same time**, from 2 to more than 10 projects. Considering these figures and the average salary of one employee working full time for a public administration in the 14 Member States[27], **the average cost in the 14 countries for one public administration could vary from around EUR 215,000 to EUR 250,000**, per project.

Permitting authorities perceive that major challenges depend more on project developers' capabilities than on their own efforts. A qualitative inquiry in the survey shows that **"Insufficient internal staff capacity" is perceived as a bottleneck for a minority of respondents[28]** and **"budgetary constraints" concern a very small share of respondents.[29]** This does not match the feedback from project developers in this regard (*cf.* section 4.1.5.1). A significant number of respondents did not flag them as challenges, even when reporting a substantial

[23] These costs were taken from Eurostat Labour cost levels by NACE Rev. 2 activity [lc_lci_lev__custom_19005500] (accessed on 20 November 2024) using the sector "Industry, construction and services (except public administration, defence, compulsory social security". For each of the 14 countries the annual average cost of the period 2020-2024 was computed. More details are provided in Annex A.
[24] *Cf.* *https://solartechonline.com/blog/wind-turbine-cost-guide-2025/ ;* confirmed also by estimates of experts consulted in the Study
[25] See at: https://www.businesseurope.eu/wp-content/uploads/2025/02/2024-02-13_businesseurope_permitting_swot_analysis_-_final_report-ca3-1.pdf
[26] See at: https://www.businesseurope.eu/wp-content/uploads/2025/02/2024-02-13_businesseurope_permitting_swot_analysis_-_final_report-ca3-1.pdf
[27] These costs were taken from Eurostat Average remuneration of national civil servants in central public administration [prc_rem_avg] (accessed on 20 November 2025). For each of the 14 countries the annual average cost of the period 2020-2024 was computed. More details are provided in Annex A.
[28] 47% of respondents for the pre-authorisation and design phase and 33% for the authorisation phase
[29] 7% of respondents both for the pre-authorisation and design phase and for the authorisation phase

effort (more than 30 civil servants involved, or more than 10 permits managed at the same time). Conversely, the bottleneck where there is the highest agreement (60% of respondents referring to the pre-authorisation and design phase) is the only one depending on project developers: "Low quality or incomplete applications".[30]

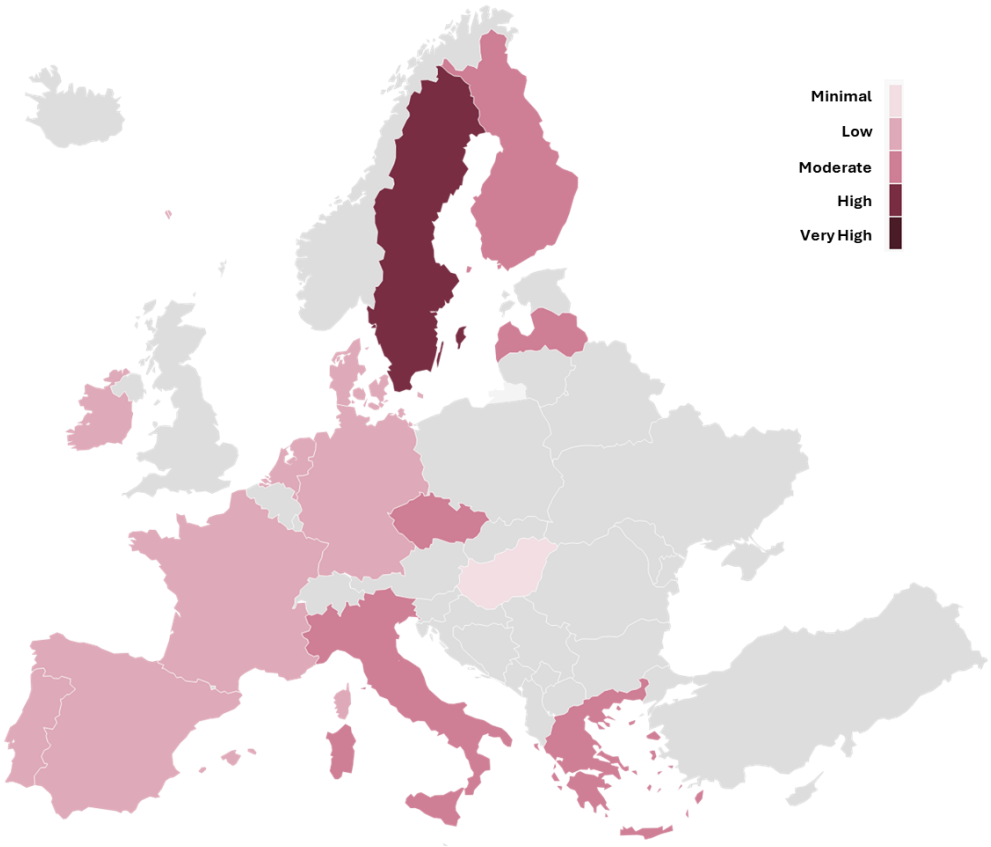
[30] For each phase, the survey question was "Q3.14: What are the main bottlenecks your authority faces in this phase?". The reply options were: (i) Insufficient internal staff capacity, (ii) Budgetary constraint, (iii) Limited or outdated IT systems, (iv) Inter-agency coordination delays, (v) Complex legal/regulatory requirements, (vi) Low quality or incomplete applications (vii) Lengthy public consultations/objection processes (viii) Data sharing or privacy barriers

4.2 Semiconductors

Semiconductor manufacturing represents a strategic priority for the European Union, which has undertaken notable efforts to enhance the EU semiconductor industry's competitiveness. Most notably, the **EU Chips Act** establishes a framework for attracting investments and enhancing the EU's semiconductor capabilities and production.[31] With the entry into force of the Regulation, the EU has mandated Member States to streamline permitting procedures related to the planning, building, and operation of integrated production facilities and open EU foundries (Art. 18 on Fast-tracking of permit-granting procedures). Measures prescribed by the Act include the recognition of national priority status of semiconductor projects and the designation of a coordinating authority acting as a single point of contact to facilitate the associated permitting processes. The Act is currently under Commission review and will be updated in a Chips Act 2 soon to further increase the Union investment in the sector.[32]

The figure below presents the results of the complexity assessment in the 14 Member States in the semiconductors sector.

Figure 4-4 Semiconductors - Map of countries according to their complexity level



In terms of complexity in permitting processes, the semiconductor sector displays **marked differences across Member States**, with some countries adopting a strongly centralised allocation of administrative competences and centralised digital management systems, while others have more distributed and fragmented management

[31] European Parliament and Council of the European Union. (2023). *Regulation (EU) 2023/1781 of the European Parliament and of the Council of 13 September 2023 establishing a framework of measures for strengthening Europe's semiconductor ecosystem and amending Regulation (EU) 2021/694 (Chips Act)*. Official Journal of the European Union, L 229, 1–53. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2023.229.01.0001.01.ENG

[32] Euractiv. (2025, October 21). Commission confirms Chips Act update for beginning of 2026. https://www.euractiv.com/news/commission-confirms-chips-act-update-for-beginning-of-2026/

systems. In fact, the highest complexity is observed where multiple authorities are involved, and procedures are regulated through distributed digital management systems spanning across several platforms. Conversely, lower complexity is due to more centralised digital frameworks enabling streamlined coordination and permit handling. More specifically:

- **1 out of 14** Member States (SE) presents a **high** complexity level.
- **5 out 14** Member States (CZ, FI, EL, IT, and LT) are characterised by a **moderate** complexity level.
- **7 out 14** Member States (DK, FR, DE, IE, NL, PT and ES) show a **low** complexity level.
- Lastly, **HU** presents a **minimal** complexity level.

In terms of **technical scope of competence**, some trends can be observed that also pertain to the other sectors. Planning, zoning and building permits are mostly overseen by local authorities across all Member States Similarly, environmental impact assessments and evaluations are mostly overseen by either regional or local authorities, including the implementation of all activities to be carried out under the Industrial Emissions Directive.[33]

The following sections analyse in detail each of the dimensions under the complexity assessment: (i) governance structure and number of authorities involved, (ii) existence of single points of contact, (iii) existence of simplification policies and (iv) adoption of digital tools for permitting procedures.

4.2.1 Authorities involved

The number of authorities involved in permitting processes, either through policy-making roles or administrative checking and permit-granting roles, greatly varies across Member States and administrative levels. The permitting governance framework in the Member States also depends on the political and administrative structure, which can be either centralised (national authorities with more direct permit-granting roles) or decentralised (regional and local authorities). Depending on the number of authorities and their distribution across the levels of administrations (i.e., national, regional and local), each country can be categorised into three categories: high level of competence distribution, medium level of competence distribution and minimal level of competence distribution.[34]

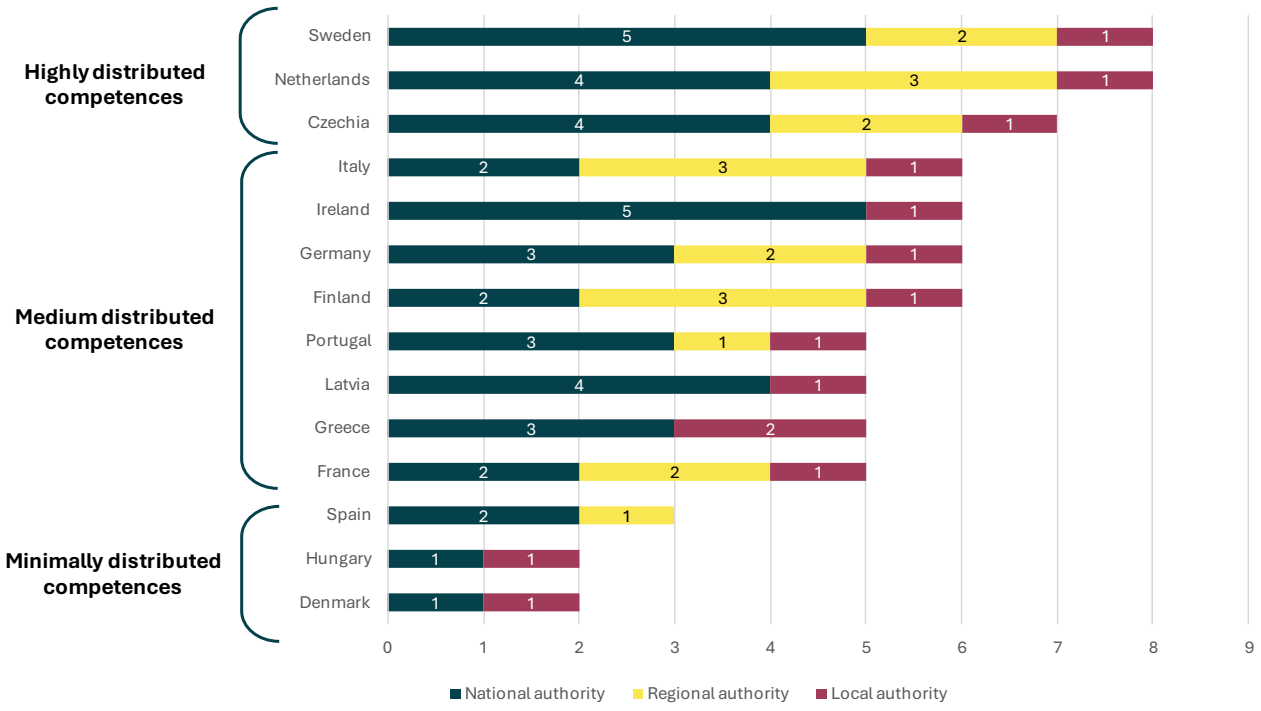
In the semiconductor sector, the number of authorities involved ranges from 8 (SE) to 2 (DK, HU), therefore with all 14 Member States analysed presenting a **distributed** governance structure. In some countries (DK, HU, ES), the permitting system tends to be more concentrated at the national level, as their permitting system is structured around a few national permitting authorities, supported by a limited number of regional and local public bodies. On the other hand, most countries have more distributed competences across multiple bodies (CZ, DE, IE, IT, NL, and SE). Overall, as shown in the figure below:

- **3 out of 14** countries (DK, HU, ES) present **minimally distributed competences**.
- **8 out of 14** countries (FI, FR, DE, EL, IE, IT, LT, PT) demonstrate **medium distributed competences.**
- **3 out of 14** (CZ, NL, SE) show **highly distributed competences across authorities**.

[33] European Parliament and Council of the European Union. (2010). *Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control)* (Recast). Official Journal of the European Union, L 334, 17–119. https://eur-lex.europa.eu/eli/dir/2010/75/oj/eng

[34] When less than 4 permitting authorities are involved, the distribution of competences is considered to be minimal. When permitting authorities involved range between 5 and 6, the distribution of competences is considered to be medium. When 7 or more permitting authorities are involved, the distribution of competences is considered to be high.

Figure 4-5 Semiconductors - Distribution of competences across authorities



Similarly to other sectors, the inter-agency coordination across permitting authorities is a key factor in understanding the complexity of processes. For this sector, however, there was not sufficient evidence to understand the level of overlaps or delays due to collaboration among permitting authorities and third-party actors.

4.2.2 Single point of contact

In alignment with the Chips Act, Member States have established **Chips Competence Centres** to strengthen national semiconductor capabilities and facilitate engagement with the European network coordinated by the **Chips Joint Undertaking (Chips JU).** While Competence Centres are not intended to be the single point of contact for permitting processes, which is also required by the Act, these entities serve as incubators of semiconductor start-ups and as reference hubs for project developers of semiconductor industry. These Centres are supposed to also provide guidance throughout the semiconductors' project life cycle.

All of the14 analysed Member States have established a national Chips Competence Centres and/or a single point of contact for permitting processes and financing options under the Act.

Table 4-3 Semiconductors - List of countries with a single point of contact

A single contact point is established	A single contact point is not established
CZ, DE, DK, EL, ES, FI, HU, IE, IT, LV, NL, PT, SE, FR	**-**

4.2.3 Simplification policies

7 out of 14 Member States have adopted at least one policy aimed at establishing permitting processes. In this regard, the *ChipNL Innovation Programme*, launched by the Dutch government and private partners, constitutes a notable example. This initiative, through significant investments, intends to enhance the Dutch semiconductor industry over seven years, with a focus on chip equipment manufacturing, design, and packaging.

While some countries may have not drafted additional national legislation to support the sector, it should be underlined that under the Chips Act Member States have initiated strategic project to support private investments and the construction of new manufacturing facilities. For example, Italy has launched four strategic projects approved by the European Commission.[35]

Table 4-4 Semiconductors - List of countries with simplification policies

At least one simplification policy is adopted	No simplification policy is adopted
CZ, FR, DE, IE, LT, NL, PT	DK, EL, ES, FI, HU, IT, SE

4.2.4 Digital tools for permitting processes

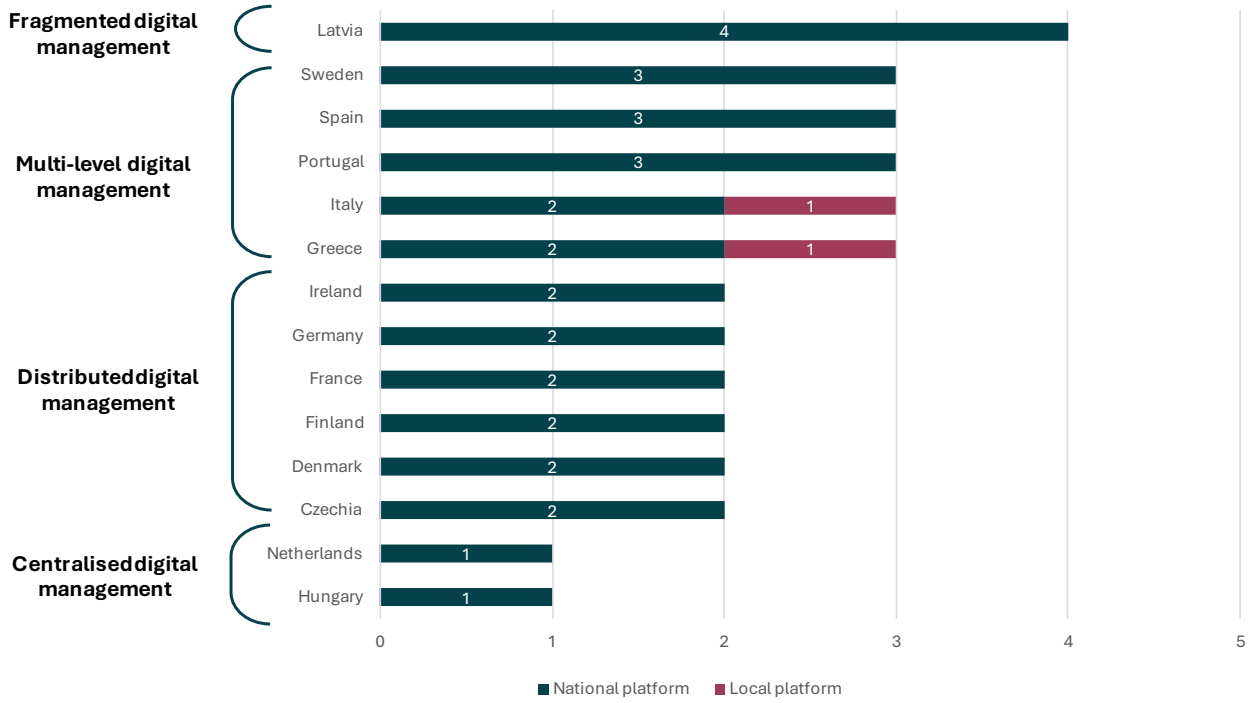
All 14 countries have adopted digital tools in their national framework. However, most of the digital permitting systems across Member States are based on **centralised management** of such platforms. Overall, only two Member State (ES, IT) has implemented local digital permitting systems. The number of digital permitting systems involved ranges from four (LT) to only one (NL, HU) [36].

However, fragmentation is still possible despite digital tools, where inefficiencies that exist in the "physical environment" of permitting system are replicated in the digital domain. When project developers must interact with multiple authorities, the simple digitalisation of fragmented processes might not increase efficiency. Accordingly, we grouped countries according to the total number of digital tools adopted:

- **2 out of 14** countries (HU, NL) have **centralised digital management system**.
- **6 out of 14** countries (CZ, DK, FI, FR, DE, IR) have a **distributed digital management system**.
- **5 out of 14** countries (EL, IT, PT, ES, SE) show a **multi-level of digital management system**.
- **1 out 14 countries** (LT) has a **fragmented digital management system**.

[35] More information is available at the following link: https://digital-strategy.ec.europa.eu/en/policies/european-chips-act.
[36] For methodological purposes, it should be pointed out that only digital tools were considered in this Study, while it is important to remember that partially digital management practices through e-mail exchanges or paper-based processes are still widely used across all the countries. Additionally, national platforms might not regard all permits, but only specific ones, such as for example environmental or planning permits.

Figure 4-6 Semiconductors - Number of IT systems devoted to permitting processes, per country



The digital tools are analysed in Section 5, “Digital maturity assessment”.

4.2.5 Administrative burden

For this sector, the evidence from the survey and secondary sources is limited and it is not sufficient enough to elaborate considerations as in the previous sector (section 4.1.5.1). Further detailed research is needed to develop these results and draw robust conclusions on impacts.

4.3 Critical raw materials[37]

Critical raw materials extraction and processing projects are another strategic sector where the European Commission has decided to intervene by mandating the simplification and acceleration of permitting procedures in the Member States. The growing dependence of the EU on external suppliers, combined with geopolitical tensions and supply chain vulnerabilities, has exposed the weaknesses of complex and lengthy permitting frameworks. The EU regulatory actions include:

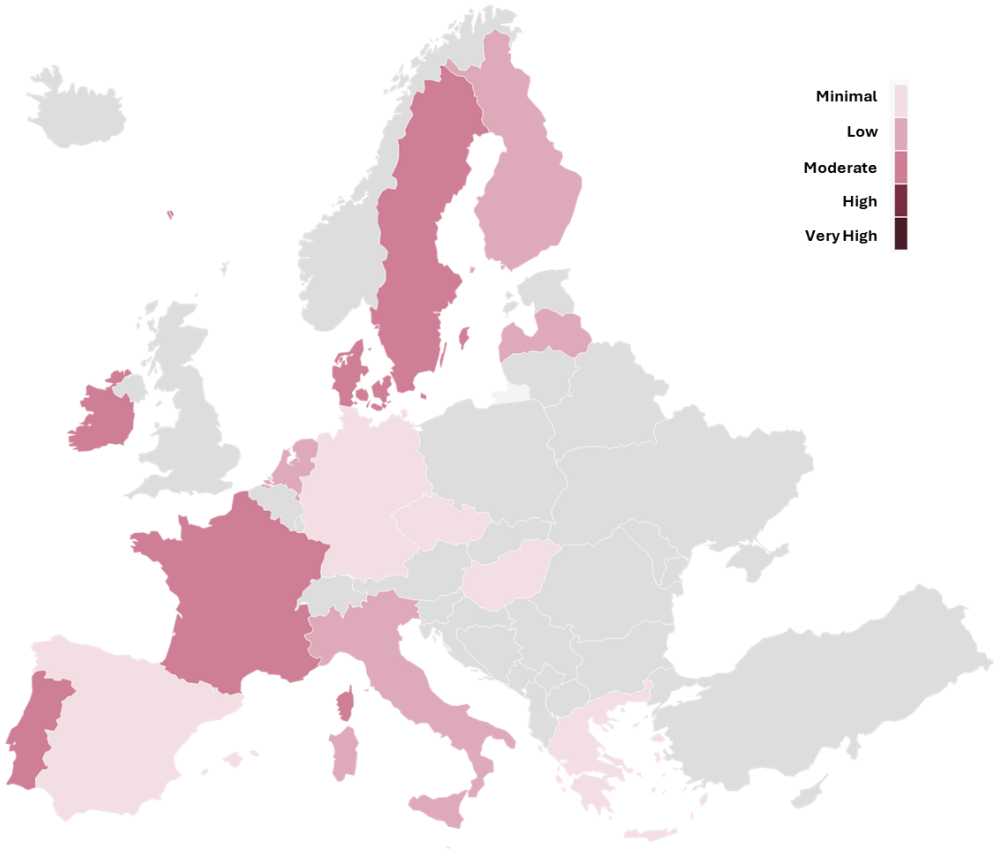
- **EU Critical Raw Materials Act (CRMA).** The Regulation mandates that each Member State designate a single national authority to coordinate permit applications, aiming to simplify and speed up processes. Extraction permit decisions for strategic projects are capped at 27 months, with processing/recycling at 15 months. Projects designated as "strategic" gain priority access to funding and fast-track authorisation, provided they meet strict environmental and social standards. Strategic designation under the CRMA confers several benefits to qualifying projects. Projects recognised as "strategic" receive priority in accessing dedicated EU and national funding programmes, which support critical raw materials initiatives aligned with the bloc's industrial and environmental goals. Additionally, such projects benefit from fast-track authorisation procedures, expediting administrative approvals. Nevertheless, these advantages come with stringent conditions: projects must comply with high environmental protection standards, including minimising ecological impacts and respecting social safeguards to ensure responsible development.

While the CRMA's approach seeks to balance the facilitation of critical raw material supply with rigorous sustainability criteria – to support the timely and responsible development of projects essential to Europe's industrial sovereignty and green transition - it remains challenging to implement in practice, as stated by project developers during the Study. This difficulty stems from the sector's inherently significant environmental footprint, which makes reconciling accelerated permitting with high environmental protection standards particularly complex.

The figure below presents the results of the complexity assessment in the 14 Member States in the critical raw materials sector.

[37] Please note that while the focus of the Study was on Critical Raw Materials, no permitting process linked exclusively to these materials was found. The data collected and analysed in this section are therefore referring to raw materials and the mining sector in general.

Figure 4-7 Critical raw materials - Map of countries according to their complexity levels



Two group of countries can be observed:

- Only **1 country** (SE) presents a **high distribution of competences** across many authorities (more than 4) and **multiple digital tools** (more than 3 platforms).
- All the other countries (CZ, DK, FI, FR, DE, EL, HU, IE, IT, NL, PT, ES, SE) **vary in the number of authorities involved** (from 3 to more than 6) but have a **limited number of digital tools** to be used in the permitting process (1 or 2 platforms).

In terms of **technical scope of competence**, some trends can be identified. The competence distribution tends to be decentralised, with building permits mostly overseen by local authorities across all Member States. Similarly, environmental impact assessments and evaluations are mostly overseen by either regional or local authorities. The national authorities are often designated as the single point of contact (the "one-stop shop") under the Critical Raw Materials Act, coordinating and facilitating all permitting procedures within each Member State. Strategic projects in this sector often receive expedited permit timelines - generally 24 months for extraction and 12 months for processing or recycling - with these authorities responsible for overseeing and granting the necessary permits.

Mineral extraction projects, in particular, face some of the most demanding permitting conditions. They require extensive technical studies, multiple layers of environmental review, and coordination among diverse authorities. Because of their potential environmental and social impacts, these projects are subject to heightened scrutiny, making the permitting pathway longer and less predictable than in other sectors.

Survey results highlight that the largest bottlenecks, in fact**,** arise from **environmental assessments** and **appeals**. Multiple environmental authorities are often involved, and their requirements can differ depending on the region or even the individual reviewer. This creates uncertainty and variation in outcomes, undermining predictability for

project developers. Appeals are also common and can significantly extend timelines, sometimes by years, especially when escalated to higher courts. While this ensures strong stakeholder rights, it introduces considerable unpredictability for companies. In addition, **regulatory tightening and rapidly evolving environmental rules** add further complexity, requiring companies to continuously update their studies and adapt to new requirements. These factors together explain why mineral extraction projects often encounter the most challenging permitting conditions in the EU.

Businesses might be required to secure licences and permissions to perform relevant assessments comprising site surveys, monitoring of species populations, etc. For the mining sector, this could entail exploration licences for a specific site, while an offshore wind project might require a marine area consent. The environmental impact assessments typically inform the required environmental permits, effluents, emissions and waste-related permits as well as other permits related to health and safety that become relevant based on the expected impact of the industrial project. Depending on the scale of the projects, some of the permits are issued by federal institutions while some can be issued by regional or municipal jurisdictions. This is the most complex, time-consuming phase of the entire permitting process for most industrial and infrastructure projects.

The following sections analyse in detail each of the dimensions under the complexity assessment: (i) governance structure and number of authorities involved, (ii) existence of single points of contact, (iii) existence of simplification policies and (iv) adoption of digital tools for permitting procedures.

4.3.1 Authorities involved

The number of authorities involved in permitting processes, either through policy-making roles or administrative checking and permit-granting roles, greatly varies across Member States and administrative levels. The permitting governance framework in the Member States depends also on the political and administrative structure, which can either be centralised (national authorities with more direct permit-granting roles) or decentralised (regional and local authorities). Depending on the number of authorities and their distribution across the levels of administrations (i.e., national, regional and local), each country can be categorised into three categories: high level of competence distribution, medium level of competence distribution and minimal level of competence distribution.[38]

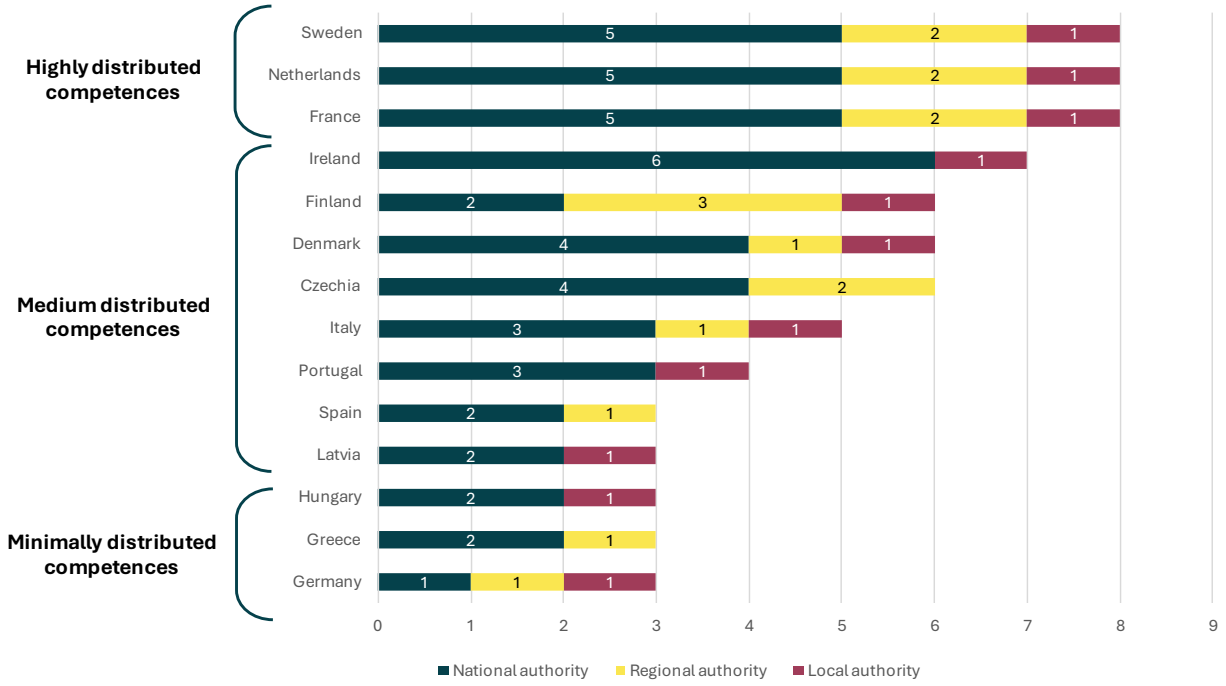
The **number of authorities** involved ranges from 8 (FR, NL, SE) to 3 (ES, LT, HU, DE). As shown in the graph below, in some countries (DE, EL, HU, LT, ES) the permitting system is more centralised in national authorities, while in some others (CZ, FI, FR, NL, SE) a higher involvement of regional authorities is envisaged.

This indicates that permitting processes are decentralised everywhere, with varying degrees only in the distribution across administrative levels. Overall, in the case of critical raw materials, competences are clustered at the minimal, low, and moderate distribution levels:

- **5 out of 14 Member States** (DE, EL, HU, LT, ES) present a **minimally distributed competences level.**
- **5 out of 14 Member States** (CZ, DK, FI, IT, PT) present a **medium distributed competences level**.
- **4 out of 14 Member States** (FR, IE, NL, SE) present a **highly distributed competency**.

[38] When less than 4 permitting authorities are involved, the distribution of competences is considered to be minimal. When permitting authorities involved range between 5 and 6, the distribution of competences is considered to be medium. When 7 or more permitting authorities are involved, the distribution of competences is considered to be high.

Figure 4-8 Critical raw materials - Distribution of competences across authorities



Similarly to other sectors, the inter-agency coordination across permitting authorities is a key factor in understanding the complexity of processes. For this sector, however, there was not sufficient evidence to understand the level of overlaps or delays due to collaboration among permitting authorities and third-party actors.

4.3.2 Single points of contact

The establishment of a formal single point of contact is envisaged in the Critical Raw Materials Act, but **not all 14 Member States have yet introduced a fully-fledged structure of this kind** in compliance with the Act. Nevertheless, **each in Member State there is an authority responsible for monitoring projects related to critical raw materials**, effectively acting as the operational contact point.

Table 4-5 Critical raw materials - List of countries with a single point of contact

A single contact point is established	A single contact point is not established
CZ, DE, DK, EL, ES, FI, FR, HU, IE, IT, LV, NL, PT, SE	-

4.3.3 Simplification policies

10 out of 14 Member States have adopted at least one policy aimed at establishing clear permitting processes specifically for the extraction of raw materials (CZ, FI, FR, DE, EL, IE, IT, LT, NL, ES, SE). In some Member States, simplification policies have emerged only in recent years, reflecting a growing institutional commitment to reducing administrative burdens. In others, such policies were introduced earlier or have developed more gradually, resulting as a domestic policy evolution shaped by national priorities and historical regulatory paths.

Table 4-6 Critical raw materials - List of countries with simplification policies

At least one simplification policy is adopted	No simplification policy is adopted
CZ, DE, EL, ES, FI, FR, IE, IT, LT, NL, SE	IE, HU, PT

4.3.4 Digital tools for permitting process

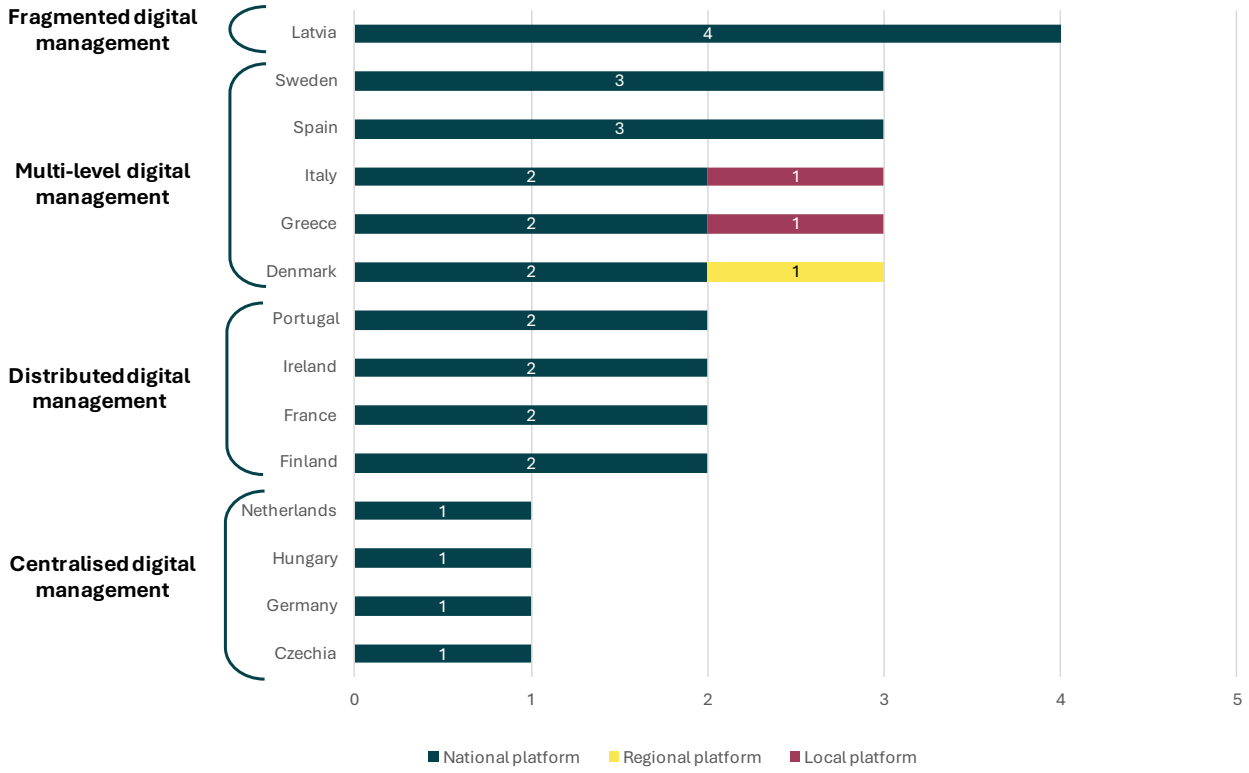
All countries have implemented at least one national digital platform where some permits are managed and released. One country (DK) has also adopted a system at the regional level. Two countries (EL, IT) have adopted a system at the local level, in both cases run by the Technical or Commerce chamber which operates locally and plays an active role in the business activities in municipalities and provinces.

For methodological clarity, it is important to note that the analysis considers **only fully digital tools**. This means that forms of **partial digitalisation** - such as processing steps carried out through e-mail exchanges or paper-based documentation - are not included, even though these practices **remain widespread** across all countries that were examined. This situation is **particularly evident in the case of critical raw materials projects**. In this sector, we did not find any platforms specifically designed for CRM-related permitting tools. Instead, countries tend to rely on **cross-sectoral platforms** or, quite frequently, on **direct exchanges with competent authorities via e-mail**, especially considering that such projects are often **strategic and of national interest**. As a result, mixed or non-digital processes are even more prevalent. In addition, national digital platforms **do not always cover the full range of permits required**. In many cases, they apply only to **specific categories of authorisations**, such as environmental or planning permits, while other procedures may still be handled offline or through separate systems. In some Member States, these gaps are also influenced by specific cultural or geographical factors that introduce additional consultation steps, including forms of community-based social hearing. SE provides an illustrative example, as certain projects may involve consultation with the Sámi Parliament, given the community's longstanding role in representing and protecting reindeer herding areas, which cover a significant portion of the national territory.

As for the other sectors, fragmentation is still possible despite digital tools, where inefficiencies that exist in the "physical environment" of permitting system are replicated in the digital domain. When project developers must interact with multiple authorities, the simple digitalisation of fragmented processes might not increase efficiency. Accordingly, we grouped countries according to the total number of digital tools adopted:

- **4 out of 14 Member States** (CZ, DE, HU, NL) appear as the only countries with a **centralised** digital management of permits.
- **4 out of 14 Member States** (FI, FR, IE, PT) rely on two platforms with a **distributed** digital management.
- **4 out of 14 member States** (DK, EL, IT, PT) present a **multi-level** digital management.
- **1** country (LT) is characterised by a **fragmented** digital management.

Figure 4-9 Critical raw materials - Number of IT systems devoted to permitting processes, per country



The digital tools are analysed in Section 5, "Digital maturity assessment".

4.3.5 Administrative burden

The Study collected data on the effort put into the handling of permitting processes through a survey with project developers and permitting authorities (see Annex B). It should be noted that these kinds of activities are not handled by *ad hoc* staff. The administrative personnel of one developer or authority can manage permitting processes among other tasks. Accordingly, **the burden caused by permitting processes is not systematically measured at business or administration levels.**

Nonetheless, we relied on stakeholder's feedback to draw reliable estimates. On this basis, we applied a Standard Cost Model (SCM)[39] to elaborate the costs which can be directly linked to handling the permitting process for a project in these sectors.

However, more detailed research is needed to further develop these results quantitatively and qualitatively and draw robust conclusions on impacts.

4.3.5.1 Burden on project developers

For this sector, the evidence from the survey or secondary sources is extremely limited. However, during the interview with an EU representative of an organisation of the mineral industry enabled the Study team to partially fill the evidence gap with useful inputs.

[39] Based on: European Commission. 2023. *Better Regulation Toolbox. Tool #58 EU standard cost model.* Available at: https://commission.europa.eu/law/law-making-process/better-regulation/better-regulation-guidelines-and-toolbox/better-regulation-toolbox_en

The number of FTEs needed to handle permitting processes, including the outsourcing of external studies linked to permits (e.g., EIA), could range on average between **5 and 15 FTEs per project** in the mining sector. Considering these figures and the average cost of one employee working full time for a project developer in the EU[40], **the average cost could vary from around € 275,000 to € 825,000 per project** (depending on the profile of employees involved by the company or the cost to engage with external stakeholders). These costs do not involve the cost of EIA (which sometime can last for a minimum of 2 years) and might need to be iterated if new requests come in form permitting authorities.

During the interview and the workshop, it was stressed that projects in the mining sector are extremely long as it takes in average (10 to 15 years in the EU to open a new mine[41]and 3-5 years to extend an existing active project[42]). Therefore, changes in permits can be driven by changes in legislations, occurring at a faster pace, and have a remarkable impact on the overall costs as well as on the legal certainty of a project of this kind, which are however very hard to measure. In addition, in the interview it was noted that the burden related to EIAs have increased over the last 5 years, "*primarily due to the inclusion of climate-change-related impact assessments and the need to develop methods that link local effects to broader global impacts"*[43].

4.3.5.2 Burden on public administrations

The survey collected feedback from permitting authorities dealing with several sectors. The permitting authorities within this sector also address "renewables and clean technologies" permitting processes.[44] Therefore, the analysis presented in section 4.1.5.2 holds also for this sector.

For this sector, the bottlenecks are quite similar.[45] According to the respondents, insufficient internal staff capacity is a relevant bottleneck in this sector[46], but less so than "Low quality or incomplete applications"[47] which remain the most relevant bottleneck.

4.4 Pharmaceuticals

The European Union is committed into an extensive reform of the pharmaceutical sector to enhance *inter alia* the access to medicines, and the security of supply.

- **EU Pharmaceutical Legislation Reform** (Pharma Package 2025): A comprehensive overhaul aimed at making the EU pharmaceutical sector fairer, more competitive, and resilient. It includes new regulations and directives governing authorisation, supervision, clinical trials, marketing authorisations, and safety monitoring across the EU. It emphasises harmonisation of procedures, enhanced transparency, and supply chain security.

The figure below presents the results of the complexity assessment in the 14 Member States in the critical raw materials sector.

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[40] These costs were taken from Eurostat Labour cost levels by NACE Rev. 2 activity [lc_lci_lev__custom_19005500] (accessed on 20 November 2024) using the sector "Industry, construction and services (except public administration, defence, compulsory social security". In this case, the annual EU 27 average cost of the period 2020-2024 was computed. More details are provided in Annex A. Please consider that for the mining sector these costs might be underestimated.

[41] Righetti, E., & Rizos, V. (2024). Reducing supply risks for critical raw materials: Evidence and policy options. Centre for European Policy Studies. https://cdn.ceps.eu/wp-content/uploads/2024/01/CEPS-InDepthAnalysis-2024-01_Reducing-supply-risks-for-critical-raw-materials.pdf

[42] According to stakeholders interviewed

[43] Quote from the interview

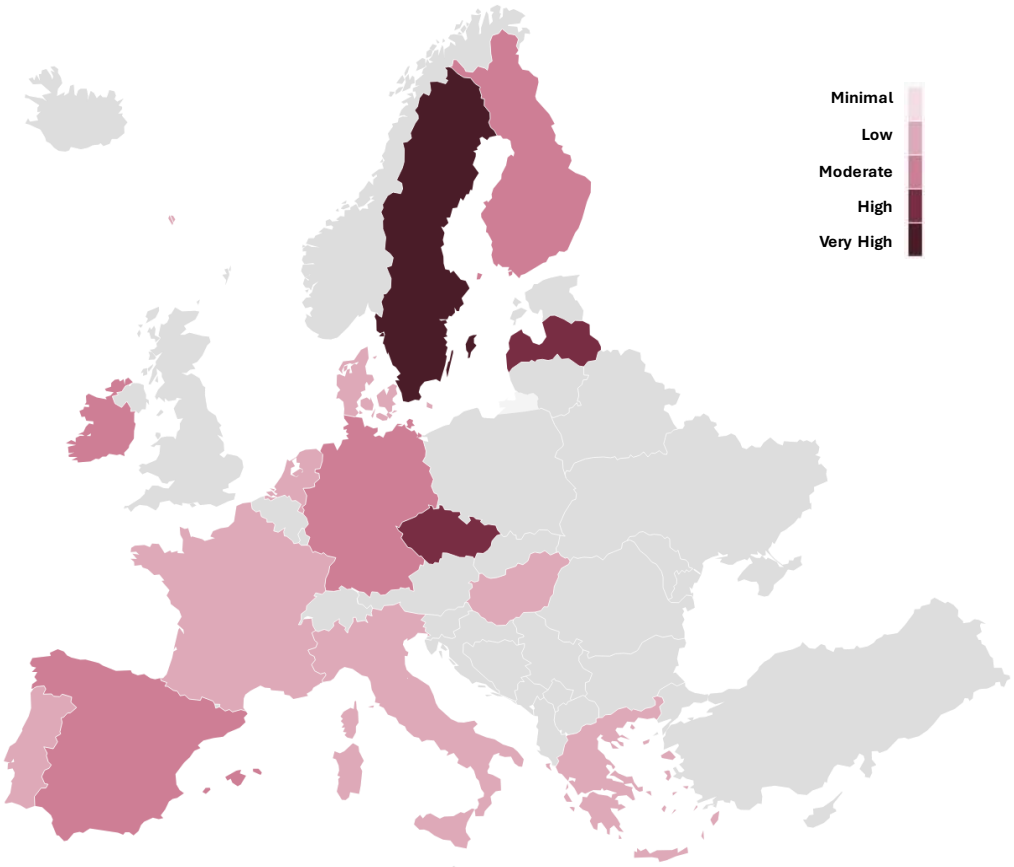
[44] Except for two authorities which however do not significantly change the results

[45] For each phase, the survey question was "What are the main bottlenecks your authority faces in this phase?". The reply options were: (i) Insufficient internal staff capacity, (ii) Budgetary constraint, (iii) Limited or outdated IT systems, (iv) Inter-agency coordination delays, (v) Complex legal/regulatory requirements, (vi) Low quality or incomplete applications (vii) Lengthy public consultations/objection processes (viii) Data sharing or privacy barriers

[46] 50% of respondents for the pre-authorisation and design phase

[47] 57% of respondents for the pre-authorisation and design phase and 50% in the authorisation phase

Figure 4-10 Pharmaceuticals - Map of the countries according to their complexity level



The following group of countries could be observed:

- **7 out of 14** Member States (DK, FR, EL, HU, IT, NL, PT) present a **low** complexity level.
- **4 out 14** Member States (FI, DE, IR, ES) register a **moderate** complexity level.
- **2 out 14** Member States (CZ, LT) show a **high** complexity level.
- **1 out 14** countries (SE) shows a **very high** complexity level.

Within the sample, Member States presenting a higher level of complexity are associated with **centralised governance** but **scattered digital management** through several platforms. In parallel, the groups of countries with lower levels of complexity are **heterogeneous**, with wide variation driven both by the number of authorities involved and by the range of digital platforms used, that in cases can be cross-sectoral.

4.4.1 Authorities involved

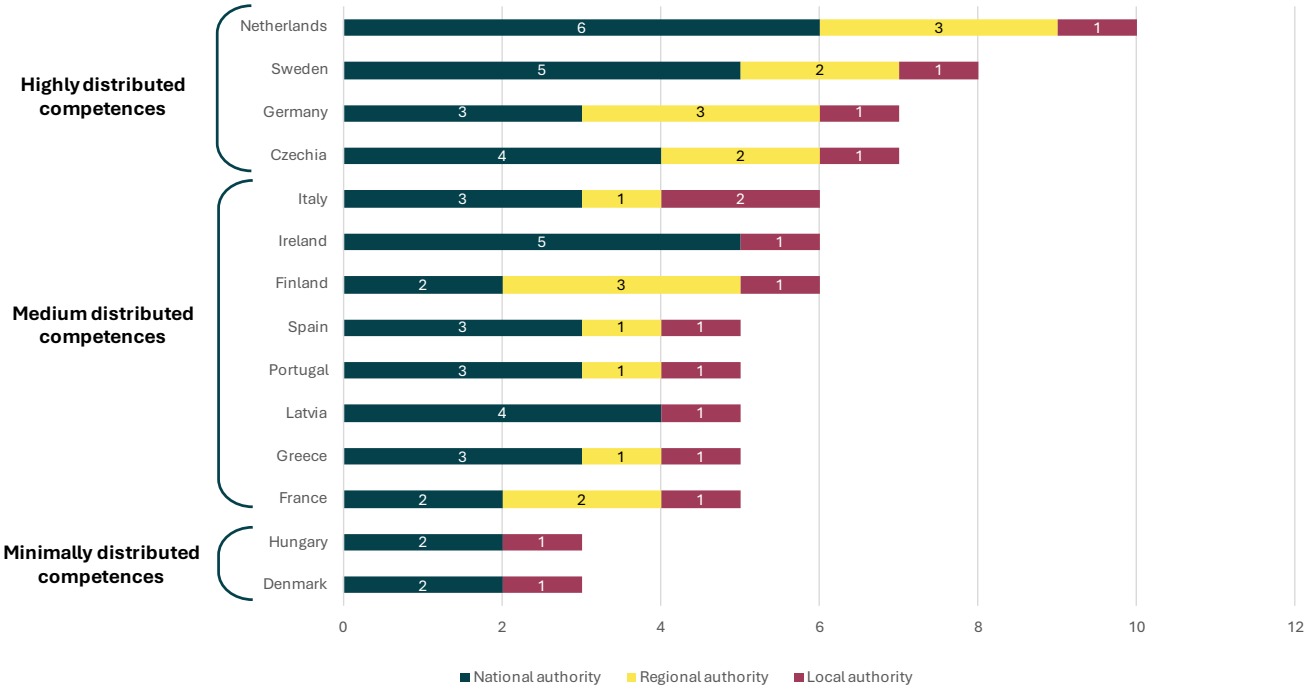
The number of authorities involved in permitting processes, either through policy-making roles or administrative checking and permit-granting roles, greatly varies across Member States and administrative levels. The permitting governance framework in the Member States depends also on the political and administrative structure, which can either be centralised (national authorities with more direct permit-granting roles) or decentralised (regional and local authorities). Depending on the number of authorities and their distribution across the levels of administrations (i.e., national, regional and local), each country can be categorised

into three categories: high level of competence distribution, medium level of competence distribution and minimal level of competence distribution[48].

The number of authorities involved ranges from 10 (NL) to 3 (DK, HU). In all Member States, National Medicines Agencies play a central role in the governance system of the sector, supporting project developers throughout the permitting process. Such authorities must guarantee the implementation of European standards across Member States, with harmonised level of safety and quality. As reported in the graph below, in the pharmaceutical sector, Member States display the following distribution:

- **2 out of 14** countries (DK, HU) present a **minimally distributed competences.**
- **8 out of 14** countries (FI, FR, EL, IE, IT, LT, PT, ES) present a **medium distributed competences**.
- **4 out of 14** countries (CZ, DE, NL, SE) show a **highly distributed competences across authorities**.

Figure 4-11 Pharmaceuticals - Distribution of competences across authorities



Similarly to other sectors, the inter-agency coordination across permitting authorities is a key factor in understanding the complexity of processes. For this sector, however, there was not sufficient evidence to understand the level of overlaps or delays due to collaboration among permitting authorities and third-party actors.

4.4.2 Single contact point

Despite not being an official single point of contact, **National Medicines Agencies** support project developers by issuing permits and by providing guidance documents, which are generally available on the Agency's online website. Medicines Agencies also play a key role in issuing "Good Manufacturing Practice" certificates, ensuring national implementation of EU standards.

[48] When less than 4 permitting authorities are involved, the distribution of competences is considered to be minimal. When permitting authorities involved range between 5 and 6, the distribution of competences is considered to be medium. When 7 or more permitting authorities are involved, the distribution of competences is considered to be high.

The State Agency of Medicines of Latvia (SAMLV) assumes a prominent role in the permitting procedures of the country. In particular, project developers may rely on online guidance issued by SAMLV describing the necessary steps or permits required. In the submission and administrative authorisation phase, the Agency coordinates inputs from other relevant competent authorities in joint evaluation of project proposals and/or data or information sharing. The authority also oversees several activities, including authentication, submission, scientific consultation, conformity assessment, and regulatory compliance assessment. Applicants may track the real-time status of the permit requested via SAMLV's digital portal.

Table 4-7 Pharmaceuticals - List of countries with a single point of contact

A single contact point is established	A single contact point is not established
CZ, DE, DK, EL, ES, FI, FR, HU, IE, IT, LV, NL, PT, SE	**-**

4.4.3 Simplification policies

6 out of 14 Member States (FR, DE, EL, IT, NL, ES) have adopted at least **one policy** aimed at simplifying permitting processes.

Table 4-8 Pharmaceuticals - List of countries with simplification policies

At least one simplification policy is adopted	No simplification policy is adopted
DE, EL, ES, FR, IT, NL	CZ, DK, FI, HU, IR, LT, PT, SE

4.4.4 Digital tools for permitting process

All 14 Member States have adopted digital tools. None of the countries under analyses use regional platforms for issuing authorisations. Instead, each Member States presents **at least one national permitting system**. At the local level, only two countries (EL, IT) employ digital permitting systems. Member States analysed present the following features:

- **2 out of 14** countries (NL, PT) show a **centralised** digital management.
- **6 out of 14** countries (CZ, FI, DE, HU, IE, IT) have a **distributed** digital management.
- **3 out of 14** countries (DK, FR, EL) present a **multi-level** of digital management.
- **3 out of 14** countries (LT, ES, SE) out of 14 are characterised by a **fragmented** digital management.

Figure 4-12 Pharmaceuticals - Number of IT systems devoted to permitting processes, per country

The digital tools are analysed in Section 5, “Digital maturity assessment”.

4.4.1 Administrative burden

For this sector, the evidence from the survey or secondary sources is limited and it is not sufficient to elaborate considerations as in the previous sector (section 4.1.5.1). Further detailed research is needed to develop quantitatively and qualitatively results, and to draw robust conclusions on its impacts.

4.5 Analysis of permits

Permits were mapped in each Member State across **national, regional and local levels**. The main finding from this activity is that permitting systems typically should be observed across two complementary layers (as summarised in the figure below). Firstly, there are several **cross-sectoral permits** which a project developer should obtain regardless of the specific sector. These most commonly include authorisations related to **building and construction**, **zoning and land-use planning**, **environmental regulations,** and **business establishment and operational requirements**. Secondly, each sector is characterised by **specific permits** which a project developer should obtain to comply with technical or operational requirements that are linked to any given sector.

Regarding cross-sectoral permits, interviews with project developers show that environmental permits are perceived as the most challenging. These permits typically cover aspects such as environmental impact, emissions, waste management, and the use of natural resources. Environmental permitting generally takes place at the regional level or could be delegated to decentralised permitting authorities, often acting through territorial or environmental agencies. These permitting processes include, for example, environmental assessment procedures such as **Environmental Impact Assessment (EIA)**, **Strategic Environmental Assessment (SEA)** and **Environmental Impact Declarations (EID)**, as well as operational authorisations such as **Industrial Emissions (IE)** or **Integrated Pollution Control (IPC) permits.** Similarly, **land planning, zoning and building regulations are also regarded as quite burdensome for projects developers,** with most of these permits handled at the local level by municipalities.

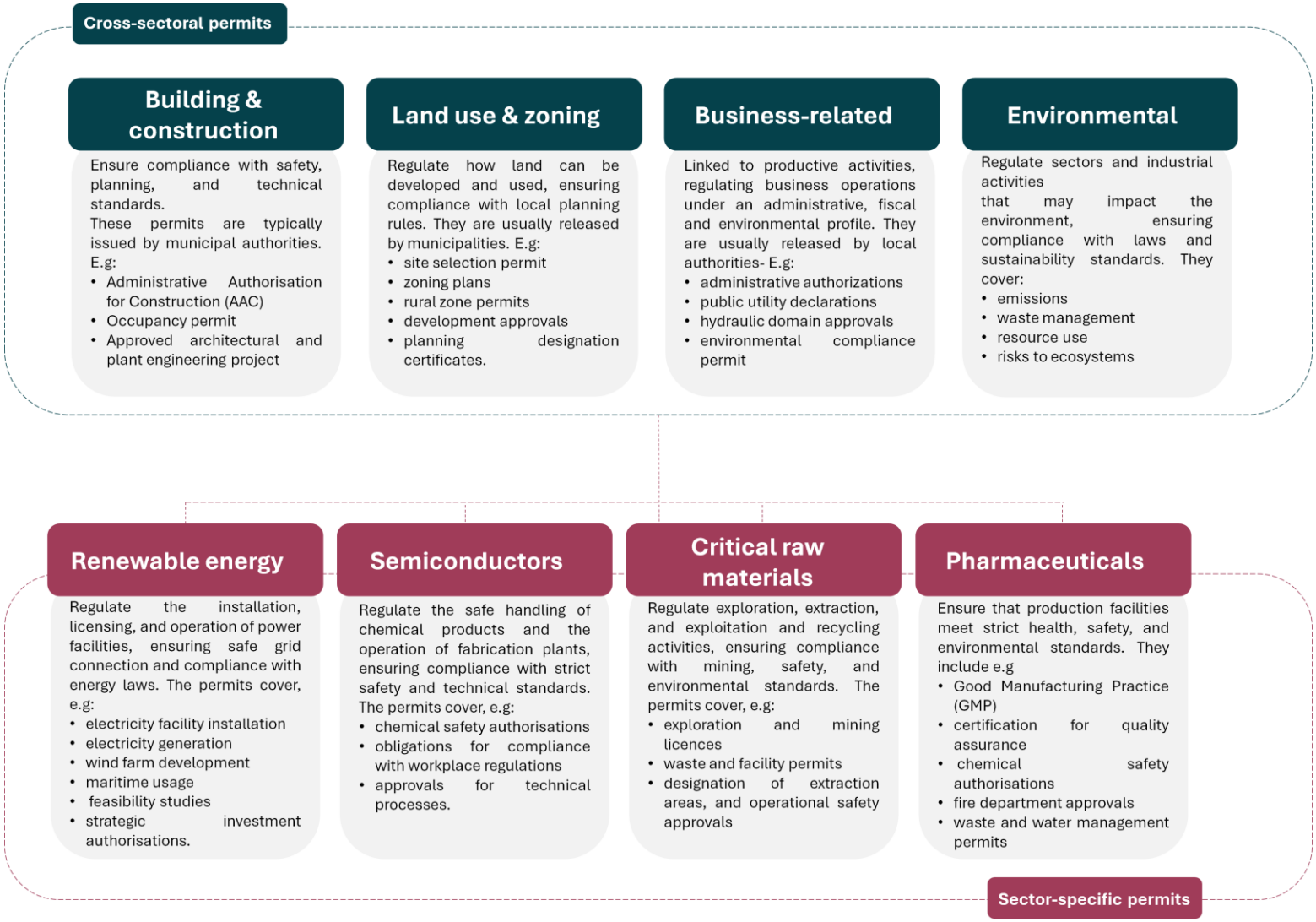
Regarding sector-specific permits, the following should be considered:

- **Renewable energy** and **clean technologies projects** are subject to a dedicated set of authorisations that typically cover the different phases of project development, from grid access and construction to commissioning and operation. These include, among others, grid connection permits and approvals, electricity generation licences or certificates, energy production licences, installation and operating licences, as well as commissioning certificates and, in some cases, strategic investment licences. Responsibility for these permits is **distributed across different administrative levels**. National authorities are generally responsible for permits related to **electricity generation, market access, and grid regulation,** including generation licences, production certificates, and strategic or large-scale project approvals. Regional authorities often play a central role in authorising the **installation and operation of renewable energy facilities**, particularly for medium- and large-scale projects, and in coordinating sectoral and environmental requirements.
- For the **semiconductor sector**, the permitting framework appears to be **more centralised** compared to other sectors, reflecting the strategic importance, high technological complexity, and safety concerns regarding semiconductor manufacturing. Core permits for semiconductor facilities include **chemical products and chemical safety permits**, **safety compliance obligations**, **technical approvals**, and **formal operating permits**, are typically managed by specialised competent authorities. These authorisations often cover key aspects of the production process, including the determination of the type and classification of manufacturing facility as well as compliance with stringent technical and safety standards.
- In the **mining sector**, permitting frameworks are generally structured around the different phases of the mining lifecycle, including **exploration**, **extraction**, and **operation**. Typical authorisations include **exploration and mining permits or licences** (e.g. metallic minerals exploration licences), **mining grants and concessions**, **exploitation permits** and permits related to **mining waste and underground structures**. These are complemented by **construction permits for mining facilities**, **designation of extraction areas**, and a range of **safety-related permits**, such as mining safety and operational safety permits. Responsibility for issuing mining permits is usually **shared across administrative levels**. **National authorities** often retain competence over strategic resources, granting exploration and extraction rights, mining concessions, and licences for metallic or critical raw materials. **Regional authorities**

commonly play a key role in authorising mining operations, facilities, and associated infrastructure, as well as in supervising compliance with environmental and safety requirements. **Local authorities** are typically involved in land-use planning aspects, including **compliance with municipal zoning rules** and local construction permits.

- The **pharmaceutical sector** is characterised by a **highly centralised permitting framework**, which reflects the specific nature of the sector, the sensitivity of pharmaceutical products, and the stringent requirements related to public health, quality, and safety. Compared to other sectors, pharmaceutical permitting tends to be governed at the **national level**, with central authorities responsible for key authorisations related to manufacturing, marketing, and regulatory compliance.

Figure 4-13 Overview of the analysis of industrial permits at EU level



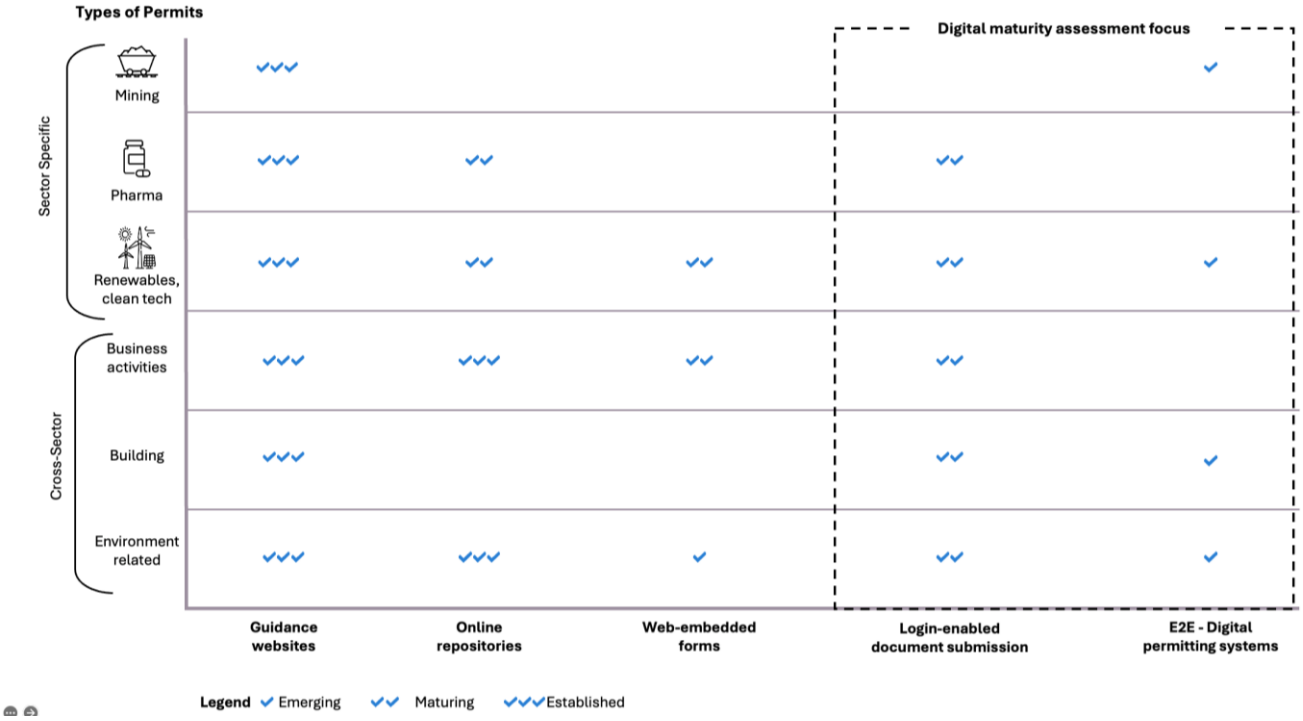
5 Digital maturity assessment

The previous section has shown that industrial projects require several permits, licences and consents, managed by a varying number of authorities. This section presents the results of the second assessment conducted in this Study, namely the mapping of digital permitting platforms made available by permitting authorities for industrial permitting. Unlike the complexity assessment, which considers a broad range of digital tools involved across the permitting process, **the digital maturity assessment focuses on a specific set of tools,** namely those platforms that directly support the submission, management and processing of permit applications.

5.1 Ecosystem of digital permitting solutions

As described above, **some permits are cross-sectoral -i.e. they are required by all large-scale industrial and infrastructure projects while some are sector-specific -i.e. they are only required for the respective sectors**. Sector-specific permits are required in addition to cross-sectoral permits. There is a wide ecosystem of digital solutions that enable the industrial permitting process for the different types of cross-sectoral as well as sectoral permits. An overview of the common archetypes is presented in Figure and summarised below.

Figure 5-1 Common archetypes of digital permitting solutions.



Guidance websites are widely established across all sectors and Member States. These are static websites providing information on the regulatory requirements and are typically owned and operated by the relevant competent authorities or designated Single Points of Contact (SPOCs). The websites provide one-way communication from the competent authorities. Across EU Member States and across all sectors, this is the most used digital tool for supporting the permitting process. However, the quality of information, the way it is presented, and the ease of navigating to find relevant information can vary across sectors and by competent authority. The Sustainable Energy Authority of Ireland's website[49] is a good example of a more mature guidance website that helps users seek the relevant licences and permits for renewable energy projects. The permit-seeking process can still include manual steps. For instance, the authorities might have forms that need to be downloaded, printed, filled in

[49] Single Point of Contact for Renewable Energy Consenting in Ireland: https://singlepointofcontact.seai.ie/

and sent by post or e-mail to the respective competent authorities. In other instances, the authorities might direct users to other types of digital permitting systems listed below.

Online repositories are widely established in some sectors across Member States. These are websites that also serve as repositories or contain a digital catalogue for finding relevant information. They provide information necessary for public consultation processes, such as environmental impact assessments and registries of business activities, and hence are not relevant for all sectors. Online repositories are also a mode of one-way communication; however, most of them are equipped with very advanced search features, enabling a map-view to locate relevant projects. The environmental portals in Germany[50] and Ireland[51] are good examples of this archetype.

Web-embedded forms are emerging in some sectors across Member States. These are found in some websites of competent authorities that provide permits. This archetype can provide a more collaborative permitting experience and is a good solution for processing simple permits that only require limited details from the user. Web-embedded forms are commonly used by competent authorities providing permits for residential constructions or small to medium-sized businesses; however, some authorities at the municipal level also use these for industrial permitting processes. The portal for business activities in Sweden[52] is a good example of this archetype.

Login-enabled document submission systems are maturing across all sectors and Member States. These are typically web-based applications that are owned and operated by competent authorities. They require role-based access, requiring the creation of a user-profile or use of a national ID to log in to access the system. The role-based access provides a more secure space for users to submit the required documentation. The digital maturity of the features of this archetype varies, but generally this type of system allows uploading documents to an interface that can connect with other national systems and repositories. Most systems also provide submission templates and web-embedded forms that allow entering required information in a structured manner. These systems are useful for simpler process workflows like those for securing grid permits or electricity generation licences from the Transmission System Operators. Italy's myTerna[53] and Sweden's Dinkel[54] are good examples of this archetype. In most cases, this archetype lacks features that allows real-time status tracking or in-tool collaboration.

End-to-End (E2E) Digital permitting systems are emerging for some sectors. These are like log-in-enabled document submission interfaces but generally cover a broader workflow across competent authorities with mature systems allowing automatic routing. They also require role-based access either through creation of a user profile or use of a national ID and provide submission templates and web-embedded forms that collect details in a structured manner. A notable feature of this archetype is the capacity for multi-stakeholder collaboration, which is vital for one-stop shops that need to automatically dispatch the application to relevant competent authorities. Good examples are the Netherlands' Omgevingsloket[55] platform and Italy's SUAP.[56] Most of these systems also connect with respective national registries, enabling interoperability with various national databases.

[50]Federal Environmental Assessment Portal: https://www.uvp-portal.de/de
[51] Environmental protection agency: https://leap.epa.ie/
[52] Verksamt find permits: https://verksamt.se/en/industry/find-permits
[53] Terna platform: https://my.terna.it/it-IT/
[54] E-service for applying for a grid concession: https://ei.se/bransch/koncessioner/e-tjanst-for-natkoncession
[55] Omgevingswet platform: https://omgevingswet.overheid.nl/home
[56] Impresa in un Giorno Platform: https://coll.impresainungiorno.gov.it/en/

5.2 Comparative analysis of Digital Permitting Solutions

The digital permitting solutions are the basis for assessing the level of digitalisation of permitting processes for the various permits across sectors in various Member States. Regulatory requirements for adopting a digital one-stop shop require a closer look at the archetypes that enable complex workflows involving documentation to be routed to multiple competent authorities. The digital maturity assessment was thus conducted for the digital solutions pertaining to the last two archetypes presented in section 5.1, namely (i) Login-enabled document submission systems and (ii) E2E digital permitting systems. Collectively these are referred to as digital permitting systems in that they form a subset of the digital permitting solutions. A digital maturity assessment framework, using five parameters, was developed and the most relevant digital permitting systems across the different Member States were assessed. Details of the framework can be found in Annex A - **Error! Reference source not found.** and the comparative analysis below.

5.2.1 Process and Workflow

This parameter assesses the extent to which the permitting process and workflow is covered by the digital permitting system. Most systems assessed score above average for this parameter as they do sufficient cover the part of the permitting workflow under the remit of the public authority responsible for the specific permits within the permitting process. The systems that score the highest can customise the permitting workflow, provide transparency on the various process steps, enable tracking across the various stages and steps of the permitting process and enable multi-agency collaboration.

5.2.2 Technical Capabilities

This parameter assesses the technical capabilities across the dimensions of scalability, adaptability as well as use of advanced technologies. Most systems assessed score an average for this parameter primarily due to lack of publicly available data to make meaningful assessments. In most cases, this parameter is also associated with IP or trade secrets which make data availability a challenge. The platforms that score the highest provide sufficient data to demonstrate a modular architecture enabling adaptability and scalability to future needs and a higher level of automation that reduces manual efforts.

5.2.3 Interoperability

This parameter assesses the alignment with EU Interoperability standards as well as integration with relevant national registries. Most systems assessed score above average for this parameter as almost all of them connect with national registries to exchange data and use commonly available data export and data exchange formats to enable data flow between systems. **It should be noted though that none of the assessed systems had publicly available information to demonstrate ability to exchange data across country borders.** Data security concerns often conflict with Interoperability.

5.2.4 Data security, privacy and resilience

This parameter assesses the compliance in terms of data protection, privacy as well as backup and disaster recovery. Most systems assessed score above average for this parameter as data security is a key concern for all public authorities. The systems that score the highest can demonstrate compliance with GDPR, role-based access, strong authentication methods often linked to the use of national IDs. Additionally, the highest scoring systems can also demonstrate compliance with Information Security standards such as ISO 27001, cybersecurity standards such as NIS2 and locations of data centres within sovereign territory or EU/EEA according to their hosting policies.

5.2.5 User Experience

This parameter assesses the end-user experience through interface design and considerations for accessibility. Most systems assessed score above average for this parameter as most of the digital permitting systems provide a good user interface that helps navigation. The highest scoring systems can also demonstrate compliance with

accessibility standards such as the Web Content Accessibility Guidelines (WCAG), helpful user manuals, intuitive user interface design and engagement of the end-users in the development process.

5.3 Regional overview of Digital Permitting Systems

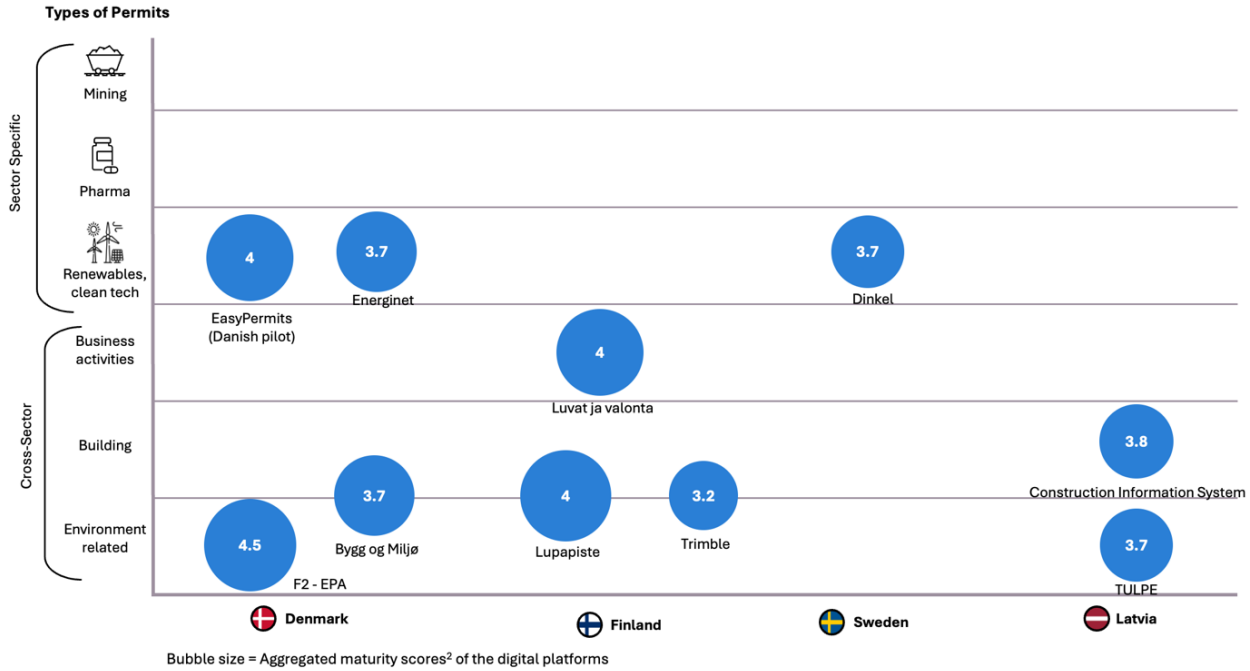
The comparative analysis across the 14 Member States is presented in the following sub-sections. The Y-axis represents the different types of cross-sectoral and sector-specific permits with the digital permitting systems positioned respectively for each country. The size of the bubble for each system represents the aggregated digital maturity score. A regional approach to comparing the different digital permitting systems provides a better perspective for assessing the digital maturity of the different permitting systems while also looking at the types of permits they serve.

Of the four industries in the scope of this Study, **the semiconductor industry does not have tailored platforms to handle specific semiconductor-related permits, rather a project developer would have to comply with regular building permits requirements and environmental assessments and the local, national and European regulations**. This is reflected in the figures in this section where the semiconductor industry is not visible as a separate industry but is implied in the cross-sectoral area of the graphs. It is important to note that the assessment of digital maturity is limited to the respective digital permitting systems and should not be considered as an indication of the digital competence of the competent authorities that are responsible for the specific permit and/or managing the digital permitting system, in the specific country.

5.3.1 Northern Europe and Baltics

The Northern European and Baltic countries demonstrate an advanced digital maturity of their permitting systems characterised by fewer platforms at the federal level tailored to specific purposes. An overview of the platforms and their digital maturity is found in the Figure below.

Figure 5-2 Digital maturity of permitting systems in Northern Europe and Baltics.



Denmark's *Bygg og Miljø*[57] and Finland's *Lupapiste*[58] systems exemplify consolidation of regulatory requirements for building and environmental permits across sectors for most industrial, commercial and residential activities.

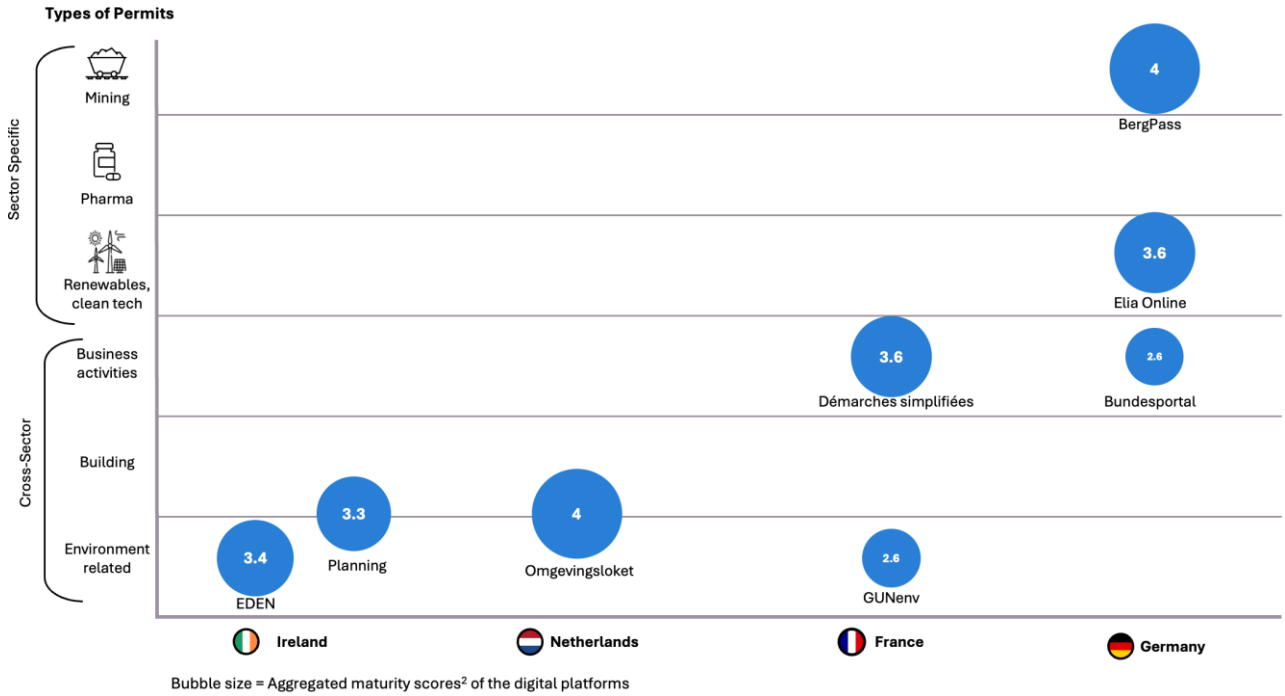
[57] Danish *Bygg og Miljø* platform: https://www.bygogmiljoe.dk/
[58] Finnish *Lupapiste* platform: https://www.lupapiste.fi/login/fi

Latvia's *TULPE*[59] and Construction Information System[60] split the environmental and construction permitting process across two permitting systems. Finland's *Luvat ja valonta*[61] presents a single-entry point for all business-related permits, with new services constantly being added. Its Swedish counterpart – *Verksamt* – on the other hand provides a simplified permit-seeking experience by furnishing web-enabled forms (hence not assessed for digital maturity and not visible in the figure above). Denmark's Energinet[62] and Sweden's Dinkel[63] provide simple yet efficient systems for seeking grid permits, enabling process transparency, status tracking and role-based access. Denmark's F2 platform[64] of the Environmental Protection Agency presents the first example of a pilot for an AI-enabled permitting system in Europe.

5.3.2 Western Europe

Western Europe demonstrates advanced digital enablement of permitting processes. An overview of the platforms and their digital maturity is found in the figure below.

Figure 5-3 Digital maturity of permitting systems in Western Europe



Netherland's *Omgevingsloket*[65] exemplifies how to translate a streamlined regulatory framework for environmental permits into a digital permitting workflow. This simplifies the planning and consenting phase across sectors for industrial, commercial as well as residential activities. Germany's *Bundesportal*[66] and France's *Démarches Simplifiées*[67] exemplify how single-entry points can link competent authorities across the national, regional, and local levels while enabling automatic routing to relevant authorities through web-embedded forms. France's *Démarches Simplifiées* uses intuitive interface design, form-based workflows and role-based collaboration, making complex submissions manageable. This improves the user experience, thus enhancing digital adoption

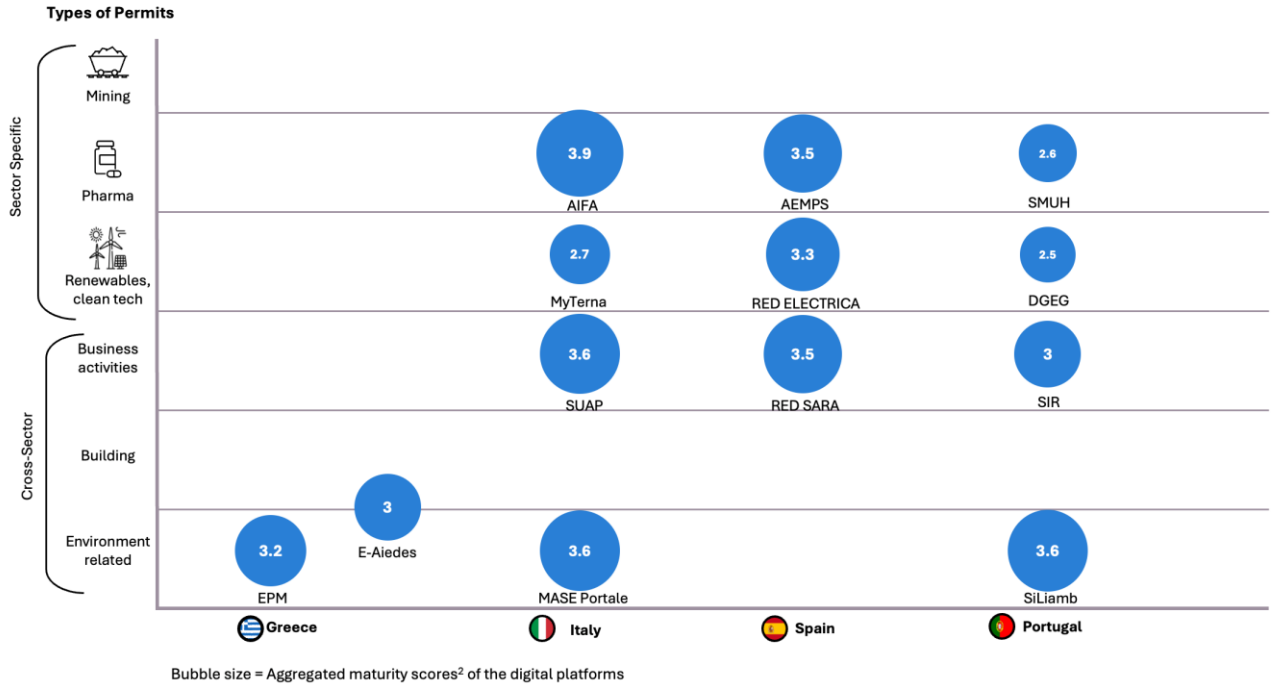
[59] Latvia's *Tulpe*'s information website: https://www.vvd.gov.lv/lv/pakalpojumi/valsts-vides-dienesta-informacijas-sistema-tulpe
[60] Latvia's Construction Information System platform: https://bis.gov.lv/
[61] Finnish *Luvat ja valonta* platform: https://luvatjavalvonta.fi/
[62] Denmark's *Energinet*: https://en.energinet.dk/
[63] Sweden's e-service platform: https://ei.se/bransch/koncessioner/e-tjanst-for-natkoncession
[64] *cBrain's F2* platform: https://www.cbrain.com/software-pages/the-f2-platform
[65] Dutch *Omgevingsloket* platform: https://omgevingswet.overheid.nl/home
[66] Germany's *Bundesportal* for e-services: https://verwaltung.bund.de/portal/de
[67] France's business services digital platform: https://demarche.numerique.gouv.fr/

across several sectors. Ireland's *EDEN*[68] and Germany's *BergPass*[69] and *ELiA-Online*[70] demonstrate the value of tailored permitting systems in domains with complex regulatory frameworks such as environment, mining, and renewable energy. This adds sectoral depth to national cross-sectoral systems.

5.3.3 Southern Europe

Southern Europe demonstrates the largest range of digital permitting systems with varying maturity. An overview of the platforms and their digital maturity is found in the figure below.

Figure 5-4 Digital maturity of permitting systems in Southern Europe.



Italy's *Impresa in un Giorno* part of the *Sportello Unico Attività Produttive* (SUAP)[71] permitting ecosystem is an example of a one-stop shop providing an end-to-end digital translation of regulatory requirements into workflows, exemplary in its end-to-end submission models across sectors. The multiplicity of SUAPs of varying maturities and functionalities at different administrative levels, reflecting regulatory complexity, can be seen in Spain's *RED SARA* system[72]. Italy's *MyTerna*[73], Spain's *RED Electrica*[74] and Portugal's *DGEG*[75] all have specialised permitting systems for seeking grid permits for electricity projects, combining other services of respective national transmission system operators. Similarly, Italy's *AIFA*[76], Spain's *AEMPS*[77] and Portugal's *SMUH*[78] recently launched digital permitting systems specifically designed for pharmaceutical-related licences. For environmental permits, Greece's

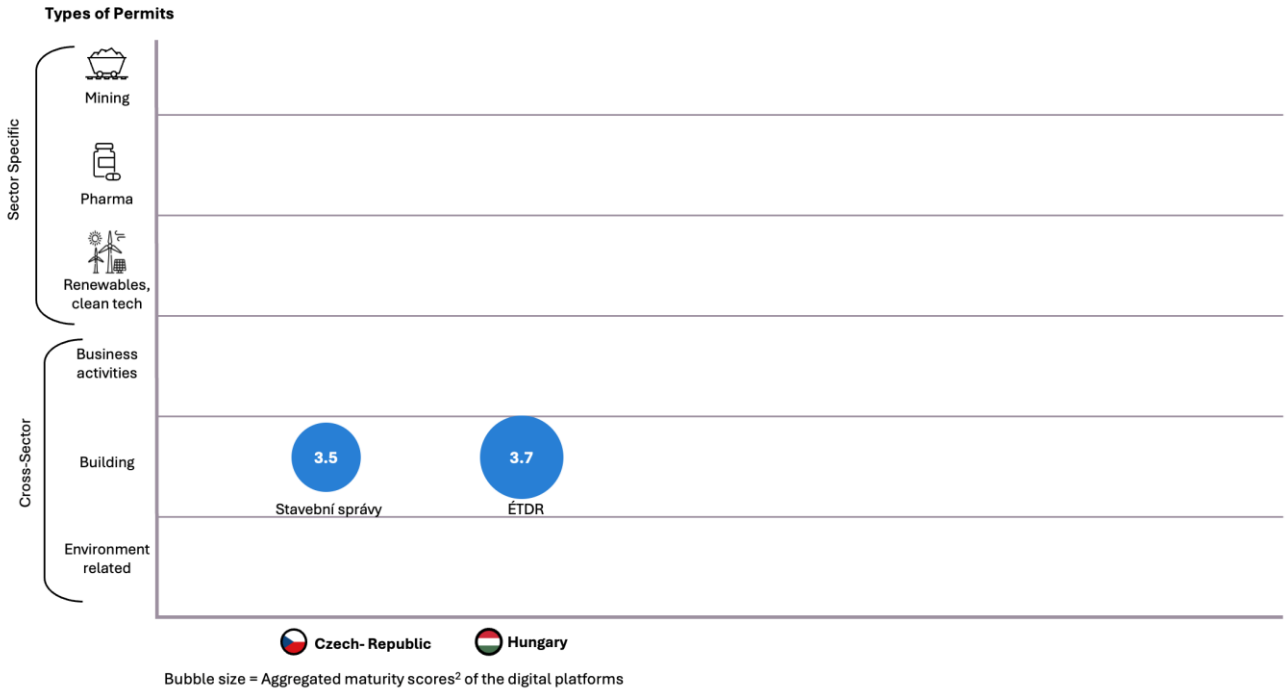
[68] *EDEN* platform: https://www.edenireland.ie/
[69] Germany's mining authority platform *BergPass*: https://bergpass.de/index.html
[70] Germany's *EliA* online platform: https://elia-online.de/
[71] Italy's *SUAP*: https://www.impresainungiorno.gov.it/en/web/l-impresa-e-l-europa/licences_and_permits
[72] Spain's *RED SARA* platform: https://reg.redsara.es/es/
[73] Italy's *MyTerna* platform: https://my.terna.it/it-IT/
[74] Spain's *RED Electrica*: https://www.ree.es/en
[75] Portugal's *DGEG* platform: https://www.dgeg.gov.pt/
[76] Italy's *AIFA* platform: https://www.aifa.gov.it/en/home
[77] https://www.aemps.gob.es/aemps/quienes-somos/
[78] Portugal's National authority of medicines and health products: https://www.infarmed.pt/web/infarmed-en/about-infarmed

EPM[79] presents the most mature online registry for environmental permits compared to Italy's *MASE portal*[80] and Portugal's *SiLiamb*[81].

5.3.4 Central Europe

Central Europe provides examples of emerging single-entry points for digital enablement of permitting processes. An overview of the platforms and their digital maturity is found in the Figure below.

Figure 5-5 Digital maturity of permitting systems in Central Europe.



Hungary's *ÉTDR*[82] showcases full integration across the construction lifecycle. The platform connects planning, utilities, energy certification, and construction records, enabling data to flow automatically between authorities and reducing delays and duplication. The *Stavební Správy*[83] portal in Czechia features strong emphasis on the user experience and accessibility. Its structured digital forms, online guidance, and secure identity log-in make the permitting process easier to navigate for all applicants, including smaller developers. Digital one-stop shops for the renewable energy and clean tech sector are planned to be launched in 2026 but there is limited public information available on timelines and scope. Both countries demonstrate dedicated portals for securing permits for business activities, these range from guidance websites, web-embedded forms to log-in-enabled document submissions.

[79] Greece's Electronic Environmental Register: https://www.gov.gr/en/upourgeia/upourgeio-periballontos-kai-energeias/periballontos-kai-energeias/elektroniko-periballontiko-metroo-epm
[80] Italy's *MASE* portal: https://va.mite.gov.it/en-GB/comunicazione/cittadino
[81] Portugal's Environmental Register: https://siliamb.apambiente.pt/pages/public/login.xhtml
[82] Hungary's *ÉTDR* portal: https://www.etdr.gov.hu/
[83] Czechia's construction permits portal: https://portal.stavebnisprava.gov.cz/

5.4 Key takeaways

An industrial project requires different types of permits, managed by several permitting authorities. In the majority of Member States, a competent authority owns and operates its own digital permitting solution serving its own permitting process. The digital permitting solutions often represent different archetypes and hence have a varied digital maturity. Consequently, **no Member State has a unified digital platform for permitting that makes it possible to secure all relevant permits for one project through a single integrated platform.** This suggests that even in the best cases with digital permitting platforms providing an end-to-end digitalisation of their respective permitting process, a project does not have a completely paperless trail as it is compelled to jump across digital permitting systems punctuated by some manual steps such as the public consultation process.

From a regional perspective, countries in Northern Europe have fewer digital permitting systems, with high digital maturity, managed and operated by national authorities. Southern European countries have several specialised permitting systems as well as other digital solutions managed by respective competent authorities at regional and municipal levels. Western European countries are somewhere in the middle of the spectrum, while countries in Central Europe are only just starting to introduce digital permitting systems. **The varying levels of digital maturity creates a complex setting for the implementation of a unified digital one-stop shop.**

6 Lessons learned and recommendations

This Study represents a first attempt to assess industrial permitting processes in EU Member States considering two aspects: (i) **complexity linked to how competences are distributed** and (ii) **the level of digital maturity of IT systems** used to manage permitting processes (digital permitting platforms). The sections above have outlined the key findings regarding these two aspects, by sector and by country. Based on these findings, some lessons have been learned, and relevant recommendations have been drafted.

6.1 Lessons learned from the complexity assessment

1) **Permitting processes are never centralised in only one authority and rarely involve less than three authorities.** The findings from the complexity assessment show that permitting processes across the 14 Member States present a **decentralised distribution of competences**. The number of authorities with which a project developer needs to interact varies widely among countries from three to more than eight authorities involved across all three administrative levels. Some patterns can be identified, e.g., environmental permits are mostly handled at the regional level, building and zoning permits are always managed at the local level.
2) **The adoption of digital platforms does not automatically lead to simplification or streamlining, especially when multiple IT tools are used across different administrations.** The complexity assessment shows that in some countries a large number of authorities is accompanied by a large number of IT systems to be navigated to arrive at the issuance of permits. If the involvement of many authorities is likely to increase complexity for project developers, the same could be true for the number of digital platforms. Even though digitalisation has the potential to streamline processes, it could also be the case that **inefficiencies are just replicated from the offline environment to the digital one**, leaving bottlenecks unaltered. This aspect was highlighted by representatives of project developers during the interviews and the workshop. Further research is needed on the analysis of effectiveness and efficiency of processes, including the role and use of IT systems.
3) **The level of complexity varies more by sector than by country, because permitting processes are sector-specific in terms of the rules, authorities, and processes involved.** Although no consistent country-level trends could be identified, the analysis shows that the complexity of permitting procedures is largely driven by the institutional architecture associated with individual sectors. Each sector operates under its own set of rules, competent authorities, and procedural arrangements, which affect complexity more than differences across countries.
4) **Knowledge of entire permitting processes is not widely diffused among permitting authorities.** The findings from the interviews conducted and the workshop with permitting authorities revealed that these authorities tend to have a **limited knowledge** of the entire permitting process beyond their own tasks and responsibilities. This fragmentation poses challenges for coordination and self-assessment, underscoring the need to improve information-sharing mechanisms among all permitting authorities.
5) **Permitting systems are structured around two layers: cross-sectoral permits and sector-specific permits.** Firstly, there are several cross-sectoral permits which a project developer should obtain regardless of the specific sector. These most commonly include authorisations related to building and construction, zoning and land-use planning, environmental requirements, business establishment and operational requirements. Secondly, each sector is characterised by specific permits which a project developer should obtain to comply with technical or operational requirements that are linked to any given sector.
6) **Countries tend to follow distinct digital approaches in organising and managing permitting processes.** In Northern European countries, sectors with high digital maturity are usually supported by a limited number of digital platforms, indicating more integrated and simplified digital processes. In Southern European countries, permitting processes take place on numerous sector- and jurisdiction-specific platforms, resulting in a more fragmented digital landscape. This pattern confirms that countries

follow markedly different digital **approaches in the management of permits** and, consequently, that the organisation of permitting processes is strongly shaped by these underlying digital strategies.

6.2 Lessons learned from the digital maturity assessment

Throughout the course of the study, several platforms demonstrated advanced capabilities or particularities that are identified as best practices. These platforms address challenges and needs encountered by users of the permitting platforms in the different industries in scope either by (i) introducing a technical feature giving a competitive advantage, (ii) improving user experience in an innovative way, (iii) bridging the gap between all stakeholders of the permitting process or (iv) by developing smart ways of complying with the national or European legislation. Five best practices have been observed:

- **The *EasyPermit* (Danish pilot) solution** - a customised workflow management solution for the renewable energy industry developed for two Danish municipalities.
- **The Italian *SUAP*** - a digital one-stop-shop characterised by a high-degree of complexity and tailored to the Italian regulatory landscape.
- **The F2 platform** - an advanced end-to-end permitting solution leveraging AI for the improvement of the permitting process in Denmark.
- **The Irish Planning System** – a platform operating across Ireland's local authorities for planning processes enabling the best use of national resources.
- **The Dutch *Omgevingsloket* platform** – a national digital gateway with a modern approach to managing environmental permitting and planning activities.

They are briefly presented in this section while a more detailed description of each practice is provided in Annex C.

6.2.1 EasyPermit (Danish pilot)

EasyPermits (Danish pilot) applies a practical, end-user-led approach to accelerating industrial permitting through digitalisation, using onshore wind as the initial use case. The solution responds to a well-documented bottleneck: permitting lead times for wind projects often extend to five years and can reach ten years in worst cases, contributing to a large pipeline of renewable energy capacity blocked in the authorisation phase. EasyPermits was developed in collaboration with WindEurope, AWS and Accenture, and piloted in 2023 with two Danish municipalities (Vesthimmerlands and Tønder). It targets three user groups: permitting agents, project developers, and community members, focusing primarily on the interaction between authorities and developers while also improving public transparency.

Functionally, EasyPermits combines workflow and document management. It digitalises the administrative process end-to-end within the scoping phase (planning and development, including public consultations and final decision), standardises information collection via templates, provides version control and task assignment, and offers dashboards to track progress and bottlenecks. A public, no-login dashboard supports citizen visibility by providing a map of projects and information on project status. The initial build was intentionally standalone (limited integration requirements), prioritising rapid deployment and usability across common browsers and file formats.

Reported outcomes from a four-week user acceptance test (September–October 2023) indicated material efficiency gains: early estimates suggested around a 50% reduction in manual, low-value effort (e.g., managing document versions and correspondence) and the ability to process up to three times as many applications simultaneously, although further validation on live cases is required. The solution was designed to handle roughly 100–300 users across roles, with additional performance testing needed as volumes grow.

6.2.2 SUAP

***SUAP* is the result of a long-running national commitment to simplify business permitting through a legally mandated one-stop shop**, supported by the *Impresa In Un Giorno* digital platform. It addresses Italy's structural challenge of complex, territorially variable regulation and institutional fragmentation, where industrial and

commercial projects can involve more than 20 competent authorities across municipal, regional and central levels. Established in 1998 and made fully digital by the 2010 mandate, *SUAP* positions municipalities as the legally defined Single Point of Contact for businesses and project developers, while enabling coordinated participation from all competent authorities through a unified back-office workflow.

Functionally, *Impresa In Un Giorno* acts as a **national digital entry point and orchestration layer, supporting electronic submission, secure document exchange, public administration payments, notifications and status tracking, cross-administration dossier transmission, and secure archiving**. For specific procedures it enables "full automation" based on standardised forms, including completeness checks and automatic issuance of a legally valid SCIA receipt for immediate start of activity, with subsequent controls remaining with the administration.

Adoption has been extensive but unevenly distributed (around 53% of municipalities), with high volumes (around one million applications in 2023) and fees varying widely by procedure and locality. However, reliance on certified e-mail (PEC) and limited system-to-system interoperability still require manual coordination and contribute to delays.

6.2.3 F2 platform

***F2* (AI-assisted Environmental Permitting) represents a pragmatic "process-first, then digitalise, then augment with AI" approach to modernising environmental permitting at scale.** It responds to a structural bottleneck in Danish public administration: the Danish Environmental Protection Agency (DEPA) manages 250+ administrative processes, including 150+ permit types, alongside grants and inspection regimes. Before *F2*, workflows were fragmented across e-mail, paper and siloed systems, creating inconsistent practices, manual handovers, duplicated data entry, weak traceability and deadline control, and heightened compliance risk under transparency and FOI obligations. DEPA implemented *F2* primarily at the national level (supporting 21 of 25 Danish ministries), with extension to regional and local actors through municipal collaboration and integration with Denmark's national environmental data portal.

Functionally, *F2* consolidates end-to-end case handling into a single environment, intake (forms plus e-mail/mobile inputs), review and approval routing, digital signatures, records/archiving, and FOI-ready export, using configurable workflows, dynamic checklists and standard templates backed by a full audit trail. A low-code service builder enables rapid replication across adjacent services; DEPA reports that a new permit process can be configured and deployed in 24 hours once mapped and agreed. AI is deliberately constrained: the *F2* AI Assistant operates on trusted, curated internal datasets (e.g., tagged EIA materials) to provide explainable, auditable support rather than open-ended external retrieval.

Reported outcomes include a 70% efficiency improvement compared to the situation prior to AI integration, an estimated 50% reduction in processing time after digitalisation and AI assistance, deployment in roughly eight months, and scaling to 100+ agencies and 21 ministries, with DEPA processes underpinning ~10% of national environmental permits.

6.2.4 Irish Planning System

Ireland's Local Government Online Planning System (the national e-planning platform) shows how a statutory permitting process can be digitalised at scale through a single standardised entry point, while preserving local decision-making. Implemented in late 2019/early 2020 and managed by the Local Government Management Agency (LGMA) under the Department of Housing, Local Government and Heritage, it is available in 30 of Ireland's 31 Local Authorities (with Cork City and Cork County Council pending integration) and supports citizens and businesses across a wide range of planning use cases, from housing and commercial development to industrial, energy, utilities, and digital infrastructure projects.

The system is meant to combine national consistency with local accountability: applications and public submissions are lodged through one portal but processed and decided upon by the competent Local Authority within the statutory framework. The platform replaces paper-driven frictions, postal delays, duplicate documentation, and inconsistent practices through guided digital forms, document uploads, automated fee handling, and a 24/7 user dashboard, including structured steps for consultation and review (with a defined five-week public submission window and a "Further Information" mechanism that pauses the clock and allows up to six months for response).

A positive outcome has been observed, with adoption rising from 36% of applications submitted electronically at launch to over 70% more recently, delivering fewer invalid applications, lower costs, faster communication, and sustainability gains, and receiving national recognition in October 2025 for collaborative public-sector delivery.

6.2.5 The Dutch Omgevingsloket platform

***Omgevingsloket* documents an integrated approach across all levels of government to accelerating environmental and planning permitting processes** through a legally mandated, nationally standardised "digital one-stop-shop" embedded in broader regulatory reform. The initiative addresses a long-standing structural issue: applicants and authorities previously navigated multiple laws, portals and processes, creating duplication, inconsistent interpretations, and avoidable delays, especially for projects spanning multiple municipalities or involving several competent authorities. Launched on 1 January 2024 alongside the *Omgevingswet* (consolidating 26 laws into one framework), the platform achieved rapid national uptake in its first year, with over 6 million interactions, more than 2.1 million unique visitors, nearly 194,000 permit applications, and over 147,000 notifications.

Functionally, *Omgevingsloket* combines guided orientation, location-based rule discovery, digital submission, and cross-authority coordination. Key features include the Permit Check (*Vergunningcheck*), the map-based "Rules on the Map" view (*Regels op de kaart*), end-to-end application filing and tracking, and mandatory participation documentation. Authorities use connected local systems to receive, process and collaborate, while professionals access deeper planning and feasibility tools. The architecture underpinning this model uses standardised machine-to-machine exchange and authoritative registers and catalogues, while leveraging existing eGovernment building blocks (*DigiD* and *eHerkenning*).

Reported outcomes include two clear procedural tracks, requiring 8 weeks for regular cases (extendable by 6) and 26 weeks for extensive cases (extendable by 6), with the regular pathway representing a 69% reduction from the previous 26-week baseline, enabled by consolidation of legacy platforms and standardised information requirements. The "open stelsel" approach supports third-party connectivity but increases demands for interoperability governance, data quality and coordinated updates across diverse local IT assets.

Box 2. The ideal digital one-stop shop.

Based on the interviews conducted, project developers recognise the value of having a unified digital platform that covers all types of permits such as environmental, construction, and other sector-specific permits. This would eliminate the need for multiple submissions of similar types of information about a project. Some key features that were indicated as a "wish list" for the ideal digital one-stop shop are listed below:

- **Unified Dashboard** that clearly displays all stages of the permitting process, the responsible competent authorities involved at each stage and the current stage of the permitting process.
- **Real-time status tracking** enabling visibility of the permit application in the different stages and estimated timelines.

- **Clear guidance and checklist** from the respective competent authority to provide an overview of information needed and a checklist to remove ambiguity and improve quality of permit application.
- **In-tool communication, notification and alert mechanisms** to allow for communication with the competent authorities within the permitting system. While good guidance and automated checking as well as chatbots can meet this need to some extent, there is a need to enable notifications to allow proactive resolution. Automated reminders for approaching deadlines could allow prioritising tasks to accelerate the process.
- **Collaborative Workspace** between the project developer and the various competent authorities for document management with version control. Enabling role-based access on specific documents to different user-types such as project developers, competent authorities as well as external consultants.
- **Integration with spatial, GIS and environmental data.** The environmental impact assessments rely on the quality of spatial data, GIS as well as other environmental data to which the authorities have access. The ideal digital one-stop shop would provide open access to these data and make them accessible to project developers. This would enable evidence-based decision making that will be relevant not only for competent authorities but also add more transparency to the public consultation process.
- **Public Engagement Options** to facilitate the public consultation process through secure channels for affected communities and allow key stakeholders to be informed, ask questions and get involved in the project development process.
- **The growing recognition of the value of using AI** became evident in the interviews conducted with project developers, IT vendors as well as competent authorities. AI can be valuable in facilitating document reviews for completeness as well as compliance checks, enabling workflow management through predictive identification of bottlenecks as well as issues that risk causing delays early in the process in order to enable timely corrective action. However, it was also recognised that some barriers could inhibit the uptake of AI, mostly stemming from legal issues and compliance with regulations such as the GDPR, the intention to use a sovereign cloud as well as lack of technical expertise to request, implement as well as manage AI-enabled systems within public authorities.

6.3 Recommendations

Considering the above findings, various recommendations were discussed with project developers and permitting authorities in two workshops (see Annex B). These recommendations are addressed to both the European Commission and the Member States, with the aim of **providing actionable solutions that can streamline permitting processes**. The recommendations that emerged can be grouped into three areas of intervention:

- **Governance**, focused on strengthening the regulatory and institutional frameworks, clarifying responsibilities, and ensuring transparency in permitting procedures.
- **Capacity building & accountability**, focused on enhancing administrative resources, improving staff skills, sharing experience and establishing mechanisms to monitor performance and guarantee accountability.
- **Digitalisation & Interoperability**, focused on the approach Member States can take to undertake digitalisation of permitting processes, planning, development as well as procurement of digital permitting systems.

The following sections present the recommendations and related possible actions, structured according to the three identified categories. Each recommendation is complemented by more detailed implementation actions, indicating the main actors (e.g. Member States and/or the European Commission) as well as the suggested level of priority.

6.3.1 Governance

The following recommendations on industrial permitting focus on governance aspects, addressing how institutional arrangements, coordination mechanisms, and decision-making processes can support more efficient and transparent permitting procedures.

Create an EU-Wide Framework for predictable and efficient permitting

Addressed to: EC, MSs
Priority level: 1

Develop a unified EU-wide permitting framework that guarantees predictability and efficiency through **legally binding deadlines and clear benchmarks**. This framework should:

- establish maximum processing timelines for all permitting procedures;
- implement tacit approval mechanisms, whereby the absence of a decision within the prescribed deadline results in automatic approval;
- harmonise and enforce these timelines consistently across all relevant EU legislation.

Establish clear coordination mechanisms among authorities in permitting processes

Addressed to: EC, MSs
Priority level: 1

To enhance efficiency and reduce delays, **coordination among permitting authorities** should be strengthened. Coordination mechanisms should:

- code the permitting processes:
- define shared timelines, responsibilities, and escalation protocols to prevent overlaps;
- implement integrated digital platforms for real-time information exchange and status tracking

Set common rules and guidance for streamlined permitting procedures

Addressed to: EC, MSs
Priority level: 2

To reduce delays and complexity, permitting processes should be streamlined through **guidelines for monitoring, simplification, and harmonisation**. Rules and guidelines should:

- require systematic monitoring to identify causes of delays (e.g., administrative bottlenecks, resource gaps, overlapping requirements).
- introduce audit workflows to detect redundancies and inefficiencies, paving the way for simplification and digitalisation.
- consolidate and harmonise rules across Member States, introducing integrated models such as "one permit per area" or cluster-level permits.

Provide practical, hands-on support to project developers to help them successfully navigate complex permitting requirements and streamline approval processes

Addressed to: EC, MSs
Priority level: 2

Establish **support mechanisms** to help project developers navigate complex permitting requirements. These mechanisms should:

- provide targeted assistance services to guide developers through regulatory processes;
- develop clear guidance materials and resources to simplify compliance steps;
- introduce digital tools to streamline documentation and permit applications.

6.3.2 Capacity building and accountability

The recommendations on capacity building focus on strengthening skills, knowledge, and institutional capabilities among authorities and stakeholders involved in industrial permitting. They aim to support effective implementation of procedures and the uptake of digitalisation and organisational innovations.

Enhance the long-term administrative capacity of permitting authorities

Addressed to: EC, MSs
Priority level: 1

Invest in **people, skills, and systems** to ensure high-quality and predictable permitting outcomes. Administrative capacity building should:

- ensure adequate staffing and resources to handle complex permitting procedures and deliver timely, reliable decisions.
- provide continuous and tailored training for staff, including sector-specific permit requirements and emerging regulatory frameworks.
- leverage EU-level capacity-building programmes, such as shared training platforms and online courses on interoperability, data governance, and permitting best practice

Introduce performance monitoring, transparency, and incentives in permitting processes

Addressed to: EC, MSs
Priority level: 1

Improve the efficiency and credibility of permitting by **systematically tracking performance, increasing transparency, and strengthening accountability**. Clear metrics, public reporting, and incentives can support timely and high-quality decision-making. This requires actions to:

- introduce measurable performance indicators and publish regular reports on permitting timelines, outcomes, and bottlenecks
- make permitting data publicly accessible, enabling scrutiny, comparability, and stakeholder trust
- introduce incentives for timely performance, rewarding permitting authorities that consistently meet statutory deadlines

Strengthen collaboration, knowledge exchange, and continuous improvement among permitting authorities (and across industrial sectors)

Addressed to: EC, MSs
Priority level: 1

Facilitate **peer-to-peer collaboration** and **twinning initiatives** among Member States to accelerate learning and harmonisation. Intra-EU exchanges can be strengthened through actions to:

- use EU platforms (e.g., Technical Assistance and Information Exchange Instrument) to share best practices, drawing inspiration from successful models
- establish a Permitting Centre of Excellence at the EU level to provide technical advice
- promote continuous monitoring of progress across Member States

Provide practical tools, guides and advanced digital solutions to the administrations

Addressed to: EC
Priority level: 2

Develop **repositories of best practices** and **reusable sector-specific components** to offer a comprehensive toolbox for procurement to guide authorities and stakeholders through the process:

- create templates adapted to permitting process tools across EU
- create clear and practical guidance documents to help interpret legal requirements
- launch large-scale pilot projects to test digital building blocks and interoperability frameworks before full-scale implementation.

6.3.3 Digitalisation

The recommendations on digitalisation focus on enhancing the use of digital tools and platforms in industrial permitting. They aim to improve efficiency, transparency, interoperability, and the overall user experience throughout the permit lifecycle.

Code and standardise processes prior to the digitalisation on a platform environment

Addressed to: MSs
Priority level: 1

Reduce complexity and inefficiencies in permitting by **reviewing and simplifying procedures** before translating them into digital workflows. A coherent, end-to-end process is essential to avoid replicating outdated administrative burdens in digital form. Actions should:

- systematically review permitting procedures to identify opportunities to simplify, merge, or remove unnecessary regulatory requirements before digital implementation
- redesign processes end-to-end, ensuring they are fully coherent
- challenge legacy requirements, such as paper documents, stamps, or physical signatures, where they are not legally or operationally necessary
- identify opportunities to standardise information collection through templates

Apply user-centred, iterative design in the development of digital permitting solutions

Addressed to: EC, MSs
Priority level: 1

Ensure that digital permitting solutions are effective and scalable by involving users from the earliest design stages and continuously refining requirements. An iterative, **user-centred approach** reduces risks, improves usability, and supports long-term sustainability. Actions should:

- organise design-thinking workshops early in the process, bringing together different user groups to identify real pain points and involve them directly from the design phase
- adopt a holistic user perspective, considering all affected stakeholders across administrative levels and authorities (e.g. municipal, regional, and federal bodies) to capture diverse needs, constraints, and opportunities
- develop and test prototypes before full end-to-end implementation, using iterative feedback to refine user requirements, inform technical architecture choices, and ensure scalability in a cost-effective way

Procure digital permitting tools through a discovery-led, secure, and cloud-ready approach

Addressed to: MSs
Priority level: 1

Enable faster and **higher-quality digital permitting solutions** by leveraging external expertise, structuring procurement around early discovery, and adopting modern cloud-based technologies. Security, compliance, and scalability should be embedded from the outset. Procurement processes should:

- assess the use of external vendors to benefit from proven expertise, and monitor them throughout the development process
- start procurement with a discovery phase, requesting early advice on user requirements, prototype development, and end-user testing to inform technical specifications, budget constraints, and a robust tendering process
- adopt cloud-based solutions where feasible to leverage continuous innovation, scalability, collaboration, structured data management, and reusable technology components, enabling faster development and future use of advanced analytics, machine learning, and generative AI
- integrate security and compliance requirements from the design phase, ensuring they are reflected in user interactions, system architecture, and procurement specifications

Establish EU-wide standards and practical guidelines to guide digitalisation of permitting systems

Addressed to: EC, MSs
Priority level: 2

Support consistent, future-proof digital permitting platforms across Member States by providing **clear EU-level standards and actionable guidance**. Common frameworks will enable informed technical choices, interoperability, and compliance with evolving technologies and regulations. Standardisation and guidance actions should:

- define common EU data standards to guide the design of data models and data architectures for digital permitting systems across Member States
- develop concrete, actionable guidelines on the use of cloud-based services and the responsible deployment of AI-enabled systems to support informed and consistent technical decisions
- establish minimum EU requirements for data security, data privacy, data recovery, and cybersecurity that all digital permitting systems must meet
- introduce a maturity scale (e.g. Basic, Industry-standard, Advanced) aligned with technological developments to help Member States assess, update, and future-proof their systems
- provide EU-level procurement guidelines to support Member States in effectively procuring digital tools and IT services for permitting

7 Annexes

7.1 Annex A: Notes on the analytical model

7.1.1 Comparative analysis on competence distribution among permitting authorities

A dedicated analytical tool was developed to assess the complexity of permitting procedures in all 14 Member States. The tool applied **weighted criteria** to key variables, including:

- Number of permitting authorities involved
- Establishment of a single point of contact
- Implementation of at least one national policy aimed at simplifying permitting
- Number of digital tools used in permit management.

A **complexity score** was calculated for each sector in each Member State. These scores were then used to position Member States **on a comparative scale**. The subsequent comparative analysis identified trends and differences across countries and sectors, highlighting where permitting procedures are more streamlined and where they remain highly complex. This structured approach provided a clear overview of relative performance, enabling the identification of systemic challenges and best practices that can guide future efforts towards an improvement at EU level.

In the table below, all the elements used to build the analytical tool applied in the comparative analysis are described.

Figure 7-1 Summary of the complexity assessment tool for comparative analysis

Variable	Weight	Explanation	Judgment
Governance approach and number of authorities involved	40%	Measures how competences are distributed across levels of government and the number of authorities involved in issuing permits. We assume that the higher the number of authorities the higher the fragmentation and complexity.	▪ Decentralised: Multiple authorities at different levels (national, regional, local) are involved. ▪ Centralised: One authority issues all permits as a single point of contact.
Existence of a single point of contact (SPOC)	15%	Measures whether a formal "one-stop-shop" exists. The weight is lower because SPOCs are often appointed but not operational.	▪ Established: A SPOC is formally in place. ▪ Not established: No SPOC exists.
Policy interventions to streamline procedures	20%	Assesses whether national policies have been introduced to simplify permitting processes.	▪ Policies established: Measures to simplify permitting exist. ▪ No policies established: No simplification policy is in place.
Digital tools involved in permit management	25%	Examines the level of digitalisation and integration of IT systems in permitting. We assume that the higher the number of digital tools in place, the higher the complexity.	▪ 1 tool: Centralised digital management. ▪ 2 tools: Distributed digital management. ▪ 3 tools: Multi-level digital management. ▪ 4+ tools: Fragmented digital management.

Based on these weighted inputs, a **complexity score was calculated for each country and sector**. This score was used to position Member States on the following five-level scale:

- **Very High Complexity**: Fragmented governance, no contact point, no simplification policies, and fragmented digital systems
- **High Complexity**: Partial coordination, limited digital integration, and weak policy support
- **Moderate Complexity**: Mixed governance, some digitalisation, and partial policy interventions
- **Low Complexity**: Coordinated oversight, streamlined procedures, and functional digital platform

- **Minimal Complexity**: Centralised permitting system enabling the tracking of the full permit application lifecycle.

7.1.2 Comparative analysis on digital maturity of permitting systems

A **digital maturity framework** was established, and the selected platforms for each country were scored across five parameters (as spelled out in Section **Error! Reference source not found.**). The detailed assessment of each platform, the assessment criteria for each parameter as well as sub-parameters can be found in the report ***D7 – Digitalisation analysis***. The assessment was informed by a combination of desk research, responses from targeted surveys as well as interviews with different stakeholder groups such as IT vendors that have developed the platform, public authorities owning and operating the platforms and project developers that use the platform.

A tool was elaborated also in this case. It assigns scores to each digital permitting platform across five main parameters as listed in the table below.

Variable	Explanation	Scale (0–5) Options
Process and workflow	Assesses how comprehensively the platform covers the permitting workflow, from pre-submission to final decision, and the degree of automation/integration.	▪ 0 – Fully manual workflows; no digital components. ▪ 1 – Digital entry point only (document upload); back-office manual. ▪ 2 – Submission and some workflow steps digitalised; fragmented back-office. ▪ 3 – End-to-end workflow digitalised but partially integrated. ▪ 4 – Seamless digital workflow; role-based collaboration. ▪ 5 – Fully integrated, rule-based automation with real-time tracking and collaboration.
Technical capabilities	Evaluates platform architecture, scalability, adaptability, and use of advanced technologies.	▪ 0 – No technical solution / legacy infrastructure. ▪ 1 – Basic tools; monolithic architecture. ▪ 2 – Modular design; basic APIs; limited automation. ▪ 3 – Cloud-native/hybrid setup; core features. ▪ 4 – Advanced tech (AI, GIS); scalable and adaptable. ▪ 5 – Technically advanced; full automation; modern, horizontally scalable tech stack.
Interoperability	Measures alignment with EU interoperability standards and integration with external/national systems.	▪ 0 – Standalone platform; no interoperability. ▪ 1 – Minimal linkage; closed standards. ▪ 2 – Partial open APIs; no EU alignment. ▪ 3 – Interfaces with national systems; partial EIF/IEA alignment. ▪ 4 – Full EU compliance; rich API ecosystem. ▪ 5 – Seamless multi-system integration; proactive compliance; dynamic interoperability strategy.
Data security, privacy and resilience	Assesses compliance with GDPR and other standards, hosting, recovery protocols, and resilience measures.	▪ 0 – No security measures; insecure hosting. ▪ 1 – Basic password protection; unknown/third-party hosting. ▪ 2 – Partial GDPR compliance; unclear recovery. ▪ 3 – GDPR compliant; EU hosting; partial resilience. ▪ 4 – Full GDPR + ISO 27001 compliance; tested recovery; sovereign EU/cloud hosting. ▪ 5 – Security by design; continuous monitoring; incident response; resilience-by-default.
User Experience	Evaluates interface design, accessibility, inclusivity, and user engagement in development.	▪ 0 – Inaccessible; no UI/UX consideration ▪ 1 – Poor UX; limited accessibility/language support. ▪ 2 – Usable but not intuitive; ad hoc engagement. ▪ 3 – Acceptable UX; multilingual; basic engagement. ▪ 4–Good UX; inclusive design; participatory development; multichannel access. ▪ 5 – Exceptional UX; real-time support; co-creation; multilingual; fully accessible.

Based on these inputs, an **aggregated Digital Maturity Score was calculated for each platform**. The score translates to a five-point scale:

- **1 - Non-digital:** The entire process is entirely manual or paper-based, with no digital tools supporting users or authorities. No platform exists or is used in a meaningful way.

- **2 - Fragmented:** Digital elements are present but isolated (e.g., form uploads, e-mail submissions). No structured workflows, minimal user interface quality, and very limited integration with back-office systems.
- **3 - Emerging:** Core submission and tracking functionalities are digitised. The platform supports specific steps of the permitting process but lacks workflow integration, interoperability, or automation. Usability and security are basic.
- **4 - Established:** The platform enables end-to-end digital processing with moderate interoperability and user experience. Partial automation, basic analytics, and compliance with EU standards are in place. Some advanced technologies are being piloted.
- **5 - Advanced:** Highly functional and well-integrated system, with strong automation, scalability and compliance with EU interoperability and data protection frameworks. Includes role-based collaboration, stakeholder engagement and multilingual accessibility.

7.1.3 Note on administrative burden calculations

This Annex presents a detailed description of the data underpinning the calculations presented above. and an explanation of the methods and assumptions that were used to calculate the costs for the 14 EU Member States.

7.1.3.1 Burden on project developers

The burden imposed by permitting processes on project developers in one Member State is estimated by using the following calculation:

$$Burden\ per\ one\ project\ in\ one\ MS = N * C$$

Where:

N = Number of FTEs employed, including external consultants, in handling one permit application.

C = Annual cost of a full-time employee

Key sources

N is a range that considers the lowest and the highest value expressed in the survey question for project developers operating in each respective MS *"Q4.1: On average, how many full-time equivalent (FTE) staff, including external consultants, are involved in managing a single permit application throughout its lifecycle?"*. In the CRM sector, only the EU 27 average was considered as the no national breakdown was available.

C is the average cost for the period 2020-2024 computed from *Eurostat Labour cost levels by NACE Rev. 2 activity [lc_lci_lev__custom_19005500]* (accessed on 20 November 2024) in the sector "Industry, construction and services (except public administration, defence, compulsory social security)". In the CRM sector, only the EU 27 average was considered to keep consistency with "N".

Table 7-1 Data used for the Standard Cost Model in the Renewables and clean technology sector (project developers)

Country	N		C (Eurostat)	Total admin burden per project		Datapoints
	LB	UB		LB	UB	
Czechia	2	5	EUR 29 556,00	EUR 59 112,00	EUR 147 780,00	1
Denmark	2	5	EUR 85 068,00	EUR 170 136,00	EUR 425 340,00	1
Finland	2	5	EUR 64 728,00	EUR 129 456,00	EUR 323 640,00	1
France	2	10	EUR 73 800,00	EUR 147 600,00	EUR 738 000,00	3
Germany	2	10	EUR 71 460,00	EUR 142 920,00	EUR 714 600,00	3
Greece	2	5	EUR 26 928,00	EUR 53 856,00	EUR 134 640,00	1
Hungary	N/A	N/A	N/A	N/A	N/A	0
Ireland	2	10	EUR 68 004,00	EUR 136 008,00	EUR 680 040,00	3
Italy	2	10	EUR 53 316,00	EUR 106 632,00	EUR 533 160,00	3
Latvia	2	5	EUR 22 608,00	EUR 45 216,00	EUR 113 040,00	1
Netherlands	2	10	EUR 73 584,00	EUR 147 168,00	EUR 735 840,00	3
Portugal	6	10	EUR 29 448,00	EUR 176 688,00	EUR 294 480,00	1
Spain	2	10	EUR 42 912,00	EUR 85 824,00	EUR 429 120,00	2
Sweden	2	10	EUR 71 280,00	EUR 142 560,00	EUR 712 800,00	2

***N** = Number of FTEs employed, including external consultants, in handling a permit application, **C** = Annual cost of a full-time employee **LB** = Lower bound, **UB** = Upper bound, **Datapoints** = valid replies to the survey for each country*

7.1.3.2 Burden on public administrations

The burden imposed by permitting processes on public administrations in one Member State is estimated by using the following calculation:

$$\textit{Burden per one project in one MS} = N / Q * C$$

Where:

N = Number of civil servants involved in handling permit applications

Q = Number of permits each civil servant handles simultaneously

C = Annual cost of a civil servant

Key sources

N is a range that considers the lowest and the highest value expressed by public administration participants in a given MS in responding to the survey question *"Q6.2: How many civil servants handle permitting procedures and related authorisation processes within your organisation?"*

Q is a range that considers the lowest and the highest value expressed by public administration participants in a given MS in responding to the survey question *"Q6.3: On average, how many permits or authorisations does each*

civil servant handle simultaneously?". When the reply declared "more than X" or "less than X", the value X was taken.

C is the average annual cost for the period 2020-2024 computed from *Eurostat Average (net) remuneration of national civil servants in central public administration [prc_rem_avg]* (accessed on 20 November 2024).

Key assumptions and limitations

- the survey data are based on a limited number of data points, especially in some sectors (more details in the tables below)
- many countries did not provide any data for several sectors (more details in the tables below)
- this exercise cannot be considered statistically representative

Table 7-2 Data used for the Standard Cost Model in the Renewables and clean technology sector (public administrations)

Country	N		Q		C (Eurostat)	Total cost per administration	
	LB	UB	LB	UB		LB	UB
Czechia	N/A	N/A	N/A	N/A	-	N/A	N/A
Denmark	N/A	N/A	N/A	N/A	-	N/A	N/A
Finland	21	30	10	10	EUR 45 500,64	EUR 95 551,34	EUR 136 501,92
France	6	10	2	5	EUR 31 683,84	EUR 63 367,68	EUR 95 051,52
Germany	6	10	2	5	EUR 55 121,04	EUR 110 242,08	EUR 165 363,12
Greece	N/A	N/A	N/A	N/A	-	N/A	N/A
Hungary	30	30	10	10	EUR 14 715,12	EUR 44 145,36	EUR 44 145,36
Ireland	21	30	2	5	EUR 38 337,60	EUR 230 025,60	EUR 402 544,80
Italy	N/A	N/A	N/A	N/A	-	N/A	N/A
Latvia	5	30	1	5	EUR 19 593,36	EUR 97 966,80	EUR 117 560,16
Netherlands	N/A	N/A	N/A	N/A	-	N/A	N/A
Portugal	N/A	N/A	N/A	N/A	-	N/A	N/A
Spain	5	30	10	10	EUR 35 967,12	EUR 17 983,56	EUR 107 901,36
Sweden	6	30	2	10	EUR 35 697,84	EUR 107 093,52	EUR 107 093,52

***N** = Number of civil servants involved in handling permit applications, **Q** = Number of permits each civil servant handles simultaneously, **C** = Annual cost of a civil servant **LB** = Lower bound, **UB** = Upper bound*

7.1.4 Limitations of the Study

The methodology of the Study was designed to provide a descriptive mapping of permitting procedures across Member States, rather than a comprehensive assessment of their **effectiveness** or **efficiency**. A robust evaluation of effectiveness and efficiency would require a different methodological approach, that usually includes:

- the definition of a set of harmonised performance indicators
- the collection of detailed quantitative evidence (e.g. processing times, administrative costs, and resource requirements)
- the identification of appropriate benchmarks and counterfactuals to support comparative performance assessment.

Such an approach was beyond the scope of this study, which focused instead on a mapping of the existing processes involved in permitting practices across Member States.

Activities related to data collection faced some challenges due to the different availability of permitting authorities across Member States. Information was primarily collected through **desk research** on permitting processes in each Member States. Desk research findings were then **enriched through primary data collection** (i.e., interviews, surveys) where possible. All permitting authorities were then asked to validate specific country reports where all the pieces of evidence were triangulated. Some permitting authorities did not respond to requests to participate in the Study. In these cases, partial validation was supported through inputs from **project developers and IT stakeholders**, allowing to conduct an initial cross-check of key elements.

Accordingly, the findings provided in the Study should consider the following limitations:

- The **availability, accessibility and level of detail** of publicly available information varied considerably across Member States and stakeholder groups. As a result, cross-country comparability is **predominantly qualitative**.
- **Comparative conclusions** are further limited by the uneven availability of quantitative performance data. In the absence of systematic and comparable information on costs, timelines and outcomes, the analysis remains primarily descriptive and should not be interpreted as a full evaluation of how permitting systems perform. These types of data were also the most difficult to obtain from the authorities consulted, as they are not always systematically collected, consolidated, or made available in a comparable format across Member States.

7.2 Annex B: Consultation activities conducted

The Study has been informed by the findings resulting from a **consultation process**, including scoping and targeted interviews with key stakeholders, targeted surveys, and two workshops.

The consultation strategy was built upon a **stakeholder mapping**, which enabled the Study Team to identify and to engage key stakeholders involved in the permitting process, based on geographical and sectoral criteria. Under the scope of the Study, the Team defined three stakeholder groups reported in the following table.

Table 7-3 Stakeholders group description

Stakeholder Group	Detail
Permitting agents of national, regional, and local competent authorities	Officials from national, regional, and local public bodies who are directly involved in issuing permits. They provide insights into processes, actors involved, challenges, etc.
Project developers	Representatives from businesses and industrial associations involved in submitting applications required in the development of infrastructure projects as well as renewable energy projects. These stakeholders contributed the perspective of applicants, allowing a practical understanding of requirements, timelines, burdens and bottlenecks
IT stakeholders	IT personnel responsible for procuring and managing IT systems supporting permitting processes for the MSs. They ensure that digital tools comply with data security, interoperability, and administrative standards

7.2.1 Interviews

Firstly, the Study Team conducted several scoping and targeted interviews with key stakeholders. Each interview was organised in a semi-structured format, with an interview guide provided to the interviewee at least one day prior to the meeting. The **scoping interviews**[84] were designed to gather early-stage evidence on administrative procedures and legal frameworks regulating permitting processes, while the **targeted interviews** presented a specific perspective, depending on the role of interviewee engaged in the interview.[85] The summary of these consultations is provided in the following table.

Type of interview	Number of interviews	Stakeholder group	Country covered
Scoping interview	5	EU DGs and umbrella organisations	EU
Targeted interviews	8	Permitting authorities	IT, DK, FI, FR, HU, LV, NL, SE
Targeted interviews	24	Project developers	EU
Targeted interviews	6	IT stakeholders	EU

[84] Scoping interviews involved Representatives from DG GROW, DG ENER, Business Europe, Solar Power Europe, Wind Europe, ESIA (European Semiconductor Industry Association), IAOGP (International Association of Oil and Gas Producers).

[85] Targeted interviews engaged Permitting Authorities across France, the Netherlands, Denmark, Latvia, Finland, Italy, and Hungary. Given the cross-sector nature of permitting processes, some of the Permitting Authorities interviewed were responsible for issuing permits for one or more sectors. In particular, for the renewable energy and clean technologies, the Study team gathered insights from Representatives from France, the Netherlands, Denmark, Latvia, Finland, Italy, Hungary; for semiconductors, from the Netherlands, Italy and Hungary; for critical raw materials, from the Netherlands, Finland, Italy, and Hungary; for pharmaceuticals, from the Netherlands, and Italy.

7.2.2 Survey

The Study team launched three targeted surveys to collect insights across permitting authorities, project developers, and IT stakeholders. Surveys were conducted via *EU Survey*, in the period from 28 May to early November 2025. In particular:

- The targeted survey for permitting authorities aimed at gathering evidence on **regulatory frameworks,** compliance requirements, procedural steps, and actors involved. Authorities were also asked to engage the appropriate IT stakeholders relevant for their permitting processes. The survey collected 22 contributions.
- The targeted survey for project developers collected **quantitative data on project management practices**, challenges, and experiences linked to permits, permitting processes and related IT systems. It received 26 contributions.
- The targeted survey for IT stakeholders acquired insights on **digitalisation** from IT professionals in agencies contracted by national authorities to support the digitalisation of permitting processes. It gathered 3 contributions.

Target	Number of replies	Sector	Nationality
Competent authorities	23	The respondents often cover multiple sectors[86]	CZ, ES, FI, FR, HU, IE, IT, LV, SE
Project developers	22	Renewable energy sector	EU wide
IT Stakeholders	3	The respondents often cover multiple sectors	EU wide

7.2.3 Workshops

The two workshops aimed at **validating the preliminary findings** of the Study and **discuss possible recommendations** to streamline industrial permitting processes in EU Member States through simplification and digitalisation. Participants had the opportunity to **engage actively** through live polls, discussions, and exchange of experiences with policy officers from the Commission and the Study team. The insights from this discussion were collected and used to inform **policy recommendations** for the European Commission on how to support Member States in streamlining such procedures, especially in key sectors.

7.2.3.1 Workshop with Project Developers

- Meeting Date and Time: 13 November 2025 – 14:00-17:15 (CET)
- Meeting Location: European Commission, Breydel 2 Building, Avenue d'Auderghem 19, 1040 Etterbeek, Belgium, Brussels (BE).

The workshop was attended by **26 participants (12 onsite and 14 online)**. Invited attendees came from relevant DGs of the European Commission and EU industry organisations representing the interests of the following sectors: renewable energy technologies, critical raw materials, semiconductors, and pharmaceutical sectors.[87]

During and after the presentation of the findings, participants were engaged with several discussion points. Specifically, the audience used *Slido* to respond to four questions. The full list of questions and answers is presented in the following table.

[86] Distribution per sector: Semiconductors: 5, Renewable energy and clean technologies: 12, Raw Materials: 11, Pharmaceuticals: 8

[87] Onsite participants were from DG DIGIT, SG REFORM, DG ENV, DG GROW, WindEurope, the European Chemical Industry Council (CEFIC), the International Association of Oil and Gas Producers (IOGP), and the Industrial Minerals Association – Europe (IMA-Europe)

Question	Results
To what extent do you think that the takeaways above reflect the current situation in your sector?	"To a moderate extent" – 55% "To a large extent" – 40% "To a small extent" – 5%
Single Points of Contact: are they the right solution according to your experience / your members' experience?	"Yes" – 60% "No" – 40%
In your view, a digital one-stop shop should help address which challenges?	"Improves multi-stakeholder collaboration" – 88% "Improves information management" – 63% "Improves process transparency" – 56% "Clarifies regulatory requirements" – 44% "Other" – 6%
What is your desired business impact from the implementation of a digital one-stop shop?	"Reduction in timelines to secure permits and/or approval/rejection decisions" – 82% "Improved clarity in actual timelines to secure permits and/or approval/rejection decisions – 76% "Reduction in effort spent on low-value, repetitive and/or manual tasks" – 59% "Other" – 12% "Reduction in material cost currently associated with permitting" – 6%

During the interactive polls, participants expressed mixed views on the Study findings. The second poll examined whether establishing Single Points of Contact (SPOCs) would be an effective way to streamline permitting procedures. Responses were almost evenly split between "yes" and "no," highlighting **uncertainty about their role**. Participants emphasised that, in many cases, SPOCs exist only formally and risk adding an extra bureaucratic layer unless they are part of integrated process.

The results show that stakeholders view a digital one-stop shop as a key enabler for improving **collaboration among the many actors** involved in permitting, as well as for better managing and sharing information throughout the process. Participants also highlighted the value of greater transparency and clearer regulatory expectations, indicating that current procedures often feel fragmented or difficult to navigate. In terms of impact, respondents expect a digital one-stop shop to meaningfully speed up permitting by providing clearer, more **predictable timelines and reduced time spent on repetitive or manual tasks**. There is also an expectation that such a system could help streamline workflows and reduce inefficiencies, even if cost savings are seen as a secondary benefit. Overall, the findings suggest strong support for digitalisation as a way to simplify interactions with authorities and make the permitting journey more efficient and more transparent.

After the discussion on the Study findings, onsite participants engaged in an interactive session on actionable recommendations for EU or national institutions. The session brought together a **wide range of participant inputs**, reflections, and practical experiences; the discussion was detailed and multifaceted, and the following points summarise the most significant insights, priorities, and recommendations that emerged from the session.

Tacit approval mechanisms

Several participants raised concern that such measures could undermine environmental safeguards and allow harmful projects to proceed unchecked. While some considered **tacit approval** as a way to accelerate permitting, others emphasised that national frameworks often prohibit this approach, making it impractical except for minor, low-impact cases.

Digitalisation and simplification

Participants agreed that digital tools alone cannot solve systemic inefficiencies without a smooth and clear organisation of administrative processes. They stressed the need to frame recommendations around what

digitalisation can realistically achieve, rather than treating it as a universal solution. Examples from recent public consultations and large-scale studies reinforced the urgency of actionable steps, such as **mapping workflows and identifying bottlenecks** before implementing e-permitting systems.

Accountability and incentives

Stakeholders suggested transparency and **performance-based rewards** to encourage timely action by authorities. Ideas ranged from **real-time tracking of applications** to potential tax benefits for efficient processing, highlighting the importance of creating mechanisms that foster compliance without adding bureaucratic burden.

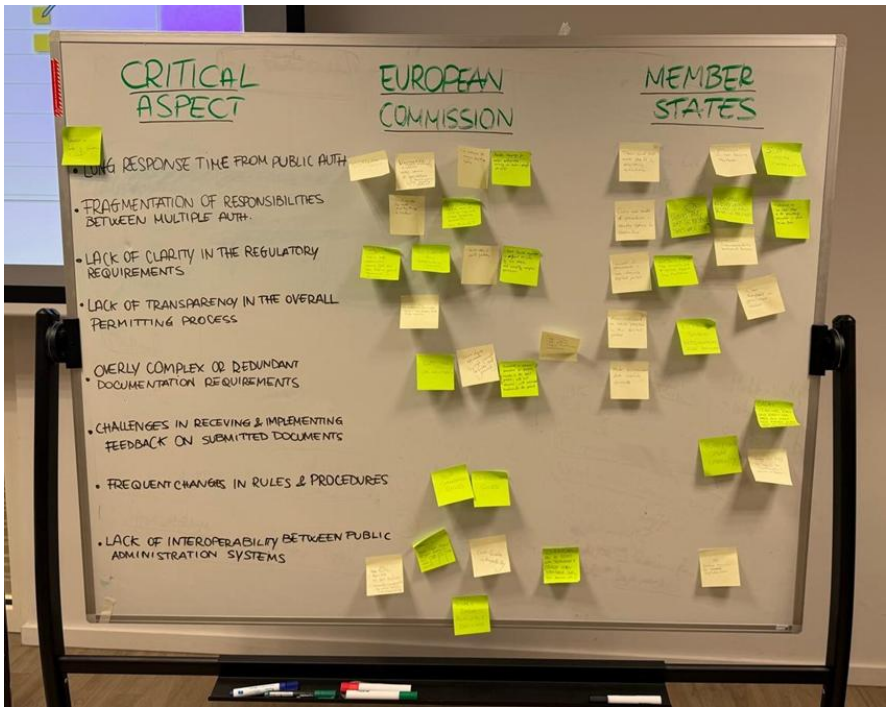
Capacity building and best practice-sharing

Participants called for EU-level guidance documents, sector-specific training, **and peer-to-peer learning initiatives** like TAIEX to help Member States adopt proven models.[88] The Danish example of digital permitting was cited as a benchmark, alongside projects in Romania and Slovakia that demonstrated how process mapping and simplification can pave the way for successful digital transformation.

Interoperability and innovation

Suggestions included **developing open standards, APIs, and reusable components** to ensure cross-border compatibility, as well as leveraging AI to translate complex legal language into operational logic. Concerns about frequent regulatory changes and lack of transparency underscored the need for stable frameworks, harmonised requirements, and real-time progress tracking. The proposal to establish a **Centre of Excellence** at the EU level gained strong support. Such a centre is envisioned as a hub for technical advice, procurement guidance, and continuous monitoring to accelerate digitalisation and streamline permitting processes across Member States.

Figure 7-2 Project Developers' inputs



[88] TAIEX (Technical Assistance and Information Exchange) is an instrument, launched by the European Commission, aimed at strengthening institutional capacity-building of Member States or potential EU candidates through the organisation of workshops, expert missions, and study visits facilitating the exchange knowledge and experience.
Further information is available at: TAIEX - Enlargement and Eastern Neighbourhood - European Commission

7.2.3.2 Workshop with Permitting Authorities

- Meeting Date and Time: 17 November 2025 – 14:00-17:30 (CEST)
- Meeting Location: Online

The workshop was attended by **55 online participants**. The event was organised fully online for the presentation of the preliminary findings of the workshop and for the discussion on the way forward. Audience composition involved EU Policy Officers from DG GROW, DG ENV, SG REFORM, and representatives of Permitting Authorities from 12 EU Member States[89].

During the workshop, the audience used Slido to respond to five questions.

Question	Results
To what extent do you think that the takeaways above reflect the current situation in your country?	"To a large extent" – 70% "To a moderate extent" – 26% "To a small extent" – 4%
Single Points of Contact: are they a useful solution to streamline permitting process?	"Yes, but they face implementation challenges" – 84% "Yes, they are already streamlining processes" – 13% "No" – 3%
Does your organisation have enough administrative capacity (considering also skills) to manage business permitting processes?	"Yes, to a small extent" – 44% "Yes, to a moderate extent" – 41% "Yes, to a large extent" – 15%
How many of these actions are you already putting in place?	"Self-Assessment" – 43% "Improvement of digital tools procurement practices" – 36% "Providing operative guidance" – 36% "Clarification and explanation of roles"– 36% "Enhanced interoperability" – 29% "Real-time tracking for project developers" – 21% "Peer Collaboration and Best Practices sharing" – 7% "Guided compliance for project developers" – 0%
To what extent are you familiar with the digital permitting solutions in your country?	"Aware and used extensively for permitting processes" – 46% "Aware but not used for permitting processes"- 39% "Not aware" – 14%
Name the digital permitting system you/your authority uses for permitting processes.	• Dinkel (x2) • E-apps • EGraditev (x3) • e-permit (x2) • Planningalerts • VIISP

The interactive polls conducted during the workshop revealed a shared **view among permitting authorities on the complexity** and challenges of industrial permitting processes across the EU.

When asked to what extent the Study's key takeaways reflected their national context, approximately 70% of respondents indicated "to a large extent," while a smaller but significant share selected "to a moderate extent," highlighting sector-specific nuances and country-level variations.

Stakeholders widely agreed that **Single Points of Contact** (SPOCs) are a useful mechanism to streamline processes; however, the majority emphasised persistent implementation challenges, such as coordination among multiple authorities and the risk of SPCs adding an extra bureaucratic layer rather than simplifying processes.

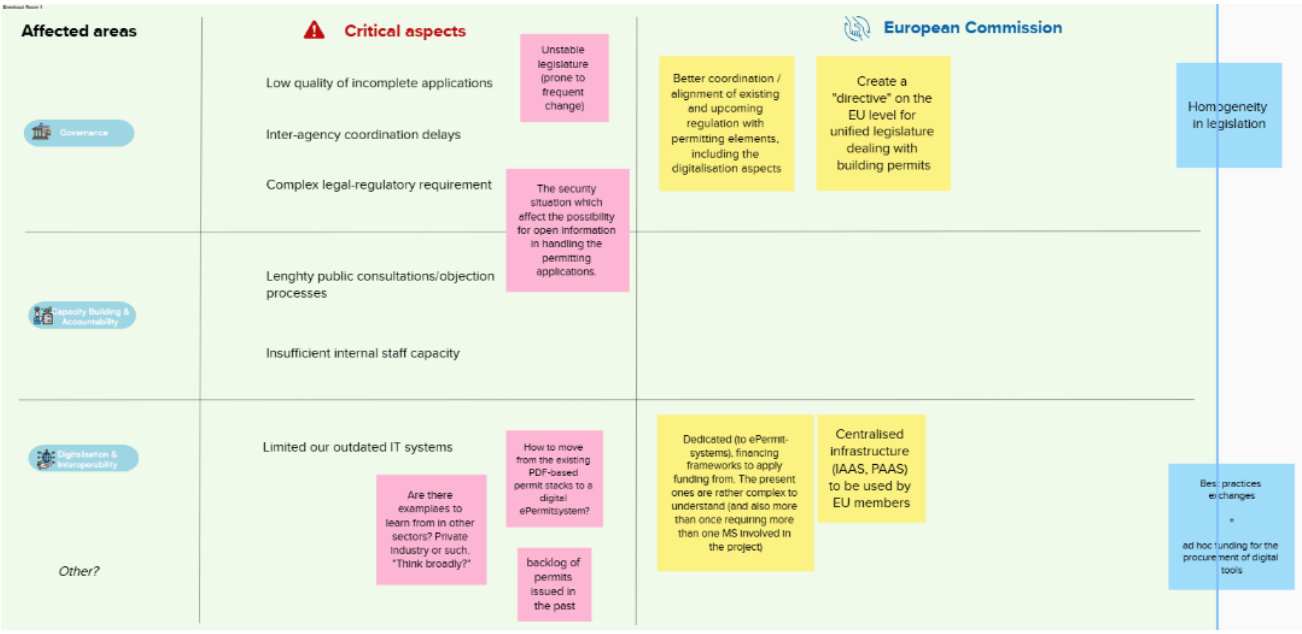
[89] Denmark, Finland, Greece, Ireland, Italy, Lithuania, Malta, Poland, Slovenia, Spain, Sweden.

The results suggest that while some **foundational actions** - such as conducting self-assessments, improving procurement practices, and offering operational guidance - are already underway, many more advanced or collaborative measures remain less developed. Efforts to enhance interoperability or provide real-time tracking are still emerging, and initiatives that require stronger coordination such as peer learning or guided compliance, are barely implemented. Overall, the picture reflects early but uneven progress, with **several critical enablers** still at a very preliminary stage.

After the discussion on the Study findings, participants engaged in an interactive session on actionable recommendations for EU institutions. The workshop explored ways to improve permitting processes across the EU. The discussion started from project developers' feedback shared in the previous workshop and the critical aspects identified via a targeted survey of permitting authorities carried out in the Study. Participants were then asked to use virtual post-its and to write **actionable solutions that can be implemented by the European Commission** to support permitting authorities in overcoming the critical aspects.

Through an online interactive tool, participants created sticky notes and added their contributions to the canvas shown in the figure below.

Figure 7-3 Permitting authorities' inputs on digital canvas



Regulatory stability and transparency challenges

Participants identified key challenges, including **unstable legislation**, **security concerns** that **complicate transparency, and fragmented regulatory requirements**. A major discussion point was how to balance public access to information with the need to **protect sensitive data**, such as facility locations or endangered species habitats, where disclosure could create safety or environmental risks.

Digitalisation and streamlined permitting

Digitalisation emerged as a priority, with calls to replace paper/PDF-based systems with integrated e-permitting platforms that enable structured data, automation, and faster processing. Participants also stressed the need for **consistent** permitting provisions across **EU laws and debated** whether a new directive could simplify the current fragmented framework.

Financing modernisation efforts

Funding was highlighted as a critical enabling factor. Participants requested more accessible and dedicated EU financial support to modernise digital systems investment in interoperability tools and facilitate ambitious cross-border projects.

7.3 Annex C: Individual reports on best practices

Best practices are published as separate documents.

7.4 Annex D: References

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