ECIS European Committee for Interoperable Systems

ECIS event: "What are the barriers to harnessing AI in Europe?"

A First reaction to the European Commission Communication on AI

3 May 2018

Summary of Presentations

This event provided a forum for first reactions to the European Commission ("**EC**')'s Communication on artificial intelligence (the "**Communication**"), which was published on 25th April 2018. DG Connect was in charge of the Communication and Anne Bajart attended this ECIS event as a representative of DG Connect. Our panel of speakers also included industry professionals providing their first comments on the Communication. A summary of their presentations is below.

Anne Bajart – Europe's Strategy for AI
Head of Sector for Robotics Industrial Development and Impact, DG CONNECT, European Commission

Artificial Intelligence in Europe

We need a clear strategy for artificial intelligence ("**AI**") for a number of reasons:

- AI is used in various fields of applications and will have a huge impact on society;
- we have seen an exponential growth in computing power in the last decade and more data has become available for these purposes; and
- we have seen major advances in algorithms, machine learning in general and, most recently, in deep learning.

Europe is not falling behind on these matters. We have a world-leading position in robotics; some sectors within Europe, namely transport, healthcare and manufacturing, are ready to digitise and integrate AI into their operations; and we have established excellent research centres focused on AI. There has been a strong and consistent political push to establish a strategy for AI both within and outside Europe. China and the USA have been very forthcoming on the topic.

Europe is taking a concerted approach to the development of AI. On 10th April 2018, 24 Member States signed a declaration of cooperation on AI. In doing so, they committed to supporting the strategy of the EC and working together to ensure Europe has the critical mass required to achieve in this space.

The Communication

The Communication aims for Europe to lead the way on AI matters and is structured into three different 'pillars':

1. Boosting technological and industrial capacity;
2. Preparation for socio-economic changes; and
3. Ensuring an appropriate ethical and legal framework.

All of these 'pillars' and actions that stem from them originate from the EU's motto on AI: '*The development and use of AI for good and for all*'.

Pillar 1 - Boosting technological and industrial capacity

The EC is investing €1.5 billion into AI for the period of 2018 to 2020 under the research and innovation programme, Horizon 2020. This is a 70% increase when compared to the previous period on an annualised basis. These funds will be put towards:

- basic and industrial research;
- an AI-on-demand platform that will provide users with access to relevant AI resources in the EU;
- a network of AI-focused digital innovation hubs; and
- strengthening the AI excellence centres that we have in Europe already.

From 2020, the overarching goal will shift to increasing investments into AI from €4-5 billion per year, to €20 billion per year in the 2020s. There will be an ambitious proposal to support AI in the period of 2021 to 2027; the EU will support basic and application-oriented research; there will be support for AI excellence centres and digital innovation hubs; and there will also be support for the establishment of world-leading experimentation sites.

An important part of the strategy focuses on making more data available, as the development of AI requires large amounts of good quality data. Therefore, there will be an updated Directive on public sector information, guidance for the private sector and an updated recommendation on access to and the preservation of scientific information. A communication on the digital transformation of health and care, which included a section on the sharing of genomic and other health data sets was released by the EC alongside the Communication on AI on 25th April 2018.

Pillar 2 - Preparation for socio-economic changes

It is generally agreed that AI and the use of AI will bring socio-economic changes. Unfortunately, it is impossible to predict with certainty what kind of changes will take place. However, it is possible to anticipate the nature of this change and prepare people for change. This will involve:

- creating dedicated (re-)training schemes to ensure people have the right skills to adapt to socio-economic changes;
- conducting studies to try to anticipate changes in the labour market;
- providing Digital Opportunity Traineeships: traineeships in advanced digital skills for students and recent graduates;
- asking social partners to include AI in their joint work programmes;
- asking the European Institute of Innovation and Technology to integrate AI into their education offerings; and
- considering whether to broaden the scope of the current European Globalisation Adjustment Fund to digitisation and automation.

Pillar 3 - Ensuring an appropriate ethical and legal framework

In order to ensure an appropriate ethical and legal framework for AI the EC will:

- develop draft AI ethics guidelines by the end of 2018;
- issue a guidance document on the interpretation of the Product Liability Directive by mid-2019 ;
- publish a report on the broader implications of AI for the liability and safety frameworks;
- support the development of explainable AI; and
- implement a pilot project on algorithmic awareness building.

European AI Alliance

The EC needs the assistance of various stakeholders in Europe to support the strategy and to determine the EC's priorities going forward. To this end, the EC will launch the European AI Alliance (the "**Alliance**"). The Alliance will be a platform for discussing AI in Europe, which will be steered by a high-level group of 30 AI experts. The online platform is expected to be live by September.

Mark Watts – AI and GDPR
Partner, Bristows law firm

There are a number of obstacles currently faced by companies that are developing AI applications. Some would say that, simply by virtue of being a strict regulation that will have an effect on how data is handled, GDPR is an obstacle to the development of AI. However, I feel that this is a simplistic view of the relationship between GDPR and AI. GDPR itself allows room for development in the field of AI, however we have seen a number of issues arising out of GDPR that could raise issues for AI.

Uncertainty and Misunderstandings

Firstly, GDPR has caused a great level of uncertainty. This uncertainty, coupled with the deterrent effect of large fines for those that do not comply, could have a restrictive effect on development and the propensity for market participants to engage in large data projects.

There have been huge efforts to raise awareness on GDPR and, as a result, it is highly visible and known to many across Europe. On some occasions, with great awareness comes an element of mythology and misunderstanding. A misunderstanding of GDPR that I consistently hear, and that has the potential to cause problems, is that under GDPR, one must obtain consent to process data. This is completely incorrect.

Misunderstandings such as these can have significant consequences. In the 2000s there was a large amount of uncertainty regarding medical research, specifically around the extent to which data that was taken in hospitals, primarily for the purposes of treatment, could be used to conduct research. It was generally agreed, at a high level, that the societal benefits of medical research were huge and that data could be used in a way that did not have a negative impact on individual patients' privacy. Despite this, many research projects that would have used data in this way did not go ahead due to uncertainty around this practice and around the consequences of misusing data.

Conservative interpretations of GDPR

Secondly, there have seen some very conservative interpretations of what GDPR requires. Particularly on aspects of machine learning, profiling and automated decision making.

The conservative approach to automated decision-making is particularly problematic. Article 22 of the GDPR gives individuals '*the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her*'. This is not new under GDPR. This provision is in the existing Data Protection Directive. Most organisations have ignored this provision for many years. However, since the publication of GDPR, many are now reviewing their technology to assess whether certain functions would be categorised as decisions made by machines and would therefore need to be assessed in light of Article

22. This is partially due to an increase in machine learning and can perhaps therefore be viewed as a natural consequence of the growth in AI.

The regulatory view on Article 22 is that Article 22 is a *prohibition*, rather than a *right*. This means that, according to the regulator, companies are not allowed to subject an individual to automated decisions of the type described in Article 22, unless they obtain prior consent from that individual. According to the regulator, making Article 22 a prohibition reinforces the idea that individuals are in charge and should be in control of their data. The regulator also points to the fact that Article 22 contains wording on automated decisions made with the consent of an individual and say that consent would only be necessary if Article 22 was a prohibition, not a right. Conversely, if Article 22 was viewed as a *right*, this would mean that companies could subject an individual to the automated decisions of the type described in Article 22 unless that individual had exercised their right under Article 22 to not be subject to such decisions. As a right, Article 22 places the burden and focus on the individual rather than the company.

My view is that Article 22 is a right for a number of reasons:

- in GDPR, Article 22 is in the section on data subject rights, not in the section on prohibitions and obligations;
- Article 22 is written as a right in that it is written to say '*the data subject shall have the right*';
- the fact that consent is mentioned as an exception is a red herring. Article 22 contains wording on *explicit* consent for a situation where an individual has exercised their right, not consent generally; and
- the recitals state that children cannot be subject to automated decision-making in this way. It is written as a clear prohibition, but one that is limited to children. This suggests that the other parts of Article 22 should not be treated as a prohibition.

I was recently invited to attend a demonstration of an autonomous vehicle. This demonstration included a showcase of the vast amount of data that was being processed by this vehicle while in operation. The vehicle used face recognition programming to determine whether an individual was facing towards it and to therefore predict whether that individual had seen it. Where an individual's face was not recognised, the vehicle assumed that individual had not seen the vehicle also and so proceeded with added caution. This is an example of beneficial automated decision making. In light of the incoming GDPR, the manufacturer of this vehicle sought advice on whether it would have to delete all the data sets used to develop this technology. This is valuable data that could be used to further develop this technology. This example shows how uncertainty and a conservative view by regulators has the potential to restrict advancements in robotics and AI that are not harmful to individuals.

<u>The assumption underlying GDPR</u>

The assumption that humans make better decisions than computers is one that permeates through GDPR. It can be seen in the safeguards to automated decision-making which include appeals to human beings. Safeguards such as these presuppose that humans could make those decisions better than technology that was designed specifically for that purpose.

Generally, statistics show that autonomous vehicles could be, on the whole, safer than human drivers. Impediments to decision-making such as unconscious bias are *human* imperfections. I agree that there are some decisions that humans make better than computers but I would argue that there are some decisions that computers could make better than humans. The simplistic assumption that we are all better than computers which have the capability to process vast amounts of data at astonishing speeds, is a restrictive one.

Jens-Henrik Jeppesen – Bio-Civil Society and Transparency
Director, European Affairs, Centre for Democracy & Technology

Response to the Communication

The Communication is comprehensive and addresses a variety of pressing issues. We compared the Communication with some of the work that we previously completed in the United States, specifically during a consultation with the White House Office of Science and Technology in the summer of 2016. The White House framed our discussions around nine specific points including legal and governance; securing the use of AI for the public good; safety and control; the socio-economic implications of AI; and research and development trading deficits**.** Broadly, the nine focus points that were raised during this consultation correspond to the content of the Communication laid out by the EC.

The Communication did not shy away from the great challenges Europe faces in AI. However, the Communication may have understated such challenges, certainly if we look to the press to gauge Europe's position in the global development of AI. The Financial Times recently published an article on the development of AI, which solely focused on the 'AI arms race' between the United States and China. This is the second article I have incidentally come across that fails to mention Europe completely when looking at the development of AI across various regions. I hope that the reason for this is that most journalists are simply unaware of the AI work that is being completed in Europe.

Our team has been involved in various projects that are designed to promote the development of AI. One of these is the Digital Positions Tool. This is an online tool, which is available to developers that have an interest in using AI algorithms within their applications. It contains a walk-through guide for integrating AI with applications and includes guidance on how to design applications in ways to avoid unintended consequences such as reinforcing historical biases and to avoid having disparate effects on certain groups within society. It also helps developers become aware of the risks of using AI that have been identified by academics and others in civil society. We would be pleased to contribute to the work of the AI Alliance in a similar way.

Missed opportunities

On the whole, we were very pleased with the Communication however, our view is that there are some opportunities that have been missed and that there are other arms to the EC's policy-making machine that are working at cross-purposes to the progress sought in the Communication.

We have been working on the Directive on copyright in the Digital Single Market. As part of our work, we have stressed, to the EC, the importance of a number of activities that are crucial to the development in AI. One of these is text and data mining ("**TDM**"). We are still calling for a much more flexible approach to TDM than the approach that has been proposed by the EC.

On 9 April 2018, a group of various entities including business organisations, research organisations, libraries and universities published a joint letter addressed to EC President Juncker, Vice President Ansip, Vice President Katainen and other commissioners highlighting that a comprehensive strategy to make Europe competitive must include robust support for TDM in public and private research sectors. This is something that the institutions of the EU have jointly failed to do to date. There is certainly a need for progress there.

Other observations

There is a discussion to be had around GDPR, specifically on how it interacts with Article 13 and with scenarios where individuals are being subject to automated content filtering take-downs.

Our free expression team has recently looked at AI in the context of online content moderation. There is huge pressure on online platforms to filter (i.e. to detect, delist, delete etc.) a variety of content that may be illegal by infringing copyright or being libellous or is offensive. There is a strong belief that there exists tools that can do this effortlessly and with adequate consideration of freedom of expression rights and rights around access to information. Our team completed some research on the current status of AI technology in this field and concluded that we are nowhere near a scenario where such tools, that are able to detect context and intent, exist. At times, politicians are overly optimistic about the capabilities of AI. It could be argued that the industry is also and creates false impressions regarding current capabilities in the field of AI.

Mark Bohannon – AI Regulations, from a Global Perspective
Vice President, Global Public Policy & Government Affairs, Red Hat

The Communication is a positive contribution to the discussion being had on AI, being a topic that is in itself difficult to define. The Communication is right to acknowledge that AI is already a part of our lives and is already working to solve societal problems and that some sectors will be more focused on others. These observations make sense for a variety of reasons.

Following the contributions here today, I offer some additional perspectives stemming from my experience.

Evolving definition of AI

The difficulty with AI is that we often have a static notion of what AI is. AI is more a journey rather than a destination. It consists of pushing technology to perform the cognitive functions that we associate with human brains. What we think of as AI now, will be routine technology tomorrow. The development of AI is an evolving process that involves continuously pushing limits. In addition, the role of AI will evolve differently in each sector. It is indeed very interesting to see some sector focus in the Communication.

Information sharing

It is good to consider a number of things that would help to spread the results of research into AI. The Communication suggests collaborative research and development as a means of doing this. I agree with this proposal and think that the results of these projects should be widely distributed.

Fear around AI

Rather thinking of the loss of jobs, we should encourage people to look through a different lens. We should be thinking about whether there are gaps in labour skills or tasks that we are struggling to fill and whether AI could assist us in doing so. It is likely that AI will impact 'tasks' (which may be closely associated with a 'job') but increasingly, jobs require many tasks. How will AI help effectuate tasks that allow individuals to hone their other skills and responsibilities?

Review of existing policies

My view is that, before we consider new legislation, we look at existing policies in this field and how they apply to and affect the development of AI. There is a risk that legislating could impede progress

through periods of uncertainty. We need a structured analysis of the current legal frameworks within which AI is being developed.

Conclusion

I would like to conclude by thanking the EC for the Communication. The Communication was drafted with the correct tone for the present time. I look forward to seeing how the strategy is executed and to work with the EC on these matters.