**Austrian Submission on specific impacts on the enjoyment of the right to privacy caused by the use of artificial intelligence, including profiling, automated decision-making and machine- learning technologies (AI)**

**Legislative and regulatory frameworks**

Austria strongly supports a comprehensive and values-oriented discussion on the human-rights based and human-centred design, development and use of AI methods, systems and products on an international level, including developments in the context of the EU, the UN, the UN Human Rights Council, UNESCO, OECD, EU and other international organisations. We thus welcome the preparation of a thematic report by the Office of the United Nations High Commissioner for Human Rights.

Over recent years, **Austria has actively contributed to the creation of legal and ethical frameworks for future AI applications** – nationally e.g by the establishment of the Austrian Council for Robotics and Artificial Intelligence (ACRAI) in 2017, the commissioning of the publication of an Austrian White Paper on AI; internationally e.g. by actively participating in discussions of the European High Level Group on AI, especially in the reports on Ethics Guidelines for Trustworthy AI, the work of the Council of Europe Committee on AI (CAHAI) on a new legally binding instrument on AI and the work of UNESCO on a Recommendation on the Ethics of AI.

There is currently **no specific AI-law in Austria**. A consultation process towards an ‘Artificial Intelligence Mission Austria 2030’has been started, the envisaged output of an Austrian AI strategy (potentially leading up to AI-specific legislation) has not been finalised yet.

 The processing of personal data is regulated by the **EU General Data Protection Regulation (GDPR)** and Austria’s **Federal Data Protection Act –** which inter alia apply tothe relationship between employers and employees and in the application/recruitment process. According to Art. 22 GDPR, for example, persons (including applicants, in particular recital 71) have 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 – such as e-recruiting practices without any human intervention. An online recruitment process without human intervention is therefore dependent on the applicants' explicit consent.

**§ 2d (2)** **Federal Research Organisation Act** states that research organisations may process personal data in the context of big data, personalised medicine and biomedical research as long as data is processed in pseudonymised form. The **EU Medical Device Regulation** includes relevant provisions for software as a medical device (regulating market access for software algorithms producing risk scores or therapeutic advice).

With the publication of the **proposal for an EU Regulation on harmonised rules on artificial intelligence** (COM(2021) 206 final), the EU has presented the world's first legal framework for AI and opened a new chapter in the debate, proposing ground-breaking rules and aiming to be at the forefront of developing new global standards that can ensure AI is trustworthy. The draft recognises that “[t]he use of AI with its specific characteristics (e.g. opacity, complexity, dependency on data, autonomous behaviour) can adversely affect a number of fundamental rights enshrined in the EU Charter of Fundamental Rights”, including on the protection of personal data and on non-discrimination.

This draft employs a risk-based approach, containing specific rules for AI systems that create a high risk to the health and safety or human rights, **defining prohibited AI practices** (Art. 5) as well as **high-risk AI systems** (Art. 6). The draft provides strong guidance on the classification of risk-ratings of AI-based systems or AI products, makes a clear statement on prohibited AI methods and applications, and provides strict guidance on marketing high-risk AI systems. On this basis, discussions over the next years will address rules for adequate risk assessment and mitigation systems, quality of data sets fed into the system, logging of operations to allow traceability of results or clear and adequate information for users.

Another EU-level legislative initiative of relevance to the issue of AI in health and care is the projected legal proposal on a **European Health Data Space,** which should facilitate non-discriminatory access to health data and the training of artificial intelligence algorithms on those datasets, in a privacy-preserving, secure, timely, transparent and trustworthy manner, and with an appropriate institutional governance.

Austria is strongly committed towards a common, systematic and human rights based European approach on this topic and welcomes all additional efforts outside the EU context.

**Non-discrimination and discriminatory impacts of the use of AI**

It is essential to ensure that AI and underlying algorithms are designed, developed and used in a non-discriminatory manner. In order to prevent the reproduction of existing stereotypes and discrimination in AI applications, it is important to involve **more diverse and interdisciplinary teams** with different backgrounds that raise ethical questions in the design and development process. Thus, a higher proportion of women in IT in general is necessary: As the 2020 gender equality Index by EIGE (European Institute for Gender Equality) points out, there is still a gender gap when it comes to training and employment in the field of information and communication technologies (ICT) and among scientists and engineers in high-tech sectors within the EU.

AI is increasingly used in the context of work. In many companies and public administrations, AI is used to recruit or evaluate employees. By using algorithms and AI, discriminatory patterns have frequently been discovered. When using AI systems to pre-filter resumes and pre-sort applications, existing biases in measuring and comparing applicants are often replicated. **Using high-quality data is thus essential to avoid perpetuating existing biases.**

Several studies have addressed the issue of **gender bias in algorithms used by search engines**. A recent study by the University of Linz and the Linz Institute of Technology (LIT) showed that using gender-neutral terms such as "nurse" or "beautiful" in search engines, mainly resulted in answers related to women. In contrast, searches for the term "CEO", resulted in predominantly male answers. Also, many examples of voice assistants and facial recognition systems have a higher error rate for women, transgender people and people of colour, as a 2018 study shows.

Also AI applications in health and care run the risk of perpetuating discriminatory bias in health data.[[1]](#footnote-1) Individualised risk-profiling with health data could also lead to discriminatory practices in health insurance or care. Incorporating AI into healthcare practices could also lead to the discrimination of patients with lower levels of (digital) health literacy.

**Examples for potential benefits and challenges posed by the use of AI for the right to privacy and other human rights**

* **Increase in cyber-violence:**

The increased use of technology and AI has led to an **exacerbation of cyber-violence against women and girls,** especially those who experience intersecting forms of discrimination. Smart devices have opened up new dimensions of domestic cyber-violence. Perpetrators use AI to create synthetic images – such as deep fakes – to commit sexual harassment. A legal framework to combat any form of violence against women and girls needs to be ensured. We have to strive to design AI in a way to inhibit abusive behaviour, in order to be able to make best use the positive effects of AI.

* **Use of AI in healthcare and in relation to the Covid-19 pandemic**

In general, AI and machine learning can play a positive role in health and care; relevant examples include

* Calculating risk profiles for prevention and healthcare planning;
* Use of convolutional neural networks in diagnostic analysis of medical images;
* AI-supported development of medicinal products;
* Therapeutic interventions making use of novel sensor-systems and AI-supported algorithms
* AI algorithms for patient interaction (chatbots, decision-support systems, recruitment of study subjects, etc.)

Several Austrian universities and non-university research institutions carry out **health-specific AI research,** e.g. on image analysis or on the prediction of patient pathways from laboratory, clinical and real-world parameters. Innovative hospitals have rolled out some of these classificatory algorithms to calculate individual-level risk scores for the prediction of treatment-relevant conditions. In the start-up scene, companies are working on medical image analytics in dermatology, AI-powered chatbots for symptom checking, sensor systems for assisted living, or natural language processing of medical information (e.g. to make laboratory results more easily understandable). In the Covid-19 context, machine learning approaches (regression models, etc) have been fundamental in the prognosis of epidemiological dynamics.

**Challenges** related to the application of AI in health and care include:

* Data protection and security
* Data availability and quality
* Socioeconomic questions regarding the impact of AI in health and care (e.g. on health professionals and on forms of interaction in healthcare provision)
* Ethical aspects (algorithm and data ethics, bias, transparency and explainable AI)
* Legal aspects (market access regulation, liability law)

One challenge for the use of AI in health and care is that personal health-data are a special data category under the GDPR (see its recital 35). Using personal health-data in AI applications requires specific safeguards (e.g. regarding the identification or re-identification of individuals in pseudonymised data, the consideration not only of current, but also possible future technologies and linked data sources, etc.). At the same time, the interest of the individual and the public in adequately using health-data (for diagnostics, treatment, system planning, etc.) is high. Methods have to be developed that help to maintain the right to privacy while at the same time not hampering the right to health (e.g. by not making use of certain data and machine learning approaches to mitigate individual or population-level health issues).

AI systems in health and care are not included in the explicit list of high-risk AI systems as suggested in the EU Draft Regulation on AI (as defined in Annex III), but all systems that pose a high risk to health and safety or fundamental rights are considered high-risk AI systems. AI systems which are part of products that require conformity assessment according to the Medical Device Regulation (2017/745) or the In-Vitro Diagnostic Medical Device Regulation (2017/746) are also considered high-risk AI systems. The draft regulation includes specific requirements for high-risk AI systems regarding risk-management, data governance, transparency to users etc.

The principles of privacy by design and explainable AI will continue to be relevant: AI in health and care must not be a black box, but AI systems (e.g. for diagnostics) need to be designed in a way that make use of both human and artificial intelligence, thus considering the perspectives of patients and healthcare professionals. Integrating AI in healthcare provision workflows also requires changes in education and training of health professionals. AI use in health and care will affect the communication setting between patients and healthcare professionals (diagnostic decisions from a machine, intelligent care robots, chatbots, etc.). Digital health literacy (on the side of patients, family and professionals) needs to be considered in order to prevent aggravating the digital divide, exposing sensitive data or black-boxing discriminatory practices.

* **Use of new technologies and AI in the justice sector**

Digital assistants and AI ease the routine workload of staff and leave more room for substantive work. AI technologies constitute a key technology in some areas of the Austrian Justice Digitization Strategy. Potential areas of application range from legal research based on facts and circumstances, recognition of meta data and structures in briefs, correct allocation of incoming documents and cognitive analysis of investigation data up to the intelligent analysis of video data (e.g. recordincgs of hearings) and a predictive analysis of movement data of prisons.

Since 2018 several AI services have been "trained" to meet the specific requirements of the justice system. It is planned to expand them step-by-step to other supporting activities.

Currently, AI (machine-learning and deep-learning algorithms) is used in some subareas, in particular:

* to facilitate recording of data and to structure files (creating recording proposals or adding structure to scanned/incoming documents; recognition and creation of meta data);
* to optimize internal workflows (i.e. identifying the person(s) in charge);
* for criminal proceedings or investigations (i.e. to structure and process large files efficiently, courts and public prosecutors' offices may use software which is intended to facilitate coping with large amounts of data [keeping an overview, creating and identifying links, compiling information on a topic, etc.]);
* to anonymize court decisions before they are published.

The following projects are in planning/currently implemented:

* **Rapid AI-based Detection of Aggressive or Radical content on the Web**, aiming at providing a forensic platform for automated analysis of text and image content, that can support authorities in detecting aggressive or radical content in large unstructured databases, such as seized hard drives or internet portals.
* **Machine Learning of motion patterns in the penal system**: With the help of new technologies of 3D-image analysis, behavioral patterns of people are registered with the help of a 3D sensor and analyzed in real time in order to identify corresponding critical movement patterns. This aims at increasing security of inmates and prison staff.
* **Multimodal detection of risk situations**: Endangering behavior in prisons will be assessed with the help of a multimodal model, accompanied by a detailed legal and ethical examination in order to protect inmates and prison staff. In particular, an analysis of behavioral patterns, such as covert acts of aggression, impaired vital functions and separation of accomplices, shall be enabled.
* **Digitalization of analog inmate documentation**: The current status of inmate-related processes is assessed with regard to its digitalization potential.
* **Digitally supported Resocialization** in the penal system: This project aims at establishing a basis for a broadened access for inmates to the internet and digital tools. Perspectives and needs of inmates, in particular with a view their resocialization, are examined, in order to provide for secure access to modern communication and information technologies. A model project is supported by sociological studies.
* **Use of facial recognition technologies and protection of the right to privacy**

Due to the multitude of changes in the field of crime control and crime prevention, the use of AI is increasingly researched and developed, with the primary aim to increase efficiency and quality of criminal police evaluations and analysis. Various approaches are currently being pursued – inter alia, the development of mathematical, network-theoretical and statistical methods using artificial intelligence is being considered in order to examine existing networks for their relevance to security and criminal investigation. Furthermore, the use of algorithms for processing criminal police data sets is being researched in order to gain rapid insights into the development of serial crimes.

As called for in UN Resolution 2396 (2017), the Federal Criminal Police Office is using **facial field recognition technology** (Section 75 SPG), which in the future will be legally required for all central systems of the EU in the areas of migration, asylum and law enforcement in the corresponding regulations and directives on the identification of people. The use of this technology makes it possible to obtain information for further criminal investigations and prosecution, especially in those cases where solving a crime would otherwise be practically impossible.

If facial recognition is used, it is not used in real time, nor is it used at gatherings and demonstrations. Only the facial images of unknown suspects are matched and the result of this matching is checked before further measures are taken in each case.

All projects and measures in the field of artificial intelligence in the Federal Criminal Police Office are **carried out in strict compliance with Art. 8 ECHR** (right to privacy), which enjoys constitutional rank in Austria.

* **AI applications in the area of employment and related human rights issues:**

AI will have a major impact on the labour market and on society as a whole. Various professions will change radically or even become redundant. Different social groups may be affected differently. In order to prevent disadvantages for certain social groups and to be able to derive the greatest benefit from AI for the social sector, it is essential that the further development of AI is carried out in a socially acceptable, value-oriented manner and in compliance with all social, ethic and data-protection principles within the framework of a broad social discourse, which takes into account scientifically validated information.

**Workers’ Council Approval:**  The use of technical systems to collect personal data of employees is subject to the approval of the workers’ council. Measures of control/monitoring that may affect human dignity require prior approval of the workers’ council – in its absence, the employee has to give consent.

**Professional Drivers:** Relating to working conditions/working time of drivers, a pilot project allows drivers in Austria to transfer certain tasks to assistance systems provided by the vehicle or to automatic or interlinked steering systems. To ensure the labour-related rights of drivers, *all* hours spent at the wheel are defined as driving time (= working hours), even if the driver transfers some tasks to automatic systems.

* **Disinformation:**

The use of AI for delivering and filtering information online, for content curation and moderation, for the purpose of protecting users from harmful content while at the same time safeguarding the right to freedom of expression is being widely discussed.

Currently, an Austrian project consortium is developing an AI-based tool to detect disinformation threatening to undermine public trust and democracy. In order to ensure the tool’s conformity with human rights, a **human rights impact assessment** is being conducted in the design and development phase of the tool, systematically identifying benefits and challenges for the guarantee of human rights – especially the right to privacy and the right to freedom of expression – by using the tool.

1. cf. the critique of gender medicine on the bias in clinical research, e.g. by Gahagan et al. 2015 [↑](#footnote-ref-1)