



The High-Level Expert Group on Artificial Intelligence

Minutes of the 1st Meeting

27th June 2018

Brussels

ATTENDANCE

Members in Attendance

Pekka Ala-Pietilä, Urs Bergmann, Maria Bielikova, Cecilia Bonefeld-Dahl, Yann Bonnet, Loubna Bouarfa, Nozha Boujemaa, Raja Chatila, Mark Coeckelbergh, Virginia Dignum, Jean-Francois Gagné, Joanna Goodey, Sami Haddadin, Gry Hasselbalch, Fredrik Heintz, , Eric Hilgendorf, Klaus Höckner, Lorena Jaume-Palasi, Leo Kärkkäinen, Sabine Theresia Köszegi, Robert Kroplewski, Pierre Lucas, Raoul Mallart, Ieva Martinkenaite, Thomas Metzinger, Catelijne Muller, Markus Noga, Barry O'Sullivan, Ursula Pahl, Christoph Peylo, Iris Plöger, Andrea Renda, Francesca Rossi, Cristina San José, George Ivanov Sharkov, Philipp Slusallek, Françoise Soulié Fogelman, Saskia Steinacker, Jaan Tallin, Thierry Tingaud, Jakob Uszkoreit, Aimee Van Wynsberghe, Thiébault Weber, Cécile Wendling

Members Apologies

Wilhelm Bauer, Luciano Floridi, Fanny Hidvegi, Mari-Noëlle Jégo-Laveissière, Nicolas Petit, Guiseppe Stefano Quintarelli, Reinhard Stolle, Karen Yeung

(Biographies of each member of the HLG on AI can be found at: <https://ec.europa.eu/digital-single-market/en/high-level-group-artificial-intelligence>)

Observers in Attendance

Chahab Nastar, *EIT Digital*; Emmanuel Saliot, *Council of the European Union*; Argyrios Bailas, *European Patent Office*; Irakli Beridze, *UNICRI*; Alexis Letulier, *European Union Satellite Centre* ; Juan Navas-Sabater, *Worldbank*; Karine Perset *OECD*; Yacine Si Abdallah, *CNIL*; Philip Boucher, *STOA*; Teruhiko Sato, *First Secretary, Mission of Japan to the European Union*; Sunao Orri, *First Secretary, Mission of Japan to the European Union*.

Observer Apologies

Jean-Yves Le Saux, UNESCO ; Reinhard Scholl, ITU

EGE Representative in attendance

M.J. (Jeroen) van den Hoven

European Commission in attendance

Carl-Cristian Buhr, *Cabinet of the Commissioner M Gabriel*; Khalil Rouhana, *DG Connect*; Lucilla Sioli, *DG Connect*; Juha Heikkilä, *DG Connect*; Cécile Huet, *DG Connect*; Bjoern Juretzki, *DG Connect*; Nathalie Smuha, *DG Connect*; Irina Orsich, *DG Connect*; Thierry Boulange, *DG Connect*; Jaroslav Baran, *DG Connect*; Hugues Burtin, *DG Connect*; Emilia Gómez, *JRC*; Doris Schroecker, *DG RTD*; Jim Dratwa, *DG RTD*; Mariana Ghitoi, *DG GROW*; Marian Grubben, *DG GROW*; Hubert Gambs, *DG GROW*; Dana Eleftheriadou, *DG GROW*; Salla Saastaimonen, *DG JUST*; Louisa Klingvall *DG JUST*

Rapporteur

David Bisset.

MINUTES

These are the minutes of the first meeting of the High-Level Expert Group on Artificial Intelligence (AI HLG) held in Brussels on 27th June 2018 attended by members of the High-Level Expert Group, members of the European Commission and External Observers.

1. INTRODUCTION: PLENARY

CHAIR: K. Rouhana, Deputy Director General, DG Connect

1. The Chair welcomed participants to the meeting.
2. C. Buhr, *Cabinet of the Commissioner M Gabriel*, addressed the session and stressed the importance of the work of the AI HLG both for Europe and the Commission in terms of setting future strategic goals and directions. Buhr commented that there was “*no time to lose*” in reaching a conclusion while recognising the difficulty of the task assigned to the AI HLG.
3. Buhr encouraged the broad engagement of stakeholders and welcomed the wide range of representation at the meeting from both members and observers. Buhr highlighted the international context of the AI HLG’s work with respect to the G7, the European Council and the Declaration of Cooperation on AI signed by Member States, and the importance for Europe to engage globally.
4. The Chair introduced the mandate and governance of the AI HLG and provided an overview of the Commission’s expectations for the group. Specifically:
 - The need to maximise the benefit of AI for citizens
 - Europe has significant strengths in AI both in research and a strong industrial and service sector position that needs to be enhanced
 - Europe acts within a global market for AI but lags behind the US and Asia in investment ramp up and this must be corrected
 - It is essential that Europe shapes AI to its own purpose and values, and creates a competitive environment for investment in AI
 - Member States are committed to a European approach to AI and to working together to create that environment.
5. The Chair outlined the three pillars of the AI strategy for Europe:
 - Boosting technology and industry capacity and AI uptake;
 - Preparing for the socio-economic changes that AI will bring;
 - Ensuring that an appropriate ethical and legal framework exists for AI in Europe.
6. With regard to the 1st Pillar, the Chair expressed the strong expectation that the public investment by the Commission should leverage significant public investment in AI in order to close the investment gap with global competitors. The Chair stated the goal beyond 2020 was to increase funding to €20Bn per year by: supporting AI Centres of Excellence, extending the network of Digital Innovation Hubs together with delivering AI-on-demand and Data platforms to aid deployment, which is also encompassed by the Commission’s Digitisation of European Industry (DEI) strategy. The Chair stressed the need for capacity building at all levels.
7. The Chair addressed the issue of skills (2nd Pillar) and the need to develop and retain talent in Europe by investing, to anticipate the market changes AI will create across sectors and address the re-skilling of the workforce in preparation for the wider deployment of AI.
8. As to the third Pillar, the Chair emphasised the importance of protecting fundamental human rights and European values, also within the deliverables from the AI HLG. The Chair highlighted the importance of the AI HLG in setting out the Ethical Framework to create fair access and fair treatment of citizens and its role in setting out a strategy for AI in Europe. The goal being to ensure that “*AI is not for the Elite, it is for Everyone*”.
9. The Chair stressed the need for all stakeholders to work together and for progress to be made by the AI HLG on all three pillars. The Chair then introduced the time-line of meetings and deliverables.

1.2. OVERVIEW OF WORKPLAN AND PROCESS

1. L Sioli, *DG Connect*, outlined the operation of the AI HLG in terms of the three deliverables:
 - The draft ethics guidelines
 - The policy and investment strategy
 - Engagement with the European AI Alliance
2. Sioli detailed the composition of the AI HLG and the division of members into two Working Groups: one for the development of the Ethical Framework (Working Group 1) and the other to define the policy and investment strategy (Working Group 2). Each Working Group would have a Chair and rapporteur.
3. Sioli explained that three workshops would be used to engage with the wider community, that the workshops would be shaped by the AI HLG with operational support from the Commission, that their outcomes need to progressively build towards the deliverables. That the two Working Groups would run workshops in parallel taking place at the same time and place with the provision for joint plenary sessions.
4. Sioli highlighted the need to ensure that any Ethical Framework must be practically implementable and cover all application domains where ethical guidance is necessary. That all stakeholders should be able to identify with the guidelines and that the AI HLG should recommend how the elements of the framework should be implemented. For example how can “transparency” be achieved in practice. The draft Ethical Guidelines would be formally presented at the first annual assembly of the AI Alliance in Q1 2019.
5. Sioli outlined the need for an integrated investment strategy and the need to build trust and develop and retain talent in Europe. The input from Working Group 2 would be used to inform post 2020 implementation and needs to set out a clear and coherent strategy to inform future public investment. Final publication of the policy and investment strategy will take place in Summer 2019.
6. Sioli outlined the importance of the AI Alliance communication platform for engaging stakeholders and publishing the on-going results of the two Working Groups. AI HLG members are strongly encouraged to provide blog posts around their work on the AI HLG.

1.3. OVERVIEW OF AI-ALLIANCE

N Smuha, *DG Connect*, presented an overview of the European AI Alliance communication platform and the constitution of the AI Alliance. The AI HLG’s role in driving communication through the platform as explained and strong engagement with the platform was requested. One thousand members are already signed up to the platform providing, an important audience for the work of the AI HLG as well as a source of input and feedback.

1.4. Q&A

Questions were invited from the AI HLG on the remit, outcomes and process to be employed.

1. The connection to Member State initiatives in AI was raised and a request made that a list of Member State initiatives be prepared for the AI HLG as well as a list of contact points. The Commission agreed to supply this information and indicated the importance of connection to national stakeholders. Such Connections to the Member State High Level Group would be made available and the next meeting would be held jointly.
2. The importance of developing the ethical framework in parallel with a legal framework to able to protect consumers was raised, and the fact that this should be reflected in the AI HLG mandate. The Commission agreed that implementation will need to cover legal protections.
3. The relationship of the AI HLG outcomes to the UN sustainable development goals was raised and the extent to which AI targets those goals, thereby setting a high level direction on AI in Europe. The Commission agreed that the sustainable development goals will feed into the discussions on AI and that all aspects of AI need to be considered.
4. The issue of interworking between the two Working Groups was highlighted and the importance of integrating the work of the two groups so that the Ethics Framework and the Investment strategy are synchronised in operation. The Commission strongly agreed and said that there would be well defined

opportunities for connection, that the two groups are expected to work together and the outcomes from the AI HLG must be a collective work.

5. The need to balance between top-down and bottom-up perspectives was raised and how the Working Groups should position themselves between these viewpoints. The Commission responded that it was for the Working Groups to establish their own working processes, that the Working Groups were the point focus for discussion, that they should share and interact with a broad range of stakeholders and that they should integrate all good ideas. That the AI HLG needs to rise to this challenge and do whatever is needed for a successful outcome.
6. The need to identify the audience for the AI HLG's European perspective was expressed. The Commission responded that it included policy makers, all users of AI, citizens and civil society. That the ethical framework must not be overambitious or theoretical and it must cover all types of artefacts with AI content, that it must address research excellence in Europe and shape action to create reassurance. That communications from the AI HLG have to be accessible.
7. A comment was made that the strategy on AI needs to focus on European competitiveness in the face of global competition, that the goal should be to support European strengths in AI through policy and investment and that it was for Europe to take the lead initiative. The Commission agreed stating that "*AI cannot be imposed on us*", that Europe must shape its own response to AI.
8. The issue of defining the scope of AI covered by the AI HLG was raised. The Commission responded that clarity was important but that the AI HLG should not spend all its time on the question "What is AI?". That AI is the bringing of autonomy into artefacts and that a broad definition needs to be taken. However, if the AI HLG felt the need to work on a definition in parallel to the other tasks then it should do so provided it did not impede progress on the main tasks.
9. Further commentary highlighted the need for a technically neutral definition of AI.
10. The need to build on previous public and private investment over the last 10-20 years was raised and the need to set out a clear workable and practical vision for AI in Europe not "*cut and paste from the rest of the world*". The Commission responded in agreement that the proposed plan needs to be implementable, credible and based on evidence relevant to Europe.
11. A need was expressed to understand the current commitments by the Commission to AI. The Commission responded that the AI HLG would be kept up to date on developments in AI stemming from Commission initiatives.
12. The issue of how the AI HLG should handle the progression of AI over time was raised. The Commission responded that it was important to examine the short and long time scales and that direction on policy for the creation of "sandboxes" was needed so that AI could be deployed and tested.

1.5. EUROPEAN GROUP ON ETHICS (EGE)

The Rapporteur for the European Group on Ethics (EGE) presented the main points from their "Statement on Artificial Intelligence, Robotics and 'Autonomous' Systems".

1.6. APPOINTMENT OF AI HLG CHAIR

The Chair announced the appointment of Pekka Ala-Pietilä, a member of the AI HLG, as the Chair of the AI HLG and invited him to Chair the remainder of the meeting.

2. ETHICS FRAMEWORK: BREAKOUT AND FEEDBACK

CHAIR: Pekka Ala-Pietilä

1. Each member of the AI HLG was pre-allocated to one of four groups for the first Breakout session. Each group appointed a Rapporteur and Moderator from among its members. The breakout session concerned the task "*Prioritise themes & principles for the AI ethics guidelines*". Notes were provided to members listing potential areas of priority and a set of key questions that should be addressed. Each group being invited to:
 - prioritise the list;
 - suggest additional areas of priority
 - provide responses to the questions.

2. Following group discussions the AI HLG reconvened in plenary to hear reports from each of the four rapporteurs. Discussion then followed the reports.
3. All groups explored ways of expressing the Ethical Framework, with a common desire to maintain simplicity, accessibility and practicality, while satisfying different priorities. The view was expressed that the audience for the framework forms a hierarchy of: developers, practitioners, users/consumers and citizens. That the framework must be comprehensible, relevant and applicable to all these different audience levels. Specifically it was seen as important that citizens are empowered to understand what AI is and how it operates, so they can make individual decisions about their engagement with it, as a vital safeguard against misuse.
4. Discussion also centred on identifying the uniqueness of a European approach to AI, embedding European values, while at the same time identifying the need to operate successfully in a global context.
5. There was strong agreement that AI should not be allowed to usurp existing Fundamental Rights enshrined in pre-existing European frameworks and that the Ethical Framework should not focus on repeating these existing rights, for example, it should not re-state what is covered by the GDPR, but instead it should focus on what is unique to AI.
6. It was agreed that there is a strong need to ensure the framework is operationalizable, and that it supports innovation, fosters economic growth and individual freedoms. That implementing the framework should not cause the over or under regulation of AI, and that this is a critical aspect of its acceptability to both industry and citizens. It was suggested that the guidelines should be accompanied by a clear description of how to operationalise them, perhaps expressed by a single A4 page. The potential need for different criteria for academics and industry was also raised, so that advanced research in AI is not over-restricted. However an overarching need to retain human control over AI was strongly expressed.
7. In operationalising the Ethical Framework it was suggested that Use Cases should be constructed to challenge and test the elements of the framework and its operation. That the framework should be tested both clause by clause and as a whole, and that the Use Cases should address different operating contexts: the academic freedom to explore, the industrial need to utilise, the protection of citizens' rights as well as developing trust in the framework itself.
8. It was pointed out that ethical and legal structures must go hand in hand to protect users and consumers and address both the short and long term consequences of using AI. That there needs to be assurance that systems have been, and can be, developed and used in a trustworthy manner and that clear responsibilities should be set out for both users and developers, this concept of dual responsibility being exemplified by the different responsibilities that users and manufactures have with regard to road transport. In addition, the groups addressed the need to develop mechanisms to ensure that any guidelines are followed and respected, enacted through the development of appropriate oversight processes.
9. At a strategic level concerns were raised about specific uses of AI, for example in military systems, and the desirability of creating limits and norms that arbitrate between what *should* and *can* be done with AI. With respect to societal impact there was a strong awareness of the need to re-skill and educate both individuals and collectives, with the need to pay particular attention to those most impacted by AI. The need to incentivise the use of AI to improve rather than replace work was also expressed as well as the need to be clear about what Europe wants to achieve and what it wants to avoid in terms of both ethics and the economy.

3. POLICY AND STRATEGY: BREAKOUT AND FEEDBACK

CHAIR: Pekka Ala-Pietilä

1. Members of the AI HLG were again pre-allocated to four different groups so that experts interacted with different colleagues in the second breakout. New rapporteurs and moderators were appointed by each group. This session concerned the task "*Prioritise themes for future policy & for boosting Europe's AI capacity and competitiveness*". Notes provided to members presented a set of questions to be addressed by the groups in order to stimulate discussion.

2. Following group discussions, the AI HLG reconvened in plenary to hear reports from each of the four rapporteurs. Discussions then followed the reports.
 3. The group observed that the structure of AI development in Europe needs to be built around current European innovation structures and existing investment mechanisms, that simply copying the approach taken by other countries is unlikely to be successful in a European context. That a unique European approach to AI strategy and policy must be identified and implemented. An approach that supports and connects innovation across sectors and between organisations, including start-ups and SMEs, and gives access to a European focused AI innovation eco-system. It was highlighted that any expression of an “AI Vision for Europe” must fully address a citizens’ perspective and build an inclusive society.
 4. The group strongly supported the need to ensure excellent researchers in AI are retained in Europe, and a first priority should be to develop mechanisms that stop Europe “bleeding” talent. Strong incentives should be created to keep AI researchers and innovation in Europe and that access to public funding should be made less complex. Critical to this is the development of a strong AI innovation infrastructure, including High Performance Computing, and a reactive approach to regulation and compliance.
 5. It was also observed that the AI strategy needs to build on the unique collaborations between public and private stakeholders that exist in Europe and that these should be geared to create applications at scale. That the strategy should consider engaging public sector procurement mechanisms to deliver high quality data and AI systems that can showcase European AI.
 6. The group expressed the importance of simplifying the regulatory environment by adopting one set of rules across Europe to create a single AI market. That it was vital to do this in conjunction with member states to avoid fragmentation into multiple, incompatible national approaches. It was suggested that the development of a European AI data quality mark would help create “pools” of well curated data, particularly public sector data, that could be used to build and validate AI systems. The idea of creating a single centre of excellence in Europe (the so called “CERN for AI”) was raised, as was the need to improve the diversity of data both in terms of type and coverage, for example in covering the full cultural diversity of Europe.
 7. It was pointed out that a European approach to AI needs to build on European strengths and should consider seeking out opportunities that can “leapfrog” the current dependence on large volumes of data by developing new techniques. It was suggested that European AI should seek to push beyond Machine Learning and beyond “deep learning” to find “hot spots” and niche developments that fit with European strengths and expertise and that AI and human expertise should be blended to address complex tasks.
 8. There was recognition of the potentially important role the new European Innovation Council can play in supporting AI innovation and in promoting and supporting European AI “unicorns” with its potential role in identifying new markets and opportunities within Europe and in developing long term planning. The group highlighted the need for a cross disciplinary approach to AI that engages across academic disciplines and in particular connects with the Social Sciences.
 9. The group stressed the importance of ensuring that the underlying skill base meets current and future need and builds on collaborative and multi-disciplinary approaches to AI development and deployment. It was also suggested that AI skills need to be included within a broad range of educational disciplines and levels, not just within technical education, so as to educate the next generation to use and include AI in their thinking.
- 3.2. CONCLUDING REMARKS**
1. On concluding the discussions, the Chair reviewed the deliverable time-line, highlighted the need to move quickly and asked for strong engagement from the AI HLG in the process of developing the outcomes towards the deadline.
 2. The Chair called for suggestions on the formation of a sub-group to examine the scope of AI, but stressed the need for efficiency in this task.
 3. The Chair encouraged the AI HLG to exceed its own expectations, to draw on existing networks to “bootstrap” the process and to suggest innovative and new ways of working that could enhance its impact efficiency.

19th July 2018

4. Rouhana then called for volunteers from the AI HLG to submit applications to chair the two Working Groups (Ethics and Policy & Investment Strategy).
5. The meeting concluded with an expression of thanks to all those attending.

4. NEXT MEETING

The next meeting of the AI HLG will take place in Helsinki on the 8th and 9th October 2018 and will be held jointly with the Member States High Level Group on AI.