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AI & EU border policy

To what extent is the use of AI in EU border policy coherent with rule of law and human rights standards of the EU?

With a specific focus on and analysis of the European Travel Information and Authorisation System

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Abstract

The aim of this research was to define the extent of coherency of AI use in border policy with the rule of law and human rights standards in the European Union. This was done with a specific focus on the European Travel Information and Authorisation system. The need for this research was based on the idea that the EU has previously shown to prioritize their security and border control over rule of law compliance and respecting human rights of incoming immigrants.

To realize this, the data from the most relevant and important ETIAS, AI, rule of law and human rights EU documents were analysed. The text explains how the research provided the main insight that in relation to the goals, the AI related border regulations work hard to respect human rights and the rule of law. High coherency is attributed with ETIAS as one of the best performers of the border control systems. This is however in relation to the goals and if there ever was to be a situation with full constitutionality, it seems likely the goals or functioning do need adjustments.

List of abbreviations

AI = Artificial Intelligence

ETIAS = European Travel Information and Authorisation System

EU = European Union

Contents

1. Introduction

For the general goals and functioning of the European Union, its borders and maintaining control of what is happening at or within them is vital. To reach its goals and secure a prosperous future it wants to be sure of oversight, safety and control in their own areas. Within this is the intention to invite and make use of useful immigrants, tourists etc. that bring revenue, skills or knowledge, while making sure not to let in too many refugees, immigrants or over-stayers that make use of certain aspects of EU life that are needed and reserved for Europeans(Borders and Security, n.d.-a).

The EU and its work affects many European and non-European countries which puts the success of a significant section like border control high on its list of goals. To succeed in the goals of border control, Artificial Intelligence is used in various ways because of its benefits including increased efficiency and limiting human error(European Parliament, July 2021).

The use of AI is one that makes sense considering the realistic positive effects of less errors, improved effectiveness, efficiency and much more. With its positives however there are also dangers such as biases, inequality or privacy violations(Slapakova, 2021). It is implemented in many parts of the EU as well as in border control in for example monitoring, analysis and forecasting with Frontex risk analysis or emotion detection(European Parliament July 2021). With the EU and more specifically it's border control being an important matter for many involved countries, and AI being used in large amounts with possible important or sensitive information, it is very relevant to recognize the danger that the use of AI in border control poses. Even more so as there have been incidents with the EU(Monroy, 2022), also in border control, where this has not been the case. This is something that should not be taken too lightly as rule of law and human rights standards are something intended and agreed upon by member states and most other countries making the continued meeting of set standards something to strive for.

With the use of AI in border control it is important to recognize the potential dangers and see whether this combination does not pose a threat to fundamental principles that are set with the rule of law and human rights standards. The research is done with a specific focus on the European Travel Information and Authorisation System. This is done because of the apparent and even vital link between the system and AI use. When functional, the system works with and gathers information and in this is very dependent on AI as an automated system that is used to identify potential security risks, irregular migration and other risks presented by the incoming visa-exempt nationals. For the majority who do not pose similar risks, the automation and AI within the system helps prevent unnecessary long bureaucratic processes and delays at borders(European Parliament & European Council, 2018).

Peerboom(2022) proposed that the EU and its border control show a strong tendency of the EU to prioritize its border security over fundamental rights for the immigrants they deal with. With the increase in asylum applications, migrant arrivals and security importance to the EU, there are clear critical mistakes made in maintaining and providing immigrants with the agreed upon rights.

The ETIAS is based on newer policies and is a still to be implemented system regarding border policy and travel authorisation. As the system is not used yet at the time of writing, the focus of this research is on the content and development process of the regulation rather than the results of real life implementation. For ETIAS specifically research is important as it will be one of the major systems in border control, with millions of future users in incoming visa exempt nationals. ETIAS should be completely functional in 2024 where it will keep track of people that enter the Schengen zone. It checks each potential visitor by gathering, keeping track and updating on any information needed to

see if they should be allowed to enter and not present a potential threat. ETIAS provides more efficient applications and procedures, helps with fighting crime and terrorism and just overall make travelling to and inside the EU a much more comfortable and safe experience(Benoit, 2022).

The study of ETIAS in relation to AI and human rights has several reasons from where it gets its relevance. First of all it is important to acknowledge the role AI is and will be playing in many EU sectors and important here specifically, border control. It's potential is enormous with the potential of machine learning optimisation, improved efficiency and much more(Slapakova, 2021). The implementation of this will take over and be applied to many parts of the EU like it will in other parts. With its positives however there are also dangers such as biases, inequality or privacy violations. With the EU and more specifically it's border control being an important matter for many involved countries, and AI being used in large amounts with possible important or sensitive information, the stakes are high. In this lies the danger of success getting preferential treatment over other aspects such as human rights or the Rule of Law. This fear is rationalized even more so as there have been incidents with the EU, also in border control where this has already been the case(Monroy, 2022).

Much of the scientific relevance is found in the fact that ETIAS is new and a still to be implemented system with limited research. Because of this there is a comparatively large knowledge gap for scientific ETIAS research in contrast to previous similar and usual EU policies that have been looked at more over time which has not been possible yet for the more recent and upcoming ETIAS. The findings can be of more direct and current use looking at yet to be researched topics and setting up for even more relevant research. Also as it will be one of the major systems in border control, with millions of future users in incoming visa exempt nationals, there is much at stake and proper research can contribute to necessary functioning and reflection.

In order to investigate the study topic and its goals, research questions were formed which lead to the main research question: "to what extent is the use of AI in EU border policy coherent with rule of law and human rights standards of the EU". The study will then focus on one policy specifically, the European Travel Information and Authorisation System. The ETIAS system will be of significant importance in achieving set goals by the EU in regards to, international cooperation, tourism, safety and more. Research on this is still limited in comparison to its usual similar policies such as the Schengen Information System, making good research potentially of more significant importance and use.

The sub questions present an opportunity to divide and look at separate parts of the research question which enabled the research to find the right conclusions. The answers enable the research to address the topics of interest on their own to then draw conclusions by putting together the separate findings. The first sub question is "How is AI characterised and framed in the context of the EU's integrated border management strategy?" which is taking a look at the overall goals and agreements of the EU on AI and border control.

This is followed by the question "what are the human rights and rule of law standards applicable in to EU border policies?" which takes a look at the other side of the study with the agreed upon human rights and rule of law standards that are used in border policies.

Lastly comes the sub question “how is the use of AI regulated in the specific case of ETIAS?” which is the specific policy/system that is looked into which is most important and useful to look into to add to the existing body of knowledge and fill some of the knowledge gap there is on this topic. With both the general and specific ETIAS sides having been analysed, in finding the conclusions both are compared to see the similarities and contrast between them.

2. Theory

With the growth in political and general use of artificial intelligence that is likely to extend even further in the future, some theoretical assumptions might in the near future be perceived differently. With this and the only recent upcoming of AI, the EU and its affiliation with AI, the theoretical background is to be based on mostly newer works. Still, in the search of theory fitting with the analysis, the found literature contains certain research that set out a solid theoretical background. Current and previous research on AI in regards to politics, human rights and the rule of law is important to determine the legitimacy of AI use by the EU. To achieve legitimacy certain output is required. To get this, if and how AI is to be used should be argued in light of the set out theoretical background.

Artificial intelligence has known its struggles in finding an agreed upon definition as is often the case in academic literature. It is a direct synonym with unreal or fake intelligence which already explains it to a certain extent. But what is missing is that this intelligence is by machines that have the capacity to respond and decide in ways to execute tasks that are usually possible for just people. This happens not only on a bigger scale, but can also reach higher complexity than humans will ever be able to (Greenstein, 2022). AI is known for its enormous potential and is being used in all sorts of places and work nowadays. However, AI also has its downsides with potential biases in case of poor design or imperfect information, which present a fairly realistic threat. This makes it a potential danger for rule of law and human right standards (Berendt, 2018).

Next to its unclear official definition, Berendt(2018) displayed one of the many potential troubles in the use of AI. This is the very applicable uncertainty of goals and what is (common) good from the AI point of view. Questions on rather basic things such as what is knowledge or what the side effects or dynamics are, were often only known on basic level and not asked in reality. In the working with and for AI, this work inspired generally more elaborate understanding and questions asked regarding key concepts and questions to help determine common good.

In the understanding and recognition of AI, the potential dangers became more apparent. Schippers(2020) recognised the need for political and legal oversight over AI. “There is a real concern that economic, military, and security-strategic interests may shield AI development, and the deployment of AI applications, from democratic and legal scrutiny” highlights certain gaps in the then to be implemented regulations. At the time of writing there were already initiatives underway to realize complete oversight, but in this work certain aspects were highlighted that needed additional work.

This can be found in research similar to Peerboom(2022) which went on to show that there is a strong tendency of the EU to prioritize its border security over fundamental human rights for the immigrants they deal with. Human rights are about setting and maintaining certain standards for your people. The EU looks to support and ensure human rights and democracy internally through its own legal basis and framework. The ideas behind this are considered essential and the EU regularly includes the topic of human rights in political dialogues with third countries(Schippers, 2020)(Lerch, 2022). With the increase in asylum applications, migrant arrivals and security importance to the EU, there are clear critical mistakes made in maintaining and providing immigrants with the agreed upon rights(Peerboom, 2022). This background research supports the idea of this research thesis which wants to investigate a potential similar trend of potential favouritism regarding ETIAS.

For the rule of law aspect of the theoretical background, it is important to recognize the work of Greenstein(2022). In this work it is questioned whether the goal of human flourishment can still be realized by the rule of law when technical advancements with AI are made. The incompatibility of AI and traditional concepts such as rule of law is highlighted and explained. If society is to continue using rule of law to succeed in human flourishing, there needs to be serious thinking about how to do this in relation to AI and its challenges. It supports and indicates the same potential problems for the use of AI and the rule of law of the EU that is researched here.

The Rule of law is identified as an idea or political situation where a countries citizens and institutions are to follow and abide by the same laws(Pech, 2020). It is critical for security, peace and stability on the international field with the EU goals, policies and ideas based on it. With the increasing use of AI, the EU itself has also started to examine its effects on their rule of law and human rights(Schippers, 2020).

Besides the more general, unpremeditated codes and analysis, the implications found from the theoretical background lead this study to deem it necessary to have some more specified codes to look for & find some more specific things to guide the research with a clear goal and direction.

The theory altogether shows the relevance of Peerboom(2022) who identified the main theoretical idea. This is the bigger problem of favouritism of the EU in their ideas and the limited importance that is placed onto the concepts of human rights and rule of law in comparison to the success of the border control and ETIAS goals. This set up the global ideas and direction of the study while this idea is supported through the separate, other theoretical pillars and confirmed with help of the coding categories set out down here for these specific parts of the theoretical foundation.

The background on AI made it clear that in the codes there is a need to identify full understanding and recognition of the concept and its positives, dangers and potential. This is very relevant because of the many, at times unwanted, consequences that can come from the use of AI. This is important in border control and looked for in ETIAS as the use of AI is questioned because of situations where focus on its advantages instead of full understanding and recognition leads to unethical situations and decisions. This leads to a focus on clarification of the goals, implementations, the effort and way the process is being tracked, the repercussions in case of wrongdoing and understanding of the concept, which are used as coding categories.

Through the work of Schippers(2020), the problem of the AI and borders combination became clear that created the relevance of codes that help find and define the legal scrutiny and political and legal oversight in the AI applications. This lead to a focus and the specific scrutiny coding category, which ensured that scrutiny is present on national, supranational and international level without exceptions for economic, military or security interests which has been the case previously.

Scrutiny in this case means the presence of an evaluation of the AI and ETIAS regulation, from other people or boards of the EU or even outside of it, that show the efforts made to confirm their constitutionality. The main goal of this is to identify, which should be as few as possible, exceptions to the scrutiny process which have previously occurred for economic, military and security reasons. In the AI proposal there has already been an exception identified in regards to law enforcement(European Parliament & European Council, 2018). For this specific exception it will be important to identify how and to what extent it interferes with the Rule of law and human rights

standards. The main scrutiny process is defined in the process to see to what extent it confirms the accordance with the constitution. After this it is down to the people and systems working for the border control to make sure this is realized.

Next to this the coding categories of political and legal oversight are used to ensure the possibility for legal control and political oversight. The oversight category is focussed on the possibility and effort of supervision and enforcement of action when needed. More specifically this means for supervision identifying ways supervision is possible and more importantly, for enforcement action, ensuring that the standard EU oversight powers, tools and mechanisms are present such as hearings, to ensure transparency and accountability(Schippers, 2020).

Lastly the relevance of the findings in Greenstein(2022) encouraged codes that make it possible to determine if the EU understands, acts on and acknowledges the struggles and incompatibility of human flourishment through the rule of law with the ongoing and growing use of AI and technological advancement. To identify the human flourishment, defined as the free will by which people choose their action, the focus will be to ensure the most important principles of accountability, just law, open government and access to impartial justice. This is done by looking for the most important and applicable principles of the rule of law that are used as codes(Pech, 2020).

With ETIAS it is mostly about algorithmic justice and it is important in this, that the rule of law is still able to constitute what a good society is and realize human flourishing through clear, precise guidelines and rules that ensure accordance with human rights. The system tries this with a streamlined cooperation structure where six EU units work towards and check on their own expertise while interacting effectively and smoothly. The content found in the regulation are mostly concise but complete descriptions of objectives, requirements, guidelines and rules on how the implementation and running of the system is supposed to go. Because of the regulation content and system structure, the analysis was able to identify the parts of the regulation that matter for the separate theoretical foundations and sub question to collectively provide the answer to the main question(European Parliament & European Council, 2018).

3. Methods

3.1 Description:

The research necessary to answer these main and sub questions is descriptive as the results of this study are used to identify and then describe EU concepts, goals and intentions and coherency between the topics of interest rather than trying to predict, compare or find causal relationships. The results describe the AI use, border policies and rule of law and human rights standards of the European Union which are found through content analysis of official EU documents.

The codes and coding categories were intentionally created for and in the analysis of the first question that talks about one side with AI and border control and the second question that shows the other side with Human rights and Rule of Law in border control. Because of this it was possible to recognize the most important codes of each side and ensure understanding in different contexts with and without each other's influence or comparison. The data was analysed in different parts to first complete the more simplistic, one dimensional answers for question one and two while recognizing and creating the codes. Then, the created codes and understanding made it possible to find the more complete and complex answers regarding ETIAS for question three and the main question. This way of working provided a situation where the necessary codes were available in the main ETIAS analysis and discussion which enabled the research to discuss and understand both the AI and human rights/rule of law sides and capture the full picture.

The textual analysis was performed working with secondary data. There is no new primary data created, but instead there has been broad yet specific research looking at different articles, reports and EU documents in the process of archival research. Against the background of a specific theoretical idea, these sources inform the textual analysis by providing the inspiration for the coding scheme. This enables the analysis to reveal something new in these documents in finding the coherence in AI in border control policies and rule of law and human right standards of the EU. This is done by identifying the most important themes and goals that are set out for these concepts with content analysis(Neuendorf, 2017).

The approach fitted for this research is deduction as this study is narrow in nature as it looks to confirm certain things to answer the created questions rather than create a new theory. The fitting research philosophy for this would be realism as there are no interpretations and agree that things found in the sources portray reality(Alamgeer, 2022). Findings are independent of what people think or how they are interpreted and there is a concern for reality and facts. The idea is to find and show the results as truthfully and realistically as possible(Given, 2008).

3.2 Method of data collection:

The data used in this study is qualitative working with textual data which lead to this data collection process where the search for data was approached with the intention of finding publications that could help understand the AI and border control development and conceptualize the topics of interest. First, articles were looked for presenting publications created with higher depth and quality meant for scholars and scientific studies through e.g. UT web of science. The articles that were found helped paint the picture of the current and future situation of the general and border control specific EU developments. These helped find the right research goal and were used to make sure the research adds to current knowledge.

After this, EU policy documents on topics of interest were identified. These were collected through a thorough search of several sub sections of the official websites of the European Union, mainly through EUR-lex and migration and home affairs. The articles were more important for the preparation, where the EU documents contain the definitions, objectives and agreements on the main concepts that are vital for answering the question of the final thesis. With the chosen research design these sources are appropriate as the EU documents, such as regulations or directives are needed to identify the concepts of importance.

The four most vital documents are the most recent, complete documents accepted and published on AI, ETIAS, human rights and the Rule of Law. They were identified through the EUR-Lex official EU site based on the publication date, extensiveness, the presence of the coding categories & keywords and overall importance to the current EU definition of the key concepts. These documents contain the key theoretical concepts and agreed upon standards, agreements and goals that are necessary for the research. For certain topics such as AI and the human rights there were more than one option with several documents, amendments or regulations published over the years. In this case the most recent and applicable documents were used as these will show e.g. what exactly the human rights standards are for the EU at the moment or how the use of AI by the EU is set out currently.

This recency is important for the connection between the also recent ETIAS, as it is not correct to use the recent proposal and its used technologies, ideas etc. and link those with standards and rules from years ago where there were very different circumstances. The choice for the most recent documents builds up relevance but is also important to acknowledge because the AI act is still a work in progress and it is important to clarify that the research and analysis is based on the policy and data as it is now on in June 2023 with the recent draft compromise amendments from May 2023 taken into account.

The first vital document is the EU Artificial Intelligence Act from 2021 which had the intention of laying down harmonised rules on AI was used for question one. This was to understand the AI use and rules in regards to EU border control and identify the most significant AI related topics and codes.

The European Convention on Human Rights, being in effect for over 70 years now is used to understand and define the human rights standards in the EU, This presents the original foundation but it is outdated being created in a time with very different circumstances so it is assisted by more recent works with the EU action plan on human rights and democracy 2020-2024 and The EU strategic framework on human rights and democracy from 2012.

Next to this the 2014 framework to strengthen the Rule of Law does the same for the Rule of law while assisted by more recent improvements from the further strengthening of the rule of law presented in 2019 which together were needed to provide codes for question two and three.

These sources used for the first two questions provided all the codes for the other, ETIAS specific side of the research. Here, the 2018 regulation that contains all required and essential information and established the system was analysed. After the previous AI, rule of law and human rights analyses it was here possible to search for all key topics and codes to get all parts of the sub questions and main question. Since the introduction of the AI and ETIAS proposals there have also been several agencies that have reviewed them, among which the European Union Agency for Fundamental rights whose AI and ETIAS reviews have also been used for confirmation and an understanding of the regulation development process over the years.

The(mostly non-EU)sources that are not directly used in the content analysis such as the foundational Peerboom(2022) and Schippers(2020) or other sources like Marin(2022) helped in getting an idea of what the EU says and does and if that is in line with reality. Next to this, these sources provided an idea of the need for certain EU policies and understanding the politics behind this. When e.g. the EU needs to implement a policy quickly to prevent the entrance of incoming immigrant streams, they might put their own needs above those of e.g. the incoming immigrants. In this process they could neglect certain standards. Non-EU articles can provide some external details that can explain the situation the EU is in to help understand the importance, advantages or disadvantages that the EU documents cannot to paint the picture that is the process of EU border control and AI use.

3.3 Method of data analysis:

The analysis is about identifying and keeping track of what is written to then interpret the findings and relate these to the set out questions. Content analysis is therefore used to identify and analyse occurrences, certain words or characteristics(Neuendorf, 2017). In this process there are codes used that were based on the theoretical foundations that are specifically tailored to answer the question at hand. All though certain topics and codes were deemed vital, in advance there was no predetermined amount of codes. Several codes were added as the datasets were analysed when certain info did not fit one of the main codes but could still be of use.

There are certain codes that appeared later on during the coding process, but based on the theoretical background coding categories were created that are most important for the answers the study deemed essential to find. These categories come from separate parts of the theoretical foundation that together help find the conclusion that show the relevance of the main theoretical idea of favouritism of the EU to put success over human rights and rule of law.

The coding categories for the separate theoretical pillars are:

Coding categories:	AI understanding	Scrutiny & Oversight	Rule of Law & human flourishment
Codes:	Goal	Evaluation board	Transparency
	Implementation	Problem(constitutional)	Accountability
	Tracking effort	Exceptions	Separation of power
	Tracking process		
	Repercussions	Supervision possibility	Legal certainty
	Specific/general	Supervision attempt	(avoidance of) Randomness/unpredictability of executive powers
		Supervision tool/mechanism	Independent(and impartial) judiciary/courts
		Enforcement possibility	(effective)Judicial review
		Enforcement attempt	Equality in application of law
		Enforcement tool/mechanism	Predictable resolution of disputes

The codes for the AI understanding pillar mostly speak for themselves. The goal code is important to see whether the goals are clear, precise and appropriate for the AI use in question. The implementations can show understanding of the many possibilities of AI and understanding can be found in seeing the right implementations linked to the right way of working. With this, the same understanding has to be shown by being able to recognize possible repercussions from dangerous use of AI and how to deal with this. The tracking effort is important as proper tracking indicates awareness of the potential negatives that are present in using AI for such a big system. Meanwhile the tracking process can provide understanding of how these negatives can occur and be dealt with. The general/specific understanding code is for additional information to form a coherent understanding.

For the second pillar, the evaluation board code is used to show the intention and possibility of scrutiny which can be with direct or indirect influence. Constitutional problems are identified to look at whether these are addressed and how they are dealt with to identify the scrutiny and oversight process. Exceptions are important because of the potential problems these can cause and the law enforcement exception that was known beforehand, that in relation to ETIAS, can be very substantial. Next to this, through the attempts, possibilities and tools of supervision, the potential and working of oversight and scrutiny can be understood. Where your own tracking is important it is also important to have other people or boards oversee your work that can critically look at your work. The enforcement codes can show the possibility and intention of actually doing something about problems.

For the rule of law & human flourishment pillar the most important and applicable principles of the rule of law were selected as codes. By making sure these are apparent and taken into consideration you make sure that you are in accordance with the law.

First of transparency, accountability and separation of power are general indicators of democratic enacting and use of laws.
Legal certainty is important to make sure people know what to expect as it makes it so that decisions, regulations etc. are made according to the legal rules that are present.
In this it is important to be able to trust the executive power to be consistent and predictable with e.g. clearly set out rules or boundaries to work with.
To protect human rights, there need to be independent judiciaries for all people that provide a fair process without influence from other branches of government or other people.
It is important to have an effective judicial review to stay consistent with the rule of law by assessing procedures and regulations to prevent incompatibility or violating constitution terms.
Equality in the application of the law is also needed as it ensures every person is seen and treated equally and enjoys the same protection.
A predictable resolution of disputes is important here especially because of the many potential countries and people potentially involved that need clear agreed resolutions to prevent disputes between many or powerful people/countries that can lead to many damages(Garrido & Castillo, 2019).

The coding is done with the program atlas.ti. The role of this program is provide the possibility of giving words or texts a certain meaning or code. You highlight quotations that have a link to certain categories. The program with its possibilities then can show the different texts that have the same code or topic together at the same time. This helps in finding patterns and organizing data while being able to create word or code visualizations. This way you have a good and factual overview of what was written about something. Without this, to keep a good overview, you would have to write down about every part of the text what it was about which takes way too much time, especially for this study(Given, 2008).

4. Analysis

In the process of analysis there were many things possible to consider. But to ensure the theoretical foundation is acknowledged, it is first important to focus on the chosen codes. This will be done with a structure where the pillars and codes within the separate pillars will be addressed consecutively. As there are several codes and topics that intertwine, several things will reappear and be of importance in more than one paragraph.

4.1 AI understanding

First of are the goals that are set for the use of AI. Within this it is very clear that there has been proper thinking and consultation to come to the right conclusions from the start. Appendix A shows how the amendments work on many AI related things except for the goals that were already identified and used right. This can be seen from the goals of both the AI act and ETIAS that are set out at union level to prevent fragmentation of the internal market and ensure harmonized legislation that provides legal certainty for both providers and users. This is exactly what is necessary with the stakes of such a big system and scale. Next to this there is a clear realization of different AI's with different characteristics and dangers. This has led to the choice of a risk based approach including more requirements, the more risk there is while still setting up codes of conduct for systems with less risk. In the regulation and process there is more of a focus towards high risk systems which in this case is applicable with certain situations and systems leading ETIAS to be working with high risk AI.

To clarify the application and relevance of certain kind of systems for each sector early on is important for proper understanding. Luckily this is done by the act for migration asylum and border control management as well which makes it easier to identify what applies to border control and ETIAS and what does not. It is recognized that the border control systems work with sensitive information with people in vulnerable positions. Because of this, the strict requirements for high risk AI should also be applied to the ETIAS. There are stricter requirements in case of using polygraphs or similar scientifically debated tools but also for more general uses of AI that apply to almost all related systems and ETIAS such as assessing the risks of natural persons or verifying authority. This leaves ETIAS as a high risk AI system but in the actual functioning of ETIAS they are one of the better if not the best EU border control system in dealing with the AI. There are no biometrics directly used and there are stricter rules for access and use, it is just that the general data and process is a sensitive topic that deserves extra care and rules. This is also the case here with most parts of the ETIAS system having to follow stricter guidelines, which luckily seems to be recognized by the regulation through their own strict AI framework.

While in the goals, identifying the correct scope and approach is necessary, it is also important to have a set definition for your topics. In this case of AI this is properly done. Stakeholder requests led to a narrow, clear and precise definition of AI which makes the goals for the specific types of risks easier to identify and understand and helped make specific lists that explain which AI's are identified as high risk.

For the implementation of AI the most important thing is to have the right AI's to be linked to the type and content of rules that matched the intensity and scope of the risks, which is realized through the risk based, proportionate approach. This shows the flexible understanding you want for matching the right AI implementation to the right tracking or repercussions. The AI act and ETIAS requirements stay on the previously set EU strategy that respects human rights while setting up for the digital age.

This is set out clearly with responsibilities for all the member states while maintaining a harmonized process based on a coherent, effective framework.

By presenting a balanced and proportionate regulatory approach it is ensured that there is no unnecessary hindrance of technological development or unnecessary costs by assuming worse of AI systems that do not deserve it. In reality it is however important to see this enforced properly to ensure the minimum requirements are met. In the chosen 3+ option this is to a certain extent taken care of through a harmonized set of core requirements and limitations for high risk AI systems, where other systems also still have a code of conduct to follow.

For ETIAS there are clear criteria set out regarding things such as transparency, accuracy and traceability. To oversee the implementation and operation, two bodies in eu-LISA and Frontex are entrusted with differing but complementary agendas. The member states had to set up their own competent authority for the implementation and ongoing application of the regulation with clear guidelines available.

The last argument of a mostly positive implementation analysis is the fact that in the AI act, there is already some insight given into what compliance with the requirements of high risk system implementation would cost. This is done for one-time costs but also those that would occur annually showing the good intention of clarity and helping the developers and suppliers while showcasing thorough research and understanding.

With the requirements that are set out for high risk systems, it is also important to keep track of them to ensure the fulfilment of those requirements. This can also be seen in the more than 30 times the tracking effort or process were identified in the act and amendments as can be seen in appendix A. The act itself also states the urgency of a robust monitoring and evaluation mechanism which ensure the proposal's effectiveness. To realize this in all member states there is even an AI office established to avoid fragmentation. The effort also becomes clear from the intention of revisiting the high risk definitions list to assess the need for amendment to make sure the way of working is still correct. The ETIAS shows compliance in this by implementing a mechanism and procedures for data quality compliance tracking.

The high risk systems are expected to be capable of accurate logging and sharing of the correct measurements and resource use to provide the authorities with the possibility of precise tracking. In this, the effects of the system on fundamental rights and union law compliancy are also verified. A risk management system is used for this that works throughout the complete lifecycle of the system to ensure consistent performance and transparency. The AI providers need to inform the national level authorities that were selected in case of malfunctioning which makes sense as these are the institutions responsible and have the information on your system.

ETIAS specifically also set up previously agreed specific data related securities such as the data protection 1. Regulation(EC) No 45/2001 or the eu-LISA.2. Regulation (EU) 2016/679 in regards to personal data processing to protect natural persons. The tracking process is made easier with the ETIAS infrastructure consisting of six different units that are all working on their own expertise while being bound by guidelines and they are tracked to ensure proper functioning.

The six units are Frontex running the system on a day to day basis, eu-LISA focussing on their skillset with large scale information systems and databases, ETIAS national units manually assessing unsuccessful automatic applications, the central unit that enters and stores the collected application

data into the system, the screening board working on security questions, screening rules and indicators and lastly Europol working mainly in regards to security and criminal offences.

Throughout the AI act and ETIAS regulation the recognition of potential repercussions of AI can be seen with the general idea to set up harmonized functioning and specific rules and requirements for the AI use. However to ensure harmonized legislation and grasp the potential of and be able to deal with the repercussion of high risk AI, control is needed. This is found mostly in several agencies and boards that look over each other and the AI systems. But the European commission, through an implementing act, can also suspend or restrict member states from certain situations where they failed to take the right corrective measures to make sure the separate member state still work in a harmonized way.

The general understanding of AI by such a big institution and for such an important regulation was to a certain extent expected. But it was still important and good to see that even though the regulation is meant to set rules and boundaries to limit and secure the use AI, the positives and possibilities were still acknowledged. The need to make maximal use of social and environmental benefits was still shown through the use of boundaries instead of precise rules when possible indicating a neutral and complete understanding of the concept in a publication focused mainly on the negative sides.

4.2 Scrutiny & Oversight

In the ETIAS proposal there are plenty of evaluation boards mentioned to be working on different levels with different areas of expertise and purposes. These are mostly however after the implementation of the system. In advance there is a lack of an impact assessment. In the convergence of immigration and security there are possible dangers to be found that are risks for fundamental rights. The same goes for the personal data that is processed in the system, these should be confirmed to be necessary and in line with fundamental rights. It is not enough to intend to keep these things in mind during the implementation, they also need to be checked in advance.

In many of the border control related systems of the European Union there are possibilities at constitutional problems. With ETIAS it is done a little different and in general better as can be seen in appendix B which shows less constitutional problems were directly found in ETIAS but rather in the border related AI act sections that deal more with general border control functioning. The biggest problem of these systems comes from the information it deals with and what is done with it.

The possible constitutional problem found in the biometric information it deals with makes it so that ETIAS seems like one of the systems better in accordance with the law. ETIAS works with less sensitive and exclusive data and is one of the only systems that does not work directly with biometric information. However in the data checking process of ETIAS applications, there is an interoperability between different systems among which e.g. the Entry-Exit system which is one of the systems that does work with biometrics. The scientific basis of the collection and analysis of biometric data systems has been a very debated topic with regularly an inclination towards stating that it's inconsistency and uncertainty does not align with constitutions and human rights. All though the use of biometric data by ETIAS is only indirect, the process of using biometric data should still first be improved and researched better before it is used with complete trust. This is also suggested in the most recent proposed amendments. Next to this, the different systems do not contain identical rules on data transfers or access. This needs to be sorted out or interoperability needs to be used only when necessary before the systems with different rules work together and a legal situation is presented where no one is right.

Looking at what is done with the information that is collected and at times used to get a decision is important because of the algorithmic use of AI in ETIAS and the potential biases coming with this. In ETIAS luckily however it is not allowed to take a decision automatically based solely on specific risk indicators. In case of e.g. a systematic refusal decision, the authority or person responsible has to individually asses a possible risk.

Another constitutional problem in ETIAS is the lack of data minimization, especially working with sensitive data. The data processing has to respect the purpose limitation and data minimization principles which does not always seem to be the case. For the people that presented a potential threat in regards to a terrorist offence or another criminal offence there is a watchlist that contains their data. This is very sensitive data, and for this specifically but also for other rejected travel authorisation data, there are no clear explanations on decisions towards retention periods, even though with sometimes 5-10 years, these periods are not short. The safety in removing expired data and limited access through strict guidelines is done with much respect like most of the ETIAS process. But still these principles could be taken into consideration more.

The last constitutional problem is that ETIAS does not refer to the principle of nonrefoulment or the right to asylum. These are very important for this research with the main theoretical foundation that

showed previous lack of care of the EU for human rights of incoming immigrants. This topic does not appear much, but there is one situation that applies and exemplifies this problem. In the process of ensuring accountability and legal certainty the proposal looks for a situation where carriers would have to check if passengers obtained ETIAS travel authorisation before allowing them to come with. In principal this idea is not awful, but it creates a barrier that makes it more difficult for visa exempt third-country nationals to get access to asylum procedures. This might lead to interference with the Charter rights to asylum and non-refoulement. So it is important before implementation to find a way to provide the necessary protection through e.g. a safeguard clause.

Regularly there have been exceptions for military, economic or security purposes in all sort of regulations. For the military that is no exception here. The regulation does not go too far into it and for this instance it is not too applicable or worrying as it is not of direct importance for the research goals. Next to this the results of this exception are better researched after implementation. However it is necessary to see clear guidelines and rules provided which is the case here also for this exception.

The constitutional problem in regards to biometric data is very applicable in the ETIAS exception that the law enforcement can obtain. The biggest problems can be found in the use of AI systems for 'real time' remote biometric identification of people. This process violates several rights and freedoms as well as affect private lives of people through a feeling of being watched and followed. Once again however ETIAS present a good front for protecting human rights as appendix B indicates with a very high percentage of exception codes applied in general border control functioning in the AI act and amendments rather than in the ETIAS regulation. Next to this ETIAS indicates support of the prohibition of these systems and wants several law enforcement systems characterised as higher risk to get the proper guidelines. The ETIAS proposal is also much stricter compared to existing systems with an independent verification process where you need to show necessity and meeting of objectives in advance.

The ETIAS implementation on national level is performed by member states that set up their own supervisory authorities whose work is checked to independently monitor the lawfulness of the data processing. The member states have to make sure all of its authorities with access take necessary measures to comply with the regulation as well as monitor and lay down penalties to ensure proper implementation and prevent infringements. On union level the European Data protection Supervisor takes responsibility of the work of several data processing institutions such as the European Border and Coast Guard Agency and eu-LISA. This is supervised for internal and external exchanges in case e.g. eu-LISA work with external contractors. In these processes, security, confidentiality and data protection are ensured.

From the AI act there are several boards and institutions that watch over providers and users of high risk AI systems. The member states are expected to live up to the set out rules themselves and take necessary measures in case of their own or private company infringements. In case a company does not work properly, the member state has the possibility of laying down penalties in case of infringements based on certain criteria and margins. To make sure member states themselves follow work accordingly, The European Data Protection Supervisor will have the power to impose significant fines on union or member state bodies. For Union, member state and private violations there are

certain boundaries set to ensure certainty on fine amounts or withdrawing AI systems from the market it operates in.

Within the ETIAS proposal there are also a few enforcement possibilities set out but most enforcement tools and possibilities are still set out in relation to general high risk systems by the AI act instead of for ETIAS specifically as shown by appendix B. The basics are set out right, but in case of damage or loss of data there is still a lot open because of the countless situations that could happen. Most that is said for this is that incidents will be managed quickly and effectively based on the incident management plan from eu-LISA and that the supervisory boards and involved people will be notified. One of the few ETIAS enforcement possibilities are in the case of infringement, where there usually is a clear party in the wrong so member states have the possibility and right to lay down penalties. In this situation someone or a member state affected by an infringement is entitled to a compensation from the member state or agency accountable. Once the implementation process starts and there is more clarity, the ETIAS should strive to set up enforcement possibilities for the data loss or damage situations as well.

4.3 Rule of Law & human flourishment

In regards to transparency, the AI act already set up some good requirements for this because of the ETIAS AI's that are classified as high risk. The transparency obligation will count towards systems that are interacting with humans, detecting emotions or association with (social) categories on biometric data. As previously explained, through the interoperability with other EU border systems these indirectly apply to ETIAS. The explanations for the need of transparency are also provided and clear such as the very applicable obligation to inform affected persons so they can make clear choices towards wanting an explanation or starting an appeal.

ETIAS as a new system ensures transparency in several ways. First of all it makes sure the application procedure, information or requirements are available for the general public online.

Next to this an annual activity report will be published including statistics on authorisations issued, number of applications processed per member state and the number of refused applications.

There will also be an authority in each member state that will provide applications with information on the procedure of an appeal.

When a travel authorisation is refused, annulled or revoked, the person in question will immediately get an email about this with information on things such as a statement that verifies the refusal, annulment or revoking, the grounds for this and information on rights and the way to appeal.

In general the AI and ETIAS proposal work very hard to make sure it is clear for all situations for whom and to what extent there is transparency and accountability as appendix C indicates with the many recurrences of both codes. In using AI systems, the provider, a specific legal person, has to take responsibility for high risk systems and if one cannot be identified within the union, a representative will be established. The ETIAS has very clearly indicated who the responsible member state is, which is mostly identified by looking at who supplied the most recent data that triggered a hit.

The efforts of accountability in ETIAS become clear in the obligations for transporters. These are tasked with additional responsibilities such as checking passengers for travel authorisation to allow them to board to make sure all parts of the process have someone or something to take accountability. To make sure of this, when a traveler without authorisation boards, the transporter is liable for his/her return and is possibly even exposed to penalties.

Next to this with many of the supervisory boards that look over certain parts of the process, most of the member states have someone making sure they are held accountable for their actions. This can also be seen in the example of eu-LISA that is presented with precise rules in regards to the responsibilities for managing and checking on the ETIAS information system. There are generally clear guidelines or rules to be followed that are checked and backed by fines or restrictions to hold people and institutions accountable.

The separation of power is not always directly mentioned in regulations as the whole working of the EU is already based on the principle. The regulation itself however would not be implemented without support from different levels and institutions of power. Within the working of ETIAS there are still additional power separation aspects to be found.

There are designated, independent access points for each member state that checks if member state requests fulfilled the necessary conditions to get access to the central system. The ETIAS screening board composed of member state representatives has an advisory function and can consult fundamental right boards for issues related to fundamental rights. The fundamental rights board is another example of a board with indirect power through appraisals and recommendations. The last examples of power may be indirect, but in the grand scheme of things, the supervision, opinions and advice can definitely have influence.

Luckily, direct separation of power can also be found. The most prominent example of this can be found in the process of adopting a delegated act, where the commission can only realize this when there is no objection from the European Parliament or Council.

From the AI definition side, a lot of legal certainty is already guaranteed. With high risk AI requirements where many aspects or entire systems need to be clearly defined. For this there are already key characteristics identified such as the ability to generate predictions, recommendations or decisions that influence the environment. With the fact that decisions will never be made by automatic systems, this should be less of a problem in the case of ETIAS. The prediction and recommendation processes still however benefit from clearer rules to ensure legal certainty and accordance with the law in recommendations.

With the overall harmonized working with AI and ETIAS there is also a lot of legal certainty ensured through the prevention of fragmenting or clashing of different regulations and rights.

Much of the legal certainty of ETIAS can be found in the same examples and ideas mentioned in accountability. In general the ideas, requirements and legal foundation are given and after implementation, the regulations and boards hold people accountable for their actions but also give clarity on what is to be expected.

For ETIAS specifically the most important legal certainty aspect is the protection of the massive amounts of personal data. In the case of ETIAS, in comparison to other systems, this is probably dealt with most favorably. The data itself is less sensitive, more general and less exclusive and the access to and use of these data is much harder. This is realized through the strict access rules and safeguards that will be established for e.g. law enforcement access to the ETIAS central system next to the access of border authorities being limited to obtaining the travel authorisation status and very limited, necessary information. All these characteristics and the high number of legal certainty codes used to identify them, as seen in appendix C, indicate the importance of legal certainty for the EU.

Regulations are not always explicitly going to state that executive power should be consistent and avoid randomness as can be seen from the limited number of codes in appendix C. This can however be identified in other aspects as is the case for the AI act and ETIAS. The regulation and act have obligations, limitations and expectations for the work of all the involved member states. To secure proper functioning of these executive powers there are checks done and punishments available. The overall setup with a harmonized EU cooperation where there is accountability in case of wrongdoing or randomness, makes it so that the executive powers are not likely to stray away from the general agreed upon ideas.

In the process of the travel authorisation there are several moments where a review is present. Most importantly is the review of certain institutions that make sure the regulation was lawful such as the European Union Agency for Fundamental rights at union level or government bodies at national level. To ensure lawful AI use, similar agencies and the commission itself reviewed the act which recently led to changes in places that were not in accordance with the law among other amendments. These changes show the effectiveness and influence of the judicial review.

To provide people with independent judiciaries, in the AI act it states very clearly that for the quality assessment of high risk systems, independent and competent judicial authorities are used to provide a fair process. For judiciaries to remain independent, it is also made sure that AI tools can support decision-making but that the final decision will always remain in human hands to prevent big effect from the potential biases that impede the impartiality of data analysis or processing.

In the ETIAS proposal it has been clearly stated in case of refusing, annulment or revoking of an authorisation that there is the right to appeal. To get a favourable result, the involved EU legislator needs to provide the minimum requirements needed to not issue the authorisation. The requirements are clear about the fact that the judicial body is completely independent working without influence from elsewhere providing equal treatment.

In general throughout the AI and ETIAS proposal there are no clear differences in treatment to be found. The intention to respect fundamental rights, integrity and human dignity is made very clear but the exact working of it could be worked out more. No people are excluded from certain things or do they need to do extra work and e.g. the intention to make sure children, older people and disabled persons receive particular attention is shown. But it is not explicitly mentioned or found in specific goals too often how these things would come in to play.

This leads to the only problematic example of an exception to this equality which can be found in the ETIAS application process. Not every (disabled) person has the capabilities or assistance needed to correctly do this online. More prone to mistakes, they are then also more likely to be rejected. For these exceptions there should be the certainty of being able to obtain a travel authorisation in person or directly at the border with a certain exception clause that makes sure people in this situation are still able to get to the EU.

The assurances that both the AI act and ETIAS made for high risk AI provided the possibilities for enforcement. With this possibility and the precise and broad accountability frameworks make it that a predictable resolution of disputes is to a good extent ensured. By having certainty about who the responsible human or institution is, there can be no debate about who to look at for receiving and giving e.g. responsibility, fines or restrictions. With the possibility of fines being imposed on the union or member states for AI violations and the entitlement of compensation from the member state accountable for ETIAS related infringements there can be certainty of compensation. The boundaries that are provided when possible make sure people know what they are entitled to and whether what they received is in line with this. Through these characteristics and inclusions of the AI act and ETIAS regulation, clarity and predictability in case of disputes is ensured so that disputes will not get out of hand.

5. Conclusion

The purpose of this research was to answer the research question “To what extent is the use of AI in EU border policy coherent with rule of law and human rights standards of the EU”. In the light of the analysis conducted, the main and sub questions can be answered through findings from the relevant theoretical foundations.

To find complete conclusions it is important to summarize the findings for each separate pillar. For the AI pillar it can be concluded that the call from the theory of Berendt(2018) for proper understanding and recognition of the AI concept has been answered, also for AI in border control. There is a clear definition set for the concept in advance next to a well thought out approach that shows exactly the understanding of different characteristics and risks of AI’s that is missing so often by linking the requirements, guidelines and punishments to the characteristics and risks of the AI. The recognition of border control AI as high risk and the strict guidelines that are needed can then also be found in the ETIAS regulation itself showing understanding throughout the whole AI related legislation. While ensuring security, the positive side of the use of AI’s are however also mentioned and taken into account to get the most out of the systems without jeopardizing safety.

The needs set up by the foundation from Schippers(2020) have been recognized by the EU as they seem to agree with the need for scrutiny and oversight. Next to the supervision and evaluation boards present in the process of setting up the act and system, which already led to amendments and discussions on shortcoming, there has also been thorough preparation for this once the system is implemented. The harmonized functioning with split involvement, responsibilities and enforcement possibilities on national and union level make sure the people, government institutions and union know what to do, what is expected and what happens if this does not happen. The few exceptions that came up are things that will keep coming up in most systems involved with border control and security but it is good to see ETIAS in this regard being one of the better systems with stricter requirements. But to ensure complete constitutionality it might still be better to further restrict or complicate the occurrences of the exceptions or improve oversight into what precisely is happening once ETIAS comes into place.

To assess the possibility of human flourishment, the most applicable rule of law principles where identified. Throughout the results for this pillar a general positivism for this is found. The selected principles of the rule of law were not always explicitly mentioned as vital. But indirectly all principles and their functioning were identified through examples that embodied the principles and secured them of proper functioning. The only two exceptions were found in equality of application of law, which in the grand size of regulations, systems and human rights to take into account is not that significant and after EU agency review was already noticed and is likely to be fixed. Where the other exception was found in the search for legal certainty that created possible violations of the right of asylum and non-refoulment. Towards the theoretical foundations of Greenstein(2022) the findings would for a big part indicate that the troubles of AI and human flourishment were proven wrong because of the general functioning of ETIAS indicating respect of the rule of law principles and human rights. However the right of asylum exception does indicate that the needs for legal certainty in AI use within border control could hinder complete respect of human rights in ETIAS functioning.

Lastly it can be said that the main theoretical idea from Peerboom(2022), for the ETIAS regulation, has been proven wrong. There has been respect for the rule of law and human right aspects on paper while also making sure that in reality there will be supervision and enforcement possibilities in case of infringements. Next to this the proportionate approach created based on a justified, clear and narrow AI definition, seems appropriate and capable of linking the negatives of different AI's to the right guidelines and rules to ensure constitutionality.

The only thing that could possibly indicate favouritism at the moment is the fact that there are a few times where there are more lenient rules and guidelines to get the most out of the AI advantages. It is however important, where EU wants to take the advantages of AI into account, that this does not go too far and security and human rights respect comes before economic or ETIAS success. An impact assessment could give an idea of the consequences of such leniency.

Answers to the questions:

1. How is AI characterised and framed in the context of the EU's integrated border management strategy?

The characterisation of AI used in border management strategies is mainly identified through the proportionate risk based approach. All though the AI act mostly talks in general sense and for large parts looks at companies that use AI, it was also very clear about AI system used in migration, asylum and border control. Because of the vulnerable people and sensitive information these systems deal with, the AI is framed as high risk and because of this finds itself with stricter guidelines and rules leading to characteristics that show strict supervision and enforcement.

2. what are the human rights and rule of law standards applicable in to EU border policies?

The rule of law standards applicable that stood out the most can be found in the chosen principles for the rule of law and human flourishment pillar. These were deemed vital in identifying any favouritism and show the coherence between the topics of interest. In the ETIAS regulation all principles are taken care through precise provisions. The human rights are mostly respected through these rule of law principles except for the right of asylum and the principle of non-refoulement which are endangered by the attempts of the EU to provide legal certainty. For now in the grand scheme of things it can be stated that standards are respected but once decided and implemented it might be worth it to see if the EU will give up legal certainty to focus on respecting the asylum and non-refoulement rights or not.

3. how is the use of AI regulated in the specific case of ETIAS?

In the case of AI there are a lot of similarities with the general border strategy. They have similar requirements, guidelines and rules coming from the AI act system approach that made sure these systems are identified as high risk and provided with less freedom, stricter supervision and more severe punishments. From the separate regulations it however becomes clear ETIAS is one of the systems that goes against the favouritism the most. There is dealt with less personal data, no biometrics are used directly and the option for exceptions are more strictly regulated. In the overall asylum, migration and border control section and the information and AI systems used within this ETIAS ends up as one standout performers in terms of the regulating of AI use.

Main research question: To what extent is the use of AI in EU border policy coherent with rule of law and human rights standards of the EU?

Concluding this research it can be stated that the use of AI in border policy, and more importantly in ETIAS, is to very high extent coherent with the rule of law and human rights standard of the EU. To ever be completely in line with human rights and the rule of law however, change in goals or functioning does seem necessary. There are certain small shortcomings and it is likely that certain aspects of general border control functioning will stay constitutionally debatable, also in AI use. But in the situation it is in, with the clear definition, few and hard to acquire exceptions, strict guidelines and rules to follow, the opportunity and intentions of supervision and enforcement, high coherency can be attributed to ETIAS.

Going forward the hope is for the ETIAS results to have shown its favourable characteristics compared to the rest of the border control systems and that these characteristics of secure AI use and respect of human rights specifically could be used as a step towards complete constitutionality in border control. With the ETIAS being one of the most recent systems, future research could be worthwhile looking at if this apparent improvement is a one-time occurrence or if there is a growing realization of the importance of human rights and constitutionality in border control.

Besides this, the only significant implication that could benefit from additional consideration is in regards to the problem of legal certainty versus asylum and non-refoulment rights. The EU and stakeholders need to have a clear discussion and decide about the importance of respecting and helping incoming immigrants or third country nationals compared to their own legal certainty and security. If the EU is to get their legal certainty by making carriers have the responsibility of providing services only to people with authorisation, it does not seem likely the EU will be able to completely prevent constitutional problems, as should be the aspiration.

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7. Data Appendix

Appendix A:

AI understanding

	2023 AI amendments	2021 AI act/regulation harmonised rules	Totals
AI goal	0	7	7
AI repercussions	1	11	12
AI tracking effort	5	12	17
AI tracking process	4	13	17
definition AI specific	3	8	11
definition AI general	1	4	5
implementation	2	8	10
Totals	16	63	83

Appendix B:

Scrutiny & oversight

	2017 FRA		2023 AI amendments		2021 AI act		2018 ETIAS		Totals Absolute
constitutional problem	3	33%	0	0%	6	67%	0	0%	9
enforcement attempt	0	0%	2	40%	3	60%	0	0%	5
enforcement possibility	0	0%	4	33%	7	58%	1	8%	12
enforcement tool	0	0%	3	30%	6	60%	1	10%	10
evaluation board	0	0%	2	18%	1	9%	8	73%	11
exception	1	5%	9	41%	10	46%	2	9%	22
supervision attempt	1	6%	3	19%	6	38%	6	38%	16
supervision possibility	0	0%	4	29%	7	50%	3	21%	14
supervision tool	1	5%	7	37%	7	37%	4	21%	19
supervision/enforcement problem	0	0%	2	33%	4	67%	0	0%	6
Totals	6	5%	36	29%	57	46%	25	20%	124

Appendix C:

Rule of law & human flourishment

	2017 FRA		2023 AI amendments		2021 AI act		2018 ETIAS		Totals Absolute
accountability	1	3%	6	18%	19	56%	8	24%	34
avoidance of randomness of e	0	0%	0	0%	2	50%	2	50%	4
equality in application of law	3	23%	2	15%	5	38%	3	23%	13
independent judiciary	2	22%	3	33%	1	11%	3	33%	9
judicial review	3	33%	1	11%	0	0%	5	56%	9
legal certainty	0	0%	2	13%	6	38%	8	50%	16
predictable resolution	1	20%	1	20%	0	0%	3	60%	5
separation of power	0	0%	2	18%	4	36%	5	46%	11
transparency	3	11%	1	4%	12	43%	12	43%	28
Totals	13	10%	18	14%	49	38%	49	38%	129