Bern, 13th April 2022

Artificial intelligence and international rules

Report for the Federal Council

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1 Task

In submitting this report, the Federal Department of Foreign Affairs FDFA has fulfilled the task assigned to it by the Federal Council on 13 December 2019:

The FDFA (Directorate of International Law DIL) should assess in detail how global AI rules and standards are established, how they should be categorised, whether international law has been created as a result and, where necessary, propose measures relating to Switzerland's position on AI regulation.

2 Executive summary

The international community views artificial intelligence (hereinafter referred to as 'AI') as a key technology with geopolitical implications. AI has huge potential, but it also raises major concerns in relation to fundamental values and, in particular, the human-machine relationship. As a result, debates on how to regulate AI are currently being conducted in a number of international forums. Many of these debates are still in the very early stages. However, a global set of AI rules appears to be emerging at five separate levels: (1) international law, (2) soft law, (3) national enactments with international effect, (4) self-binding corporate technical standards and rules, and (5) the normative power of the factual driven by advances in technology. This emerging international regulatory framework is based on a common set of assumptions that there is a need to regulate AI, in general, and that adopting a principles- and risk-based approach is the best way to achieve this. It has also become clear that the requirements for AI use by the public and private sectors should, to some extent, be based on the same set of principles.

Some of the emerging global AI rules and standards are out of step with discussions that have taken place in Switzerland so far. Although the exact direction of travel has not been set either at national or international level, there are clearly dissenting opinions regarding the need for and approach to regulation and the extent to which distinctions should be drawn between the public and private sectors. While Switzerland can determine its own legislative approach to AI, any major discrepancies between Swiss national law and international rules would not be in Switzerland's interests in terms of accessing AI global markets and supply chains.

The fact that international debate is still in the very early stages gives Switzerland the opportunity to become actively contribute to shaping the international AI regulatory framework. With this in mind, the report proposes four courses of action:

1. A group of legal experts ('law hub') should be set up to provide expert advice on AI legal issues within the Federal Administration. This law hub should be attached to existing horizontal AI structures, i.e. the Competence Network for Artificial Intelligence CNAI and 'Plateforme Tripartite' Administrative Committee. In addition to experts from the federal offices, the hub will also include experts from the joint FDFA (DIL) and Swiss Academy of Engineering Sciences SATW 'Law and Technology' working group. These external experts can also assist Switzerland in international processes.

2. Within the framework of the 'Plateforme Tripartite' on the information society exists an Administrative Committee made up of representatives of the Federal Administration, which can coordinate international positions of the Confederation. In this body, the AI positions to be put forward by Switzerland in international bodies and processes should be coordinated, with a view to ensuring that the positions taken on AI are consistent.

3. Switzerland needs to increase cooperation with technical standards organisations, which play a pivotal role in shaping global AI rules and standards. With this aim in mind, the FDFA, together with the International Electrotechnical Commission IEC[1], will hold an international conference in Geneva in 2022, which will focus on the interplay between technical standards, conformity assessments and international AI regulation and rules and, based on this, identify further steps to deepen this interplay.

4. By the end of 2022, the Federal Council should confer a mandate on the Swiss delegation to start negotiating a Council of Europe AI instrument.

3 Introduction

Digitalisation is one of the thematic priorities defined in Switzerland's Foreign Policy Strategy 2020–23. In its Digital Foreign Policy Strategy dated 4 November 2020, the Federal Council defined four priority action areas for Switzerland in the international arena: (1) digital governance, (2) prosperity and sustainable development, (3) cybersecurity, and (4) digital self-determination.

For Switzerland's interests and values to be effectively represented in these areas, it is necessary to explore a number of issues in greater detail. This includes considering AI in the context of 'digital self-determination', the fourth field of action in the Digital Foreign Policy 2021–2024 and, in this respect, the report fleshes out the strategy defined. The Federal Council's AI Guidelines dated 25 November 2020 also define actively shaping the global AI regulatory and governance framework as a key field of action (Guideline 6). This report also furthers the process of implementing Guideline 6.

As a cross-cutting technology, AI can potentially tackle the greatest challenges facing humanity, including diagnosing and treating diseases, managing environmental resources, and fighting poverty. But it is also hard to predict how AI technology will develop, which creates uncertainty and fear, and, in particular, concerns about the human-machine relationship. What are the areas in which machines can and should generate results currently produced by humans? What should be the requirements regarding the traceability and quality of results produced by AI applications? And who should be held accountable for unintended outcomes or consequences? Given that AI systems are evolving worldwide, all societies need to address these fundamental questions of law and ethics. At the same time, AI is integral to government strategies to promote prosperity and exert political leverage. AI has therefore become an important factor in geopolitics, global security and international competition among business locations.

AI is currently a concern for a wide range of stakeholders, including companies, research bodies, governments, individuals, and international organisations. Numerous debates are taking place around the world and it is hard to gain an overview. This report aims to consider and provide a better understanding of the various AI activities and discussions from an international law perspective. In doing so, it seeks to establish definitions and provide a baseline analysis, which should help determine the position on AI Switzerland should adopt in future international forums.

The report will first explain key terms and the reasons for AI's global significance (section 4). It will then describe the emerging global AI rules and standards on five different levels and the relevant centres of normative power (section 5). Finally, the report will consider the emerging international rules from a Swiss perspective and suggest the position that Switzerland should take in international forums (section 6).

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[1] The IEC is a Geneva-based global organisation for the preparation and publication of international standards for electrical, electronic and related technologies.

4 AI definitions and reasons for global significance

4.1 Definitions

AI systems have been evolving since the 1950s. During the initial development phase ending in the 1980s, the lack of computational power and available data meant that AI applications were very limited in scope. From the mid-1980s, progress was made mainly in relation to the mathematical modelling of algorithms and the computational power of computers. Since the 2010s, advances in mathematical modelling, considerable improvements in computational power and exponential data growth have enabled machine learning, where the computer's learning ability is trained on the basis of data to generate new insights. While technological advances have huge potential, they also raise new legal issues in a number of areas.

There is no commonly applicable accepted definition of 'artificial intelligence'. The report produced by the Artificial Intelligence Interdepartmental Working Group ('AI IDWG'), which was submitted to the Federal Council in December 2019, explains the significance of AI and provides detailed definitions.[2] The Confederation's Competence Network for Artificial Intelligence (CNAI) has published a document with the aim of standardising the terminology used within the Federal Administration.[3] This report uses the recommended CNAI terminology, including for example:

Artificial intelligence (AI)	Artificial intelligence (AI), also known as 'machine intelligence', refers to building or programming computers to do things that normally require human or biological intelligence, for example visual perception (image recognition), speech recognition, translation between languages, visual translation and game playing (with set rules). AI is concerned with building smart machines capable of performing tasks normally undertaken by humans, i.e. self-learning machines that function in an 'intelligent' manner.
AI system	An AI system is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions that have an impact on real or virtual environments. AI systems can be designed to have varying degrees of autonomy.
Machine learning (ML)	Machine learning (ML) is a subset of AI that gives computers the ability to learn. ML explores the construction of algorithms that leverage computer data for analysis, which allows them to learn, adapt and improve (on the basis of specific rules predefined by humans). The resulting statistical model facilitates predictions and classifications of (as yet unseen) data, which can assist with decision-making. Machine learning, which involves inductive reasoning, is the most important subset of AI. ML therefore deploys a 'data first' approach that uses an inductive process to learn from data.

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[2] [Challenges posed by artificial intelligence: Interdepartmental Working Group's Report for the Federal Council (de, fr)](#), 2019, section 2
[3] Competence Network for Artificial Intelligence (CNAI), Terminology (de only), version 1.0, dated 15.12.2021

The definitions of AI and AI systems used in this document are largely consistent with the international definitions, although some discrepancies still exist. Certain definitions of AI systems used in international processes are restricted to machine learning (ML) applications. However, other definitions are extremely broad and include automated computer processes that are not based on data science methods.[4] These processes are often referred to as automated decision-making (ADM). There are therefore significant differences and it is always important to establish which AI definition or definitions are being used in international processes.

4.2 Why is AI a global regulatory issue?

There are four specific reasons why AI is currently such an important global issue.

When technology is exported so are certain values	AI has significant strategic potential	AI raises fundamental questions regarding the human-machine relationship	AI allows for completely new applications
Social values therefore shape technology and can even lead to clashes of values when it is exported.	Huge potential for science, military operations and commerce.	In essence, the law is created by people for people.	Facial recognition Continual learning Hidden patterns
	The US, China and the EU are investing heavily in AI.		

4.2.1 AI has an inbuilt value system

Technology is not value neutral. Technological solutions are always developed in social environments with specific value systems, and AI systems are no exception. This means that technology and AI systems, in particular, are exported from specific cultures, e.g. the US or China, along with certain values. AI systems can therefore influence and, in extreme cases, even conflict with existing values.

The European Union and China have a fundamentally different understanding of personal privacy. For example, their data protection legislation imposes different obligations on government agencies with regard to the protection of personal data. These differences are directly reflected in the products produced in the EU and China. Any technical solutions developed within the EU – or Europe in general – reflect a fundamental understanding that privacy must be protected, whereas Chinese products are often configured differently.

4.2.2 Strategic importance of AI

AI has significant strategic potential for science, military operations and, above all, commerce.

China and the US are investing heavily in their own AI programmes and are looking to form partnerships and coalitions to consolidate their respective positions (developments in China and the US are discussed in greater detail in section 5.1 of this report). Other countries, including Russia, Israel, India, Japan, South Korea, the UK and Australia also recognise the importance of AI.

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[4] CNAI, Terminology (de only), version 1.0 dated 15.12.2021, p. 5.

The EU is also positioning itself strategically, seeking dialogue with the US regarding collaboration on technology, including AI, and, at the same time, trying to reduce its dependence on Chinese and US technology. The EU sees AI as a key technology and plans to support AI by allocating substantial sums to research funding programmes and reconstruction fund facilities. It has put forward a proposal for the first concrete piece of legislation laying down harmonised AI rules, which it hopes will contribute to shaping global AI rules and standards ('Brussels effect').[5]

4.2.3 AI raises fundamental questions regarding the human-machine relationship

AI raises challenging, fundamental questions regarding the human-machine relationship for all societies and jurisdictions. Law was created by people for people at a time when machines were merely tools. Thanks to AI, tasks that could previously only be undertaken by humans can now be performed by computerised machines. The law as it currently stands allows human behaviour to be controlled or provides the legal means for dealing with human wrongdoing or anti-social behaviour. Allowing automated systems to make decisions in place of humans therefore poses challenges to existing legal control mechanisms.

> Example: a public authority responsible for making a determination must also provide the legal grounds for its decision. If a statement of reasons is provided, it is then feasible to review the decision to ensure that it was lawful. Where decisions are taken by AI systems, it would only be possible to review the outcome from a technical standpoint. The 'rationale' behind the decision would not be explainable in the same way as a written statement of reasons provided by a human being. AI systems are often incomprehensible even to experts in the field. ML models capable of continual learning are even more difficult to fathom. The lack of transparency creates unease and outcomes may appear 'arbitrary'. This is why AI systems are also referred to as black boxes (see section 4.3), creating fears that machines are eroding the sphere of human control.

The terms 'human-in-the-loop', 'human-on-the-loop' and 'human-out-of-the-loop' originally emerged from discussions about weapon systems that operate with a high degree of autonomy. They are intended to describe the various levels of human participation involved in the use of autonomous weapons. However, these terms are now also used in non-military contexts to describe when and in what circumstances human operators should intervene to correct automated processes. Their scope has been extended to cover development and programming, for example, in addition to direct intervention by human operators.

4.2.4 AI leveraging new applications

AI is creating new applications for use in the public and private sectors and in the military sphere.

In the public sector, facial recognition and predictive policing are hotly debated new technologies. Predictive policing employs machine learning and data analysis to detect the timing and patterns of domestic burglaries, for example, and predict future crime.[6] These models can now be used by the police to help prevent crime.

In the context of the private sector, AI can provide tailored purchase recommendations and discounts by analysing customers' past buying patterns or website visits and activity.

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[5] Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts, COM(2021) 206 final, 21 April 2021
[6] Example of predictive policing (de only)

AI applications and automated systems to facilitate reconnaissance, logistics or rescue operations are also emerging in the military sphere. Weapons systems that can autonomously select or attack targets, without direct human intervention, have generated considerable debate.

4.3 Key legal issues in relation to AI systems

Discussions on AI are closely intertwined with fundamental principles of international law. These fundamental principles are also an integral part of Swiss law and mainly involve liberal rights grounded in international law, i.e. human rights treaties, the list of fundamental rights in the Federal Constitution, and the protection of privacy under civil law. The common thread in all these provisions is "the freedom to judge a given situation for oneself and to act on the basis of the insights gained; in other words, the ability to determine key issues relating to personal fulfilment freely and autonomously".[7] In order for this to happen, people must be able to understand particular situations and a level playing field needs to be established. AI applications potentially interfere with the core liberal right to privacy and the rule of law. International debate currently revolves around the following issues:

- **Black box**: the lack of transparency regarding the results of AI processes is the main topic of discussion in the AI debate. There are calls for AI applications to be transparent and the output traceable. Firstly, this means that individuals must be made aware that they are interacting with an AI application so that they can understand its decision. Individuals do not need to understand the precise technicalities of the system, but decisions must be traceable and understandable for those affected. The level of traceability required will depend the importance of a particular decision for the individual concerned and whether the public or private sector is the user of the AI system. The use of AI by public authorities raises a number of questions. For example, should governments be allowed to use AI to make legally binding decisions affecting individuals, even if the decision concerned cannot be fully substantiated? Is the use of AI-enabled predictive policing compatible with human rights and the principle of the presumption of innocence in criminal law?

- **Discrimination:** in the debate on AI regulation there is broad agreement that AI systems should not discriminate against individuals. Implementing this requirement which, on first examination, seems straightforward, presents numerous challenges. AI systems are often deployed precisely to produce individual results with specific attributes, with the intention that no two individuals will be treated the same. In some instances, AI systems may therefore produce results that are deemed to be 'discriminatory'. There may also be discriminatory patterns in the data used to train AI systems which are only detected once the system has revealed the pattern. The international debate has so far paid little attention to the problem of defining non-discrimination for AI purposes and how to prevent discrimination. Non-discrimination remains a blanket requirement, where, for the most part, no distinction is made between the public and private sectors. However, there is no general non-discrimination requirement under private law and the provisions governing human rights are primarily binding on government agencies.

- **Surveillance and manipulation**: new AI applications can be used for mass surveillance and to influence the thoughts and actions of individuals, which raises questions about how the law should protect people against **surveillance** and **manipulation**.

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[7] See Rainer J. Schweizer in SG-BV-Kommentar zu Art. 10, note 6f (St Galler Kommentar, the Swiss Federal Constitution, Article 10, note 6f – de only), which refers to the European Convention on Human Rights, International Covenant on Civil and Political Rights, civil law and other sources.

- o AI-enabled facial recognition, for example, can be used for mass surveillance in public spaces and raises the question as to whether these types of AI system interfere with privacy under human rights rules.

- o AI systems can be used to manipulate individuals or entire populations. Existing data may be used to identify behavioural changes in response to certain stimuli and can be targeted accordingly. Advertising a particular product or making purchase recommendations are generally accepted techniques used to influence human behaviour. But such techniques become problematic when they interfere with the exercise of political rights and influence the outcome of democratic processes – a type of AI use that is deemed to be unacceptable. Exactly where to draw the line between acceptable and unacceptable data manipulation is open to debate.

- **Accountability and liability**: when AI-enabled actions cause harm or loss it is difficult to determine who is accountable or liable. Would the operator or the manufacturer of the AI system be liable? Should there be strict liability and could the solution to this issue by found in product liability legislation? Do AI systems qualify as 'products'? Accountability for AI systems and liability for harm or loss are key concerns in the international debate. In terms of international law in a military context, the degree of autonomy that should be afforded to autonomous weapon systems and the extent to which they are compatible with international humanitarian law are currently being discussed.

- AI's potential to achieve **economies of scale**: certain AI systems can effortlessly reach large numbers of people and make automated 'decisions on a case-by-case basis'. These systems, which are new on the scene, potentially make it difficult to enforce individual rights because of the sheer numbers involved.

- **Life cycle regulation:** ML systems optimise output by learning and adapting. This 'continual learning' process, typical of ML applications, poses specific regulatory challenges. Neither ex ante oversight in relation to marketing authorisations or ex post oversight over output appears to be an effective approach to dealing with ML. The option of combining elements of the ex ante and ex post approaches to regulation and ensuring oversight throughout the life cycle of an ML system is now being discussed.

5 Global AI regulation

5.1 Strategic approaches of global players

The strategies pursued by key players are having a significant impact on the global AI regulatory framework. China, the US and the EU, in particular, see AI as force for geopolitical action (section 4.2.2). The various strategic approaches are outlined below:

- **China:** China aims to become the world's leading centre for AI innovation by 2030 and to build a national AI industry worth around USD 150 billion in coming years. Although China has not published any document explicitly referring to a technology competition with the US and EU, the 'New Generation Artificial Intelligence Development Plan' (2017) states that "artificial intelligence has become the new focus of international competition" and refers to the

"development of artificial intelligence as the major strategy to increase national competitiveness and enhance national security".[8]

Role of the Belt and Road Initiative (BRI): the Digital Silk Road (DSR) is a component of China's BRI and provides an avenue for China to export digital infrastructure and surveillance technology, including AI. China has already signed DSR cooperation agreements with or undertaken DSR-related investments in at least sixteen countries.

Role of industrial policy: in 2005, China's Ministry of Public Security and the Ministry of Science and Technology jointly launched the '3111 Project' (a nationwide pilot programme for the development of 'safe cities' across 22 provinces). Technology companies Huawei, ZTE, Zhejiang Dahua and Hangzhou Hikvision have played a key role in developing mass surveillance projects such as Skynet and Sharp Eyes in China. These programmes have laid the groundwork for developing smart cities.

Role of infrastructure and chip production in China's AI strategy: establishing a secure and effective infrastructure is a core component of China's AI strategy, which prioritises network infrastructure (5G, the transport network, space and Earth-based information networks, the internet of the future, etc.), big data infrastructure, and high-performance computing infrastructure.

- **US:** in 2018, the United States Congress set up the National Security Commission on Artificial Intelligence (NSCAI), which was tasked with making recommendations on how to advance AI development to strengthen US national security. In March 2021, the NSCAI published its report which sounded a clear warning that the US government lacked the organisation and resources required to win the technology competition against China. In addition, the US was unprepared to defend against AI-enabled threats or rapidly adopt AI systems for national security purposes. In order to change this, the US would need become AI-ready by 2025 at the latest. The report set out a national AI strategy that would allow the US to achieve AI readiness by 2025 and achieve global ascendancy in AI. In response to the NSCAI report, the National AI Initiative Act of 2020 came into force on 1 January 2021. The Act provides for a coordinated programme across federal government to accelerate AI research and applications for the nation's economic prosperity and national security.[9] However, general US federal legislation addressing AI use has not yet been enacted.

- **EU:** the European Commission recognises that AI is a key technology and represents an important policy area. Research funding programmes, such as Horizon Europe, and funding bodies, such as the European Research Council and European Innovation Council, are the cornerstones of the EU's AI strategy. The EU has set up a EUR 750 billion 'NextGenerationEU' recovery plan to help boost the single market following the COVID-19 pandemic. The total investment package available from NextGenerationEU and the Multiannual Financial Framework (MFF) is expected to be EUR 1.824 trillion. Just under EUR 150 billion in MFF funding and EUR 12 billion from NextGenerationEU are to be allocated to the 'single market, innovation and digital' expenditure category.[10] In 2021, the European Commission unveiled a new proposal for a legally binding AI regulatory framework with a view to developing global

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[8] China Strategy 2021–24
[9] National AI Initiative Act
[10] NextGenerationEU

standards.[11] Given the importance of the EU single market to Switzerland, the Federal Administration is monitoring the European Commission's regulatory efforts closely.[12]

A comparative study was undertaken to assess how many bills (including amended legislation), which wholly or partially deal with AI, were introduced or came into force between 2015 and the start of 2022 in the US and Europe (EU, Switzerland, France, Germany and the UK).[13] In this context, the study also considered the various legislative functions (regulation, actively promoting AI knowledge and education, and supporting AI developments and applications). The findings showed that the highest levels of regulatory activity were evident in the US and the lowest levels in Switzerland. Many pieces of AI legislation are designed to promote AI and, in relation to various aspects of life, there is a clear focus on the economy and state infrastructure.

It is noteworthy that the US, compared to European countries in particular, has introduced a number of bills with strategic components aimed at advancing or protecting the nation. Certain bills, for example, place restrictions on Chinese investments and Chinese stakes in US companies or restrict AI technology exports to China.
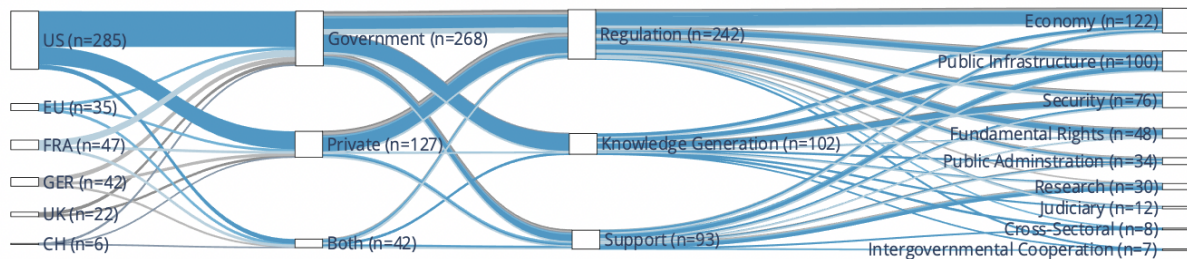

Figure:[14] *this Sankey diagram shows the countries included in the study and the number of pieces of AI legislation, followed by the parties to whom they apply (government, private individuals or both), whether the legislation performs a regulatory function, generates knowledge, or provides support and, on the right, which aspects of life are covered. Legislation with more than one of these components (e.g. regulatory function and promotion) are included twice, whereas legislation affecting areas of life are categorised individually.*

5.2 Emerging international regulatory framework on five levels

As stated in the Federal Council's Digital Foreign Policy 2021–24, international rules and standards for the digital space exist on several different levels.[15] This also applies to the specific AI rules and standards that are currently being developed. In relation to AI, the following five levels can be identified:

1. General international law and specific international agreements
2. Soft law
3. Enactments by governments or rules adopted by organisations with de facto international significance
4. Self-binding ethical rules and technical standards
5. Normative power of the factual driven by advances in technology

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[11] Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts, COM(2021) 206 final, 21 April 2021
[12] Monitoring of the EU's Digital Single Market (DSM) strategy.
[13] Excerpt from a study by Kerstin Noëlle Vokinger, David Schneider and Urs Gasser on AI regulation in the US and Europe (unpublished).
[14] Excerpt from a study by Kerstin Noëlle Vokinger, David Schneider and Urs Gasser on AI regulation in the US and Europe (unpublished).
[15] Digital Foreign Policy Strategy 2021–24, Annex 4, p. 25

Figure: Levels of an emerging global AI regulatory framework

5.3 Centres of normative power

At all five levels of the global regulatory framework, various forums and stakeholders are discussing and exchanging views on whether to flesh out existing AI rules or create new ones. **The centres of normative power, i.e. the main forums and stakeholders shaping norms and standards at each level, are described below**. Depending on the level, centres of normative power may include governments, multilateral organisations, private sector standards organisations, and private companies.

5.3.1 International law level

There are a range of AI legal rules and standards at international law level, including fundamental human rights standards (non-discrimination, prohibition of arbitrary procedures, protection of personal freedom, freedom of expression, freedom of political expression, procedural rights, data protection). Various rules have also been established under international humanitarian law, for example rules governing the use of autonomous weapons systems in armed conflicts. Finally, a number of conventions have been adopted covering specific areas such as data protection, which are also relevant to AI systems, such as

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Council of Europe Convention 108+. The issue being addressed at this level is how to extend existing provisions of international law to cover AI and develop rules and standards where required.

Centres of normative power:

- **UN organisations**: the UNGGE[16] and OEWG[17], for example, have initiated various processes to develop general rules and standards for digital space and assess the application of existing international law rules to AI. Through these UN bodies, states can, in particular, share legal views and practices on applying existing international law to address digital technology and AI challenges. The UN Human Rights Council is working out how to ensure that the use of AI systems respects human rights. The UN Interregional Crime and Justice Research Institute (UNICRI) adopted an agreement on opening a Centre for Artificial Intelligence and Robotics[18].

- **Convention on Certain Conventional Weapons (CCW)**: a Group of Governmental Experts is discussing international guiding principles on the development and use of autonomous weapons systems under the Convention on Certain Conventional Weapons (CCW).[19]

- **Council of Europe**: the Ad hoc Committee on Artificial Intelligence (CAHAI) was set up in 2019. At the end of 2021 it decided to negotiate a convention to regulate the design, development and use of artificial intelligence systems, which is expected to be legally binding. The convention will refer to and extend the existing international legal provisions to AI. Negotiations are scheduled to start in 2022.

5.3.2 Soft law

Various non-legally binding soft law instruments containing AI rules are already in place.

Centres of normative power:

- In 2019, the **OECD published** the **Recommendation of the Council on Artificial Intelligence[20] and the OECD Principles on AI[21]**, which were produced by the AI Group of Experts (AIGO)[22] on behalf of the OECD Committee on Digital Economy Policy (CDEP).[23]

- **G7 and G20**: in 2019, the G7 and G20 agreed on a set of AI principles to achieve inclusive and sustainable growth and promote a human-rights centred AI approach, which are closely aligned to the OECD AI Principles.

- At its 41st session on 24 November 2021, **UNESCO**'s General Conference adopted a Recommendation on the Ethics of Artificial Intelligence.[24] This is the first global standard-setting instrument on the ethics of artificial intelligence in the form of a Recommendation. It is difficult at present to gauge the significance of the Recommendation for the international AI debate.

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[16] UNGGE = United Nations Group of Governmental Experts on advancing responsible state behaviour in cyberspace in the context of international security
[17] OEWG = Open-Ended Working Group on developments in the field of ICTs in the context of international security
[18] http://www.unicri.it/in_focus/on/unicri_centre_artificial_robotics UNICRI: robotics
[19] See also the Arms Control and Disarmament Strategy 2022–25
[20] OECD Recommendation of the Council on Artificial Intelligence
[21] OECD AI Principles
[22] List of participants in the AIGO
[23] The OECD continues to operate the online OECD AI Policy Observatory, where stakeholders can share ideas, consider challenges, and cooperate on developing AI strategies. Since June 2020, the OECD has hosted the Secretariat of the Global Partnership on AI (GPAI), an international initiative that conducts AI research and experiments and develops best practices. As a member of the Committee on Digital Economy Policy (CDEP), Switzerland follows the progress of the OECD's work on AI, but has not yet joined the GPAI, given that very little concrete action has actually been taken to date.
[24] UNESOC AI Recommendation

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- The **Council of Europe** has adopted a number of soft law instruments on AI, including the 'Recommendation on the human rights impacts of algorithmic systems' dated 8 April 2020, the 'Guidelines on Artificial Intelligence and Data Protection' dated 25 January 2019 and the 'European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and their Environment' dated 12 April 2018.

5.3.3 Enactments by governments or rules adopted by organisations with de facto international significance

The largest technology-producing countries and markets have enacted national legislation governing AI development and processing, which in turn impacts on developers and suppliers in other countries. Even though these provisions only have national or supranational effect, they have therefore acquired de facto significance for global AI regulation.

Centres of normative power

- **China:** AI is a key element of recent Chinese legislation governing digital technologies (e.g. the Data Security Law and Personal Information Protection Law), which essentially restricts data flows and transparency in the "interests of national security". The legislation also imposes fairly rigid constraints on private parties in using AI, while conferring broad powers on public bodies in relation to AI systems.

- **US:** in the past, the US has adopted a light-touch approach to AI regulation in order to exploit the considerable potential for innovation and growth that AI offers. The US is exerting influence on global rules largely by implementing its AI strategy (see NSCAI report in section 5.1.), setting standards, and creating facts endowed with normative force driven by the technological advances made by US companies. However, general rules on AI use are also increasingly being established or have already taken effect in the US. Most of these rules are in the form of government guidelines, such as the guidance on automated vehicles,[25] guidelines adopted in the context of authorising medicines and medical devices[26] or, more generally, the National Institute of Standards and Technology (NIST) AI Risk Management Framework.[27]

- **EU:** the European Commission's proposed draft AI Regulation sets out horizontal rules on the use of AI and a pyramid of obligations based on the level of risk associated with AI applications:

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[25] National Highway Traffic Safety Administration (NHTSA)
[26] Good Machine Learning Practice for Medical Device Development: Guiding Principles issued by the U.S. Food & Drug Administration (FDA)
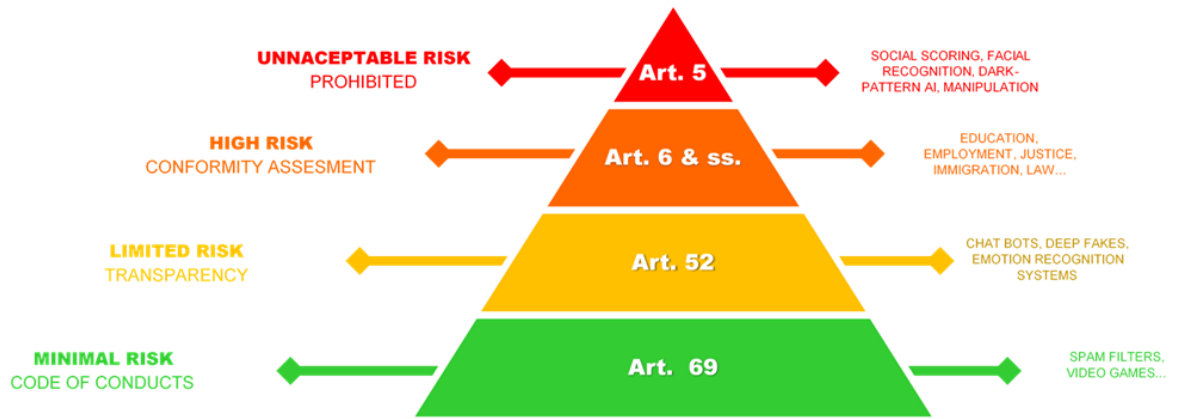[27] AI Risk Management Framework

Figure: *Pyramid of risk for the proposed EU AI Regulation (source: Lawfare)*

The horizontal obligations would not apply to applications on the **minimal risk** level at the bottom of the pyramid. **Limited risk** refers to AI applications with specific transparency obligations towards users. **High-risk** applications that could affect important areas of life, e.g. the health and safety of users, are permitted, but must meet certain requirements in terms of data quality, technical documentation, or human oversight. In addition, a conformity assessment must be carried out before the AI system is placed on the market. Finally, the European Commission has decided to ban four types of use that pose an **unacceptable risk** (top level of the pyramid) and are inconsistent with fundamental rights. These include real-time remote biometric identification systems in publicly accessible spaces used for law enforcement purposes.

The European Commission's proposed draft AI Regulation is based on work undertaken by the European Committee for Standardisation (CEN) and the European Committee for Electrotechnical Standardisation (CENELEC). The European Commission is empowered to task European standards organisations with producing harmonised standards. EU directives and rules have often operated in conjunction with European protective standards in other areas, such as electrical safety. Although the European standards organisations are accepted as having considerable expertise, criticism has been raised that certain powers are being exercised outside of democratic processes.

The European Commission's draft Regulation has attracted a great deal of international attention. The AI Regulation, when it eventually enters into force, is likely to have a similar global impact to the General Data Protection Regulation. The European Commission's draft Regulation is currently being discussed by the relevant committees of the European Parliament and Council of the European Union.

In accordance with the Federal Act on Technical Barriers to Trade[28] Switzerland must align its technical product requirements with those of its main trading partners, including the EU. Any technical requirements proposed by the EU are therefore likely to have a major impact on future rules and standards in Switzerland. The new EU Machinery Directive will include the EU standards on AI, clearly demonstrating the interplay between legislation and standards for the first time.

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[28] TBA, SR 946.51

5.3.4 Self-binding ethical rules and technical standards

Non-legally binding technical standards are crucial to the AI industry and therefore significant. In some cases, national or international rules and regulations also recognise technical standards as legally binding.[29] Technology companies are also increasingly laying down their own AI guidelines and creating industry standards in the process. Both technical standards organisations and companies often refer to provisions of international law, including human rights provisions, or to soft law.

Centres of normative power

- The **International Organization for Standardization (ISO)**, the **International Electrotechnical Commission (IEC)** and the **International Telecommunication Union (ITU)** are the main international standards organisations for AI (see diagram below). Whereas the ISO and the IEC are associations established under Swiss law, the ITU is an intergovernmental organisation. These three Geneva-based organisations together form the World Standards Cooperation.[30] As an intergovernmental organisation, the ITU primarily comprises representatives from governments, business, academia and NGOs, while the ISO and IEC comprise members from the private sector, including national associations such as the Swiss Association for Standardization (SNV),[31] professional associations, such as electrosuisse[32] and asut[33], and representatives of companies and research bodies. Alongside electrosuisse and asut, the SNV represents Switzerland's interests in relation to technical standards. The SNV, electrosuisse and asut are also members of recognised European standards bodies CEN, CENELEC and ETSI and the international organisations ISO, IEC and ITU.

- Decisions on setting global standards are generally taken by consensus, although ITU decisions may be adopted by vote. Although a number of AI standards-setting processes are currently under way within these organisations, an actual set of standards has not been adopted to date.
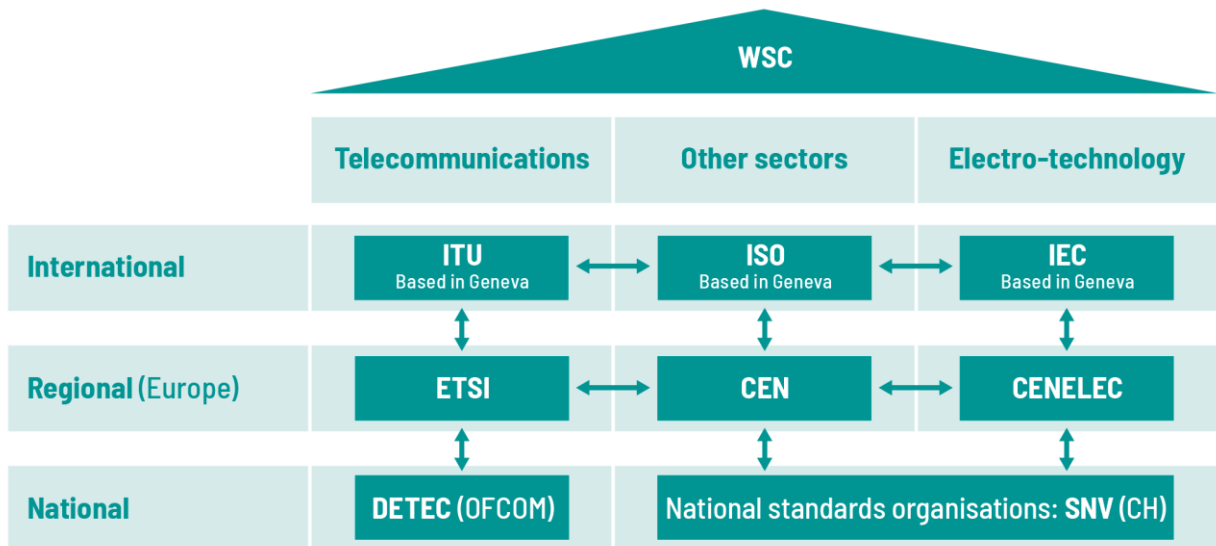

Figure: Relevant international and national standards organisations [34]

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[29] In line with the Swiss and European approaches to regulation, technical standards have a particular role to play in Switzerland, at least in relation to product legislation. The legislation only sets out the basic requirements and it is for industry to create harmonised standards building on the legislative provisions. SECO is preparing a report on digitalisation and standards, which will be submitted to the Federal Council in the first half of 2022.
[30] The World Standards Cooperation (WSC) is a high-level collaboration between the IEC, ISO and ITU.
[31] The SNV currently has approximately 700 members, roughly 70% of whom are trade associations and private companies and 30% representatives from civil society, academia and public institutions.
[32] electrosuisse
[33] asut
[34] ETSI: European Telecommunications Standards Institute; CEN: European Committee for Standardization; CENELEC: European Committee for Electrotechnical Standardization.

- In addition to the standards organisations referred to above, the US-based **Institute of Electrical and Electronics Engineers (IEEE)**, which is the world's largest technical professional organisation dedicated to advancing technology, should also be mentioned. In 2016, the IEEE published some high-level guiding principles on AI systems[35] as part of its Global Initiative on Ethics of Autonomous and Intelligent Systems, which specifically address the social and ethical issues raised by AI. The guidelines are primarily intended for developers and programmers of AI systems and explain the ethical implications and duty of care they owe to users.

- **A number of companies operating in the technology sector and other non-state actors have recently published statements on AI and ethics which have self-binding effect**.[36] Most of these statements concern companies that develop and manage AI systems or are intended for consumers. The documents define principles for the development and application of AI systems, covering the traceability of decisions, non-discriminatory practices, and the requirement for ultimate human oversight. By their very nature, the rights and obligations set out in these documents are not legally enforceable, but they give an indication of the standards that companies and other entities developing and using AI systems intend to meet. While these guiding principles are not international standards as such, they have self-binding effect and may inform international processes for establishing global rules and standards. For example, it is likely that legal actions over AI use will be brought before national and international courts in the near future. Private companies supplying services across the globe are increasingly referring to human rights provisions with a view to achieving consistent international standards.

Facebook has established an Oversight Board, for example. The Oversight Board bases its decisions on Facebook's Terms of Service, including additional provisions and other terms and policies, Facebook's 'values' and the **2011 UN Guiding Principles on Business and Human Rights (UNGPs)**[37] with which the company has opted to comply.

5.3.5 Normative power of the factual driven by advances in technology

In addition to the regulatory levels referred to above, due consideration must be given to technological advances that create facts potentially endowed with normative force. This includes actions that are not primarily intended to shape global rules and standards, but are nevertheless highly relevant and must therefore be taken into account in developing an international regulatory framework, i.e. the idea of the normative power of the factual. Tech giants wield sufficient power, for example, that the products they design may create facts that have implications for other levels of the regulatory framework. These facts may be all the more relevant where other centres of normative power are struggling to keep pace with rapid technological developments and increased AI use in all aspects of life.

One example is Apple's planned roll-out of CSAM Detection, an AI-enabled content filter to identify Child Sexual Abuse Material (CSAM).[38] CSAM Detection identifies images stored in personal iCloud accounts that match a known database of CSAM image hashes. Accounts exceeding a threshold number of potential CSAM images identified through CSAM Detection will be reported to the National Center for Missing and Exploited Children (NCMEC).[39] Apple's publicly announced on 3 September 2021 that the

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[35] Ethically Aligned Design: a vision for prioritising human wellbeing with artificial intelligence and autonomous Systems
[36] E.g. Google, IBM, Intel, Partnership on AI, Access Now or UNI Global Union
[37] The Oversight Board therefore has no authority to review cases on the basis of national laws, including constitutional law. The Oversight Board is Facebook's voluntary mechanism for self-regulation, i.e. it reviews whether the company's actions comply with its rules (Terms of Service and 'values') and the UNGPs.
[38] CSAM Detection Technical Summary
[39] The National Center for Missing & Exploited Children (NCMEC) is a private, non-profit organisation established by the United States Congress in 1984.

roll-out of CSAM Detection would be delayed because of extensive pushback. The CSAM Detection system could be seen as setting a precedent that could influence future AI rules and standards.

5.3.6 Overview of the five levels and centres of normative power

The diagram below summarises the information in sections 5.2. and 5.3:

International regulatory framework on five levels	Centres of normative power
1 **General international law and specific international agreements**	**UN organisations, CCW, Council of Europe**
2 **Soft Law**	**G7 and G20, OECD, UNESCO**
3 **Enactments by governments or rules adopted by organisations with de facto international significance**	**US, China, EU**
4 **Self-binding ethical principles and technical standards**	**Standards organisations (especially IEC, ISO, ITU, IEEE), voluntary ethical standards**
5 **Normative power of the factual driven by advances in technology**	**Primarily technology companies and other private and state actors**

Figure: Emerging AI rules and standards

5.4 Findings from international discussions

The following preoccupations are emerging from current international discussions at the five different levels indicated above:

- **Need for AI regulation:** although various sets of AI standards already exist, international discussions are leaning towards creating **new AI regulatory instruments**. Unlike the global debate around cybersecurity, for example, there is a general view that the huge challenges posed by AI require a regulatory response. There is a basic international consensus that international law also applies in cyberspace. The main thrust of the cybersecurity argument is therefore that new rules are not needed, but that existing rules must be reinterpreted.

- **Regulators should primarily take a principles- and risk-based approach**: the wide-ranging principles put forward in the global AI debate can be encapsulated within the following five

guiding principles:[40] transparency, justice and fairness, non-maleficence, accountability and privacy. These five guiding principles apply to all levels of the international regulatory framework. What is new here is that technical standards organisations, in particular, are also engaging with these principles and therefore venturing outside their normal territory. The guiding principles are therefore shaping the entire body of rules to equal degrees, although some of them are being defined in a variety of ways. A risk-based approach is often adopted alongside the principles-based approach.

   o **Transparency:** this is commonly required for virtually all aspects of AI systems, including AI design and development and the dissemination of information on the use of AI systems. However, there are huge variations in the way that actors interpret, apply and, in particular, implement transparency requirements.

   o **Justice and fairness**: the main requirement under this head is to ensure that AI systems do not discriminate against certain individuals and communities. The principle of justice and fairness includes preserving the right to diversity, inclusion and equal treatment, and providing fair access to AI systems.

   o **Non-maleficence**: the term refers to the requirement to ensure that AI systems are secure and do not intentionally cause harm to humans.

   o **Accountability**: who should be held accountable for harm caused by AI systems? 'Accountability' here has a broad spectrum of meaning, ranging from 'integrity' in relation to AI use and legal liability.

   o **Protection of privacy:** in this context, 'privacy' specifically refers to data protection and data security, especially in countries where comprehensive data protection legislation is in place. It has been suggested that privacy should mainly be protected by developing technical solutions and engaging in public awareness activities aimed at users and others affected by AI.

- **Horizontal vs sectoral approach to regulation:** the substantive scope of AI rules is a key concern in the international debate. Should standards apply to all AI systems (e.g. broad rules governing liability for harm caused) or should requirements be tailored to specific sectors (e.g. criteria for authorising certain AI-enabled healthcare products)? Current international discussions are leaning towards horizontal AI regulation backed up by sectoral rules.

- **State vs private actors:** the legal principles emerging in the international debate are to a large extent based on fundamental human rights. The traditional approach is that human rights obligations are legally binding on states, rather than private actors (unlike in international humanitarian law, where the distinction is less clear). In the current global AI debate, it has been proposed that the obligations applying to states and private actors should be clearly differentiated. But when it comes to foundational principles, the distinction becomes blurred, as these are binding on both states and private actors. **As a result, the current trend is towards extending the personal scope of these fundamental legal principles**.

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[40]These five guiding principles can also be found in the 'Guidelines on Artificial Intelligence for the Confederation' adopted by the Federal Council on 25 November 2020.

6 Switzerland's international positioning

Switzerland is increasingly being asked to consider issues relating to AI regulation in international forums and therefore needs to take a position on this. At national level, there have also been some initial calls for Swiss legislation to address AI issues.[41]

6.1 Debate in Switzerland

At the end of 2019, the AI Interdepartmental Working Group produced a report on the challenges that AI technology poses for Switzerland. The report suggests a course of action for dealing with AI in Switzerland, which includes the following: [42]

- **Need for regulation and technology-neutral approach:** the legislation currently in effect potentially covers the majority of AI uses across a range of regulated sectors. In principle, there is therefore no need to create new legal instruments. Adopting a 'technology-neutral approach' is essential.

- **Regulatory approach:** this does not need to be confined to the five guiding principles and the risk-based approach. Approaches that address liability issues, certification and conformity assessment may also be considered.

- **Horizontal vs sectoral approach to regulation:** there have been calls to abandon the horizontal approach, where necessary, and lay down sectoral rules to back up existing provisions.

- **State vs private actors:** in adopting AI rules and standards, the obligations applying to state actors and non-state actors need to be clearly differentiated. Exceptions to this principle should only be made in narrowly defined areas involving specific risks to fundamental rights or the risk of death or injury.

6.2 Switzerland's AI strengths

Switzerland is well placed to play an active and credible role in shaping global AI rules and standards and can add particular value in the following areas:

- **Research and development:** Switzerland's universities and institutes of technology are among the best in the world. Switzerland is outperforming other countries on fundamental AI research and is conducting extensive applied research in the field. Multinationals that transfer production and assembly facilities or service operations to other countries often continue to develop products and services in Switzerland, thus promoting innovation. There are many instances of this happening in the medical technology, pharmaceutical and engineering industries. Switzerland's extensive expertise in AI can therefore help shape global rules and standards.

- **Strong tertiary sector driving AI systems:** the Swiss economy has a strong tertiary sector, which includes the financial services industry. The secondary and tertiary sectors are also increasingly interconnected. Support and maintenance services are now required for many

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[41] See, for example, Motion 21.4508 for a 'Public register of algorithms used in Switzerland' or Postulate 21.3012 calling for 'Clear rules on autonomous weapons systems and artificial intelligence'.
[42] A number of legal scholars have also discussed the challenges that AI presents for Swiss law. Their arguments are essentially in line with the approach taken by the AI IDWG. See Nadja Braun Binder, Thomas Burri, Melinda Florina Lohmann, Monika Simmler, Florent Thouvenin and Kerstin Noëlle Vokinger, *Künstliche Intelligenz: Handlungsbedarf im Schweizer Recht* (Artificial intelligence: action required in Swiss law) in Jusletter 28 June 2021

products, including in respect of operating software for certain types of machinery. The tertiary sector, which depends heavily on information, is both a customer for and developer of AI systems. Its wide-ranging needs include optimising processes, cutting costs through automation, access to data and data insights, all of which are driving the use of AI systems.

- **Switzerland plays host and is home to major international actors**: International Geneva attracts many international organisations and standards organisations that are also centres of normative power, or may be considered as such. This potentially enables Switzerland, on an informal basis, to provide early input into standards-setting in relation to AI.

- The **Geneva Science and Diplomacy Anticipator (GESDA) is an innovative tool that Switzerland can use to leverage the anticipative power of science and technology for global governance**. GESDA is also concerned with future technological developments and the potential impact of AI on humans, society and the international community.

- **Switzerland's neutrality and political stability boost its credibility in the geopolitical sphere:** the global AI debate is strongly influenced by geopolitical strategies and rivalries. In this context, Switzerland occupies a special position and is viewed as credible due to its neutrality and political stability.

6.3 Tensions between Switzerland's current approach and the international regulatory framework

The general line taken in international discussions, where the primary aim is to ensure compliance with applicable international law, including human rights and international humanitarian law, is consistent with Switzerland's values. However, views differ on how to achieve the various objectives and the degree of regulation required.

In Switzerland, the AI IDWG report has provided a reference point for AI rules and standards since the end of 2019.[43] The report takes a somewhat different approach from the one emerging internationally, where the emphasis is on regulating AI as a technology and defining key horizontal legal requirements with broad substantive and personal scope. The AI IDWG report adopts a more technology-neutral approach, and only suggests amendments to the law where these are needed for specific sectors and applications. Even if the direction of travel has not yet been determined, either for Switzerland or other countries, with further changes likely, tensions are currently discernible between the Swiss approach and the approach being advocated internationally.

The main areas of tension are summarised below:

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[43] Challenges of Artificial Intelligence, report of the Interdepartmental Working Group on artificial intelligence for the Federal Council (de, fr only), 2019

International rules and standards	AI IDWG 2019
New legal instruments for AI technology	**Existing law is sufficient, technology-neutral approach**
Five guiding principles on AI systems complemented by a risk-based approach	**Other approaches possible, mainly involving liability law and authorisation procedures**
Greater focus on horizontal rules	**Greater focus on sectoral rules**
State and private actors may in some cases be subject to the same rules	**Fundamental distinction between rules applying to state and private actors**

Although Switzerland can set its own legislative priorities for AI, the emerging international rules and standards will have a direct impact on Switzerland as a business location and centre of research activities. The market for new technologies is highly globalised. Most products incorporating AI systems are made in more than one country. The various stages of the supply chain, including development, raw materials, intellectual property, production, processing, distribution, deployment, support and maintenance and decommissioning, are often carried out in several countries and are therefore governed by international rules and standards in any event. The same applies to services. Global AI rules and standards will therefore affect the majority of Swiss businesses, researchers, consumers, public authorities, and ordinary citizens. All stakeholders in Switzerland have an interest in ensuring that regulatory rules are not fragmented.

The US, China and the EU see AI as having major geopolitical significance and are therefore investing heavily in the technology. The strategic importance of AI will have a huge impact on shaping international rules and standards. The Digital Foreign Policy Strategy 2021–24 provides the strategic basis for Switzerland's stance on AI.

Switzerland has not yet determined its position on national and international AI rules and standards. However, given the different approaches currently taking shape, Switzerland should continue to contribute actively to the global debate, helping to design international rules that are in its interests and facilitate access to global AI markets and supply chains.

6.4 Switzerland's approach to shaping global AI rules and standards

Enhancing the interconnections between the five levels of rules is essential to creating a proportionate international regulatory framework: the current approach is to address all aspects of AI regulation at

each level. For each of the five levels, five ethical principles have been defined or are being used as key points of reference. However, the substance and implications of these principles on particular levels are unclear or inconsistent, which can lead to conflicts of law, overlapping provisions and a patchwork of divergent international rules. Against this backdrop, Switzerland should contribute the following to international processes:

6.4.1 Promote Switzerland's expertise in AI law and technology

It is evident from the international debate that many national representatives and legal experts lack the technical knowledge to develop meaningful regulatory approaches to AI or to comment on proposed rules and standards. Greater interaction between legal and technical experts is therefore required to provide a better understanding of the actual challenges posed by AI and ensure that these are addressed within the legal framework.

Switzerland has important expertise in this area, enabling it to locate, supply and mobilise experts to design and develop global rules and standards. This will help shape international rules in Switzerland's interests and build global capacity in relation to AI and international rules. GESDA can also contribute to this process by providing insights in response to the rapidly evolving AI technology.

In cooperation with the Swiss Academy of Engineering Sciences SATW, the FDFA (DIL) has set up an interdisciplinary AI law and technology working group composed of legal, technical and business experts. The working group can ensure that expert input is effectively represented in international AI processes.

The Federal Administration already has two horizontal bodies responsible for AI: the Competence Network for Artificial Intelligence CNAI and the 'Plateforme Tripartite' Administrative Committee. The CNAI, which is attached to the Federal Department of Home Affairs (Federal Statistical Office FSO), brings together interdisciplinary AI specialists within the Federal Administration to deliver expertise to a range of agencies.[44] The 'Plateforme Tripartite' Administrative Committee can coordinate the various positions to be taken by the federal government on international AI bodies. Until now, these networks have lacked specific legal and technical expertise. Therefore, a 'law hub' should be established to respond to questions from the CNAI and the 'Plateforme Tripartite' Administrative Committee regarding legal and technical aspects of AI. In addition to experts from the federal offices, the hub will also include experts from the joint FDFA (DIL) and Swiss Academy of Engineering Sciences SATW 'Law and Technology' working group. These external experts can also assist Switzerland in international processes.

Plans to set up a law hub at the Federal Department of Justice and Police FDJP (Federal Office of Justice FOJ) are related to separate, ongoing discussions on establishing a centre of excellence for digital technologies regulation. The FDJP will provide a detailed update to the Federal Council as soon as possible and submit appropriate requests where required.

6.4.2 Coordinate Swiss positions in international bodies

The existing Swiss Plateforme Tripartite[45] should serve as a forum in two respects. Firstly, the 'Plateforme Tripartite' Administrative Committee should coordinate issues relating to positions to be taken by Switzerland in AI international bodies and processes. Secondly, the plenary meeting of the

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[44] CNAI
[45] The Swiss Plateforme Tripartite is a multi-stakeholder platform that aims to facilitate an informal exchange of information and promote dialogue on a range of digitalisation positions. It is intended to serve as an information hub and open knowledge-sharing platform. It holds ad hoc meetings and is available to all interested national authorities and stakeholders within the private sector, civil society and the online community.

Plateforme Tripartite should be used to discuss global AI regulatory issues with a range of stakeholders in order to ensure that the scientific community and the private sector also have input into the process.

6.4.3 Increase cooperation with the standards organisations

Switzerland should work to enhance the interconnections between the five levels of global rules and standards. Similar issues have been addressed in the past in relation to other new policy areas, such as counterterrorism. In this policy area, regulatory action was initiated at all levels, especially in response to 9/11, including international conventions and secondary rules adopted by the UN Security Council, Financial Action Task Force (FATF) soft law on terrorist financing, national legislation with extraterritorial effect, such as the US Patriot Act, and self-binding corporate statements with regard to radicalising material. Initially, it was necessary to establish structures to coordinate the various levels of international rules, such as the Global Counterterrorism Forum (GCTF), which Switzerland was actively involved in setting up. The GCTF is an informal platform that promotes knowledge-sharing between different stakeholders involved in standards-setting. The GCTF brings together practitioners involved in international policing and law enforcement, given their pivotal role in directly enforcing the various levels of rules.

The Geneva-based standards organisations also have a pivotal role in relation to AI. They must take account of fundamental international legal principles and, in relation to AI in particular, ethical principles. They also give due consideration to a wide range of legally binding and non-legally binding global rules and standards and national legislation. The standards organisations are also closely attuned to the specific needs of the private sector and must find practical solutions to complicated issues. Their work has a significant impact on rules and standards at all the other levels. Engaging in extensive dialogue with standards organisations will ensure that private sector concerns are also taken into account.

The FDFA has entered into dialogue with the International Electrotechnical Commission (IEC), with the involvement of the Federal Institute of Metrology (METAS), on the interplay between standards, conformity assessments and AI regulation. Discussions should also be opened up to other standards organisations based in Geneva and other centres of normative power. Switzerland intends to work with these organisations on shaping global AI rules and standards. The initial results of this collaborative process will be presented at an AI conference to be held in Geneva in May 2022.

At the same time, the relevant Federal Administration offices should, in general, build on existing cooperation arrangements with international standards organisations and share views on designing global AI rules and standards. The Swiss Association for Standardization (SNV) and professional associations electrosuisse and asut represent Swiss interests within the relevant European and international standards organisations. The role of the SNV, electrosuisse and asut should be recognised and taken into consideration in discussions on representing Switzerland's interests in relation to technical rules and standards.

6.4.4 Negotiating mandate for a legally binding Council of Europe AI instrument

In 2020 and 2021, preliminary discussions were held within the Council of Europe Ad Hoc Committee on Artificial Intelligence (CAHAI) on creating an AI legal instrument, which would be based on Council of Europe standards in relation to human rights, democracy and the rule of law. Formal negotiations on creating an AI convention, which is expected to be legally binding, are due to commence in 2022. The Federal Council will confer a negotiating mandate for this purpose, focusing on the following three issues:

1. Global AI rules and standards should first and foremost be based on current international law. At other regulatory levels international law should be implemented and clarified without replicating substantive provisions and core principles.

2. International instruments should not be concerned with AI technology as such, but issues relating to AI systems in general. To the extent possible, a technology-neutral approach should be adopted.

3. A fundamental distinction should be made between public and private sector uses of AI systems.

7 Conclusion

Switzerland has particular research and development strengths, economic power, and credibility on international law issues. It is therefore well placed to help shape the emerging global AI regulatory framework in line with its interests and values. In order to benefit from its favourable position, Switzerland needs to be actively involved. The measures proposed to the Federal Council would boost Switzerland's legal and technical expertise, ensure that its positions on AI are coherently represented in international bodies and, by working with the Geneva-based international standards organisations, make an active contribution to shaping global AI rules and standards. These measures will also reinforce Geneva's profile as an international hub for digital issues. By enhancing the interconnections between the various levels of global rules and relevant stakeholders, a proportionate global set of AI rules can be created that both addresses the challenges and exploits the opportunities presented by AI.