Gruppe Deutsche Börse

Comments on EC´s communication towards

„ White Paper on Artificial Intelligence - A European Approach "

Frankfurt am Main, June 2020

DBG key messages

Mutual understanding: The cooperation between authorities and market participants can bring valuable outcomes, not only during the actual cooperation but further, if it widens the mutual understanding of benefits and risks associated with a technology and lays the ground for a wider ecosystem. These ecosystems should be promoted and supported. Together with the Hessian Ministries, DBG and other have such a cooperation within the so called "Financial Big Data Cluster".

Apply existing rules: From our point of view as a financial market infrastructure, most activities/services performed by AI applications in the financial sector would be regulated by already existing rules and legislation

Same business same risk same rules: In general, it might be useful to ask whether a completely "new", and therefore unregulated, task is performed by an AI application in contrast to an already "known", and therefore regulated task. In the latter case, adjustments to the existing framework might be sufficient.

Review of requirements: The list of requirements for (high-risk) AI applications should be reviewed and updated timely and frequently, e.g. without a level 1 change of the regulatory framework, to keep up with technological innovation. The review of the criteria must not need to be in regulation but rather on guidelines published by supervisory authorities and could be updated on a more regular basis.

Efficiency of the assessment-process: it is crucial that the necessary capacities are in place to assess the AI, to ensure the efficiency of the assessment-process to support the launch of AI products.

We support a certification of high-risk AI applications. Further, for non-high risk AI applications it should be allowed for companies to receive a voluntary certification. We prefer an official harmonized labelling system for both applications with clear requirements and an official certification process performed by a formally authorized actor. This service could be offered by a public authority directly or by a private institution with a public permission on behalf of public authorities (like the German TÜV).

Self-certification: We are opposing "self-certification" systems in general, as they lead to a lot of certificates and blurring the information for users in the end (negative developments in the area of "bio"). If a "self-certification" system is used, there should be an external validation by auditors.

Sandboxes: Sandboxes are a solution in the technical testing phase, however if the service is offered to customers in reality / goes life, rules need to apply (no legal free-ride e.g. with regard to GDPR).

AI review life-cycle: every AI provider needs to think about internal processes (models, training of data, handling of critical situations, handbooks, documentation etc.), the official certification, both ex-ante and ex-post assessments, later more ex-post than ex-ante assessments, after 5 years revision of processes, if necessary.

Risk Assessment: In general, any AI application must have clear and well-designed rules/objectives to minimize the associated risks. High-risk AI applications: A combination of ex-ante assessments, based on an external conformity procedure, as well as ex-post market surveillance would be useful. Non high-risk AI applications: A combination of ex-ante assessments, based on a self-assessment, as well as ex-post market surveillance would be useful. In cases where ex-ante assessments are difficult, more ex-post assessments are needed. Either way, it is crucial that the necessary capacities are in place to assess the AI, to ensure the efficiency to support the launch of AI products.

Open/ closed systems: It is important to differentiate between AI applications operating in "open systems" (e.g. road traffic) or "closed systems" (e.g. playing chess). In "open systems", the AI will never be able to cover all eventualities, as the training data is always limited. Here humans must make the final decision. This is also true for high-risk AI applications in "closed systems".

Consultation on the White Paper on Artificial Intelligence - A European Approach

Section 1 - An ecosystem of excellence

To build an ecosystem of excellence that can support the development and uptake of AI across the EU economy, the White Paper proposes a series of actions.

Question 1: In your opinion, how important are the six actions proposed in section 4 of the White Paper on AI (1-5: 1 is not important at all, 5 is very important)?

	1 - Not important at all	2 - Not important	3 - Neutral	4 - Important	5 - Very important	No opinion
Working with Member states				x		
Focussing the efforts of the research and innovation community				x		
Skills				x		
Focus on SMEs				x		
Partnership with the private sector					x	
Promoting the adoption of AI by the public sector				x		

Question 1a: Are there other actions that should be considered?

DBG RESPONSE:

The cooperation between authorities and market participants can bring valuable outcomes, not only during the actual cooperation. It also widens the mutual understanding of benefits and risks associated with a technology and lays the ground for a wider ecosystem. These ecosystems should be promoted and supported. Together with the Hessian Ministries, Deutsche Börse Group and others, have such a cooperation within the so called "Financial Big Data Cluster"(FBDC).

Revising the Coordinated Plan on AI (Action 1)

The Commission, taking into account the results of the public consultation on the White Paper, will propose to Member States a revision of the Coordinated Plan to be adopted by end 2020.

Question 2: In your opinion, how important is it in each of these areas to align policies and strengthen coordination as described in section 4.A of the White Paper (1-5: 1 is not important at all, 5 is very important)?

	1 – Not Important at all	2 – Not important	3 - Neutral	4 - Important	5 - Veryimportant	No opinion
Strengthen excellence in research				X		
Establish world-reference testing facilities for AI					X	
Promote the uptake of AI by business and the public sector					X	
Increase the financing for start-ups innovating in AI				X		
Develop skills for AI and adapt existing training programmes				X		
Build up the European data space					X	

Question 2a: Are there other areas that that should be considered?

A balanced approach is most beneficial, as it can support the cooperation of small/big public/private actors necessary for successful AI ecosystems within/beyond one industry sector.

Regarding the EU data spaces, we see the political interest, however one "single common EU data space" would not lead to innovation; a competitive approach would be preferable. Also, we would prefer to start with "meaningful content clusters" and develop standards for those data for interoperability.

A united and strengthened research and innovation community striving for excellence

Joining forces at all levels, from basic research to deployment, will be key to overcome fragmentation and create synergies between the existing networks of excellence.

Question 3: In your opinion how important are the three actions proposed in sections 4.B, 4.C and 4.E of the White Paper on AI (1-5: 1 is not important at all, 5 is very important)?

	1 – Not Important at all	2 – Not important	3 - Neutral	4 - Important	5 - Veryimportant	No opinion
Support the establishment of a lighthouse research centre that is world class and able to attract the best minds				x		
Network of existing AI research excellence centres				x		
Set up a public-private partnership for industrial research					x	

Question 3a: Are there any other actions to strengthen the research and innovation community that should be given a priority?

Focusing on Small and Medium Enterprises (SMEs)

The Commission will work with Member States to ensure that at least one digital innovation hub per Member State has a high degree of specialisation on AI.

Question 4: In your opinion, how important are each of these tasks of the specialised Digital Innovation Hubs mentioned in section 4.D of the White Paper in relation to SMEs (1-5: 1 is not important at all, 5 is very important)?

	1 – Not Important at all	2 – Not important	3 - Neutral	4 - Important	5 - Veryimportant	No opinion
Help to raise SME's awareness about potential benefits of AI				x		
Provide access to testing and reference facilities					x	
Promote knowledge transfer and support the development of AI expertise for SMEs				x		
Support partnerships between SMEs, larger enterprises and academia around AI projects					x	
Provide information about equity financing for AI startups				x		

Question 4a: Are there any other tasks that you consider important for specialised Digital Innovations Hubs?

Section 2 - An ecosystem of trust

Chapter 5 of the White Paper sets out options for a regulatory framework for AI.

Question 5: In your opinion, how important are the following concerns about AI (1-5: 1 is not important at all, 5 is very important)?

	1 – Not Important at all	2 – Not important	3 - Neutral	4 - Important	5 - Veryimportant	No opinion
AI may endanger safety	x					
AI may breach fundamental rights (such as human dignity, privacy, data protection, freedom of expression, workers' rights etc.)				x		
The use of AI may lead to discriminatory outcomes				x		
AI may take actions for which the rationale cannot be explained			x			
AI may make it more difficult for persons having suffered harm to obtain compensation						x
AI is not always accurate				x		

Question 5a: Do you have any other concerns about AI that are not mentioned above? Please specify:

DBG RESPONSE:

From our perspective as a financial market infrastructure, we see no safety concerns with AI regarding the physically well-being.

We think it is necessary to focus on the tasks performed and the potential impact by AI applications in order to evaluate whether the rationale of a decision must be explainable mandatory. If AI applications would impact/interact with consumers directly this is more important, than if an AI performs business-internal "technical" tasks.

Question 6: Do you think that the concerns expressed above can be addressed by applicable EU legislation? If not, do you think that there should be specific new rules for AI systems?

1   Current legislation is fully sufficient

2   DBG RESPONSE: Current legislation may have some gaps

3   There is a need for a new legislation

4   Other

5   No opinion

Other, please specify

DBG RESPONSE:

From our point of view as a financial market infrastructure, most activities/services performed by AI applications in the financial sector would be regulated by already existing rules and legislation. Examples are the MiFID II/MiFIR framework or the GDPR, which would have to be respected anyway. To ensure speed-to-market, we would prefer to adjust/finetune existing regulation, if necessary. New regulation should only cover new issues related to AI.

Question 7: If you think that new rules are necessary for AI system, do you agree that the introduction of new compulsory requirements should be limited to high-risk applications (where the possible harm caused by the AI system is particularly high)?

    1   DBG RESPONSE: Yes

    2   No

    3   Other

    4   No opinion

Other, please specify:

DBG RESPONSE:

As stated above, and in order to support the data driven EU economy as well as the usage of AI applications, we think that the adjustment existing regulations is preferable to new rules. Therefore, we think that the introduction of new compulsory requirements should be limited to high-risk applications. Nevertheless, while we agree with the approach to determine risk in general, we think there is still a need for clear criteria to define "high-risk".

Question 8: Do you agree with the approach to determine "high-risk" AI applications proposed in Section 5.B of the White Paper?

    1   DBG RESPONSE: Yes

    2   No

    3   Other

    4   No opinion

Other, please specify:

Question 9: If you wish, please indicate the AI application or use that is most concerning ("high-risk") from your perspective:

In general, any AI application must have clear and well-designed rules/objectives to minimize the associated risks. Further, it is important to differentiate between AI applications operating in "open systems" (e.g. road traffic) or "closed systems" (e.g. playing chess). In "open systems", the AI will never be able to cover all eventualities, as the training data is always limited. Here humans must make the final decision. This is also true for high-risk AI applications in "closed systems".

Question 10: In your opinion, how important are the following mandatory requirements of a possible future regulatory framework for AI (as section 5.D of the White Paper) (1-6: 1 is not important at all, 6 is very important)?

	1 – Not Important at all	2 – Not important	3 - Neutral	4 - Important	5 - Veryimportant	No opinion
The quality of training data sets					x	
The keeping of records and data				x		
Information on the purpose and the nature of AI systems				X		
Robustness and accuracy of AI systems				x		
Human oversight				x		
Clear liability and safety rules				x		

From an innovation standpoint it must be avoided that consumers must be informed about every step in the process while dealing with an AI.

Question 11: In addition to the existing EU legislation, in particular the data protection framework, including the General Data Protection Regulation and the Law Enforcement Directive, or, where relevant, the new possibly mandatory requirements foreseen above (see question above), do you think that the use of remote biometric identification systems (e.g. face recognition) and other technologies which may be used in public spaces need to be subject to further EU-level guidelines or regulation:

1   No further guidelines or regulations are needed

2   Biometric identification systems should be allowed in publicly accessible spaces only in certain cases or if certain conditions are fulfilled (please specify)

3   Other special requirements in addition to those mentioned in the question above should be imposed (please specify)

4   Use of Biometric identification systems in publicly accessible spaces, by way of exception to the current general prohibition, should not take place until a specific guideline or legislation at EU level is in place.

5   Biometric identification systems should never be allowed in publicly accessible spaces

6   DBG RESPONSE: No opinion

Please specify your answer:

Question 12: Do you believe that a voluntary labelling system (Section 5.G of the White Paper) would be useful for AI systems that are not considered high-risk in addition to existing legislation?

1   DBG RESPONSE: Very much

2   Much

3   Rather not

4   Not at all

5   No opinion

Question 12a: Do you have any further suggestion on a voluntary labelling system?

DBG RESPONSE:

We support a certification of high-risk AI applications. Further, for non-high risk AI applications it should be allowed for companies to receive a voluntary certification.

We prefer an official harmonized labelling system for both applications with clear requirements and an official certification process performed by a formally authorized actor. This service could be offered by a public authority directly or by a private institution with a public permission on behalf of public authorities (e.g. like the German TÜV).

A differentiated grading system (e.g. bronze, silver, gold) could be useful, if an AI application fulfills only some of the categories/requirements. However, it must be secured that the formally authorized actors have the capacity (resources, budget etc.) to perform their tasks efficiently and in time.

We are opposing "self-certification" systems in general, as they lead to a lot of certificates and blurring the information for users in the end (negative developments in the area of "bio"). If a "self-certification" system is used, there should be an external validation by auditors.

Question 13: What is the best way to ensure that AI is trustworthy, secure and in respect of European values and rules?

1   Compliance of high-risk applications with the identified requirements should be self-assessed ex-ante (prior to putting the system on the market)

2   Compliance of high-risk applications should be assessed ex-ante by means of an external conformity assessment procedure

3   Ex-post market surveillance after the AI-enabled high-risk product or service has been put on the market and, where needed, enforcement by relevant competent authorities

4   DBG RESPONSE: A combination of ex-ante compliance and ex-post enforcement mechanisms

5   Other enforcement system

6   No opinion

Please specify any other enforcement system:

DBG RESPONSE:

High-risk AI applications: A combination of ex-ante assessments, based on an external conformity procedure, as well as ex-post market surveillance would be useful.

Non high-risk AI applications: A combination of ex-ante assessments, based on a self-assessment, as well as ex-post market surveillance would be useful. In cases where ex-ante assessments are difficult, more ex-post assessments are needed. Either way, it is crucial that the necessary capacities are in place to assess the AI, to ensure the efficiency of the assessment-process to support the launch of AI products. It is important to allow for innovation. Ex-ante and ex-post assessments by public authorities are cheaper than assessments of external third party providers (often too costly for start-ups). Assessment requirements need to be therefore economically feasible (time, costs, efforts, bureaucracy) in order not to hinder innovation.

Sandboxes are a solution in the technical testing phase, however if the service is offered to customers in reality / goes life, rules need to apply (no legal free-ride e.g. with regard to GDPR). Important steps: every AI provider needs to think about internal processes (models, training of data, handling of critical situations, handbooks, documentation etc.), the official certification, both ex-ante and ex-post assessments, later more ex-post than ex-ante assessments, after 5 years revision of processes, if necessary.

Example: market supervision: e.g. volatility-interruptions. In this example the application is trained on historical data, however the market develops differently in real time. An ex-ante assessment is not easy to tackle. User experience cannot be seen in an ex-ante assessment.

But one could introduce a "review" after a certain time (e.g. 6 month "trial phase"). This flexibility allows for innovation, improves and better services in the long run, as AI applications are in a dynamic development phase and could increase dramatically. The review of the criteria does not need to be foreseen in regulation, but rather on guidelines published by supervisory authorities and could be updated on a more regular basis.

Question 14: Do you have any further suggestion on the assessment of compliance?

DBG RESPONSE:

While designing the compliance assessment process, it is important to keep start-up companies in mind. Therefore, the process should be as efficient as possible, depending on the AI application in question.

In some cases, it might be necessary to focus more on ex-post assessments (e.g. via increased monitoring), e.g. if ex-ante assessments are only of limited meaningfulness, as the data to train an application will differ from "live" data.

The list of requirements for (high-risk) AI applications should be reviewed and updated timely and frequently, e.g. without a level 1 change of the regulatory framework, to keep up with technological innovation.

Section 3 – Safety and liability implications of AI, IoT and robotics

The overall objective of the safety and liability legal frameworks is to ensure that all products and services, including those integrating emerging digital technologies, operate safely, reliably and consistently and that damage having occurred is remedied efficiently.

Question 15: The current product safety legislation already supports an extended concept of safety protecting against all kind of risks arising from the product according to its use. However, which particular risks stemming from the use of artificial intelligence do you think should be further spelled out to provide more legal certainty?

    1   Cyber risks

    2   Personal security risks

    3   Risks related to the loss of connectivity

    4   Mental health risks

Question 15a: In your opinion, are there any further risks to be expanded on to provide more legal certainty?

DBG RESPONSE:

Not relevant for our business, as we do not offer products, which endanger retail customers.

Question 16: Do you think that the safety legislative framework should consider new risk assessment procedures for products subject to important changes during their lifetime?

1   DBG RESPONSE: Yes

2   No

3   No opinion

Question 16a: Do you have any further considerations regarding risk assessment procedures?

DBG RESPONSE:

As an ex-ante risk assessment is not fully possible for every AI application, a distinction between "self-learning" and "release-based" might be useful. In case of "self-learning" AI applications, again, a focus on ex-post control mechanisms seems beneficial. Therefore, regular reviews and potential re-training "check-points "might be established in the process, this is especially necessary for "self-learning" AI applications (see the controversy around the chatter bots in 2016).

Question 17: Do you think that the current EU legislative framework for liability (Product Liability Directive) should be amended to better cover the risks engendered by certain AI applications?

1   Yes

2   No

3   No opinion

Question 17a: Do you have any further considerations regarding the question above?

In general, it might be useful to ask whether a completely "new", and therefore unregulated, task is performed by an AI application in contrast to an already "known", and therefore regulated task. In the latter case, adjustments to the existing framework might be sufficient. For example, if a company can prove that it fulfilled all requirements, it should not be held liable because of "negligence". Notwithstanding a human or an AI application caused the accident.

Question 18: Do you think that the current national liability rules should be adapted for the operation of AI to better ensure proper compensation for damage and a fair allocation of liability?

1   Yes, for all AI applications

2   Yes, for specific AI applications

3   No

4   No opinion

Please specify the AI applications:

See above.

Question 19: Do you have any further considerations regarding the question above?