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**A comment by the Thematic Group on Science,
New Technologies and Christian Ethics of CEC**

**White paper on Artificial Intelligence -
A European approach to excellence and trust**

Preliminary remarks

This paper is the result of the deliberations of the Thematic Group Science, New Technologies and Christian Ethics of the Conference of European Churches. The Conference of European Churches comprises 114 churches of different confessions (Protestant, Anglican, Orthodox and Free Churches) and, together with the Catholic Church, is considered the most comprehensive representation of churches in Europe. The paper reflects the diversity of the churches in Europe but also their unity with regard to essential points concerning the Christian world and the human image. Thus, the paper takes what is in some ways a multi-stakeholder approach, bringing together the common view of different theological and dogmatic traditions. It focuses on the anthropological dimension and advocates a holistic view.

The main issues brought forward by churches are the following ones:

1. Anthropological issues and Human Dignity
2. Religious discrimination and Freedom of Religion and Belief
3. Concerns on Social impacts of AI
4. Ecological issues concerning AI

0. Introduction

As stated previously in the report of the consultation of stakeholders by the European Commission's High-Level Expert Group on Artificial Intelligence (AI HLEG), the rise of AI is an important concern for the Conference of European Churches and its members. The development of AI challenges the fabric of our societies as well as the fundamental principles and basic rights of living together as humankind.

We welcome the support of the White Paper for a "human-centric approach" to the questions of Artificial Intelligence. As Christians, viewing the human being as God's own likeness on earth, we emphasise the **concept of human dignity** as foundation stone of human freedom and responsibility. Thus, in a Christian perspective freedom is not just the individual right to be free of duties and responsibilities. It also implies the notion of freedom as a communal and communicative concept in our relationships with one another: freedom must be seen together with love as the driving force of God's actions. Therefore, human dignity is only achieved where mutual solidarity is extended. Thus, in our view, the White Paper rightly points out the need to consider the impact of AI "not only from an individual perspective, but also from the perspective of the society as a whole" (p.2) – and to connect the use of AI systems to issues of justice (SDGs) and the preservation of the environment (European Green Deal). Therefore, the Coordinated Plan not only *could*, but rather *should* "also address societal and environmental well-being as a key principle for AI" (p.5).

1. Anthropological issues and human dignity

If we place the human person at the heart of a European approach to excellent and trustworthy AI, we need to understand the human being in a holistic way: humans and humanity are not only customers (economy) and/or citizens (politics), but are living as people in a rich setting of relations and roles: as social beings with cultural interests, as spiritual beings with religious beliefs, as physical beings with bodily needs, ... In all these dimensions of human life technology plays a role at some times – and all these dimensions are interrelated with and influenced by the impact of digitalization and the ongoing development of AI.

A European approach to excellent and trustworthy AI therefore needs to be embedded in a broader societal discussion of the opportunities and threats, challenges and chances of AI systems in their different fields of application. Social sciences and the humanities are an important resource for this discussion. It would be shortsighted simply to bring together technology and normative ideas of ethics and regulation. The already possible as well as the prospective innovations through AI always need to be seen in context. These contexts bring their own implications and questions which need to be thought through.

Therefore, a broad and interdisciplinary approach is necessary for the scientific exploration of the possibilities – and the possible outcome of implementing AI in different fields (e.g. human rights, law enforcement, and journalism). This must be part of the suggested “ecosystem of excellence”.

For the wider societal discussion of potentials and risks, a multi-stakeholder concept should be pursued in which the relevant actors from politics and government, from corporations and unions, from civil society, NGOs, churches and other circles exchange their views on the context-specific topics. European values and principles depend on that ongoing public discourse and it is therefore important to initiate and carry out that discussion.

We welcome the suggestions for developing Europe’s own regulatory framework for AI systems. We suggest accompanying the development of the juridical regulations with a **multi-stakeholder dialogue platform, which** can play an important part in building up a trustworthy AI: trustworthy not only by virtue of standards, but trustworthy also by virtue of transparent and open discussion.

We welcome the idea of the White Paper to “follow a **risk-based approach**” (p.17). Weighing and balancing the risks of technical solutions reflects the underlying ambivalence in the use of technical systems, which is grounded in the idea of human freedom itself.

However, we question the suggestion to distinguish between only two categories, “high-risk” and “no-high-risk”. In our view, a more differentiated scheme of risks would seem more helpful (e.g., the German Data Ethics Commission suggested a “pyramid of criticalities” with five steps for adjusting – and regulating the use of algorithmic systems). The gradual increase in risks from “low” to “certain” to “regular” to “big” seems more appropriate in an anthropological perspective than the dualistic decision between “high risk” and “no high-risk”. Thus regulation should make use of more categories than just the two suggested ones (which imply the danger of excluding a great deal of risk from regulation – because there is only one category of regulation, namely “high risk”).

The trustworthiness of the use of AI in different contexts relies on two fundamental prerequisites:

the technical and procedural reliability of the chosen technology on the one hand:
the guarantee of human rights on the other hand.

The White Paper thus rightly stresses the “Robustness and accuracy” of AI systems and their “Human Oversight” as two key points. “The objective of trustworthy, ethical and human-centric AI can only be achieved by ensuring an appropriate involvement of human beings in relation to high-risk AI applications.” (p.21)

While human oversight is the key to an appropriate functioning of AI systems in a human-centric perspective, there are other aspects where the rights of human persons should be considered. With regard to the question of how to deal with the data used in algorithmic systems the German Data Ethics Commission stressed **the importance of subjective rights** over which human persons should be able to claim against other actors. The distinction between person-related and not person-related data appears essential to formulate the rights of people in relation to data. These subjective rights on data need to be respected in particular in the area of the non-discriminatory use of data. (This point will be discussed in the following chapter.)

The EU should consider the perspectives on data rights as formulated by the German Data Ethics Commission and others. This seems particularly important when it comes to the issues of facial recognition techniques or personal health data, as well as the questions of liability issues.

AI systems in general and their use in their specific context need to be legally framed and ethically designed. We strongly encourage the EU to follow the human-centric path. We are ready to accompany the EU in this quest for a responsible and sustainable use of technological innovation.

2. Religious Discrimination and Freedom of Religion and Belief in AI

As already mentioned in the foregoing chapter, Artificial intelligence (AI) poses challenges to **human rights and religious freedom**. It is taken for granted that human life is the central idea behind human rights, while the hierarchical superiority of humanity over other forms of life is always tacitly emphasized.

These basic principles are challenged through the expected arrival of entities that will not be alive in the known biological ways but may be mentally superior and, perhaps, ultimately, “morally correct” compared to humans.

This ethic, however, will be based on algorithms, ignoring many sensitive parameters that only the human mind can process and deal with, in terms of ethics and respect for human -and therefore religious- freedom. We are very concerned about the transparency of the processes

generated by AI. *An explanation as to why a model has generated a particular output or decision (and the combination of input factors which contributed to that outcome) is not always possible. These cases are referred to as 'black box' algorithms and require special attention.*" State-of-the-art technology could 'communicate' with 'black box' and other algorithms to quantify the relative contribution of various input parameter values to the specified outcome. This technology would make any system explainable. Only AI accompanied by such explanations can be regarded as an ethical AI.

Artificial intelligence promises to make fundamental changes to our world. It is already controlling medical procedures, influencing the financial system and interfering in decision-making processes in many fields. Nevertheless, AI also has downsides that we still cannot predict accurately since it is a fast-developing and self-improving technology. What is very interesting though is that AI has a de-facto impact **on the rights of privacy**, since it collects and uses vast quantities of data to make predictions, which may not always benefit people¹.

Data is what gives life to AI. Social media platforms use AI to personalize the content you see based on your preferences. *"Every time someone interacts with an AI-enabled personal assistant like Amazon's Alexa and Echo, that generates data the AI analyses to improve how the devices interact with users and the applications offered. Google's Project Magenta has produced AI programs that analyse vast amounts of data to create original art. Narrative Science autonomously produces natural language articles and reports on sports, business, finance, and a number of other fields that produce large volumes of data that the company's AI programs can analyse"*².

This data collection will, in addition to each person's medical records, consumer habits, financial status, political beliefs, sexual identity, etc., theoretically also include religion, religious behaviour and perhaps more details on the subject.

If we assume that someone comes from a Church with a particularly conservative tendency, (as is it also the case in other religions), would that, based on the infallible judgment of artificial intelligence, be a deterrent to employing that person in a particular job? Could this be considered in the future as religious discrimination by the legal world or on the other hand can such discrimination be justified in the context of improved thinking?

According to what we believe today, *"human rights are rights inherent to all human beings, whatever our nationality, place of residence, sex, national or ethnic origin, colour, religion, language, or any other status. We are all equally entitled to our human rights without discrimination. These rights are all interrelated, interdependent and indivisible"*³. Therefore if the AI of a "for-profit" organization has access to a lot of personal information, would it operate with the respect for religious freedoms or religious anonymity that one might consider desirable or would it, using rational thinking and at a higher level than human

¹Raso, Filippo, et al. "Artificial Intelligence & Human Rights: Opportunities & Risks." SSRN, 25 Oct. 2018, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3259344

² John Weaver, Artificial Intelligence and Governing the Life Cycle of Personal Data, 24 Rich J.L. & Tech., no. 4, 2018.

³ "What Are Human Rights." OHCHR, www.ohchr.org/en/issues/pages/whatarehumanrights.aspx.

intelligence, give advice on what it considers to be in the best interests of the company? Who can guarantee the preservation of religious freedom and human rights in such an example?

3. Concerns on Social impacts of AI

As a general-purpose technology (GPT) the development and deployment of AI has already influenced and will increasingly continue to influence the dynamics of societal order and the way we live our lives. While we welcome the idea of human-centric and ethical design of AI demonstrated by the writers of the White Paper, we remark that the EU's strategy on AI should take further steps, than just fulfilling "prerequisites" (p.1) for the uptake of AI such as trustworthiness in the form of legal certainty. Legal certainty is important, but **human-centric design should aim to foster the idea of desirable technology and innovations** as is implied in EU's Responsible research and innovation (RRI) motion.⁴ Otherwise, the concept amounts to no more than an instrument of political rhetoric.

We want to emphasize the holistic definition of technology as the combination of technical artefact(s) and human activity to fulfill defined objectives.⁵ This definition expresses how engineering and natural sciences play only one part in the process of technology design. For example, humans are an irreplaceable weak link in the complex systems of cyber security.⁶ More attention should be given to the **human and socio-cultural factors of technology design** than the writers of the current version of the White Paper suggest. As "The infrastructures should support the creation of European data pools enabling trustworthy AI, e.g. AI based on European values and rules" (p. 3), **the educational infrastructure should support a holistic view of technology development** to foster human-centric development of AI.

The writers of the White Paper rightly consider it important to assess social and ecological impacts of developing and deploying AI technology (p. 1-2, 5, 10 and 23). The lucid (possible) social issues related to deploying AI involve but are not exhausted by changes in how we work (p. 6-7). This includes loss of routine work processes through automation, endangering of fundamental human rights, such as privacy and non-discriminatory rights as mentioned earlier in this comment (p. 10), emerging of new marginal groups socially excluded of society (not able or willing to use emerging technology)⁷ and growing complexity of security threats in the form of possible cybersecurity breakages (p.10). However, developing technical artefacts as if they have intrinsic value, or seeing their design and development processes as morally neutral, have less obvious impacts as well. They lead to developing more and more technology, which makes it necessary for people to adapt their needs and anticipation to fit the context of developed technology and in worst case-scenarios it leads to unnecessary moral trade-offs.

⁴<https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation>.

⁵Saariluoma, P., Cañas, J. & Leikas, J. k. 2016. *Designing for life: A human perspective on technology development*. New York: Springer Nature. Page 3.

⁶https://jyx.jyu.fi/bitstream/handle/123456789/69048/978-951-39-8174-7_vaitos05062020.pdf?sequence=1&isAllowed=y, abstract.

⁷ Social inclusion plays a part in the idea of emphasizing the need to pay extra attention to the funding needs of rural areas (p. 5).

The development of **tracing apps** for the fight against the spread of COVID-19 provides a good example of how the development and use of AI technology can be involved in unnecessary moral trade-offs.⁸ Many proposed and used tracing apps are based on concentrated monitoring of the movements and contacts of app users, which poses the risk of violating the user's right to privacy.⁹ One research consortium took the preservation of end user's privacy as a key principle in the design process of their tracing app and managed to produce a solution of decentralized monitoring, which included no possibility for human supervision of the data. This solution is called DP3T.¹⁰ This example shows how adding aspects of human and social needs and expectations *ex-ante* in the design process of AI, will lead to outcomes that are more likely to be desirable than assessing technology's social impacts or aspects of human-technology interaction *ex post facto* the design process.

We acknowledge and agree with what the writers of the White Paper say about the need to strengthen **people's basic understanding** of how AI works and data literacy (p. 3). This is an important step in empowering people and communities to participate in discussions about the kind of development we should pursue. We also acknowledge that the White Paper suggests using the AI Assessment list made by the AIHLEG to assess and address the social impacts of AI in the development phase as well as "...transforming the assessment list of the ethical guidelines into an indicative "curriculum" for developers of AI that will be made available as a resource for training institutions" (p. 6).¹¹ However, if the social and ethical aspects of technology development become mere checklists or side courses for developers, we are just choosing to make progress only on those demands delivered by technology development.

The White Paper underlines many aspects that require *ex ante* deep expertise in issues related to human research and social sciences, especially the AI Assessment lists concerning "Accessibility and Universality" and "Social impacts". Therefore, we need to have the right expertise available to understand human factors in the process of designing and developing AI-technologies. "The HR department ensures the right mix of competences and diversity of profiles for the developers of AI systems. It ensures that the appropriate level of training is delivered on Trustworthy AI inside the organisation" (AI Assessment list). This is not only an issue for the HR departments of organizations, but an underlying issue in promoting and developing a systemic understanding of the skills needed for the design of trustworthy and desirable AI on the highest political level."¹²

From this perspective, the proposed lighthouse centre for research and innovation (p. 6) should foster and promote multidisciplinary research and innovation activity also covering the fields of humanities and social sciences. In this draft, the writers of the White Paper use multidisciplinary research in AI to illustrate the need for different technical fields to work together (p. 5). We see it as a possibility to foster a holistic understanding of human dignity

⁸<https://etairos.fi/2020/04/27/mita-covid-19-ja-tanssi-voivat-opettaa-meille-tekoalysta/>.

⁹ The question of whether or not privacy invasion would occur when using this kind of apps is a tricky question, even though the use of the apps would require consent of users. This is because consent of users doesn't mean they fully understand to what they give their consent to and what causes it may have.

¹⁰<https://github.com/DP-3T/documents/blob/master/DP3T%20White%20Paper.pdf>.

¹¹ We see these actions as important parts to provide knowledge about human factors to programmers, but they do not ensure deep enough understanding by themselves.

¹²<https://ec.europa.eu/futurium/en/ai-alliance-consultation/guidelines/2>.

and humanity and technology development as stated throughout this comment.¹³ By defining designers and developers of AI, we define what expertise is necessary to produce meaningful technology and thus meaningful lives.

We propose that this double approach including regulatory and investment frameworks to achieve human-centric AI presented in the White Paper (p. 1), should be accompanied with a third approach - that is promoting and fostering required skills and knowledge in achieving meaningful AI development. Only then are we able to produce a meaningful human-centric strategy for AI. Invested money is a constant that is easy to monitor, but the quality of given education is where real value is added.

4. Ecological issues concerning AI

As churches, we fully agree with the White Paper that “the impact of AI systems should be considered not only from an individual perspective, but also from the perspective of society as a whole.” (p. 2). Yet we cannot think of human society outside its natural environmental context. Therefore, we warmly welcome the European Green Deal’s efforts to ensure that Europe becomes a leader in the way in which she tackles climate and environmental challenges.

While recognizing that AI has the potential to be beneficial to the environment, through its role in ecological and climate research, disaster risk management and agriculture, we should not forget that for those benefits to be realized, not only do we need to ensure fair access to the technology but we also need to balance the potential benefits against the environmental impact of the entire AI and information technology production cycle. Therefore, we urge that close attention be paid to the way in which the lifecycle and the entire supply chain of AI systems are dealt with (cf. White Paper, p. 2).

We should encourage the work to assess and reduce the environmental impact of AI systems, including but not restricting our efforts to its carbon footprint. European countries might take initiatives to induce and encourage AI-powered environmental solutions such as the acceleration of the access to and mass adoption of green energy, the support of more efficient and sustainable food ecosystems, and the strengthening of the protection, monitoring and management of natural resources.

However, we must not forget, as Christian communities have repeatedly said (Patriarch Bartholomew, Pope Francis, etc.), that the environmental crisis is only a symptom of a more global discomfort that cannot be resolved by an exclusively technical or mechanical approach to the issue, even when it comes to the trustworthy use of AI. AI has very little chance, if any, of making us more ethical or more responsible. Thus, the only hope for the future of humanity lies in the emergence of a new sense of common responsibility.

¹³<https://www.turing.ac.uk/research/research-areas/social-data-science>,
<https://www.jyu.fi/it/en/research/research-areas/cognitive-science-and-educational-technology/hti>.

In this spirit, the Ecumenical Patriarch Bartholomew for example, known worldwide as the Green Patriarch, has been working tirelessly for more than twenty years to inform world public opinion of the urgency of the situation, in an attitude of reconciling humanity with nature, humanity with itself, and science with religion. Moreover, this is not the only example where churches have expressed their commitment to ecological and climate issues.

We are deeply convinced that the ecological disaster is still avoidable, and that the responsible and trustworthy use of AI can be more than helpful, but only if we have the courage to develop practical measures inspired by a revitalized theological reflection. Thus, as guardians of an age-old spiritual tradition, our commitment is not only in terms of prayer and intellectual investment, but also in mobilising the consciences and concerns of our contemporaries. It is fitting that they should show humility and respect in their relationship to earthly goods, remembering their responsibility towards themselves in general and towards future generations in particular. This recommendation should inspire us when we formulate ethical values, principles and policy recommendations for the research, design, development, deployment and usage of trustworthy AI, in order to make AI systems work for the good of humanity, individuals, societies and the environment.

At a time when materialism seems to be triumphing, when secularization has led to the disenchantment of the world, our humanity is more and more thirsting for a spirituality marked by a return to the sacred. Only this return to the sacred enables us to develop a positive understanding of the sacrifice that this situation demands, especially in the use of AI. We should remember that the word "sacrifice" derives from the Latin *sacer*, "sacred" and *facio* "to make". Sacrifice thus has less to do with "undoing" and more to do with "making sacred". Just as pollution has a deep spiritual connotation linked to the destruction of creation when it is separated from its Creator, so sacrifice is a corrective that allows us to see nature no longer as a mere commodity that can be exploited by our own selfish appetites.

To conclude, we fully support that the Coordinated Plan address societal and environmental well-being as a key principle for AI, whereby AI can and should lead to a critical examination of the use of resources and energy consumption and training in making choices that are positive for the environment. However, that should be done in a human-centric way as presented at the beginning of this paper. It should not segregate, objectify, or undermine the safety of human beings; nor should it divide individuals and groups and turn them against each other; nor should it threaten harmonious coexistence between humans and the natural environment. All these things would negatively impact on humanity as a collective as well as on our environment as a place for us to live and be.

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