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The role of experts in the decision-making process of the European Union

High-level expert group on artificial intelligence as key actor

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List of Abbreviations

EU	European Union
EC	European Commission
EUCO	European Council
EP	European Parliament
EPRS	European Parliament Research Service
JRC	Joint Research Centre
HLEG	High-Level Expert Group
AI	Artificial Intelligence
ALTAI	Assessment List for Trustworthy Artificial Intelligence
NGO	Non-Governmental Organisation
APA	Accredited Parliamentary Assistant
MEP	Member of the European Parliament
EESC	European Economic and Social Committee
CoR	Committee of the Regions
TFEU	Treaty on the Functioning of the European Union
DOI	Declaration of Interests
SMEs	Small and Medium Enterprises
DSA	Digital Service Act
UN	United Nations
GDPR	General Data Protection Regulation
US	United States of America
EUR	Euro
ICT	Information and Communication Technology
CV	Curriculum Vitae
MS	Member States
B2C	Business to Consumer
B2B	Business to Business
P2C	Product to Consumer

Abstract

The European Union's approach towards policymaking is evidence-based, but not exclusively. An appropriate mixing of scientific and political inputs is believed to be the right recipe to achieve the most efficient and effective policy outcomes. In this dissertation, an in-depth analysis of the former aspect takes place, exploring the role and the influence that expertise and experts exert in relation to policymaking at the European level. An introduction serves to contextualize the subject and to draw an appropriate framework of the current structure of experts within the decisional bodies of the Union: the European Parliament, the European Commission and the European Council. An analytical study of the abovementioned structure will follow with reference to the advisory system of the main technical body, the European Commission. As case study, the high-level expert group on artificial intelligence was selected due to the crucial role it has been playing in the European policymaking process in the field of artificial intelligence. The strict connection with the current ethical, social and security issues caused by the introduction of AI on the global market highlights the need for a wide societal consultation and science-based legislation, which is represented by the present case study in the context of the European Union. The aim of the dissertation is to clarify analytically if, how, when and to what extent expert groups influence EU policymaking. An extended literature review allowed to build a comprehensive framework and to obtain valid and reliable data in order to derive the most innovative and controversial aspects of the discussed topic.

Introduction

Experts have always played a significant role in the decision-making process of the European Union. The EU is a complex political and administrative multi-level system, and its policy process involves several institutions, Member States, and stakeholders. Within this articulated framework, experts provide valuable input and analysis in various stages of this process. In the current world, science-based decision-making is a crucial tool to develop sustainable policies and effective adaptation strategies to counter societal challenges and climate change. In this context, the European Union launched the twin transition with the intent of exploiting digital technologies to enable carbon neutrality by 2050 [1]. From the EU institutions' perspective, these transformations (green and digital) should be strictly connected, and they should evolve harmoniously to reduce negative environmental impact to the maximum extent possible. The digital transition cannot happen without an adequate scientific supervision and, as new studies emerge on the possible impacts of AI on society, it becomes apparent that any negative side-effects should be taken into account while formulating new legislation. This is the approach chosen by the European Union, which has been relying on science-based policymaking and wide civil and stakeholders' consultations to increase the democratic value of its decision-making process. In fact, the Interinstitutional Agreement between the European Parliament, the Council of the European Union and the European Commission on Better Law-Making [2] was approved in 2016, expressing the general will to improve the quality of decisions and the public participation to their making. However, these are not the only reasons why this method was adopted. Harsh critiques have been addressed towards the EU, caused by a substantial lack of transparency of its advisory system, which was eventually reformed in 2016 through the approval of the horizontal rules on expert groups which will be deeply analyzed in the second chapter.

In this new digital era embraced by the European institutions, it appears extremely interesting to assess the impact and the role played by the high-level expert group on artificial intelligence (HLEG) with regard to the formulation of EU legislation. In fact, on

[1] Commission, "Commission Work Programme 2020. A Union that strives for more" COM(2020) 37 final
[2] Interistitutional Agreement Between the European Parliament, the Council of the European Union and the European Commission on Better Law-Making. L-123/1.

14th June 2023, the Artificial Intelligence Act [3] (AI Act) was approved by the European Parliament due to the speed at which AI systems are being developed, leaving a regulatory gap that needs to be filled immediately. AI should facilitate access for those with impairments and work to strengthen rather than replace people's abilities. As a result, the internal market needs ethics standards that should be applied by AI developers, providers, and users to create a level playing field in terms of ethics across all Member States. This is where the HLEG comes into play by defining standards and criteria to build an adequate framework for AI introduction in the European Market.

Overall, the present paper aims at unveiling the true meaning and mechanisms behind science-based decision-making in the European context and identifying which actors take part in the advisory system of EU institutions. The primary intention consists in assessing the impact of experts on the European decision-making process and detecting the phases of the policy process in which they participate actively and exert the most influence. The role played by expert groups set up by the EC lays at the core of the dissertation, since they represent the most official and common form of advisory committees, and due to the lack of literature in this specific field. Indeed, a comprehensive analysis of their functioning and impact is crucial with a view to assessing the weight of expertise in the identification, formulation and implementation of European legislative measures.

Literature review

The present paper is built through a consistent and substantial literature review on the subject. Institutional documents such as Regulations, Decisions, Communications and reports served as primary sources with a view to highlight EU approach, tools and goals in relation to expert groups. For instance, Decision C(2016)3301 is a point of reference when addressing expert groups of the European Commission, since it contains definitions and procedural rules on their functioning. On the other hand, recently published books and articles provided useful data and empirical analysis on the role of expertise in the EU. More specifically, the important work of J. Metz [4] on expert groups played a key role in

[3] Commission Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence and Amending Certain Union Legislative Acts. COM(2021) 206 final
[4] Metz, J. (2015). The European Commission, expert groups, and the policy process: Demystifying Technocratic Governance. Springer.

providing the EC approach towards expert groups with a focus on their democratic legitimacy and composition. Metz analysed expert groups in relation to the policy process' phase in which they participate, especially the agenda-setting phase, contributing to unveil their influence on EU policymaking. Furthermore, the publications of A. Gornitzka and U. Svendrup on fair composition and privileged access to expert groups offered quantitative data and provided crucial information in order to draw conclusions in relation to their main weaknesses [5]. Moreover, Larsson's and Torbjorn's [6] pioneering research on expert groups was extremely useful in identifying them as "pre-cooking" arenas for Member States' representatives to find shared solutions to common problems. On the other hand, expert groups' final reports and documents are indeed essential to assess their impact and their contribution to a certain policy field, along with officials' interviews. Their content reflects the methodology through which the groups function and take decisions that are ultimately reflected in the final recommendations. Lastly, observatories and research centers (such as Alter-EU) provided crucial data on expert groups' evolution and democratic lacks over time due to their unbalanced composition. Obviously, the abovementioned literature is only a small part of the whole literature consulted to write the present dissertation. Nonetheless, they represent the backbone of this thesis.

Methodology and research design

The selected methodology of the present dissertation consists of a single descriptive case study. In fact, in order to conduct an in-depth analysis of the European Commission expert groups, qualitative research on the high-level expert group on artificial intelligence serves as main tool of analysis. After being renewed for one more year of mandate in 2019, the group ceased its activities in July 2020, thus the time-period of the analysis ranges from its creation to the conclusion of its mandate. The deepening of the case study allows to answer the crucial questions to which this thesis is meant to give comprehensive answers, if, how and when do expert groups influence EU policymaking and what is the real

[5] Gornitzka, Å., & Sverdrup, U. (2015). Societal Inclusion in Expert Venues: Participation of Interest Groups and Business in the European Commission Expert Groups. *Politics and Governance, 3*(1), 151-165.
[6] Larsson, Torbjorn. (2003) *"Precooking: The function and role of expert groups in the European Union".* Nashville, TN.

meaning of science-based decision-making. In the first chapter, a brief analysis of expertise in the other two main European institutions was conducted, while in the second one both the history and the functioning of expert groups are put under scrutiny to contextualize the case study within a broader framework. It is indeed extremely important to properly contextualize the case study with a view to observe the phenomenon taking into account the complex system, such as the one of the European Union, in which it takes place. Bibliography and data have been acquired from official journals of the Union, the historical archives of the European Union, the European Parliament Research Service (EPRS), the Register of expert groups, and through extensive online and in-place research via library services. The research questions can be derived as follows:

H1: Do expert groups exert influence over EU policymaking?

H2: How and when expert groups exert influence over EU policymaking?

It must be underlined that officials' interviews on expert groups are very difficult to conduct due to the secrecy of their meetings and the partial lack of transparency of their internal dynamics, thus posing numerous challenges. Nonetheless, previous research allowed to collect qualitative data from officials of the Commission over the last decade.

CHAPTER I – Expertise within the European institutions

1.1 Evidence-based policymaking in the EU

Evidence-based policymaking in the EU has evolved over the years, reflecting a growing emphasis on using scientific research and data to inform policy decisions. The EU institutions, including the European Commission, have taken steps to strengthen the role of evidence in policymaking through the undertaking of a series of actions and through the progressive adoption and creation of new tools and mechanisms. Over time, there has been a greater recognition of the importance of scientific research and evidence in shaping effective policies. This recognition originated the establishment of organizations such as the Joint Research Centre within the European Commission, which has provided a dedicated scientific and knowledge service to support EU policies. Furthermore, The EU has implemented impact assessment processes to systematically analyze the potential effects of proposed policies before their adoption. On this matter, the Better Regulation Agenda aims to improve the quality of legislation and reduce regulatory burdens in order to emphasize evidence-based decision-making [7]. The Scientific Advice Mechanism (SAM) was also established to provide independent scientific advice to the European Commission, further reinforcing evidence-based policymaking. Over time, the EU has developed strategic frameworks that incorporate evidence-based approaches. For instance, initiatives such as the Europe 2020 strategy and the European Green Deal integrate scientific evidence to address challenges related to sustainable development and climate change. Furthermore, consistent efforts have been made to enhance data and research infrastructure within the EU. This includes the development of databases (Eurostat) , research networks, and collaborative projects to generate and share scientific knowledge. Especially in the last decades, there has been a growing commitment to open science and transparency in the EU. This commitment involves making scientific research and data openly accessible, allowing for scrutiny and collaboration among researchers, policymakers, and the public. Indeed, The EU strongly encourages engagement with various stakeholders, including academia, industry, civil society, and citizens. This

[7] Commission, Better regulation for better results - An EU agenda. COM(2015) 215 final

collaborative approach was adopted with a view to ensure that policymaking benefits from a diverse range of perspectives and expertise [8]. More generally, policymakers increasingly focus on monitoring and evaluating the impact of policies over time. This iterative process allows for adjustments based on real-world outcomes and changing circumstances. The world of advisory expert groups and panels occupies a peculiar position in this strategic approach. In fact, their contribution to evidence-based policymaking is pivotal, even if they represent a hybrid form of experts' counseling. The hybrid nature of expert groups originates by their pluralistic composition and by the consequent fact that their contributions reflect a mixture of input from the academic world, corporate business, independent experts, NGOs and civil organisations. Overall, while evidence-based policymaking has made significant strides in the EU, there are ongoing efforts to further enhance the use of scientific evidence and data to address complex challenges facing the region. The commitment to evidence-based approaches is integral to fostering effective and informed decision-making within the European Union. For this reason, it is essential to unveil the causes behind the process of expertisation of the EU.

1.2 Why does the EC need experts?

The first groups of experts developed within and from the European Commission due to the need of sectoral and cross-sectoral expertise and as a tool to enhance representativeness of European decision-making. The entity at the executive core of the European Union's multi-level system is the European Commission and it cannot operate independently since it is a part of a complicated, interconnected power-sharing system and is heavily dependent on other actors in its environment. With rare exceptions, nothing can become European law without the EC proposal, hence the early stage of policy development is especially important in this regard, and it is where the EC plays its most powerful role in the process. During this formulation phase, numerous external parties are surrounding the administrative Directorates General (DGs) of the EC and making formal and informal demands and applying pressure. Numerous stakeholders lobby specific DGs on behalf of their desired outcomes in addition to the pressure exerted

[8] Visram, S., Hunter, D. J., & Kuchenmüller, T. (2018). Capacity for evidence-informed policymaking across Europe: Development and piloting of a multistakeholder survey. *Public Health*, *163*, 54-60.

on governments of EU Member States and on members of the EP [9]. Therefore, DGs are forced to employ tactics to lessen these demands and acquire the knowledge they require for legislative development. Overall, the Commission's creation and usage of advisory committees can be seen as a tool to avoid external pressures and obtaining both impartial and external expertise. This phenomenon was defined by Pfeffer and Salancik [10] as "resource-dependence theory" in 1978. The two researchers observed how external resources of a certain organization affect the functioning of the organization itself. As a negative consequence, dangerous dependencies can originate, especially if this theory is applied to a supranational organization such as the EU. Building on the previous research of Julia Metzon EC expert groups [11], it's possible to conclude that organizations, such as the EC, tend to create internal structures and methods to strengthen their negotiating position in resource-related transactions in order to prevent such dependency. This is how the EC countered external pressures, by developing and internalizing an external network of experts that work under defined rules and mechanisms. Resource-dependency theory has been influential in explaining how organizations make strategic decisions and form relationships in order to secure the resources they need to survive and thrive. Furthermore, it provides insights into the dynamics of power and influence in interorganizational relationships and helps organizations better navigate their external environment. The creation of expert groups also represents the official initiation of a policymaking process by the Commission. In fact, the selection of arguments to support the decision and the tools and means to tackle the raised issue is a central phase of the process, and experts contribute directly to their formulation. This phenomenon can be defined as "de-politicization" of the decision-making process, which ultimately consists in the transformation of political issues into technical ones to the maximum extent possible [12]. Furthermore, the fragmentation of the policy arena into small-scale units substantially increments the technicality of the achieved solutions, thus making them harder to counter and challenge.

[9] Góra, M., Holst, C., & Warat, M. (2017b). Expertisation and democracy in Europe. Routledge
[10] Pfeffer, J. and Salancik, G. (1978) The External Control of Organizations: A Resource Dependence Perspective. Harper & Row, New York.
[11] Metz, J. (2013). Expert groups in the European Union: A sui generis phenomenon? Policy and Society, 32(3), 267–278.
[12] Gornitzka, Å. (2010). *Enlightened decision making: The Role of Scientists in EU Governance*.

Finally, when developing new initiatives, the EC may also request "consensus-building" from expert groups in contentious decision-making procedures [13]. Committees are valued for their institutional framework where stakeholders can meet, exchange (contradictory) views, and come to agreements. By creating spaces for interaction, policymakers can foster consensus, compromise, and cooperation. The institutional setting of expert groups makes it easier to negotiate in a spirit of openness and trust, accommodate conflicting interests, and intentionally produce collective outcomes despite conflicting interests of their members. Achieving consensus among various stakeholders is continually necessary for the EC, which operates in a political system of shared power. In other words, expert groups can be identified as brokering arenas in which different interests meet and work together to find the best fitting solution for all to a determined issue. Overall, expert participation results in a more thorough evaluation of potential policy options and better-quality conclusions that are adopted, assuring both input and output legitimacy.

1.3 Overview of EC expert groups development

Pedler and Schaefer [14] were the first to bring to light the constellation of expert groups in their research published in 1996. Their findings outlined the presence of a growing number of expert groups from 1992, year in which they were already more than 500. This phenomenon is strictly connected to the rationale of the EC, which is based on its technocratic role and a problem-solving approach to policymaking. The more competences and functions were delegated to the Union, the more external technical assistance was needed to fulfill the gaps in expertise. Since 1992 to 2006 they had kept developing and increasing to a total number of 1325, and, since then, the trend started to decrease. The main explanation to this inversion can be traced to the introduction of the Commission's horizontal rules and the official register of expert groups, both created in 2005 [15]. In fact, the Commission responded to the claims for more transparency of its advisory system by regulating it in a stricter and more detailed manner. For instance,

[13] Hartlapp, Miriam, Julia Metz, and Christian Rauh, 'Expert Groups in the Commission: Knowledge Providers or Political Device?', Which Policy for Europe? Power and Conflict inside the European Commission (Oxford, 2014; online edn, Oxford Academic, 20 Nov. 2014).
[14] Pedler, R. H., & Schaefer, G. F. (1996). Shaping European Law and Policy, the Role of Committees and Comitology in the Political Process. Maastricht: European Institute of Public Administration.
[15] Eva Krick & Åse Gornitzka (2020) Tracing scientisation in the EU Commission's expert group system, Innovation: The European Journal of Social Science Research.

many of the expert groups in 2006 existed only formally, without any active involvement from their side. This reforming operation of the Secretariat General substantially reduced the number of expert groups, which had already decreased by hundreds of units in 2009 (c.ca 1000). Nonetheless, expert groups' creation has continued to be a common praxis of the Commission, due to the need of consensus-oriented solutions and informed decision-making. In fact, a proper and adequate justification of any type of intervention radically increases its democratic value and it helps de-politicize its rationale, since the political role of European institutions has been growing over time, boosting harsh critiques and skepticism as a direct consequence [16]. The apex of criticism towards the EU advisory system was reached in 2014 because of the lacks concerning composition and transparency of expert groups, especially in relation with possible overlooked conflicts of interests. These critiques originated suggestions for reforms from the EP and civil society, and they led to the initiation of a strategic inquiry of the European Ombdusman (OI/6/2014/NF) who, as a result, suggested numerous recommendations to the EC to improve transparency and fair representation [17]. Thus, in 2016, the EC approved and published the new horizontal rules on expert groups through the adoption of Decision C(2016) 3301 final. This reform introduced more targeted procedural rules and new tools to enhance transparency – i.e., a deep revision of the Register of expert groups. The content of the abovementioned horizontal rules will be properly analyzed in the next chapter.

1.4 Informed-based policymaking: the Joint Research Centre

At the core of EU evidence-based policymaking lays the foundation of the Joint Research Centre (JRC). The JRC is the European Commission's in-house science and knowledge service, and its primary role is to provide independent scientific and technical support to EU policies. The JRC, which ultimately consists in a Directorate-General, operates as a key player in the European Union's efforts to address various challenges, including those

[16] Hartlapp, M. (2015). Politicization of the European Commission: When, How, and with What Impact?. In: Bauer, M.W., Trondal, J. (eds) The Palgrave Handbook of the European Administrative System. European Administrative Governance. Palgrave Macmillan, London.
[17] Decision of the European Ombudsman in her strategic inquiry OI/6/2014/NF concerning the composition and transparency of European Commission expert groups

related to environment, energy, climate change, agriculture, health and more [18]. Among many other functions, it conducts scientific research to support the development, implementation, and evaluation of EU policies, covering a wide range of fields, from sustainable development to nuclear safety. Furthermore, the JRC is responsible for developing and maintaining reference materials and measurement standards, ensuring consistency and reliability in various scientific areas, substantially contributing to the quality and comparability of measurements across the EU. Most importantly, the JRC provides scientific evidence and analysis to aid policymakers in making informed decisions. This crucial function entails generating reports, studies, and assessments on issues of relevance to the European Union. The JRC also plays a key role in transferring technologies and knowledge to help bridge the gap between research and practical applications. This praxis contributes to innovation and the development of new technologies that align with EU policy objectives, which are increasingly relying on sophisticated technologies. Moreover, in times of crisis or emergencies, such as natural disasters or public health crises, the JRC may provide rapid scientific and technical support to address the challenges at hand. In fact, it played a significant role during the COVID-19 pandemic by delivering scientific and technical aid (data, analysis, risk assessment, diagnostic methods, policy support) to the European Commission and Member States. Overall, the Joint Research Centre serves as a valuable resource for the European Commission and the EU as a whole, contributing to evidence-based policymaking and addressing complex scientific and technical challenges.

1.5 Working Parties and Legal Experts of the European Council

The historical timeline of the Council's configuration of experts is significantly more difficult to draw. The Council is a political body the represents the interests of Member States' governments and it doesn't require the same amount of internal and external expertise that the Commission needs as main initiator of the legislative process. However, the number of choices that must be made by the European Union has substantially expanded since the Single European Act in 1987 and the Treaty of the European Union in 1992. The Council had to cope with an increasing number of difficulties, as well as the

[18] Topp, L., Mair, D., Smillie, L., & Cairney, P. (2018). Knowledge management for policy impact: the case of the European Commission's Joint Research Centre. *Palgrave Communications*, *4*(1), 1-10.

fact that many of them were very specific, intricate, and detailed issues that, more often than not, needed to be resolved quickly. The Council's organizational structure had to deal with this problem. In order to prepare for the Coreper's discussions, which in turn prepares the Council's deliberations, an increasing number of working groups had to be utilized [19]. The nature of these committees is not merely technical, since they represent the first compromising arena within the different interests of Member States. Nonetheless, most of the political issues are left for the Coreper and the Council to decide and solve, thus relying on working parties to address technical aspects. Working groups play a crucial role in the Council's decision-making process, since they are closely associated with broader processes of intra and inter-sectoral negotiation, in addition to actively participating in the process of achieving intergovernmental compromises. Although directives from their respective national administrations are sent to working group members, they are not always legally binding. Rather, members of working groups are asked to interpret the interests of their member state within a framework in which they are required to continuously consider the overall status of the negotiation and the "need" to make agreements. It is not possible to properly understand working groups' dynamics by taking the division of "political" and "technical" issues at a superficial level. Just as ministers occasionally make judgments that are frequently regarded as "technical," working groups occasionally make decisions that are widely regarded as "political." Rather, it is critical to realize that uncertainty over the technical/political divide is, in fact, a crucial component of EC decision-making [20]. Significantly less legislation would ever make it into the EU official journal without the flexibility that this uncertainty provides.

On the other hand, the Council has been assisted in policymaking by the Council Legal Service, which participates in all stages and formats of Council decisional processes. The European Council is one of the principal institutions of the European Union, and it plays a crucial role in shaping the overall direction and priorities of the EU. The legal services of the European Council provide legal advice and support to the Council and its various bodies. Firstly, the legal services offer legal opinions and advice on a wide range of issues related to the functioning of the EU. This includes the interpretation of EU treaties, regulations, and directives, as well as the legal aspects of policies and initiatives.

[19] Kuus, M. (2011). Bureaucracy and place: expertise in the European Quarter. *Global Networks-A Journal of Transnational Affairs*, *11*(4), 421–439.
[20] Fouilleux, E., De Maillard, J., & Smith, A. (2005). Technical or political? The working groups of the EU Council of Ministers. *Journal of European Public Policy*, *12*(4), 609–623.

Moreover, the legal services are involved in the drafting of legal texts, such as proposals for regulations and directives, by ensuring that these texts comply with EU law and are legally sound. They also provide the crucial service of assisting the European Council and its working groups in the decision-making process by providing legal input and clarifications, an operation particularly important in complex and sensitive matters. Lastly, the legal services also engage in dialogue with the legal services of other EU institutions, such as the European Commission and the European Parliament, to coordinate legal approaches and ensure consistency in the interpretation and application of EU law [21].

Overall, the legal services of the European Council contribute to the legal coherence, integrity, and effectiveness of the EU's decision-making and legislative processes. They play a key role in upholding the rule of law within the EU. Furthermore, the institutional interests of the Council and who owns its agenda are frequently harder to define than those of the EC, where the institutional agenda is more frequently clear-cut and determined from the top-down. As a result, Council legal advisers have more freedom than their counterparts in the Commission, since they respond to issues raised by Member States and work with the Presidency to develop workable legal solutions. In fact, legal advisors of the Council frequently go through politically sensitive territory, and they employ legal defenses to break impasses in discussions between Member States, and the solutions they offer frequently serve as negotiations' starting point.

1.6 Expertise in the European Parliament

The European Parliament represents a sui generis case. Technical advice and expertise have been blurry depicted across the literature, thus posing numerous challenges to researchers that aim at observing and describing them in practice. The EP is known to be the least technical and bureaucratic body of the EU, since decisions are taken upon pure political considerations and strategic alliances. Nonetheless, a key role within the Parliament is played by the general secretariat, the committees' secretariats, the accredited parliamentary assistants (APAs) and the secretariats of the political groups. In fact, these

[21] Ricardo Gosalbo Bono & Frederik Naert, 2023. "Legal advisers in the European Union: The case of the Council Legal Adviser and the Council Legal Service," Chapters, in: Jan Wouters (ed.), Legal Advisers in International Organizations, chapter 12, pages 289-314, Edward Elgar Publishing.

actors are actively involved in the decision-making dynamics of the EP by delivering technical and legislative assistance to parliamentary members. Furthermore, external expertise is another crucial source of knowledge for members of the EP and their staff, who gather inputs from think tanks, civil society organizations, industry interest groups and environmental NGOs in order to make informed decisions over delicate political and technical issues. Nonetheless, MEPs usually possess a certain degree of individual expertise by their part. In fact, some MEPs previously held offices (such as government officials', local administrators, members of national parliaments, EU agents and others) for which technical expertise was needed. However, they do not choose voluntarily the legislative files for which they are rapporteurs, thus they are frequently in need of technical assistance from both within and outside the EP.

General and committee secretariats, political groups' staff, APAs

The EP's activities are organized and supported by the General Secretariat, which is structured on 12 DGs. Three of these, namely Internal Policies (DG IPOL), External Policies (DG EXPO) and Research Services (DG EPRS) are at full disposal of members in relation to legislative assistance. Employees of the general secretariat, by definition, carry out crucial responsibilities such as advisory, linguistic, and scientific tasks. Translators, interpreters, economists, lawyers, doctors, scientists, researchers, financial officials, and auditors are just a few of the occupations that fall under this category [22]. In real terms, the EP ranks among the top employers of linguists, since the demand for language services has increased as the EP membership has grown to include representatives from new Member States. Legislative assistance within the EP is delivered by the committee secretariats, which are sectoral branches of the general secretariat where advisers provide members with: technical-administrative assistance (such as the organisation of meetings); technical-substantive assistance (such as the provision of procedural and legal advice); research (such as the collection of relevant information for reports) and political assistance (such as provision of advice on how to achieve political compromises). In other words, staff of the committee secretariats support EP members

[22] David A. Alexander (2021) The Committee Secretariat of the European Parliament: administrative mobility, expertise and keeping the legislative wheels turning, The Journal of Legislative Studies, 27:2, 227-245

substantially and extensively, ranging from administrative activities to legislative and political advice.

Another advisory key role is played by political groups. In fact, they dispose of a budget (delivered by the EP) through which they can allocate administrative and political advisors in the various committees. These highly specialized sectoral experts contribute by delivering essential tasks such as following committees' work, formulating summaries and position papers, drafting amendments and participating to negotiations between political groups in order to verify that members act in line with the groups' objectives and targets [23]. Employment procedures and criteria vary across political groups, and both technical and political considerations apply in the evaluation process. Naturally, factors such as commitment to political groups' objectives, experience, negotiations skills and understanding of the importance of discretion in a political environment are decisive with a view to a coherent and proper selection. However, staff of the political groups are not entitled to follow individual members in their legislative activities. As a consequence, accredited parliamentary assistants (APAs) are entrusted with crucial daily responsibilities.

The role of APAs has been extensively overlooked across literature. There are averagely 2/3 APAs in each office and they are currently divided in secretariat administrators and political advisors. While the former manage organizational matters and MEPs' daily activities, the latter are fully dedicated to legislative assistance and counseling. In fact, they are the ones who MEPs spend the most time with and they are considered to exert a crucial influential role towards them. In fact, as they follow commitees' works and participate in technical meetings between political groups, they are subject to a major delegation of power from MEPs [24]. For instance, assistants participate directly in drafting amendments and coordinate closely with members in this activity. Moreover, APAs are typically assigned the task of taking inputs from societal actors while working on any kind of legislative measures and, thus, they gather necessary knowledge and expertise in order for MEPs to take informed decisions in line with their political group's strategy. Therefore, it emerges the importance of their role as interlocutors with civil society and especially their active participation in legislative activities.

[23] Morten Egeberg, Åse Gornitzka, Jarle Trondal & Mathias Johannessen. Parliament staff: unpacking the behaviour of officials in the European Parliament, Journal of European Public Policy, 2014, 495-514

[24] Pegan, A. (2015). *An Analysis of Legislative Assistance in the European Parliament* [Doctoral thesis, Unilu - University of Luxembourg]. ORBilu-University of Luxembourg.

CHAPTER II - EC Expert Groups' Influence on EU Decision-Making

As previously mentioned, expertise is an essential feature of the most technical body of the Union: The European Commission. The use of knowledge in decision-making is undergoing radical change world-wide and, when resolving complicated societal challenges, knowledge must be produced, compiled and interpreted using several sources, across disciplines and collectively. Reliable information is essential for well-informed policy decisions based on facts, rather than feelings and fake news, in an era of rising populism and political contestation. Today, maybe more than ever, the public legitimacy of any political system depends on its ability to consistently produce positive and targeted results as a policy-shaper and lawmaker. The Commission has made a commitment to conducting evidence-based impact assessments of all significant legislative proposals since 2001 [25]. These assessments cover the potential economic, social, and environmental benefits and costs of the proposed policy both within and outside the European Union. In fact, in order for the EC to launch a legislative proposal, a long process of consultations with stakeholders (of both public and private sectors) and with sectoral experts is a conditio sine qua non. The present research now demands an in-depth analysis of the expert groups set up by the EC. Understanding their nature, how they work, their composition, strengths and weaknesses, is of crucial importance with a view to derive conclusions on their impact on European decisional processes. Moreover, the analysis of this ecosystem brings to light its crucial role as broker of different interests within the Union. In fact, the European policymaking context imposes a system of shared power in which none of the major institutions can act alone. In this context, interest groups act as bridges between the needs and demands of multiple stakeholders directly or indirectly involved in the process.

2.1 The Commission expert groups: definition, role, composition, transparency

[25] Dr. Norman Lee & Colin Kirkpatrick (2006) Evidence-based policy-making in Europe: an evaluation of European Commission integrated impact assessments, Impact Assessment and Project Appraisal

Definition and role

Since the adoption of the Maastricht Treaty, the creation of expert groups has been a common praxis of the Commission. As a consequence, numerous critiques had been originating over time calling out for more transparency and clarity on their functioning. Thus, in 2016 the Juncker Commission adopted decision C(2016)3301 establishing new horizontal rules on the creation and operation of Commission expert groups. Firstly, this decision provided a comprehensive definition of Commission expert groups:

'Commission expert groups' means consultative bodies set up by the Commission or its departments for the purpose of providing them with advice and expertise […] and which are foreseen to meet more than once.

From Article 2 it's possible to derive the consultative nature of expert groups and the foresight of a prolonged duration in time. In practice, these groups of experts are not the only kind of consultative actors, since they act in a wider comitology arena. Other relevant consultative actors are the European Economic and Social Committee (EESC) and the European Committee of the Regions (CoR), the former being a catalyzer of social and economic interests and the latter acts by debating opinions on proposed legislation and agree on resolutions for further action by the EU at the local or regional level. These two crucial committees and the Commission expert groups share their consultative nature, their balanced composition, and the fact that they work as tools to bridge the gaps between citizens and the EU institutions. Expert groups are exclusively constituted and administered at the EU Commission's administrative level of the largely sectorally organized Directorates General (DGs). As a result, they are arranged in accordance with policy portfolios and primarily provide advice to the administration of the EU Commission, which is in charge of carrying out technical policy work (rather than the College of Commissioners at the political level). Expert groups of the European Commission take on a variety of forms beyond their shared responsibility to offer non-binding advice during the policy-making process. They can be created temporarily or

permanently, based on a legally binding act (formal group) or by cooperation between the relevant DG and the Secretariat-General of the EU Commission (informal group) [26].

For what regards expert groups' role, the same 2016 Commission Decision comes to aid in identifying their main tasks and functions through Article 3:

Expert groups provide advice and expertise to the Commission and its departments in relation to:

(a) the preparation of legislative proposals and policy initiatives;

(b) the preparation of delegated acts;

(c) the implementation of Union legislation, programmes and policies, as well as coordination and cooperation with Member States and stakeholders in that regard;

(d) where necessary, the early preparation of implementing acts, before submission to the committee in accordance with Regulation (EU) N°182/2011.

Overall, expert groups are consulted in every area of action of the Commission, thus playing a decisive and consistent role in accompanying EU legislation-making, ranging from legislative proposals to programmes and delegated acts. With regard to the latter, a deepening is needed due to the lack of literature on the matter. Delegated acts are regulated in Article 290 of the Treaty on the Functioning of the European Union (TFEU), and they represent a non-legislative tool used to amend or supplement existing legislative proposals. Usually, delegated acts are present where updates are needed due to technological development. Such can be the case whereas a cybersecurity regulation is approved, but new forms of cybercrimes appear constantly over time, originating the cause for legislation's review and updating. More in general, experts' opinion is requested horizontally by the Commission while formulating legislative proposals, programmes or policies of any kind, even complementary or integratory measures. This helps us understand better how knowledge-based decision-making works and how political claims can be undertaken through a scientific method that includes a comprehensive impact assessment of the proposed legislation. The impact and practical mechanisms through which expert groups influence EU policymaking will be furtherly analyzed in this dissertation.

[26] Åse Gornitzka & Ulf Sverdrup (2008) Who consults? The configuration of expert groups in the European union, West European Politics.

Composition and selection process

The composition of expert groups and the fair distribution of different actors within them are crucial factors for their survival. As mentioned before, expert groups act as policy brokers, and they are tools to boost input and output legitimacy of EU policymaking. Consequently, a proper representation of scientists, stakeholders from the industry, national civil servants and civil society's organizations is the main rationale upon which expert groups were created in the first place. Article 7 of EC Decision on expert groups regulates their composition and which types of members can access them:

(a) individuals appointed in their personal capacity who are to act independently and in the public interest ('Type A members');

(b) individuals appointed to represent a common interest shared by stakeholders in a particular policy area, who do not represent an individual stakeholder, but a policy orientation common to different stakeholder organisations ('Type B EN 6 EN members'). Where appropriate, those individuals may be appointed on the basis of proposals put forward by the stakeholders concerned;

(c) organisations in the broad sense of the word, including companies, associations, Non-Governmental Organisations, trade unions, universities, research institutes, law firms and consultancies ('Type C members');

(d) Member States' authorities, at national, regional or local level ('Type D members');
(e) other public entities, such as third countries' authorities, including candidate countries' authorities, Union bodies, offices or agencies and international organisations ('Type E members').

As previous research revealed, the composition of expert groups varies along with the nature of the groups themselves. In most cases, the majority of participants are Member States' civil servants (Type D). This can be explained through a political consideration that implies the role of expert groups as arenas of compromising positions and interests rather than scientific ones. A vast amount of professional and technical knowledge in extremely specialized fields may be found in the national administrations and competent

agencies of Member States [27]. One adaptable method of accessing this repository of specialized expert information is through the creation of expert groups. Their participation is crucial in order to previously test decisions within Member States with a view to foster a sense of ownership over initiatives and to contribute via recommendations to the EU decision-making process. Ultimately, many of these expert groups serve as avenues for feedback regarding how EU policy is being implemented domestically[28]. Moreover, the intimate and substantial participation of national civil servants represents an innovative tool for the EC to "Europeanize" national administrations and to build constant relationships between the EU level and the national one. This serves as a crucial tactic to re-socialise domestic civil servants towards supranational duties and loyalties [29].

Type B and C members represent organized interests and the majority of them come from the industry world. As previously stated, numerous critiques have been addressed to the high influence of corporate dominance in these groups and how the EC tackled this issue through an improvement in transparency. In this context, organizations have a rare opportunity to define the scope of new legislation, set the agenda, and ultimately shape the EU policy-making process through this kind of inside access. It follows that it is not surprising that interest organizations strongly desire participation in expert groups to further their own particular interests. Transparency monitor Alter-EU has shown that expert panels are frequently dominated by the same vested, restricted interests that they are designed to control. After the 2016 reforming operation, the Corporate Europe Observatory published a research study on the corporate influence within expert groups. The results showed that corporate interests continue to control half of the groups under examination. Looking at the numbers, the findings demonstrated that 70% of stakeholders' participation represents corporate interests, compared to less than 15% for NGOs and slightly more than 2% for trade unions. Overall, more than 80% of the worst-performing groupings were represented by corporations [30]. However, the introduction of the Register of expert groups led to a radical increase in transparency, achieving the signing up of 97% of those representatives. One of the major arguments supporting these critiques is that interest groups' representatives' participation is more consistent than the

[27] Xenos, Dimitris, Comments on the Composition of EU Commission Expert Groups (August 30, 2014).
[28] Gornitzka, Å., & Sverdrup, U. (2010). Access of experts: information and EU decision-making. *West European Politics*, *34*(1), 48–70.
[29] Larsson, T., & Trondal, J. (2005). Agenda setting in the European Commission. How the European Commission Structure and Influence the EU Agenda.
[30] expert groups – letting corporate interests set the agenda? Yiorgos Vassalos, Corporate Europe Observatory

one of scientific and academic experts. This factor leads to diffused skepticism toward the justification of the existence of the groups themselves, thus depicting them more as fora for lobbyism than actual scientific-advisory committees. Furthermore, since internal discussions are not published regularly, doubts still remain when it comes to identifying which interests are pursued within the groups and what is the balance between them.

Type A members represent the most controversial case. Individuals hired in their personal capacity reflect the EC need for external and impartial expertise to shape science-based policy outcomes. The controversial aspect lays in weather the impartiality of these actors is real or not, since occasionally in the past they revealed not to be free of conflicts of interests [31]. Despite the introduction of a declaration of interests (DOI) in 2016 reform, strong links between the words of research and of industry are still difficult to detect and assess, originating obstacles in identifying the presence of conflicts of interests. Nonetheless, type A members play a key role in balancing the political or sectoral claims of different societal actors active in expert groups by presenting scientific contributions and studies. In the last years, as previous research showed (Eva Krick et Al), the number of type A members has been decreasing, thus reducing the impartial component of expert groups and damaging their output legitimacy.

With the exception of type D and E, expert groups' members are selected via public calls for application published on the Register. The selection process and scrutiny are conducted by the relevant DG that "*shall aim at ensuring, as far as possible, a high level of expertise, a geographical balance, as well as a balanced representation of relevant know how and areas of interest, taking into account the specific tasks of the expert group, the type of expertise required and the response received to calls for applications".*

Mode of operation

The horizontal rules on expert groups clarified different aspects of expert groups' nature and functioning, including their mode of operation and decision-making procedure.

In principle, expert groups shall adopt their opinions, recommendations or reports by consensus. In the event of a vote, the outcome of the vote shall be decided by simple

[31] John R. Moodie (2016) Resistant to Change? The European Commission and Expert Group Reform, West European Politics, 39:2, 229-256.

majority of the members. The members that voted against or abstained shall have the right to have a document summarising the reasons for their position annexed to the opinions, recommendations or reports. (Art. 16, Par.8)

Nonetheless, it's important to note that the specific procedures and decision-making mechanisms can vary between different expert groups, as they are established for specific purposes and areas of expertise. In fact, since the 2016 reform, expert group internally decide their own procedural rules, thus independently choosing between different methods. In the majority of cases, expert groups aim to adopt recommendations or opinions through consensus. This process often involves compromise and finding common ground, since members discuss and negotiate until a general agreement is reached among them. In some cases, if consensus cannot be reached, a vote may be taken. The specific rules for voting can vary, and the outcome may depend on a simple majority or other specified criteria. Moreover, the chairperson of the expert group plays a crucial role in facilitating discussions and guiding the decision-making process. They may help manage conflicts and ensure that all members have an opportunity to express their views.

2.2 Expert groups as key policy advisors

Expert groups represent arenas where knowledge and stakeholders' views meet and reach common agreements. The expert and consultative groups play a crucial role in tackling complicated technical issues by serving as forums for discussion, ideation, and intergovernmental dispute resolution, as well as groundbreaking structures which assist in enhancing the group's participants' common beliefs. Their advisory role is key to EU policymaking especially in the first phases of the policy process, participating in setting the agenda and formulating policy goals and tools. However, expert groups can be active also in the implementation phase of policies through monitoring outcomes and reporting on their implementation state by delivering useful data to policymakers that serve as evaluation feedback. In fact, the nature and composition of expert groups changes along with the policy process phase in which they intervene and, thus, their composition is strictly related to the task they are meant to fulfill. The influence and role of EC expert groups in each of these policy phases will be now analyzed in detail.

Agenda-setting

Setting the agenda is a social process in which the narrative, the priorities, and the solutions put out are often determined by all those involved. Actors can advance their own objectives and guarantee that their ideas are implemented by setting the agenda. A continual rivalry exists amongst many parties involved in policy development to influence the agenda and establish associated priorities. One tactic the Commission may use to deal with the growing number of items on its agenda is to recruit a lot of outside experts and specialists to help with initiative planning and legislative drafting. According to the Commission's White Paper on European Governance [32], one risk associated with this approach is that politics may be replaced by expertise:

'It is often unclear who is actually deciding – experts or those with political authority. At the same time, when the public is well informed it tends to increasingly question the content and independency of the expert advice that is given. These issues become more acute whenever the Union is required to apply the precautionary principle and play its role in risk assessment and risk-management'

However, findings of previous research show that the EC has been heavily relying on expertise while setting its agenda[33]. In fact, it is not unusual to discover that many groups of experts and consultants have contributed to a Commission proposal. Stated differently, the processes and frameworks that are employed prior to a proposal being made public can be highly intricate and multifaceted. In this complex framework, expert groups allow the EC to formulate proposals "pre-approved" by both Member States and influential interest groups, whose positions are often brokered by scientists and representatives of the academic world. Because of their intricate voting procedures, the Commission wants to work with Member States at a technical level in order to prevent the politicization of negotiations inside the Council of Ministers. Stated differently, through the utilization of expert groups, the Commission is less likely to encounter strong opposition from the larger Member States that hold greater voting power. This phenomenon explains furtherly why the majority of participants is composed of national civil servants [34]. On the other

[32] Commission, European Governance A White Paper. COM(2001)428 Final
[33] Larsson, T., & Trondal, J. (2005). AGENDA SETTING IN THE EUROPEAN COMMISSION How the European Commission Structure and Influence the EU Agenda.
[34] Adam William Chalmers (2014) Getting a Seat at the Table: Capital, Capture and Expert Groups in the European Union, West European Politics, 37:5, 976-992.

hand, the inclusion of lobbyists from the industry is used as a strategic tool to avoid external pressure while legislating, increasing the potential for them to support the process. At this point, the crucial question to answer is how do expert groups influence this stage of the policy process in practice? Firstly, the initiation phase of a policy process at the EU level is the least regulated by the Treaties, being it almost fully excluded by the control of the EUCO and the EP, and multiple actors intervene, originating a complex system of interactions. In this setting, the EC agenda is modified almost on a daily basis, taking into account societal, economic and environmental changes. Expert groups play a decisive role in reviewing existing legislation by gathering data and suggesting policy options to tackle the raised issue. Indeed, framing policy options and delivering guidelines for new legislation is an essential task of expert groups, which ultimately involve different branches of society with a view to develop rational policy options that fit for all. Furthermore, as mentioned before, expert groups serve as filters to derive which options can encounter major obstacles from Member States and societal organizations [35]. Their suggestions, recommendations, position papers and guidelines assist the EC in testing which policy options are more welcomed in the national arenas and the ones that aren't, with the consequence of directly influencing the content of the agenda. Finally, expert groups contribute to add predictability and stability to the policy process by filtering societal inputs and bridging conflicting positions within stakeholders.

Policy formulation

For what regards policy formulation, some contextualizing considerations are needed in order to further deepen expert groups' role in this phase. Policy formulation, especially at the European level, is the most crucial phase of the process, the one during which goals and tools are selected to reach the desired outcome. As a consequence, the external pressure towards EU institutions (mainly the EC) is at its peak, due to the fact that a multitude of actors wish to get involved and influence policy decisions in their favor. In this context, the EC has developed an epistemic network (composed of expert groups, agencies, research centers and observatories) to counter this pressure and to obtain external expertise. Moreover, expert groups do not always participate in the formulation

[35] Princen S., Rhinard M. (2006) Crashing and creeping: *agenda-setting dynamics in the European Union, Journal of European Public Policy,* 13:7, 1119-1132,

of policies, there are factors that increase the possibility of their involvement. Von Ballaert contributed vastly to this field by identifying the factors that enhance expert groups' consultation in policy formulation[36]. The empirical findings of his research stated that

DGs were significantly more likely to consult an expert group when the proposal under preparation was more transversal in nature and/or when that proposal treated standard-setting more pronouncedly.

Building from Von Ballaert's study, it's possible to derive that policy proposals with a horizontal nature tend to include expert groups in its formulation. This phenomenon can be explained logically, since expert groups usually serve as bridging fora for different actors and interests that can work through a multisectoral method. Moreover, as expert groups can properly advise a leading DG on the cross-cutting nature of a problem, seeking outside expertise is a feasible approach for the relevant DG. On the other hand, standard-setting is another crucial determinant of expert groups participation in policy formulation. In some cases, DGs do not possess the adequate amount of valid data to set indicators, standards and targets for a certain policy initiative. Seeking this information from private stakeholders and public national agencies is a strategy often implemented by DGs, which ultimately recur to the creation or consultation of expert groups to tackle the issue. The case study of the present paper will unveil the practical implications of this phenomenon, since the High-level Expert Group on Artificial Intelligence (AI HLEG) was key to set standards for new legislation (see third chapter). Furthermore, expert groups are more likely to be consulted in the drafting of new legislation, due to the need of multiple stakeholders' consultation and the demand of a vast amount of data to assess the impact of the new legislative measure. In order to assess when and how expert groups influence the formulation stage of the policy process it is indeed useful to make reference to the documents published by the EC under the voice "results of consultations with the interested parties and impact assessments". In practical terms, expert groups intervene in policy formulation through different tools such as opinions, recommendations, standard-setting, reports, guidelines and others. These tools constitute non-binding inputs to the EC, that remains free not to take them into account while legislating due to its almost exclusive right of initiative. Nonetheless, when consulted, experts' policy recommendations are usually reflected in the final legal texts of legislative proposals due

[36] The European Commission's use of consultation during policy formulation: The effects of policy characteristics. April 2017. European Union Politics.

to their problem-solving and consensus-building nature. Averagely, the composition of expert groups that intervene in the formulation of legislative proposals is mixed, including national representatives, scientific and technical experts, and private stakeholders. This heterogenous composition reflects the multiplicity of interests and actors involved in the "struggle" to exert influence over policy decisions.

Implementation and evaluation

Policy implementation in the EU is the phase that, after policy adoption, envisages the EC as main actor. In fact, the Commission is responsible for the monitoring and evaluation of policy implementation. In this phase, expert groups play a pivotal role in assessing the impact of the implemented measure and, eventually, in delivering recommendations on how to improve its real impact. This is the case for what regards the Expert Group on the Interim Evaluation of Horizon Europe, whose aim is to

Provide an independent, external perspective on the Framework Programme evaluation. The EG will draw up, in a report, strategic recommendations on maximising the impact of EU Research and Innovation programmes in the future. The group will base its report on the Horizon Europe interim evaluation and Horizon 2020 ex-post evaluation findings and conclusions, and the results of a European foresight exercise for future Research and Innovation policy. [37]

As mentioned before, the composition of expert groups varies along with their nature and the stage of the policy process in which they intervene. For what regards the implementation phase, expert groups' members are mainly of type A, thus independent individuals appointed in their personal capacity, which is the case of the abovementioned group on Horizon Europe implementation. The logical explanation of this phenomenon is that the presence of political and economic interests substantially decreases if compared to to the agenda-setting and formulation phases. However, national agents may be involved as well, since national bodies can play an important role in the monitoring stage of the policy process [38]. Science-based decision-making partially consists in periodic

[37] GROUP - E03906 - Commission Expert Group on the Interim Evaluation of Horizon Europe. Register of Commission expert groups and other similar entities

[38] Alemanno, Alberto, Science & EU Risk Regulation: The Role of Experts in Decision-Making and Judicial Review (May 1, 2007). EUROPEAN RISK GOVERANANCE - ITS SCIENCE, ITS INCLUSIVENESS AND ITS EFFECTIVENESS, Connex Report Series No. 6, E. Vos, ed., February 2008.

review of existing legislation [39]. Indeed, evaluating policies on the ground and elaborating constructive feedback is an operation at the core of the science-based method. To this end, external and impartial expertise is of essential importance in highlighting strengths and weaknesses of sectoral and cross-sectoral policies.

2.3 Impact assessment: delegated and implementing acts

As previously mentioned, expert groups play a significant role in the context of impact assessment procedures, which are strictly related to delegated and implementing acts in the European Union. Both distinguished in detail in Treaty of Lisbon, delegated and implementing acts are legal instruments that are part of the broader framework of EU law, and they are used to ensure the proper implementation and functioning of EU legislation. Delegated acts are non-legislative acts that supplement or amend certain non-essential elements of a legislative act that are delegated by the legislators (Council and Parliament) to the EC, usually to address specific technical details. Expert groups may be involved in the preparation and drafting of delegated acts, and they usually consist of experts from EU member states or stakeholders with relevant knowledge and expertise in the specific policy area. The European Commission, which is responsible for proposing legislation and ensuring its implementation, may consult expert groups during the preparation of delegated acts to benefit from specialized knowledge and to ensure a thorough and well-informed decision-making process. For instance, the still active expert group on climate change policy played a key role in the formulation of the Commission Delegated Regulation (EU) 2023/2776 on the rules and methods for monitoring and reporting greenhouse gas emissions and other relevant information for shipping [40]. In this case, the group contributed to update the criteria through which shipping-related gas emissions are monitored and reported at EU level. Additionally, expert groups can be involved in the development of implementing acts to provide technical expertise, advice, and input

[39] Décieux, J. P. P. (2020). How much evidence is in evidence-based policymaking: a case study of an expert group of the European Commission. *Evidence & Policy: A Journal of Research, Debate and Practice*, *16*(1), 45–63.
[40] Commission Delegated Regulation (EU) 2023/2776 of 12 October 2023 amending Regulation (EU) 2015/757 of the European Parliament and of the Council as regards the rules for monitoring greenhouse gas emissions and other relevant information from maritime transport

during the implementation phase[41]. Implementing acts are also non-legislative acts, but they are used to specify the practical details needed for the implementation of legislative acts and they are more focused on administrative and technical aspects rather than regulatory [42]. The European Commission may consult expert committees in the process of drafting and finalizing implementing acts to ensure that the measures are effectively and practically implemented at the national level [43]. The involvement of expert groups is often seen as a means to enhance transparency and involve relevant stakeholders in the decision-making process, especially at the technical level. European institutions, particularly the European Commission, are expected to consult expert groups and seek their input in a transparent and balanced manner. This consultation process helps gather diverse perspectives and ensures that the measures taken are well-founded and practical. Nonetheless, it is important to note that while expert groups provide valuable input, the decision-making authority ultimately rests with the European Commission or other relevant EU institutions. The use of expert groups aims to bring in technical expertise and stakeholder input to improve the quality and effectiveness of delegated and implementing acts within the EU legislative framework. In summary, impact assessments are conducted at the outset of the legislative process when developing primary legislation. Subsequently, when detailed rules are needed, as in the case of delegated acts, further impact assessments are conducted to ensure that the technical specifications are practical, effective, and aligned with the overall policy goals. This integrated approach helps foster evidence-based decision-making and contributes to the overall effectiveness of EU legislation.

2.4 EU expert groups and global challenges

[41] Before the Commission can adopt an implementing act, it must usually consult a committee in which every EU country is represented. The committee enables EU countries to oversee the Commission's work as it adopts an implementing act – a procedure referred to in EU jargon as 'comitology'.
[42] Clarifying the Divide between Delegated and Implementing Acts? Merijn Chamon, Legal Issues of Economic Integration. Volume 42, Issue 2 (2015) pp. 175 – 189
[43] Craig, Paul P., Delegated Acts, Implementing Acts and the New Comitology Regulation (October 1, 2011). European Law Review, Vol. 36, p. 671, October 2011, Oxford Legal Studies Research Paper No. 58/2011.

The EC utilizes expert groups' advice especially when facing challenges of global nature [44]. For instance, global challenges such as the Pandemic of Covid-19, the fast-spreading AI technology and its societal side-effects, economic crisis, climate change and cybersecurity issues have triggered a decisive participation of expert groups while addressing these challenges within the European Union [45]. Expert groups consist of individuals with expertise in specific fields related to the international challenge at hand. Therefore, they can provide in-depth analysis, technical knowledge, and insights that contribute to a better understanding of the issue and the development of effective responses. Moreover, expert groups can assist in formulating policies and strategies to address international challenges by bringing together experts from various relevant sectors. Through the adoption of this approach, the groups offer diverse perspectives that can inform the development of comprehensive and well-informed policies. Expert groups also help to assess the risks associated with the international challenge at hand. In fact, they are tasked to analyze potential consequences, vulnerabilities, and uncertainties, enabling policymakers to make informed decisions on risk management and mitigation strategies. In addressing international challenges, coordination and cooperation are often essential. Expert groups can help identify areas where collaboration with other countries, international organizations, or non-governmental entities is necessary. By adopting this strategy, they may also contribute to the development of common frameworks and standards. Furthermore, expert groups play a substantial role in monitoring the implementation of strategies and actions taken in response to international challenges. They can assess the effectiveness of policies, identify any shortcomings or adjustments needed, and contribute to ongoing evaluations. In situations that require rapid response, expert groups can provide real-time advice and support for crisis management, since their expertise helps policymakers make quick and informed decisions during rapidly evolving situations. Expert groups may also contribute to capacity-building efforts within the EU and its Member States to enhance their ability to respond effectively to international challenges. For instance, this could involve sharing best practices, providing training, and supporting the development of relevant skills and capabilities.

[44] Holst, C., & Tørnblad, S. H. (2015). Variables and challenges in assessing EU experts' performance. Politics and Governance, 3(1), 166-178.
[45] The higher is the level of technicality of a certain issue, the higher is the possibility for expert groups to be involved when assessing how to solve it.

2.5 Critiques and weaknesses: transparency, equal representation, openness

In the previous paragraphs some references were made to the critiques advanced to the EC due to the opaque and unequal composition of expert groups. The proliferation of expert groups in the last decades stimulated the creation of a consistent body of literature on the issue, and academics ultimately focused on their composition as the trigger of inequalities and misrepresentation of societal actors. More importantly, there was an increase in the loudness through which MEPs, Eurosceptics, and pressure organizations demanded more transparency and openness in EU decision making. Their objection centers on the Commission's expert groups system, arguing that the advisory system undercuts democratic values since it is controlled by a small group of powerful corporate interests. In fact, issues related to transparency and fair composition originated doubts on expert groups' democratic and scientific value to the point that the European Ombdusman launched an official investigation on the matter. Furthermore, private and public associations and observatories has been monitoring the functioning of expert groups, especially their composition, with a view to verify that their nature is in line with EU goals and principles. Building on the existing literature, the present paragraph intends to provide a deepening on the issue by highlighting the most controversial aspects behind the approach of the EC towards these mounting critiques and objections.

Corporate dominance as key challenge

The issue of corporate dominance has been at the heart of the contestation against the opaque role and functioning of expert groups [46]. The contestation is focused on the democratic legitimacy of expert groups and the core principle of their nature consisting in expertise delivery. Considering that the representation of interest groups (along with academics, national representatives, NGOs etc.) is the norm, the issue is reflected by their unproportionate representation in expert groups. In other words, academics and public associations argued that expert groups are arenas of selected lobbyism. Thus, expert

[46] Secrecy and corporate dominance - a study on the composition and transparency of European Commission Expert Groups. Alter-EU, March 2008.

groups would serve as fora for societal consultations, which usually comprise feedback from privates and industry, rather than problem-solving fora for debates on technical aspects dealt with by EU legislation. Industry influence on expert groups has been the central critique, to the point that the European Ombdusman launched an investigation on their transparency and composition in 2014 [47]. The outcome of the inquiry consisted in recommendations to the EC, that ultimately included a request for a more balanced representation, more openness in the selection process, and the request for more rigid controls on Type A participants (one such request was the publication of their CV). The Commission, initially reluctant to act, welcomed these recommendations and therefore approved the new horizonal rules, reformed the register in 2016 and improved open calls for participants [48]. Nonetheless, the composition of expert groups is under total control of the EC, reason due to which there has not been a radical change in practice. Inevitably, expertise on certain matters can only (or more easily) be retrieved in the industry world, originating an over-representation of specific interests within expert groups. Moreover, reports showed that SMEs (small and medium enterprises), even if representing 99% of EU business, have been poorly represented if confronted to multi-national and big national enterprises.

Openness

Another stream of critiques centered on the elitist and closed nature of expert groups. This provided support for claims that EU governance is technocratic; in particularly, there were concerns that this phenomenon could potentially violate democratic norms and principles [49]. In fact, the EP and pressure groups pushed the EC to strengthen the pluralistic approach behind the creation of expert groups through a reform of the recruiting system parallel to the one on transparency. However, the EC showed stronger resistance when facing the demands of a more substantial participation of the European citizens in expert groups. Interestingly, in the view of the Commission, quality of decision-making and effectiveness of its outcomes are priorities that should not be hampered by widening

[47] European Ombdusman, Press release No. 12/2014 Ombudsman opens investigation into Commission's expert groups. 14 May 2014.
[48] Commission, establishing horizontal rules on the creation and operation of Commission expert groups. COM C(2016)3301
[49] Corporate interests continue to dominate key expert groups: New rules, little progress. Corporate Europe Observatory, 14.02.2017.

citizens' involvement in the groups. As EC officials stated, citizens can actively participate through their membership to NGOs, which are often included in expert groups, rather than finding other paths of inclusion. Ultimately, wide societal consultations are an already existing praxis of EU policymaking, thus it would be damaging to the effectiveness of the process to include citizens in highly specialized expert groups. Nonetheless, the system of open calls was improved through the introduction of minimum criteria on expert group composition, showing that the EC had the willingness to meet, even if partially, demands for more openness and accessibility of expert groups [50].

Overall, the EC has improved the regulating framework of expert groups as a consequence of the multiple critics coming from both within and outside EU institutions. This happened through a double reform that allowed for more transparency (Register's improvement) and more openness of the process (open calls' improvement). However, the balance of interests represented within expert groups is still hard to trace, since this kind of information is kept unpublished by the EC, which is keen to maintain control over their functioning and composition.

2.6 Overview of the most impactful expert groups

Nowadays, the EC counts 1094 expert groups. As mentioned above, not all of them are active, but they can be required to reactivate in order to participate in the making of a legislative measure of their competence. Expert groups may assist the EC in the configuration of policy options and tools, they may be tasked with the drafting of an evaluation report or be asked to formulate delegated acts [51]. The nature of expert groups determines their purpose. For instance, while some expert groups are tasked to provide guidelines and principles for policymaking, others are created to evaluate policies and to identify the best ones. Their role in policymaking can be multi-faceted in relation to the goal they are meant to pursue. Their opinions are not binding to the EC, but they can substantially influence the legislative framework of any EU proposal. To the purpose of this paper, some examples of recent and still active expert groups are given to unveil their influence on EU policymaking in practical terms.

[50] Gonçalves, M.E. (2017). Transparency, openness and participation in science policy processes.
[51] Commission, Decision C(2016) 3301 final

Crisis' management: Commission's advisory panel on COVID-19

As previously stated, expert groups tend to play a pivotal role when the EU is facing crisis of global and complex nature. On the 16th of March 2020, immediately after the breakout of the Covid-19 pandemic, the EC created the advisory panel on COVID-19 [52]. The group, chaired by President Von der Leyen and composed by 10 high-level national experts (type A), was assigned the delicate task to deliver horizontal recommendations on how to tackle the effects of the pandemic in the short, medium and long term, and assessing which response measures lacked efficiency within the EU. The life cycle of the panel was extended multiple times, due to the long-lasting nature of the pandemic's effects and the need to address constantly emerging issues. In fact, 18 meetings took place, and 18 reports were published between March 2020 and January 2022. The main area of focus of the group's recommendations and guidelines was the healthcare system and, consequently, the prevention, mitigation and reduction of infections was the prioritized goal [53]. Overall, the panel offered crucial advise to the EC in relation to the strategy and actions to undertake in the different phases of the pandemic.

Evaluation experts: Commission Expert Group on Quality Investment in Education and Training

The Commission expert group on quality investment and training represents one of the most valid examples of the key role played by experts in evaluating existing policies in order for the institutions to improve them. The group was created in May 2021 by Mariya Gabriel (Commissioner for Innovation, Research, Culture, Education and Youth), and its overarching goal is to conduct an evidence-based assessment of training and education policies in order to determine which ones enable the dual goals of increasing inclusiveness and educational outcomes as well as increasing expenditure efficiency [54]. Furthermore,

[52] [Decision C(2020)1799 final] - Commission Decision of 16.3.2020 setting up the Commission's advisory panel on COVID-19

[53] Hussein Kassim (2023) The European Commission and the COVID-19 pandemic: a pluri-institutional approach, Journal of European Public Policy, 30:4, 612-634.

[54] Commission, INFORMAL COMMISSION EXPERT GROUP ON QUALITY INVESTMENT IN EDUCATION AND TRAINING TERMS OF REFERENCE. Directorate-General Education, Youth, Sport and Culture Directorate Policy Strategy and Evaluation. Brussels, 15.02.2021

this group exclusively involves participants appointed in their personal capacity (Type A), thus composing an "experts only" formation of 15 members (8 females, 7 males). The group's aim is to provide the EC with solid proof about the expected costs and benefits of specific education and training policies, along with the obstacles encountered in implementing those policies into practice and in the evaluation process. At the end of the analysis, the group published a detailed report (2022) which ultimately consisted in an evidence-based guidance document for Member States that is grounded in evidence and offers more thorough information on the costs, effects, and difficulties associated with implementing critical policies [55]. The group of experts identified many innovative education programs that, whilst meriting additional testing at the EU Member State level, were made possible by the review of the topics carried out for the report. This group's work demonstrates the diffuse need for experimentation and assessment in the planning and effective creation of policy interventions that are tailored to the unique local, regional, or national contexts [56].

Establishing best practices: High Level Expert Group on Fake News and Online Disinformation

The uncontrolled spread of fake news on the internet called for the European institutions to intervene in order to protect citizens and educate them to acquire information properly. A high-level expert group was established by the European Commission in January 2018 to provide guidance on policy measures aimed at preventing the spread of fake news online. The primary output of the HLEG was a report that examined best practices in the context of guiding principles and appropriate solutions derived from those principles. More specifically, The Commission is advised by the HLEG to avoid taking simplistic decisions. It is obvious that censorship of any kind, whether private or public, should be avoided. Rather, the goals of the HLEG's recommendations are to offer immediate solutions to the most urgent issues, longer-term solutions to strengthen society's resistance to misinformation, and a framework for making sure that the efficacy of these solutions is continually assessed as new evidence-based solutions are created.

[55] European Commission, Directorate-General for Education, Youth, Sport and Culture, Investing in our future – Quality investment in education and training, Publications Office of the European Union, 2022.
[56] Haase, S. S. (2022). Interim report of the Commission expert group on quality investment in education and training.

Nowadays, in contexts of volatile speculation originated from and through online platforms, the task of building a proper framework to enhance quality of information is a matter of extreme delicacy. The final HLEG's report adopted a multi-dimensional approach to tackle the issue, which is based on 5 pillars:

1. *enhance transparency of online news, involving an adequate and privacy-compliant sharing of data about the systems that enable their circulation online;*
2. *promote media and information literacy to counter disinformation and help users navigate the digital media environment;*
3. *develop tools for empowering users and journalists to tackle disinformation and foster a positive engagement with fast-evolving information technologies;*
4. *safeguard the diversity and sustainability of the European news media ecosystem, and*
5. *promote continued research on the impact of disinformation in Europe to evaluate the measures taken by different actors and constantly adjust the necessary responses.* [57]

Overall, the horizontal principles established by the HLEG served as a crucial point of reference for the formulation of the Digital Service Act [58] (DSA) by the EC. Under this Regulation, along with other crucial goals, more concrete measures were taken to fight the spread of disinformation campaigns and to enhance controls and checks over the process.

Enhancing the green transition: High-Level Expert Group on Sustainable Finance

Expert groups have been widely consulted in relation to strategies and tools to adopt in order to reach sustainable objectives in line with UN agenda 2030 [59] and, more generally,

[57] A multi-dimensional approach to disinformation. Report of the independent High-level Group on fake news and online disinformation. Luxembourg: Publications Office of the European Union, 2018.

[58] Regulation (EU) 2022/2065 of the European Parliament and of the Council on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act). Official Journal of the European Union, L 277/1.

[59] UN (2015). Transforming Our World: The 2030 Agenda for Sustainable Development. Resolution Adopted by the General Assembly on 25 September 2015, 42809, 1-13.

to address the green transition. One of the crucial strategies consists in intervening in the financial sector to substantially increase investments towards sustainable practices. For this reason, high-level expertise was required from the EC to build a coherent and successful strategy [60]. In the words of Commissioner responsible for Financial Stability, Financial Services and Capital Markets Union:

"*The signature of the Paris agreement in 2015 marked a milestone for the world and for the global economy. We are now moving towards a low-carbon society, where renewable energy and smart technologies improve our quality of life, spurring job creation and growth, without damaging our planet. Finance has a big role to play in funding a sustainable future. I welcome the outstanding work of the HLEG which is excellent input for our upcoming strategy"*

More precisely, the Commission outlined the HLEG's objective as providing recommendations on how to better incorporate sustainability considerations into the EU's financial policy framework, safeguard the protection of the financial system's stability from threats to the environment's stability, and how to channel capital to finance sustainable investments and growth, especially from private sources [61]. The HLEG was specifically requested to offer guidance on how to direct the flow of public and private funds into environmentally friendly projects and to determine the actions that financial supervisors and institutions should take to safeguard the financial system's stability from hazards associated with the environment. The cross-cutting recommendations of this group served as key framework to start a long process of European financial reconversion towards a sustainable economy [62].

[60] Commission Decision on the creation of a High-Level Expert Group on Sustainable Finance in the context of the Capital Markets Union, C(2016) 6912 final
[61] C. Thimann, How the EU learned to love sustainable finance: the inside story of the HLEG. 2019, London School of Economics
[62] FINANCING A SUSTAINABLE EUROPEAN ECONOMY. Final Report 2018 by the High-Level Expert Group on Sustainable Finance Secretariat provided by the European Commission

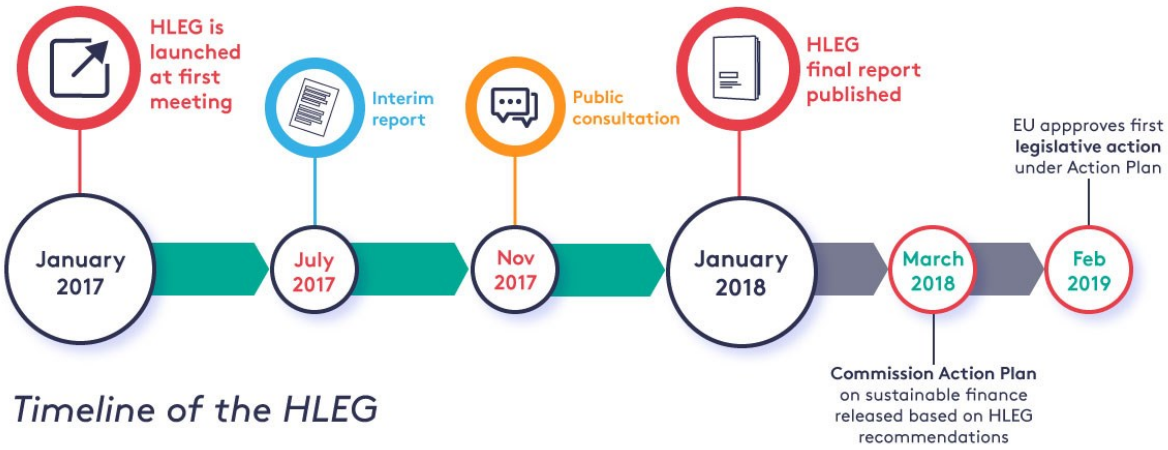

Figure 1. Timeline of the HLEG on Sustainable Finance (London School of Economics)

Exchanges of views between stakeholders: High-Level Group on Energy-Intensive Industries

Energy-intensive industries are the ones that use significant quantities of energy as part of their primary economic activities. The consultation process with these stakeholders is of primary importance for the EC in order to build a solid and consensus-oriented strategy to address their issues in relation to sustainable objectives. Due to this reason, the high-level expert group on energy-intensive industries was created with the aim of gathering opinions, suggestions, and knowledge from the relevant actors in this field (i.e., Member States, industries and organizations representing energy-intensive industries and associated other businesses, and other public agencies). The HLG enables the Commission to regularly engage with and gather input from the primary stakeholders for the creation and execution of EU policies pertaining to energy-intensive industry. Still active, the main task of the group is to identify the strategic priorities and challenges faced by energy-intensive industries, particularly with regard to the green and digital transitions, and the need for increased resilience, in order to advise and support the Commission in the formulation of policy initiatives pertaining to or affecting these industries [63]. Furthermore, the group acts as a privileged forum for views' exchange with a view to improve policies and tools to be implemented. The main theme of the recommendations was the necessity of creating an all-encompassing master plan for energy-intensive, low-

[63] Commission Decision setting up the Commission High Level Expert Group on Energy Intensive Industries, C(2020) 7929 final

carbon, and competitive sectors [64]. A solid regulatory framework for the EU, which should include energy and climate policies as well as provide businesses long-term predictability, was additionally requested by the industry. The group is composed of 11 industry sectors, together with 17 member states, unions and NGOs representatives. In practice, the group substantially contributed to the formulation of EU long-term strategy to reach climate-neutrality.

Multistakeholder expert group to support the application of Regulation (EU) 2016/679 (GDPR)

The GDPR [65] (General Data Protection Regulation) has been one of the most powerful and impactful pieces of legislation in EU history. The responsible management of personal data by companies and organisations is a matter of crucial importance in contemporary society. For this reason, the EC created an expert group in 2017 to support GDPR implementation and improvement over the years. The multistakeholder group advises the Commission on how to handle any potential issues that may arise when implementing the GDPR by helping to identify them from the viewpoint of different actors involved. Additionally, the group was tasked to deliver recommendations to the Commission on how to raise knowledge of the new laws among multiple stakeholders, such as the public and businesses, at the appropriate level [66] . Moreover, the group aids the Commission regarding the preparation of delegated acts and, if appropriate and required, the early preparation of implementing acts to be adopted under the GDPR, before submission to the committee, also taking into account pertinent studies. Lastly, the group published an evaluation report on GDPR application in 2020, inside which key input from companies and organisations were gathered in order to assess the real impact of the Regulation and identify its main strengths and weaknesses.

[64] Masterplan for a Competitive Transformation of EU Energy-intensive Industries Enabling a Climate-neutral, Circular Economy by 2050. Report by the High-Level Group on Energy-intensive Industries, Luxembourg: Publications Office of the European Union, 2019

[65] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) [2016] OJ L 119/1

[66] Commission, MULTISTAKEHOLDER EXPERT GROUP TO SUPPORT THE APPLICATION OF REGULATION (EU) 2016/679. Brussels, 31 March 2022.

Expert Group on Taxation of the Digital Economy

The taxation of the digital economy has been a complex and evolving issue, and international efforts have been made to address the challenges posed by the digitalization of business activities. One of the challenges in taxing the digital economy is the ability of digital businesses to operate across borders with a significant online presence, often without a physical presence in the locations where they generate revenue. Traditional tax rules were designed for a brick-and-mortar business environment, and they may not adequately capture the value created by digital businesses, such as online advertising, data-driven services, and digital platforms. The digital economy has been growing at a rapid rate, therefore creating a tax response needed to happen quickly. As a result, the high-level expert group on taxation of the digital economy was created in 2013, it began working before the year ended and submitted a report to the Commission on May 28, 2014. The group had evaluated the advantages and disadvantages of many techniques to determine the most effective ways to tax the digital economy in the EU. Its main goals were to outline the main issues with digital taxation from an EU standpoint and offer a variety of potential remedies. Finally, the group, composed by 6 national experts, presented its final report to the Commission, which represented the main cornerstone for all of the future legislation on taxation of the digital economy. [67]

[67] COMMISSION EXPERT GROUP ON TAXATION OF THE DIGITAL ECONOMY Report. Brussels, 28/05/2014.

CHAPTER III - CASE STUDY: HIGH-LEVEL EXPERT GROUP ON ARTIFICIAL INTELLIGENCE

The high-level expert group (HLEG) on artificial intelligence (AI) is selected as case study for the present dissertation. The reasons behind this choice are multi-faceted and, consequently, must be explained. In the first place, the recent introduction of AI technologies in the global market originated and shaped new and different approaches, which are ultimately interesting to analyze in light of different policymaking models [68]. Our analysis is focused on the European Union's setting, in which technological advancement plays a pivotal role. In fact, EU's approach towards the green transition is inextricably linked to digital innovation, that represents the ultimate tool to reach a net-zero emissions' economy. Furthermore, the competition driven by the US, widely considered the historical pioneer of technological advancement (the government of the United States presented an AI strategy and invested around EUR 970 million in unclassified AI research in 2016 [69]), and China (with its 'Next Generation Artificial Intelligence Development Plan', China is targeting global leadership by 2030 and is making massive investments [70]) has the effect of enforcing European AI solutions. As a result, the EU launched the Digital Strategy with a view to boost investments in research and innovation (i.e., around EUR 1.1 billion has been invested in AI-related research and innovation during the period 2014-2017 under the Horizon 2020 research and innovation programme) and ensure the safety and security of its own supply chain. In this context, AI systems can provide crucial tools to deliver better healthcare, safer and cleaner transport and improved public services along many other policy outcomes. It is therefore crucial to analyze the role of the HLEG on AI with regard to the strategy and decisions adopted by the Union in this particular field.

[68] D. Gungen, Three Approaches to AI Governance. APCO Worldwide, October 17, 2023.
[69] THE NATIONAL ARTIFICIAL INTELLIGENCE RESEARCH AND DEVELOPMENT STRATEGIC PLAN National Science and Technology Council Networking and Information Technology Research and Development Subcommittee. October 2016.
[70] Wu, F., Lu, C., Zhu, M., Chen, H., Zhu, J., Yu, K., ... & Pan, Y. (2020). Towards a new generation of artificial intelligence in China. *Nature Machine Intelligence*, *2*(6), 312-316.

3.1 AI technology in the EU: definition and contextualization

Definition

Artificial Intelligence (AI) refers to the development of computer systems that can perform tasks that typically require human intelligence. These tasks include learning from experience, understanding natural language, recognizing patterns, solving problems, and making decisions [71]. The HLEG provided a comprehensive definition of AI in 2020:

"Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by humans that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal. AI systems can either use symbolic rules or learn a numeric model, and they can also adapt their behaviour by analysing how the environment is affected by their previous actions. As a scientific discipline, AI includes several approaches and techniques, such as machine learning (of which deep learning and reinforcement learning are specific examples), machine reasoning (which includes planning, scheduling, knowledge representation and reasoning, search, and optimization), and robotics (which includes control, perception, sensors, and actuators, as well as the integration of all other techniques into cyber-physical systems)." [72]

For the sake of clarity, it is possible to distinguish AI in relation to their types and functionalities.

There are two main types of AI:

1) Narrow or Weak AI: This type of AI is designed and trained for a particular task. It operates within a limited context and doesn't possess the broad range of abilities

[71] Russell, S. J. 1., Norvig, P., & Davis, E. (2010). *Artificial intelligence: a modern approach.* 3rd ed. Upper Saddle River, NJ, Prentice Hall.
[72] The European Commission's HIGH-LEVEL EXPERT GROUP ON ARTIFICIAL INTELLIGENCE, A DEFINITION OF AI: MAIN CAPABILITIES AND SCIENTIFIC DISCIPLINES Definition developed for the purpose of the deliverables of the High-Level Expert Group on AI, Brussels, 18 December 2018

that a human brain does. Examples include virtual personal assistants like Siri or Alexa, image recognition software, and recommendation algorithms.

2) General or Strong AI: This refers to a hypothetical AI that possesses the ability to understand, learn, and apply knowledge across a broad range of tasks similar to a human being. General AI would have the capacity to perform any intellectual task that a human can. Currently, we only have narrow or weak AI, and the development of general AI remains a topic of ongoing research and speculation [73].

AI systems can be further categorized based on their functionalities [74], such as:

1) Machine Learning (ML): A subset of AI, machine learning involves the development of algorithms that allow computers to learn from data. Instead of being explicitly programmed for a task, a machine learning system can improve its performance over time as it is exposed to more data.
2) Natural Language Processing (NLP): it focuses on the interaction between computers and humans through natural language. NLP enables machines to understand, interpret, and generate human language.
3) Computer Vision: it involves the development of algorithms and systems that enable computers to interpret and understand visual information from the world, such as images and videos.
4) Expert Systems: AI systems designed to mimic the decision-making abilities of a human expert in a particular domain by using knowledge-based rules to make decisions or solve problems. [75]

The field of AI is dynamic and evolving rapidly, with ongoing research and advancements continually expanding its capabilities. Due to AI technologies' rapid development, the EU is firmly motivated to build a consistent legislative framework for its introduction on the European market. Indeed, an inadequate regulation of this powerful tool could lead to misusage and negative effects for European citizens, whose rights ought to be protected. Overall, The EU recognizes the transformative potential of AI and aims to ensure that its

[73] Flowers, J. C. (2019, March). Strong and Weak AI: Deweyan Considerations. In *AAAI spring symposium: Towards conscious AI systems* (Vol. 2287, No. 7).
[74] Deng, L., & Liu, Y. (Eds.). (2018). *Deep learning in natural language processing*. Springer.
[75] Hayes E., Types of AI: 9 Branches of Artificial Intelligence. April 26, 2023

development and deployment align with European values, principles, and legal frameworks [76].

Which sectors benefit the most?

AI has the potential to impact a wide range of sectors, and its benefits can vary depending on the specific application and industry context. Undoubtedly, AI has a major impact on the healthcare sector [77]. In fact, AI is being used for medical image analysis, drug discovery, personalized medicine, and predictive analytics. Furthermore, its implementation can enhance diagnostic accuracy, improve treatment plans, and streamline administrative processes (AI is saving lives in Denmark by enabling emergency services to identify cardiac arrests and other illnesses from the sound of a caller's voice. By rapidly comparing x-rays with a wealth of other medical data, AI is assisting radiologists in Austria in conducting more accurate tumor detection). Furthermore, AI plays a key role in relation to the financial sphere. In this field, AI is used for fraud detection, algorithmic trading, credit scoring, and customer service. Machine learning models can analyze vast amounts of financial data to identify patterns and make predictions on the trends of the financial market [78]. Without a doubt, AI systems have had a profound impact on robotics by transforming the capabilities, efficiency, and applications of robotic technologies. Indeed, the integration of AI into robotics has led to several significant advancements and improvements in various aspects of robotic systems [79]. The automotive industry is another sector that largely benefits from AI in autonomous vehicles, predictive maintenance, and manufacturing processes. Moreover, AI algorithms enhance safety and efficiency on the roads with a view to substantially reduce fatalities. The educational sector could be radically changed by the introduction of AI systems which would offer new opportunities for both students and educators. In fact, AI can be used for personalized learning, intelligent tutoring systems, and grading automation. More importantly, it helps tailoring educational experiences to individual students,

[76] Commission White Paper On Artificial Intelligence - A European approach to excellence and trust. COM(2020) 65 final

[77] Racine, E., Boehlen, W., & Sample, M. (2019, September). Healthcare uses of artificial intelligence: Challenges and opportunities for growth. In *Healthcare management forum* (Vol. 32, No. 5, pp. 272-275). Sage CA: Los Angeles, CA: SAGE Publications.

[78] Cao, L. (2022). Ai in finance: challenges, techniques, and opportunities. *ACM Computing Surveys (CSUR)*, *55*(3), 1-38.

[79] Brady, M. (1985). Artificial intelligence and robotics. *Artificial intelligence*, *26*(1), 79-121.

provides valuable insights for educators, and radically alleviates administrative burdens [80]. Energy efficiency and the optimization of its consumption is a crucial factor nowadays in the Union to reach sustainable targets. Indeed, AI can assist to increase efficiency and reduce costs in the production and distribution of energy. Lastly, AI has the potential to improve the agricultural sector, since it can be used for precision farming, crop monitoring, and yield prediction. AI technology enables farmers to make data-driven decisions, optimize resource usage, and improve overall productivity. It's important to note that the impact of AI is dynamic, and new applications and benefits continue to emerge. Additionally, the regulatory and ethical considerations surrounding AI use are evolving.

International context: leading countries and firms

AI research is a worldwide undertaking. While the United States and China receive a lot of attention for their contributions to artificial intelligence, the reality is that nations all around the world are experimenting with this technology, finding new breakthroughs, and drawing interest from private investors. Global AI private investment have reached $91.9 billion in 2022 by Stanford's Artificial Intelligence Report 2023, but this is only the beginning. Global investment in AI is expected to reach $110.2 billion by the end of 2023 and increase to $158.4 billion in 2025, according to Goldman Sachs predictions. Based on rankings from Stanford's Artificial Intelligence Index Report 2023, Mirae Assets' Global X AI investment survey, and the Global AI Index, this paragraph will look at the top nations and firms in the world of artificial intelligence.

1) The United States

According to Mirae Assets, $249 billion in private money has been raised to date, while Macro Polo reports that about 60% of "top tier" AI researchers work for American colleges and firms, making the United States the most prolific country in AI research today. Some of the largest vendors in the market, such as OpenAI, Google, Meta, and Anthropic, are based in Silicon Valley alone. These companies have helped create ground-breaking technologies including GPT-4, DALL E-3, Bard, Llama 2, and Claude 2. With 100 million weekly active users, GPT-4 is without a doubt the golden goose of the AI race

[80] Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *Ieee Access*, *8*, 75264-75278.

at this point in its development. Additionally, the US government is making significant investments in AI research and development, having spent $3.3 billion in 2022.

2) China

China is the second-largest contributor to AI research, having produced $95 billion in private investment between 2022 and 2023 (Macro Polo), and employing 11% of the world's best AI experts. With new releases like Tencent's Hunyuan large language model (LLM), a Chinese counterpart to ChatGPT, Huawei's Pangu LLM with 1.085 trillion parameters, and Baidu's Ernie AI model, which the company claims offer capabilities on par with GPT-4, these companies are leading the nation in AI innovation. The Chinese government is also making significant investments in the AI arms race; according to IDC, China's spending will amount to $38.1 billion by 2027, or 9% of global investment.

3) United Kingdom

The United Kingdom has been a major player in the AI race for many years. With a current worth of $21 billion, which the International Trade Administration (ITA) projects will reach $1 trillion by 2035, the U.K. is really the third-largest AI market in the world, behind the U.S. and China. The nation has a plethora of AI firms in the area, such as Darktrace, which leverages AI to give businesses the capacity to identify cloud-based risks in real time, and DeepMind, the top AI development lab behind AlphaGo and AlphaFold.

4) Israel

The Israeli IT industry has emerged as a leader in artificial intelligence development, with $11 billion in private investment made between 2013 and 2022 (Mirae Asset), the fourth-highest amount globally. As of 2023, 144 generative-AI-related firms were operating in the nation, and $2.3 billion had been invested in this space, according to Ctech. Additionally, plans to contribute $8 million to boost the creation of AI apps in Hebrew and Arabic have been made public by the Israeli government. Several well-known AI-driven businesses are based in the area, such as SentinelOne, an enterprise security AI provider, AI21 Labs, the maker of Wordtune, an AI-driven cybersecurity platform, and Deep Instinct.

Overall, even though China and the United States are leading the AI arms race, creating AI-driven solutions is a global endeavor. Significant advancements in this technology are being made everywhere in the world, from Israel in the Middle East to the UK, France,

and Germany in Europe to India, Japan, and Singapore in Asia. In this highly competitive and expanding context, the EU set its own ambitious strategy to become one of the main world leaders in the field of artificial intelligence.

3.2 The European AI Strategy

In 2018, the Commission, following an invitation by the European Council to put forward a European approach to AI, launched its own strategy through a Communication [COM(2018) 237 final] that paved the way forward in the field of AI.

Like the steam engine or electricity in the past, AI is transforming our world, our society and our industry. Growth in computing power, availability of data and progress in algorithms have turned AI into one of the most strategic technologies of the 21st century. The stakes could not be higher. The way we approach AI will define the world we live in. Amid fierce global competition, a solid European framework is needed.

The EU's AI strategy encompasses various initiatives, regulations, and guidelines aimed at fostering innovation, ensuring transparency, and addressing ethical concerns. It comprehends the innovative Artificial Intelligence Act (AI Act) which is at the latest stage of its legislative process, the Ethics Guidelines for Trustworthy AI, the Digital Europe Programme and other initiatives in the international arena. Within the framework of its AI Strategy, since June 2018 the European Commission has been holding open discussions with academic institutions, governmental bodies, trade unions, individuals, civil society, industry and consumer organizations, and experts. This strategy attempts to tackle the new issues that AI presents as well as to maximize the benefits it offers. The launch of the AI Alliance represented a first important step towards a common European strategy. It began as an online discussion forum and has now grown into a thriving community that has helped shape some of the most significant legislative initiatives in the field of artificial intelligence in recent years. Overall, the European AI Alliance is a forum established by the European Commission to facilitate collaboration and dialogue on AI between various stakeholders, including researchers, industry representatives, policymakers, and civil society organizations. The goal of the European AI Alliance is to engage a broad range of perspectives and expertise in shaping the European Union's approach to AI, including the development of policies and ethical guidelines. It is in this

dynamic and evolving context that the HLEG on AI was set up by the Commission with the goal of steering the AI Alliance's work and delivering crucial documents.

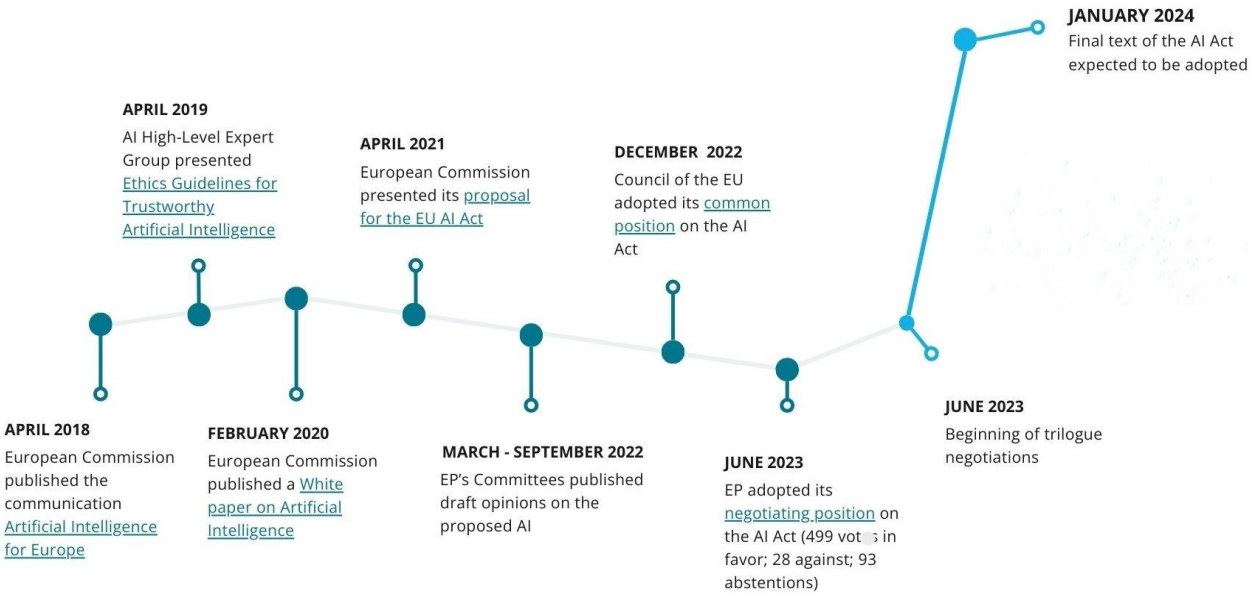

Figure 2. Timeline of EU AI Strategy (CMS)

Coordinated Plan on AI

In 2018 the Coordinated Plan on Artificial Intelligence was published. The Commission, EU member states, Norway, and Switzerland have all committed to maximizing Europe's competitiveness on a global scale. Actions and funding sources for the adoption and advancement of AI across industries were outlined in the original plan that, additionally, urged Member states to create their own national strategies accordingly. Overall, the first two years of implementation have demonstrated that the EU's leadership in AI development and adoption, as well as its ability to compete globally, depend heavily on coordinated efforts and organized cooperation between Member States and the Commission. The majority of Member States have approved and begun implementing national AI strategies. The EU was able to mobilize vital resources to assist these processes, and investments in AI have risen significantly. The Coordinated Plan was

reviewed in 2021, year in which the last update was published [81]. The reviewed Plan delivers to the European Commission and Member States a specific set of joint actions to take in order to establish EU worldwide leadership in trustworthy artificial intelligence (i.e. increasing investments, proper implementation of AI national strategies, harmonization of AI policies across the Union). Most importantly, the Coordinated Plan serves as guidelines on how to properly utilize EU funding resources in the field of AI. In fact, the resources allocated by Horizon Europe, the Recovery and Resilience Fund (RRF) and the Digital Europe Programme can be used to ensure the development and deployment of trustworthy AI at the national level.

COUNTRY	STATUS	DATE
Austria	In progress	
Belgium	In progress	
Bulgaria	Published	Dec 2020
Croatia	In progress	
Cyprus	Published	Jan 2020
Czechia	Published	May 2019
Denmark	Published	Mar 2019
Estonia	Published	Jul 2019
Finland	Published	Oct 2017
France	Published	Mar 2018
Germany	Published	Nov 2018
Greece	In progress	
Hungary	Published	Sep 2020
Ireland	In progress	

COUNTRY	STATUS	DATE
Italy	In progress	
Latvia	Published	Feb 2020
Lithuania	Published	Mar 2019
Luxembourg	Published	May 2019
Malta	Published	Oct 2019
Netherlands	Published	Oct 2019
Norway	Published	Jan 2020
Poland	Published	Dec 2020
Portugal	Published	Jun 2019
Romania	In progress	
Slovakia	Published	Jul 2019
Slovenia	In progress	
Spain	Published	Dec. 2020
Sweden	Published	May 2018

Table 1. National AI strategies, EU Member States and Norway (by date of initial adoption). Source: AI watch – European Commission[82]

[81] Annexes to the Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions Fostering a European approach to Artificial Intelligence. COM(2021) 205 final

[82] The data in the table was compiled in the framework of AI Watch using input from public sources and national contact points. This table includes Norway as an affiliated country in addition to EU members. The last update to the table was made on April 14, 2021.

The White Paper on AI

European Commission's white papers are documents containing proposals for EU action in a specific area. In some cases, they follow on from a green paper published to launch a consultation process at EU level. Generally, the purpose of a White Paper is to launch a debate with the public, stakeholders, the European Parliament and the Council in order to arrive at a political consensus. The White Paper on AI [83] was published by the EC at the beginning of 2020 as the crucial document to pave the way forward towards a coherent introduction of AI technology in Europe. Firstly, the Paper proposed a risk-based approach to AI, categorizing AI applications into three risk levels - unacceptable risk, high risk, and low risk. High-risk applications, such as critical infrastructure, healthcare, and law enforcement, would be subject to more stringent regulations. Furthermore, the white paper discussed the possibility of a regulatory framework for high-risk AI applications, including conformity assessments, transparency obligations, and requirements for human oversight. Another key element is the emphasis on the importance of data governance, highlighting the need for high-quality and unbiased data for AI systems. The document suggested measures to enhance data sharing and availability for AI development while respecting privacy and data protection rules. Strategically, the EU aimed to lead in shaping international norms and standards for AI. In this sense, the White Paper encouraged collaboration with international partners to ensure a global approach to the development and deployment of AI technologies. Most importantly, the recommendations and insights provided by the HLEG on AI were instrumental in influencing the content of the EU's White Paper on AI. The document outlined the EU's strategy for AI, emphasizing principles such as human-centric AI, transparency, and accountability. The collaboration with the HLEG on AI reflected the EU's commitment to engaging with a diverse range of stakeholders and incorporating expert perspectives in the development of policies related to artificial intelligence. The group's contributions helped shape the ethical guidelines and policy proposals outlined in the White Paper, contributing to the EU's approach to AI governance and responsible AI development.

[83] White Paper On Artificial Intelligence - A European approach to excellence and trust. Brussels, 19.2.2020 COM(2020) 65 final

3.3 High-Level Expert Group on Artificial Intelligence

Creation, deadline, meetings

The HLEG on AI was created by the Commission as a formal and temporary group in June 2018. The call for applications was previously issued in March and the European Commission chose the members from among the (c.ca) 500 applications that were submitted in response to the call through an open and competitive selection process. The official creation followed the publication of the Commission Communication on Artificial Intelligence for Europe on 25 April 2018 [COM(2018) 237 final], which represents a key strategic document in relation to the European approach to AI development. The Commission vision for the future of AI was based on three pillars: (i) increasing public and private investment to boost AI and its uptake; (ii) preparing for socio-economic changes; (iii) ensuring an adequate ethical and legal framework for its introduction. Commissioner for Digital Economy and Society Mariya Gabriel emphasized the importance of the Group's contribution to shaping the future of AI in Europe:

"Artificial intelligence brings huge potential benefits, but also challenges, and therefore it is essential to involve all actors, including from academia, business, and civil society. I am confident that, together, we will ensure that AI systems are developed for good and for all, respecting our values and fundamental rights."

The words of Commissioner Gabriel are reflected in the composition of the group, which included 52 members from industry associations, academia, and civil society (18 type A, 1 type B, 30 type C, 21 type E). Indeed, the initiative brought together a variety of stakeholders throughout Europe to ensure diversity, coherence and consistency in the European approach towards AI. This meant that representatives of civil society—from consumer organizations and NGOs to trade unions—were included in addition to academics (encompassing fields like ethics, philosophy, law, computer science, and engineering, all pertinent when it comes to practical guidelines). This also entailed including people from the industry (from various sectors and with extensive practical expertise with AI use cases), as they are the ones who will voluntarily comply with the guidelines. Crucially, no stakeholder group could force its opinions on others because the document's approval required consensus rather than a vote. Furthermore, in accordance

with the Rules of Procedure that will be analysed in the next paragraph, each group member was free to write a dissenting opinion outlining their differing opinions rather than signing the document. The second major challenge was represented by the group's timetable. In fact, the completion of the first draft of the Guidelines (first deliverable) was scheduled at 6 months from the group's first meeting, or by the end of 2018. Although not out of the ordinary for expert groups, this nine-month schedule was extremely short, given the group's considerable size - larger than most Commission expert groups - and the fact that it was expected to produce two reports (Guidelines and Recommendations). This schedule, which was previously disclosed in the call for experts, drew harsh criticism from a variety of actors, including the AI HLEG. However, given the constant and quick advancements occurring in the industry, it was apparent that speed was crucial. In addition to indicating the need for ethical leadership, the worldwide AI ethics boom also highlighted the urgent need for awareness and guidance due to the growing number of allegations of unethical behavior by AI practitioners, which frequently happens unintentionally or out of ignorance.

Date	Title
2020-06-29	AI HLEG Meeting (conducted via WebEx)
2020-06-17	AI HLEG Meeting (conducted via WebEx)
2020-06-03	AI HLEG Meeting (conducted via WebEx)
2020-05-11	AI HLEG Meeting (conducted via WebEx)
2020-04-07	AI HLEG Meeting (conducted via WebEx)
2020-03-11	AI HLEG Meeting (conducted via WebEx)
2020-02-25	AI HLEG Meeting
2020-01-15	AI HLEG Meeting
2019-12-16	AI HLEG Meeting
2019-11-05	AI HLEG Meeting
2019-10-02	AI HLEG Meeting
2019-09-05	AI HLEG Meeting
2019-06-10	AI HLEG Meeting
2019-05-22	AI HLEG Meeting
2019-05-08	AI HLEG Meeting
2019-04-10	AI HLEG Meeting
2019-04-08	AI HLEG Meeting

Date	Title
2019-03-18	AI HLEG Meeting
2019-02-25	AI HLEG Meeting
2019-02-14	AI HLEG Meeting - AI HLEG workshop with Financial Services Ecosystem on 15 February
2019-01-22	AI HLEG Meeting
2018-12-13	AI HLEG Workshop & Meeting 13 – 14 December
2018-11-08	AI HLEG Meeting
2018-10-08	AI FORUM - AI HLEG
2018-09-20	AI HLEG - 1st Workshop
2018-06-27	HIGH LEVEL EXPERT GROUP ON AI – FIRST MEETING

Table 2. Overview of the HLEG meetings. Source: Register of EU expert groups and other similar entities)

Composition

Peculiar attention must be given to the composition of the group and, thus, to its nature. It was previously mentioned that the composition of expert groups is a crucial determining factor for what regards the representativeness of its outcome and the pluralism of options considered. Listing and analyzing some of the members of the group is useful to understand which actors and which background contributed to deliver the main deliverables that the group was tasked to submit.

- Ala-Pietilä, Pekka (Chair of the AI HLEG, type A, Finland)

Ala-Pietilä, Pekka is a member of the SAP Supervisory Board, the Chairman of the Boards of the media companies Sanoma and Netcompany, and the packaging company Huhtamaki. Additionally, he works in a number of expert groups. For instance, he is the Chairman of the Ministry of Economic Affairs and Employment's steering group that prepares for artificial intelligence. Pekka Ala-Pietilä mentors a large number of upcoming professionals and decision makers in their youth. From 2006 to 2011, he served as CEO and co-founder of Blyk Services Oy. Moreover, Pekka Ala-Pietilä worked for Nokia Oyj from 1984 to 2005 in a variety of roles, such as member of the Group Executive Board

of Nokia Oyj starting in 1992. He served as President of the Mobile Phones division from 1992 to 1998 and as President of Nokia Oyj from 1999 to 2005.

- Bauer, Wilhelm (type A, Germany)

In his capacity as Director of the Fraunhofer Institute for Industrial Engineering, Prof. Dr. Bauer oversees a research team comprising over 650 workers. In the areas of innovation research, technology management, live and work in the future, and smarter cities, he coordinates research and implementation projects. He provides industry and government with advice as a member of several committees, and he has written more than 350 scientific and technical publications in his capacity as an author. He teaches as an associate lecturer at Hanover and Stuttgart Universities. Prof. Dr. Bauer was awarded the title of "Tomorrow Makers" by the State of Baden-Württemberg in 2012.

- Bielikova, Maria (type A, Slovakia)

Maria Bielikova works as a full professor at the Slovak University of Technology in Bratislava (STU), where she teaches program and information systems. She leads the university's User Experience and Interaction Research Center. Her experience spans over three decades in the fields of teaching, research, artificial intelligence, and software engineering, having begun as a student in 1987 working on the project of creating an expert system for the agricultural industry. Maria is the STU Faculty of Informatics and Information Technologies' dean at the moment. She is involved in a number of professional associations. She is a senior member of the Association for Computing Machinery, where she presently serves as vice-chair of the Slovakia Chapter, and she is registered with the Engineering Council of the United Kingdom as a chartered engineer. She was a member of the Slovak Society for Computer Science's executive board for 13 years. She was a member of the Accreditation Commission, an advisory body that the Slovak Republic's government established.

- Bonefeld-Dahl, Cecilia (type C, DIGITALEUROPE)

Currently serving as the head of DIGITALEUROPE, the premier organization representing the European digital technology sector, is Cecilia Bonefeld-Dahl. Cecilia served on the Executive Board and the high-level DIGITALEUROPE Digital Advisory Council before taking on the role of Director General. Moreover, she previously held positions as Chairman of the Board of the Danish ICT Association (ITB) and a board

member of the Danish Chamber of Commerce. During her time in these roles, she created policy stances on ICT security, disruptive business models, telecoms, and education. Cecilia Bonefeld-Dahl has built SME enterprises in China and Europe in addition to holding global positions at Oracle and IBM. Overall, she has worked in the ICT sector for more than 20 years.

- Giovannini, Chiara (type C, ANEC)

Since 2002, Chiara Giovannini has been employed with ANEC. She began as a program manager and is currently the deputy secretary general and senior manager of policy and innovation. She oversees ANEC's efforts on accessibility and the digital society in addition to filling in for the Secretary General and handling horizontal and strategic policy matters. Ms. Giovannini was employed for Swiss Consumers Organization before joining ANEC. At important gatherings, committees, and research advisory boards, Ms. Giovannini speaks on behalf of ANEC as the voice of European consumers in standards. When it comes to the development of technical standards and the application of standards in European laws and public policies, ANEC protects the interests of European consumers.

Figure 3. Members of the AI HLEG. Source: AI HLEG policy and investment recommendations

These examples are sufficient to understand the different contributions that shaped the final outcome of the group. The type A members (appointed in their personal capacity) are characterized by a high-profile CV, decades of experience in the field of ICT and, usually, they already have been part of advisory boards in relation to digital policies. On the other hand, type C members (organizations' representatives), even if sharing a position of prestige and wide knowledge on the matter, mainly work as representatives of their organizations' interests. Interestingly, their contributions can shape the outcome in opposite ways: the provision of crucial feedback from the industry (such is the case for DIGITALEUROPE), the representation of the consumers' side (ANEC), suggestions from the public sector, administrators and academics. As a result, the final documents appear not too ambitious nor unbalanced, reflecting the plurality of the HLEG

composition. Furthermore, to facilitate its work, the group was divided in two working groups that focused on the two separate deliverables [84]. Nonetheless, each member provided input for the formulation of both the Guidelines and the Recommendations.

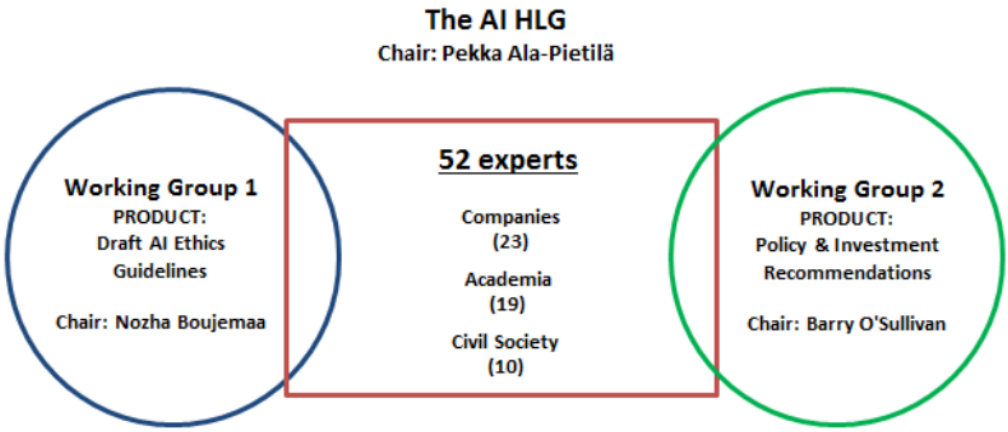

Figure 4. Illustration of the HLEG set-up. Source: Commission DG for Communications Networks, Content and Technology

Rules of procedure

Expert groups determine their rules of procedure internally since they were reformed in 2016. Firstly, the HLEG acted and convened at the request of DG CONNECT, the relevant Commission department that provided secretarial support for the group (schedules, agenda, administrative tasks). For what regards the adoption of documents:

As far as possible, the group shall adopt its opinions, recommendations or reports by consensus. In the event of a vote, the outcome of the vote shall be decided by simple majority of the members. The members that have voted against or abstained shall have the right to have a document summarising the reasons for their position annexed to the opinions, recommendations or reports. [85]

[84] DG Connect Concept Note, The High-Level Expert Group on Artificial Intelligence..
[85] RULES OF PROCEDURE OF THE HIGH-LEVEL EXPERT GROUP ON ARTIFICIAL INTELLIGENCE. Point 6, ppar. 1-2.

While consensus can be a powerful and inclusive decision-making approach, it may also be challenging to achieve, especially in larger groups or when there are strongly divergent opinions. In this setting, the chairman of the group often plays a crucial role in guiding the process and fostering collaboration. However, when a compromise is too challenging to achieve, the HLEG recurred to a simple majority vote. In this case, the opinions of the members that voted against or abstained towards a specific outcome are also destined to integrate the final document, since every opinion shall be taken into account by the Commission.

Transparency

When addressing the aspect of transparency (second chapter), it was stated that it has represented the most complex challenge to overcome [86]. Numerous were the attempts to solve this issue, such as the first reform of 2010 and the latter in 2016, that brought to the publication of the Register of expert groups. The AI HLEG spontaneously decided to make its agenda and meetings available to the public, thus publishing several working documents that allow to look into the ratio of the group's work over the years. Furthermore, important information was made available on the public platform such as experts' names and background and, most importantly, which interests were represented. This allowed for the public to be fully aware of the balance of forces within the HLEG, furtherly underlying its role as debating forum rather than as a panel of independent experts. Overall, The AI HLEG held various public consultations, engaged with stakeholders, and sought input from the broader public to gather diverse perspectives on AI-related issues. The group also published draft guidelines and reports for public consultation, allowing interested parties to provide feedback on their work.

Mandate and deliverables

For the first year of its mandate, the group was tasked with two crucial deliverables: AI Ethics Guidelines and Policy and Investment Recommendations. While the former serve as a guidance tool for developing human-centric and trustworthy AI, the latter represents

[86] Larsson, S., & Heintz, F. (2020). Transparency in artificial intelligence. *Internet Policy Review*, *9*(2).

a key document for present and future AI legislation. To the end of the dissertation, an in-depth analysis of both the deliverables is required with a view to assess their contribution to this field and, more in general, the group's work's influence on EU policymaking.

First deliverable: Ethic Guidelines for Trustworthy AI

Contrary to what some may think, it is becoming increasingly evident that AI systems are not a magic fix for every issue we face. Instead, they are a double-edged weapon that may be used both negatively and positively, much like any other kind of technology. Just to name a few instances, AI systems have the potential to assist us in reaching more objective decision-making, but they can also reinforce and even exacerbate unfair prejudices. While AI systems can provide us with more individualized and high-quality services, they can also limit our ability to make our own decisions. Furthermore, although AI systems have the potential to improve security, they can also be used to limit human freedom and conduct illegal monitoring. AI systems have the potential to change more than one paradigm in our society because of the diverse effects they (and other contemporary ICTs) have on our lives. These effects are not just ethical but also legal, social, economic, political, cultural, and psychological. They have the power to radically affect our habits, processes, and lifestyles, even though their transforming power may not be as strong and dramatic as some movies suggest. Instead, it is anticipated that they will work more slowly and subtly. Globally, governments and decision-makers are beginning to recognize these pressing issues. In addition to implementing national plans to encourage the creation and adoption of AI systems to capitalize on their advantages, they are evaluating the technology's possible negative effects and investigating the most effective legislative responses. This happens on both national and European scale. Indeed, concerted action is required to address the issues highlighted by AI because they transcend national boundaries. In this context, the HLEG was tasked to build an appropriate framework of principles for AI practitioners and, more importantly, to derive practical guidelines from these principles (operationalization). Any attempt at such operationalization requires a multidisciplinary and multi-stakeholder model that includes experts from different fields, such as computer science, engineering, and law, in addition to ethicists and philosophers. Substantial results could be achieved only through bringing together researchers and academics as well as companies that create and implement AI systems across industries

and civil society organizations that speak for a range of interests, from consumers to workers. Since its creation, the group has started to work intensely and delivered the Ethics Guidelines in April 2019. These Guidelines were based on the concept of "Trustworthy" AI, which can be considered as a foundational cornerstone, entailing that AI systems shall be:

(1) lawful - respecting all applicable laws and regulations;

(2) ethical - respecting ethical principles and values;

(3) robust - both from a technical perspective while taking into account its social environment.

Moreover, in the first chapter, the HLEG included four overarching (and abstract) principles that should be considered as ethical obligations in the context of AI: *respect for human autonomy, prevention of harm, fairness and explicability.*

- Respect for human autonomy

The goal of the fundamental rights on which the EU is based is to guarantee that people's freedom and autonomy are respected. When engaging with AI systems, humans must be able to maintain complete and effective autonomy over their own lives as well as democratic participation. Artificial intelligence (AI) systems shouldn't force, control, subjugate, trick, or herd people in an unwarranted manner. Rather, their design ought to enhance, supplement, and empower human cognitive, social, and cultural abilities. Human-centric design principles should be followed when allocating tasks to AI systems, and significant room should be left for human decision. This entails providing human oversight over AI systems' work processes.

- Prevention of harm

AI systems shouldn't injure, aggravate, or have any other negative effects on people. This means preserving one's bodily and mental integrity in addition to one's human dignity. AI systems need to be safe and secure, as do the surroundings in which they function. They need to be secure from malicious use and have a strong technical foundation. It is important to give vulnerable people more consideration and involve them in the creation, application, and use of AI systems. A special focus needs to be placed on scenarios in which power or information imbalances, such as those between companies and

employees, governments and citizens, or employers and employees, might lead to or worsen negative effects caused by AI systems.

- Fairness

AI systems must be developed, implemented, and used fairly. We think that fairness has both a substantive and a procedural dimension, even if we recognize that there are many diverse interpretations of what constitutes fairness. The substantive dimension suggests a commitment to: making sure that expenses and benefits are distributed fairly; and making sure that people and groups are not subjected to unjust prejudice, discrimination, or stigmatization. Artificial intelligence systems have the potential to improve society justice by preventing unjust prejudices. Equal opportunity should be promoted with regard to access to technology, goods, services, and education. Furthermore, people's freedom of choice should never be unjustly restricted or deceived as a result of the use of AI systems.

- Explicability

Users' trust in AI systems must be established and maintained through explicability. This means that procedures must be clear, AI systems' purposes and capabilities must be freely disclosed, and judgments must, to the greatest extent feasible, be explicable to all parties involved, both directly and indirectly. One cannot properly contest a decision in the absence of such facts. It is not always possible to provide an explanation for a model's decision or output, including which combination of input factors led to that outcome. These situations are known as "black box" algorithms, and they call for extra care. If the system as a whole complies with those conditions, additional explicability measures (such as traceability, auditability, and transparent communication on system capabilities) can be necessary.

The second chapter introduces 7 key practical requirements for trustworthy AI, which are addressed to different actors including developers, deployers and end-users.

1) Human agency and oversight - including fundamental rights, human agency and human oversight

2) Technical robustness and safety - including resilience to attack and security, fall back plan and general safety, accuracy, reliability and reproducibility

3) Privacy and data governance - including respect for privacy, quality and integrity of data, and access to data

4) Transparency - including traceability, explainability and communication

5) Diversity, non-discrimination and fairness - including the avoidance of unfair bias, accessibility and universal design, and stakeholder participation

6) Societal and environmental wellbeing - including sustainability and environmental friendliness, social impact, society and democracy

7) Accountability - including auditability, minimisation and reporting of negative impact, trade-offs and redress.

With regard to the above-listed requirements, the HLEG established that even if each requirement is equally important, when applying them across various sectors and businesses, it will be necessary to consider the context and any potential conflicts between them. Depending on the particular application, these requirements may not always be implemented within an AI system's life cycle. The majority of the standards are the same for all AI systems, but those that have an impact on people directly or indirectly shall receive extra consideration. As such, they might not be as relevant for particular applications (like those in industrial environments). Interestingly, the drafting process of the Guidelines foresaw the publication of a first draft in December 2018. In fact, the document was put under the scrutiny of the AI Alliance in order to maximize stakeholders' participation, and c.ca 500 comments were formulated for the HLEG to take into account. Moreover, Member States' representatives were asked to deliver further feedback to the HLEG, which could ultimately access the final meetings with a much broader set of opinions and views. The role played by the AI alliance had great relevance for the final outcome of the HLEG, with reference to both the Ethics Guidelines and the Recommendations. Furthermore, on the base of the 7 requirements, the HLEG delivered a practical assessment list in 2020 (already present in the Guidelines, but further revised through a piloting process involving 350 stakeholders) with a view to operationalize each requirement. Through the Assessment List for Trustworthy AI (ALTAI), AI principles are translated into an accessible and dynamic checklist that guides developers and deployers of AI in implementing such principles in practice. ALTAI will help to ensure that users benefit from AI without being exposed to unnecessary risks by indicating a set of concrete steps for self-assessment. Furthermore, to demonstrate the capability of such an Assessment List, the Vice-Chair of the AI HLEG and his team at the Insight Centre for

Data Analytics at University College Cork developed a prototype web-based tool to practically guide developers and deployers of AI through an accessible and dynamic checklist.

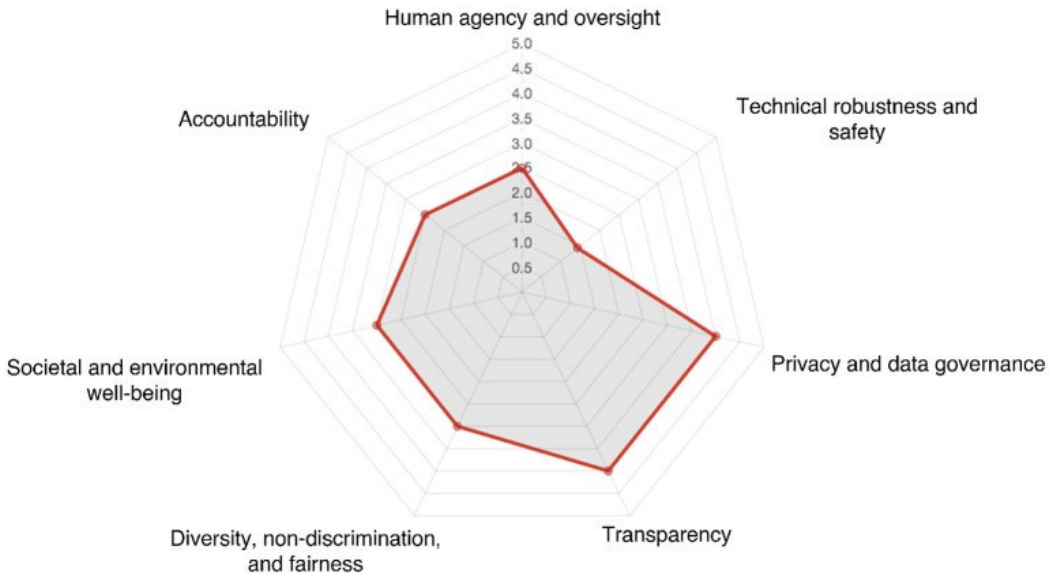

Figure 5. A sample output from the online ALTAI assessment tool. Source: High Level Expert Group on AI, 2020.

Overall, the Ethics Guidelines and their operationalization - ALTAI – constitute key documents for the governance of AI in Europe. Globally, even if some international standards were already established, the EU was the first organisation to undertake an ambitious strategy in the field of AI, starting by building a proper legislative framework for its implementation on the ground. The consistent stakeholders' consultations increased the efficiency of the outcome and added democratic value throughout the process, thus benefitting each actor involved. Lastly, the Guidelines are already considered an international point of reference, with regard to AI development and deployment, due to the efficacy and representativeness through which the HLEG complied with its task.

Second deliverable: Policy and Investment Recommendations for Trustworthy AI

Through the adoption of the Ethics Guidelines, the EU stated that AI systems must be trustworthy, human-centric, and aimed at enhancing both social and individual well-

being. It must be argued that AI systems, along with all the actors and processes that are a part of them, need to be resilient, ethical, and legal. Therefore, such guidelines formed a crucial first step in determining whether or not a specific AI technology is desirable for Europe. However, guidelines and self-assessment are insufficient to guarantee that Europe can also experience the positive effects that trustworthy AI can produce. Thus, the HLEG was tasked to deliver a second document including recommendations and policy options for EU institutions to undertake concrete action, that were ultimately published by the HLEG on 26 June 2019[87].

Firstly, this document underlined that AI technology has the potential to boost EU economic growth by c.ca 20% by 2030. However, like any technology, AI can be used both to improve human well-being and to potentially do harm. As a result, although it presents Europe with enormous opportunities, it also carries some risks, of which decision-makers are becoming more conscious. Due to this reason, the HLEG kept the human-centric approach as foundational stone of the document, thus taking into account the value of "*education, skills, appropriate governance and regulation*" through the formulation of specific recommendations. Moreover, the group addressed MSs (Member States) as main recipients of its suggestions, since they are crucial actors in the data market, purchasers of reliable AI systems, and setters of good governance standards. In fact, MSs will be the drivers of a responsible introduction of AI systems in Europe (this will be furtherly analyzed in the next paragraphs). The group also underscored that this introduction shall be in the framework of a just transition, where no one is left behind, in line with the digital rights and principles of EU citizens[88]. Overall, the recommendations are 33, but they can be summarized in thematic areas as follows.

1. *Empower and protect humans and society*

Ensuring individual and societal empowerment and protection is a crucial prerequisite for utilizing trustworthy AI to improve human well-being. People must first be informed about and comprehend the implications, limitations, and capabilities of artificial intelligence. In order to fully benefit from the technology and be ready for a transformed workplace where artificial intelligence (AI) systems will proliferate, they also need to

[87] Policy and Investment Recommendations for Trustworthy AI. High-Level Expert Group on Artificial Intelligence, European Commission B-1049 Brussels, 2019.
[88] Commission, European Declaration on Digital Rights and Principles for the Digital Decade. COM(2022) 28 final.

possess the requisite knowledge and abilities. Thirdly, they require sufficient protection against any negative effects that AI may have.

2. *Take up a tailored approach to the AI landscape*

The location of Europe in the AI space requires policymakers to undertake a customized strategy. The "big picture" should be taken into account, which entails examining AI's potential and overall impact on society. At the same time, they should be aware of the sensitivities associated with AI solutions in B2C, B2B, and P2C contexts, as well as when they are used as digital products and services or integrated into physical systems. It is important to analyze and leverage the underlying logic of each of those segments across various industries, taking into account the necessary enablers such as governance measures as well as the impacts that need to be made.

3. *Secure a Single European Market for Trustworthy AI*

The establishment of the Single Market, which is a significant accomplishment in Europe over the past few decades, has to concentrate on a Single European Market for AI as we enter the new economic and technical wave generated by AI. This is a complicated task with many facets that involves preventing market fragmentation, for example by harmonizing laws when necessary, and maintaining a high standard of protection for people's rights and freedoms throughout all Member States. In addition to guaranteeing a competitive position on the international market, creating a fair playing field for trustworthy AI throughout Europe can help individuals and organizations by reducing obstacles to the procurement of legal, moral, and reliable AI-enabled goods and services.

4. *Enable AI ecosystems through Sectoral Multi-Stakeholder Alliances*

Stakeholder collaboration is required to put this document's suggestions into practice. I effective will not be possible to trigger change until all pertinent stakeholders, including those from academia, industry, the public sector, and civil society, are convened around a single table. When acting collectively, stakeholders can aid in the development of thriving sector-specific AI ecosystems, allowing for a more in-depth and critical examination of the unique requirements, obstacles, and possibilities to fully capitalize on the advantages of AI within those particular industries.

5. *Foster the European data economy*

Europe needs to support and finance its own digital economy. The foundation for the EU's continued success in the international market is the data-driven economy. Thus, in order to succeed in the global marketplace and create benefits for society, European organizations must implement a comprehensive set of policies, including those pertaining to data access, sharing, usage, repurposing, and interoperability, all the while maintaining strict privacy and data protection guidelines for individuals. This also necessitates setting up the physical infrastructures required to support the other components needed to create and implement trustworthy AI in Europe.

6. *Exploit the multi-faceted role of the public sector*

The future of Europe is largely determined by the public sector. It is in a unique position to guarantee a robust protection of fundamental rights while delivering and promoting human-centric and trustworthy AI services. It does this by setting an example. Public procurement-based innovation offers a great opportunity to foster the creation of beneficial solutions independently that can be applied elsewhere, as well as to encourage the development of innovative AI solutions that can optimize public services among European companies of all sizes. Lastly, the public sector is uniquely positioned to maximize collaborative efforts towards our overarching goals by uniting all stakeholders.

7. *Strengthen and unite Europe's research capabilities*

Europe needs to harness the potential of its dispersed research environment to prove that it is the commercial and intellectual leader in artificial intelligence. It should support cooperation with various stakeholders, including big and small businesses, the public sector, and society at large, and it should fortify and establish new Centers of Excellence in AI. It is necessary to create an ambitious research plan for AI that addresses major worldwide issues, upholds and promotes trustworthy AI, and has a significant impact on human-centric application domains. It should be continually updated in light of new developments and stakeholder involvement, with an emphasis on Europe's strengths, prospects, and strategically significant sectors. To create a unified AI capacity for Europe, research funding should be enhanced and streamlined. This will guarantee top-notch research capabilities that can also aid in the development, retention, and acquisition of AI talent.

8. *Nurture education to the Fourth Power*

A skills' base broad enough and sufficiently deep is needed to meet the goals for Trustworthy AI. This begins with educating people about the potential, difficulties, and constraints of AI and imparting the necessary skills to address these issues while maintaining an interdisciplinary and cross-disciplinary viewpoint. This needs to be taken into account in primary, secondary, and postsecondary education models. Additionally, continuous learning, including on-the-job training, is necessary to ensure that people are re- and upskilled for the new digital era in Europe and to create a work-life balance.

9. *Adopt a risk-based governance approach to AI and an ensure an appropriate regulatory framework*

Proper governance and regulatory frameworks are necessary to ensure that AI is trustworthy. The HLEG supports a risk-based strategy that is centered on taking reasonable but strong action to protect AI that is solid, moral, and compliant with fundamental rights. A thorough mapping of pertinent EU regulations ought to be done in order to determine how much of these rules still make sense in a society driven by artificial intelligence. To guarantee sufficient protection against negative effects and to enable appropriate enforcement and oversight, new legislative measures and governance frameworks might also need to be established, all without limiting constructive innovation.

10. *Stimulate an open and lucrative investment environment*

Europe needs to take advantage of its favorable investment climate. Significant private sector support is required to achieve meaningful success, and while the new Horizon Europe and Digital Europe programs represent a positive step in the right direction, much more public work remains. The group stated that sectoral multi-stakeholder coalitions that promote trust among academia, industry, policymakers, and society at large can aid in securing such investments and directing them toward trustworthy AI.

11. *Embrace a holistic way of working, combing a 10-year vision with a rolling action plan*

Europe requires a long-term, comprehensive strategy that can grasp the opportunities and difficulties presented by artificial intelligence over the next ten years in order to accomplish these aims. Simultaneously, a structure is required that permits ongoing landscape monitoring and short-term rolling adaptation of significant operations. In this

sense, the Commission's and the Member States' annual update to the Coordinated strategy for AI is a positive development that need to be preserved. The ability to apply and learn quickly and consistently over an extended length of time is the single most crucial factor in a competition between various economic organizations.

Overall, the second deliverable of the HLEG represents the most important contribution to EU policymaking in the field of AI. The recommendations are reflected in the unique AI Act proposal, first in its genre worldwide, approved by the EUCO and the EP on the 9th of December 2023 (more insights will be given in the next paragraph). The HLEG policy options encompass multiple sectors and embrace a gradual approach towards a digitalized Union through an extensive educational campaign and by bridging investments and efforts from both the public and the private sector. Indeed, the role played by the private sector is crucial to boost investments which would radically increase economic growth on the continent. Nonetheless, the public institutions have the delicate task to properly regulate and establish legal frameworks for the use of AI within society. Furthermore, the group called for immediate intervention at the European level due to the potential risks associated with a poor and delayed regulation:

"a major opportunity is knocking on Europe's door. That opportunity is AI-enabled. Europe's readiness to respond to this opportunity must be ensured, which requires action now. We wish to convey a sense of urgency to policy-makers both at European and national level to gain momentum in applying Trustworthy AI for the benefit of individuals and societies in Europe."

3.4 Artificial Intelligence Act and the role of the HLEG

As mentioned above, the work of the HLEG steered the efforts of the EC towards the formulation of a comprehensive policy measure in the field of Artificial Intelligence. In fact, the legislative proposal came in April 2021 under the name of Artificial Intelligence Act (AI Act) and under the form of a Regulation, the first one worldwide[89]. The very recent nature of the latest developments, on 3rd December, brought to achieve an

[89] The choice of a Regulation as legislative tool reflects the ambitiousness of the EC, since the norms would be directly applicable into Member States' legal systems.

important compromise between the Parliament and the Council that will now have to formally adopt the agreed text in order for it to become EU law[90]. The motives for such an ambitious choice are multi-faceted and they range from the need to protect EU citizens to the harmonization of the market[91]. In relation to the latter, it is a typical approach of the EC to introduce novelties in the European market through the previous adoption of an adequate legislative framework[92].

The content of the AI Act: scope and approach

As mentioned above, the official goal of the AI Act is to provide uniform standards for AI systems among EU member states, hence guaranteeing the smooth operation of the EU single market. In effect, it is the first comprehensive regulation addressing the risks associated with artificial intelligence through a set of obligations and requirements meant to protect the health, safety, and fundamental rights of EU citizens and beyond. Furthermore, the scope is wide, since all AI systems that are "*placed on the market, put into service, or used in the EU*" are covered by the AI Act. It follows that it applies not only to EU developers and deployers, but also to international vendors that sell to or otherwise make their system or its output available to EU users. The risk classification system, which bases regulations on the degree of risk AI systems pose to people's health, safety, and fundamental rights, is the central component of the text[93]. Ultimately, the AI Act classifies the risk into four categories: minimal/none, high, limited, and unacceptable. A wide range of high-risk AI systems would be authorized, but subject to a set of requirements and obligations to gain access to the EU market. These requirements have been clarified and adjusted by the co-legislators in such a way that they are more technically feasible and less burdensome for stakeholders to comply with, for example as regards the quality of data, or in relation to the technical documentation that should be drawn up by SMEs to demonstrate that their high-risk AI systems comply with the

[90] European Parliament, Artificial Intelligence Act: deal on comprehensive rules for trustworthy AI. Press Releases IMCO, LIBE 09-12-2023
[91] Communication from the Commission to the European Parliament and the Council on the Alignment of ten technical harmonisation directives to Decision No 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products /* COM/2011/0763 final
[92] Weatherill, Stephen, 'The Legislative Dimension: Harmonization', The Internal Market as a Legal Concept (Oxford, 2017; online edn, Oxford Academic, 23 Mar. 2017).
[93]Mia Hoffmann, *The EU AI Act: A Primer*, September 2023, Center for Security and Emerging Technology

requirements[94]. Certain AI applications are considered unacceptable, and as a result, the EU will forbid these systems. The provisional agreement prohibits a number of practices, including social scoring, the untargeted scrapping of CCTV footage or internet photos of faces, emotion recognition in the workplace and in schools, biometric categorization to infer sensitive information like sexual orientation or religious beliefs, and some forms of predictive policing. Some exceptions are made for the utilization of these systems by law enforcement under strict and detailed circumstances.

Enforcement mechanism and fines

The Act links the responsibilities of regulated actors to a long set of fundamental requirements. The "provider," or, to put it another way, the person or entity that develops an AI system or has one produced with the intention of putting it on the market or into service under its own brand or trademark, bears the great majority of all liabilities. High-risk AI system providers need to set up a quality management system, which is a typical procedure that is currently often used by businesses. What this means is outlined in the Draft AI Act, which includes a defined risk management mechanism that is updated over the course of the system's lifetime. Overall, The regulation lays out a range of requirements for high risk AI systems from the design, implementation and post-market entry phases. These include:

- Risk Management System (Article 9)
- Data and Data Governance (Article 10)
- Technical Documentation (Article 11 and Annex IV)
- Record Keeping (Article 12)
- Transparency and provision of information to user (Article 13)
- Human Oversight (Article 14)
- Accuracy, Robustness and Cybersecurity (Article 15)
- Quality Management System (Article 17)
- Fundamental Rights Impact Assessment

[94] Nonetheless, the co-legislators alleviated the administrative burdens for SMEs in order not to create bottlenecks to the internal market.

High Risk AI Systems will have to undergo a Conformity Assessment (Article 19) to demonstrate adherence to the AI Act before being placed on the market in the EU. It will be required to generate and collect the documentation and evidence for such an assessment. While limited risk systems will not face the same compliance scrutiny including conformity assessments and product safety reviews, they will also be evaluated under these categories. Furthermore, businesses that break the AI Act provisions meet consistent fines. The fines for using prohibited AI applications would be €35 million or 7% of worldwide annual revenue, whichever is larger; for violating other obligations, the fines would be €15 million or 3%; and for providing false information, the fines would be €7.5 million or 1.5%. Administrative fine caps that are more appropriate are planned for start-ups and SMEs that violate the AI Act.

AI HLEG and AI Act

"The proposal builds on two years of analysis and close involvement of stakeholders, including academics, businesses, social partners, non-governmental organisations, Member States and citizens. The preparatory work started in 2018 with the setting up of a High-Level Expert Group on AI (HLEG) which had an inclusive and broad composition of 52 well-known experts tasked to advise the Commission on the implementation of the Commission's Strategy on Artificial Intelligence."

The proposal's direct reference to the group signals the crucial role it played as consultive, advisory and preparatory body. The crucial contribution of the HLEG is reflected by the adoption of the risk-based approach by the EC. In fact, the policy recommendations delivered by the group included the specific suggestion to adopt a risk-based approach, since *"the character, intensity and timing of regulatory intervention should be a function of the type of risk created by an AI system. In line with an approach based on the proportionality and precautionary principle, various risk classes should be distinguished as not all risks are equal.*" Furthermore, the group set the human-centric approach at the base of any future legislation, a principle that was fully integrated into the proposal[95]. The importance of adopting such an approach is strictly related to the central position occupied

[95] *Rules for AI available in the Union market or otherwise affecting people in the Union should therefore be human centric, so that people can trust that the technology is used in a way that is safe and compliant with the law, including the respect of fundamental rights*. (AI act, explanatory memorandum 1.1)

by fundamental rights, which served as ultimate parameter to assess different types of AI systems and technologies in order not to hamper human dignity and safety. Moreover, the comprehensive definition of trustworthy AI, delivered by the HLEG, served as theoretical base for the EC to propose a legal framework such as the AI Act, which builds on the concept of trustworthy AI to regulate its entry into the market. The group also strongly suggested to undertake a comprehensive review of the existing legislation in this policy field. In fact, due to its horizontal structure, the plan must fully comply with all current Union laws that apply to industries where high-risk AI systems are either already being utilized or are anticipated to be employed in the near future. Consistency with several legislative measures has to be ensured in order not to create overlaps of different legal domains[96]. Moreover, the EC integrated the 7 key requirements (contained in the Ethics Guidelines) in the draft text of the regulation as parameters for deployment and development of AI systems. The group also emphasized the need for transparency and accountability in AI systems. This perspective has influenced provisions within the AI Act that call for transparency requirements, especially for high-risk AI systems. Lastly, The AI HLEG facilitated dialogue and engagement with various stakeholders, including industry, academia, and civil society. This collaborative approach aimed to incorporate diverse perspectives into the development of AI policies, including those reflected in the AI Act.

Links with the European AI Alliance

The European AI Alliance is a large, multi-stakeholder group that actively discusses all facets of AI development and how it affects society and the economy [97]. As the

[96] *Consistency is also ensured with the EU Charter of Fundamental Rights and the existing secondary Union legislation on data protection, consumer protection, non-discrimination and gender equality. The proposal is without prejudice and complements the General Data Protection Regulation (Regulation (EU) 2016/679) and the Law Enforcement Directive (Directive (EU) 2016/680) with a set of harmonised rules applicable to the design, development and use of certain high-risk AI systems and restrictions on certain uses of remote biometric identification systems. Furthermore, the proposal complements existing Union law on non-discrimination with specific requirements that aim to minimise the risk of algorithmic discrimination, in particular in relation to the design and the quality of data sets used for the development of AI systems complemented with obligations for testing, risk management, documentation and human oversight throughout the AI systems' lifecycle. The proposal is without prejudice to the application of Union competition law. Thes proposal is also consistent with the applicable Union legislation on services, including on intermediary services regulated by the e-Commerce Directive 2000/31/EC 15 and the Commission's recent proposal for the Digital Services Act (DSA).*

[97] Rugani, G. (2023). Potentialities and Margins for Improvement of the European AI Alliance, an Example of Participatory Democracy in the Field of AI at EU Level. Athena–Critical Inquiries in Law, Philosophy and Globalization, 3(2), 135-156.

intermediary between the AI HLEG's expertise and the broader European community, one of the group's responsibilities is to lead the discussion inside the organization and solicit feedback from the European AI Alliance. In practice, the platform of the AI Alliance served as a forum for exchanging of stakeholders' ideas and points of view and as main tool to collect feedback from the AI Alliance for the purpose of the deliverables. 500 forum participants came together in real time for the inaugural European AI Alliance Assembly, which allowed the public to directly contribute to the European Commission's AI policy-making process. The AI Alliance community persisted in its activities even after the AI HLEG's mandate expired in July 2020. More than 1900 people participated virtually at the second European AI Alliance Assembly in October 2020 to talk about the key conclusions of the public consultation on the Commission's artificial intelligence white paper as well as future directions for creating a European AI policy centered on excellence and trust. Overall, the AI Alliance substantially emphasized the collaborative and participatory nature of policymaking in the field of AI, constantly sharing feedback and knowledge with a view to increase the democratic value of the policy outcomes.

Links with the Member States

The strong liaison between EU expert groups and Member States represents one of the recurring dynamics of this advisory process. The literature, on this regard, unanimously affirms that national officials are the overall majority of components when observing the groups' composition. Nonetheless, the AI HLEG represents a peculiar exception, since its connection with MSs is represented by the presence of another working group composed of national officials, which participated partially to the work of the AI HLEG through joint meetings [98]. In fact, the newly-formed MS Group on DEI and AI

3.5 The Overall impact of the HLEG

The overall work of the AI HLEG has been central to the development of the Commission's approach to artificial intelligence. The concept of trustworthiness and the

[98] Digitising European industry, Court of Auditors, August 2019, European Union.

7 key requirements, introduced by the Ethics Guidelines, are guiding the upcoming legislative steps in AI. Furthermore, the group's recommendations have served as resources for policymaking initiatives taken by the Commission and its Member States. Among those initiatives, there was the Communication on Building Trust in Human Centric Artificial Intelligence [99], the White Paper on Artificial Intelligence and the updated Coordinated plan on AI [100]. Additionally, to further help stakeholders in the industry, the AI HLEG created an assessment checklist for companies, developers, and researchers utilizing AI techniques and applications. The checklist efficiently converts the Ethics Guidelines into a workable format so that organizations and researchers in the area can test, utilize, and implement them. It also enables organizations to evaluate the safety and liability implications of the solutions they have produced. The public sector, healthcare, manufacturing, and the internet of things were the three primary businesses that the group of experts specifically examined when considering potential legislative methods for implementing its set of recommendations. Undoubtedly, as previously stated, the power to enact the group's recommendations lays in the hands of the Commission, which is ultimately free to filter and select information on the basis of its priorities and lack of knowledge. Nonetheless, the recommendations and guidelines delivered by the AI HLEG had a horizontal impact on EU legislation, ranging from their reflection in the draft text of the AI Act to their potential as international standards' shapers. In fact, new common standards on AI development and deployment are emerging world-wide, partially inspired by the EU ambitious Strategy to which the HLEG substantially contributed [101]. With regard to the policy process, it is essential to underline which stages were object of influence by the groups' contributions.

Agenda-setting

[99] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Building Trust in Human Centric Artificial Intelligence COM(2019)168 final

[100] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions Fostering a European approach to Artificial Intelligence, COM(2021) 205 final

[101] International Organization for Standardization. (2023). Information technology - Artificial intelligence - Management system. (ISO/IEC 42001, 2023/12, ISO/IEC JTC 1/SC 42, ICS: 35.020 03.100.70).

The analysis of the group's contributions to EU policymaking in the field of AI shed light on their impact on the policy process of the Union. The HLEG, in its first draft document represented by the Ethics Guidelines, posed the accent on the urgent need to accelerate the legislative activity on AI technology. By transmitting this sense of urgency, the issue rapidly got the attention of decision-makers who, acting upon the group's suggestion, raised the issue to the top of their priorities. Moreover, through the adoption of the Guidelines, the group pawed the way for the EC to start building a proposal based on a solid and sound ethical framework which ultimately consists in the recently approved AI Act. Furthermore, the socialization of stakeholders within the group was key to lessen the struggle between societal actors differently affected by AI deployment and development. This aspect helped radically to move forward the issue on the agenda, allowing to avoid obstacles in the process.

Formulation

The formulation stage of the EU policy process is the one involving the highest number of actors. Expert groups are often involved in this stage for their technical expertise, which is needed to identify targets and tools of a certain policy. The AI HLEG's policy recommendations aimed to aid the EC in selecting the priority goals of future AI legislation and the best-fitting instruments to achieve them. For instance, suggestions such as the adoption of a risk-based and multi-stakeholder approach were fully integrated in the text of the AI act along with targeted measures on education, workforce's upskilling and multi-sectoral investments. Furthermore, the Assessment List for Trustworthy AI (ALTAI) is a tool now widely used by AI developers in Europe and, along with the OECD AI standards, it represents the most useful practical tool to guide them in producing AI systems that are compliant with EU law.

Evaluation

As mentioned, expert groups can play an important role in the evaluation stage of the policy process. While the case study provides reliable data on the previous stages, it was not tasked to evaluate prior legislation due to the novelty represented by AI technology in current society. Nonetheless, a consistent number of groups has been tasked to provide their expertise in relation to the review of existing policies in order to assess their impact and, eventually, lead to a revision. For instance, the Commission Expert Group on Quality Investment in Education and Training was tasked to assess legislation on education and training in relation to their budgetary spending to optimize it. Most importantly, expert groups are consulted in the drafting of delegated acts, which represent their most important contributions in policy evaluation. In this case, their expertise is crucial to improve existing legislation and to align it to the novelties of the market and of society. In the case of the AI Act, it is most certain that experts, while formulating delegating acts, will be consulted in the identification of new high-risk categories of products that may appear on the market in the years to come.

3.6 Which role for the future?

The life cycle of EU expert groups varies and is not pre-determined. The Commission's common praxis consists in putting "on hold" the group for 12 months after the end of its mandate in order to establish whether the group's technical assistance is furtherly needed or not. Usually, after this time-period is passed and it was not found eligible for new tasks, the group is closed, and its activities end. However, in some cases, the group can be reactivated in order to assist the EC in the preparation of delegated or implemented acts previously analysed [102]. For instance, the annexes of the AI Act, which contain the lists of products and their respective categories of risk, will have to be updated in the short period, since the development of AI technology is fast and could create potential societal challenges on a daily basis. In order to update such lists, the HLEG would be needed, acting as forum for stakeholders and experts, to assist the EC in assessing which products could enter the European Market or not. Furthermore, the AI HLEG may be tasked with

[102] Moskalenko, O. (2019). Delegated Acts in EU Law after the Lisbon Treaty. Ukr. J. Int'l L., 123.

monitoring the implementation of the ethical guidelines and assessing their impact on the development and deployment of AI technologies. Typically, this involves evaluating how well the guidelines align with industry practices and whether they contribute to the creation of ethical and trustworthy AI. The group could also continue to serve in an advisory capacity, providing ongoing advice and recommendations to the European Commission and other stakeholders on emerging issues, technological advancements, and ethical considerations related to AI. Given the rapidly evolving nature of AI technologies, the AI HLEG or similar groups may be involved in periodically updating the ethical guidelines to address new challenges, risks, and opportunities in the AI landscape. Additionally, the AI HLEG may contribute to international collaboration efforts by sharing its experiences, insights, and ethical principles with other countries and regions, thus fostering a more global approach to addressing ethical concerns in AI. Continued engagement with stakeholders, including industry, academia, civil society, and the general public, is crucial. The AI HLEG could facilitate dialogue and collaboration to ensure a diverse range of perspectives are considered in the development and implementation of AI policies. The group may also play a role in promoting public awareness and understanding of AI ethics. This operation could entail educational initiatives, outreach programs, and communication strategies to inform the public about the ethical considerations and impacts of AI technologies.

However, in the present day, the status of the group is closed, and it has not been tasked with new deliverables since.

Findings and conclusions

The aim of the present Dissertation is twofold, since it was built to answer two strictly related research questions:

H1: Do expert groups exert influence over EU policymaking?

H2: How and when expert groups exert influence over EU policymaking?

For what regards the first question, the findings of the research reveal that the answer is positive. Indeed, expert groups play a significant role and exert substantial influence over EU policymaking process. Despite the fact that true decisional and executive power stays in the European Commission, the contributions of expert groups help shape EU response measures to multiple kinds of issues and societal problems (as demonstrated by the case study and the other abovementioned examples). Undoubtedly, the positive correlation between the level of technicality of a certain issue and the possibility of an expert group being involved in the policymaking process is one of the main takeaways of the dissertation. The answer to the second research question is multi-faceted and complex. Expert groups exert their influence over policymaking by delivering reports, opinions and recommendations to EU decision-makers. The duplicity of their role, as policy advisers and as fora for societal actors' views' exchange, aids the Commission in acquiring both technical expertise and the perceptions of the public and private sectors in relation to a framed issue. Furthermore, the stages of the policy process where expert groups exert influence were identified as follows: agenda-setting, policy formulation and policy evaluation. In fact, while agenda-setting entails expert groups' involvement as fora for issues to be raised, policy formulation is the key stage in which they serve as technical advisers, since tools and targets need to be matched through a science-based ratio. Logically, experts' contribution is also substantial in the evaluation stage of the process. Their technical knowledge and analytical skills allow for them to assess existing policy outcomes and to identify their strengths and weaknesses, a crucial task in relation to EU policymaking methodology based on impact-assessment. In fact, a considerable number of groups is tasked to monitor and evaluate existing policies with a view to assess them and report on their state of implementation. This function is twofold, on one side they may deliver policy feedback for policymakers to interpret and act upon, on the other side their task may entail a preliminary evaluation of the successful or unsuccessful policies.

In the latter case, expert groups play a more decisive role, being active in both the monitoring and the evaluating process of a certain policy. Furthermore, the focus of the case study (AI HLEG) is essential to the end of uncovering every aspect of expert groups' nature and functioning. The rapid development of AI technology is boosting debates on its correct implementation and, as in the EU case, it originated an ambitious legislative process. The qualitative analysis of the group served as key tool to obtain relevant insights of expert groups' nature, internal procedures, rationale, composition and role in relation to the policymaking process. The documents produced by the HLEG, and their utilization by decision-makers, proved to be essential with reference to the Artificial Intelligence Strategy of the EU. Its contributions fostered the need for further legislation and concretely influenced the outcome of the first Regulation world-wide on the matter: the AI Act. It must be underlined that the group's role proved itself to be relevant in the agenda-setting and formulation stages of the policy process, taking into account the fact that no previous AI legislation could be reviewed, radically limiting the evaluating function. Furthermore, despite the fact that expert groups do influence the European decision-making process in multiple ways as showed, the European Commission remains the gatekeeper of legislative initiative and free to accept, refuse or partially accept expert groups' contributions. In conclusion, it is possible to state that expert groups play a role in the decisional process of the European Union. Their contributions range from raising awareness of a certain issue to actively participating in the legislative process through the adoption of guidelines, recommendations, policy reports and delegated acts. Expert groups have been part of the European Union's decision-making process for several decades now [103], and their consultation mechanism has evolved over time in order to become integral to the European Institutions' approach to gathering specialized knowledge and advice. The recognition of the need for expertise in various policy areas led to the establishment of expert groups to provide advice and recommendations to EU institutions and their role and functioning have been refined. Overtime, there have been continuous efforts to improve the transparency, balance, and effectiveness of expert groups, especially through the decisive reforms of 2010 and 2016. Guidelines and rules have been established to ensure that expert groups are composed of individuals with a diverse range of expertise, are transparent in their operations, and engage with stakeholders appropriately.

[103] Their formal establishment in the EU can be traced back to at least the 1980s.

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