NS

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Onderwerp Vision of NS on the white paper on AI

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Dear members of the European Commission, dear reader,

With great interest and enthusiasm, NS took notice of the white paper "On Artificial Intelligence – A European approach to excellence and trust". The paper gives a clear view on how the EU is aiming to accelerate the adoption and implementation of AI in daily life, by creating an ecosystem of both excellence and trust.

As the Netherland's national railway operator, NS is active in the public transportation sector. We encourage the use of public transportation and keep the Netherlands moving. Our travelers are our 1st, 2nd and 3rd priority in all of our activities. With new concepts, like Mobility as a Service (MAAS), travelers use a mix of different types of (public) transport. As one of the largest operators of public transport in the Netherlands, we do our utmost to make a trip of our travelers as pleasant and sustainable as possible from door to door. To do so in a fast-changing environment, we recognize the need of becoming data-driven, and implement AI applications to personalize our services, shorten travel time, improve the safety of our trains and stations and shorten our maintenance cycles.

After reading the white paper and having internal discussions about it, NS feels the urgency to share our point of view and to give some recommendations on several topics in the white paper.

Ecosystem of Excellence

Definition of AI

As NS, we think the given definition of AI ("AI is a collection of technologies that combines data, algorithms and computing power") may be too narrow. Originally, the EU has a strong position in Operations Research (math and algorithms). In our opinion, these areas also need to be included in the scope of the actions defined in the white paper. Building on our

strong Operations Research capabilities, we should further develop an AI Ecosystem of trust and excellence.

Adoption by citizens

To speed up the use and adoption of AI, not only within our organization, but also by citizens, NS joined forces with 4 other companies (KLM, ING, Philips, and Ahold Delhaize) and launched the Kickstart AI initiative (www.kickstartAI.nl). The bridge we are creating with this initiative between industry and citizens is a point which we think is missing in the white paper. Where connections between Academy and industry and between public and private sector are explicitly mentioned, the empowerment of citizens gets (too) little attention in the ecosystem of excellence.

This lack of attention to citizens also shows in the proposed actions for developing skills. These are primarily focused on the academia. Fact is that even the best AI application only will be adopted and hence will be successful, when end-users have enough understanding of the application. A certain level of AI-literacy or awareness is necessary. Therefore, we emphasize the need for developing AI-skills for a broad audience, and not only limited for scientific research in this area.

The last field of development where more attention needs to be paid to citizens is the area of innovation. Again, the proposed actions are focusing on academia and industry. By means of, for example, open challenges (kickstart link), also citizens can be included in innovation of AI.

Innovation

Continuously developing our service offerings is essential for NS to stay relevant in near and far future. Hence, we stimulate innovation. We think different rules and regulation are necessary for different types of innovation:

1. When an (disruptive) innovation becomes mainstream or generic functionality, rules and regulation should be in line with wide-spread use of these innovations. A mix of both ex-ante frameworks and ex-post mechanisms should be in place to safeguard security, privacy and accountability on one hand, and not to limit the introduction of innovation on the other hand.

2. In the first development stages of innovation, one might expect less strict rules. More room for trial-and-error approaches is essential to make a first step from creative idea towards innovative products and services.

Testing AI Applications

To be able to take responsibility and accountability of behaviour of AI applications, proper testing of those applications is key. A shift is needed in the way we test our AI applications. Testing should be focusing on the technical behaviour of applications and the use of proper (being non-biased) datasets.

Central testing facilities for compliance testing will safeguard the independence of such facilities, making it a level playing field for all.

Data space

To efficiently partner with other organizations sharing of data is essential. For NS and partners, it is already common practice to create data spaces where data from different parties is available for all involved parties. Also, we offer a range of publicly available API's for those interested in developing their own solutions on our data.

As for a European Data Space, we think the EU should motivate companies and institutes to make their data publicly available. By giving good example, emphasizing the value of sharing data and the power of combined data sources, and creating a level playing field for all parties involved, the EU should stimulate parties to share their data.

Ecosystem of Trust

Explainable – responsible - accountable

Proper legislation needs to be in place, but be careful to expect "explainable" AI in every solution. When there is no risk in privacy or discrimination, solutions don't always need to be explainable. This holds for example for AI applications like schedulers, where our timetables are made, or models for predictive maintenance, used to monitor the technical health of our trains. We need to realize that AI applications need to be just as good as human decisions, meaning there is a chance an AI application is wrong, just as humans make mistakes. It's important to explain both technical behaviour and functionality of a solution and a difference between a functional wrong answer and technical correct behaviour.

The realization that AI applications can make mistakes, just like people do, stresses the importance of legislation and regulation about who is accountable and responsible for the possible harm done from using an AI application. Being a technical application, and not a person or legal entity, the AI application itself can't be hold responsible. So, the company/institute using the AI application should be aware of this responsibility and accountability. And when a company uses AI applications developed by another company, it becomes even more important to have clear guidance and regulation about who is responsible/accountable for what.

Conclusion

To stay relevant as a train operator in the Netherlands, NS aims for a more data-driven organization. The use of AI applications is one of the essential building blocks in becoming data-driven. We are looking forward to working together and taking our responsibility in these ecosystems.

Kind regards,

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NS AI Community

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