

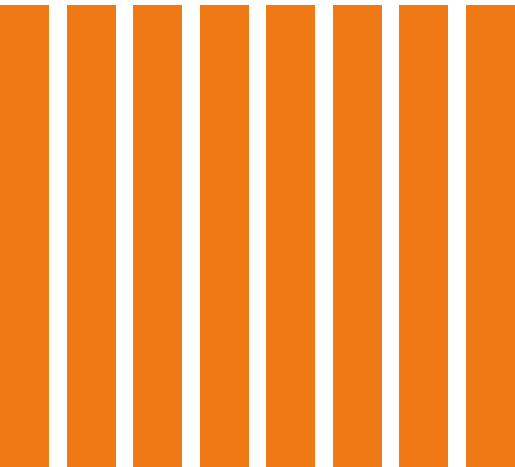
BOUNDARIES FOR BIG TECH'S DEVELOPMENT AND USE OF ARTIFICIAL INTELLIGENCE

Report from the government's expert group on big tech



Regeringens ekspertgruppe

TECH-GIGANTER



BOUNDARIES FOR BIG TECH'S DEVELOPMENT AND USE OF ARTIFICIAL INTELLIGENCE

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04	PREFACE
08	INTRODUCTION
12	THE EXPERT GROUP'S RECOMMENDATIONS ON ARTIFICIAL INTELLIGENCE
14	BIG TECH'S CO-RESPONSIBILITY FOR INFORMATION CREDIBILITY ON THEIR PLATFORMS
17	PROTECTION OF CHILDREN AND YOUNG PEOPLE FROM THE HARMFUL USE AND DEVELOPMENT OF ARTIFICIAL INTELLIGENCE ON BIG TECH'S SERVICES
21	REGULATION OF THE UNAUTHORIZED USE OF COPYRIGHTED MATERIAL BY BIG TECH
24	MARKET DOMINANCE OF BIG TECH IN THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE
29	COMPOSITION OF THE EXPERT GROUP
30	TERMS OF REFERENCE OF THE EXPERT GROUP
32	SOURCE LIST

PREFACE

BY THE CHAIRMAN OF THE EXPERT GROUP,
PROFESSOR MIKKEL FLYVERBOM

Artificial intelligence has become one of the biggest technological revolutions of our time, and we need to consider what role it should play in our society. Artificial intelligence systems are not a new phenomenon. For a long time, artificial intelligence systems have been used to make personalized recommendations and to target advertising on social media. Artificial intelligence can also be used to process large data sets in ways that humans cannot. With the release of ChatGPT in late 2022, the public gained access to a specific form of artificial intelligence – generative artificial intelligence – that independently can create text, images, audio, or video designed to look like human-generated content.


All of this creates both new opportunities and new challenges. Artificial intelligence can potentially contribute to solving societal challenges such as climate and environmental crises, increase productivity in the workforce, and provide new opportunities in healthcare. But artificial intelligence can also be used to create and spread false and misleading content and to manipulate and retain users – especially children and young people. This can affect both the credibility and trust of information in our society. The development of artificial intelligence can also deprive authors and artists of their copyright and opportunities to profit from their works. Moreover, the widespread use of generative artificial intelligence puts a strain on the climate.

Artificial intelligence is accelerating some of the negative consequences of big tech's deployment of digital technology. We need to take this seriously. If artificial intelligence is to contribute positively to society, we need to set up a number of safeguards that limit the harmful effects and create space for responsible and valuable use of artificial intelligence. This has been the ambition of the expert group in making these recommendations.

Artificial intelligence is already built into a range of services that bring the technology into our work and private lives and make it more invisible. Eventually, artificial intelligence will become an integral part of the way people work with, use, and access information. Right now, the pace of development is very fast and many of the consequences for our society are unknown and opaque. At the same time, tech companies have an interest in making artificial intelligence seem like a condition and a force of nature that we cannot influence, but simply have to adapt to. But it is important to remember that the rapid deployment of artificial intelligence could be different.

Design of technologies is never neutral, and currently artificial intelligence is inextricably linked to the business models and commercial interests of big tech, including the need to attract investments. The development of generative artificial intelligence requires extensive computing power, financial and environmental





resources, as well as access to large amounts of data, which only a few companies possess. Therefore, it is clear that the development of artificial intelligence is primarily a race between big tech companies – taking place in the context of geopolitical rivalry between the US and China – who are more focused on finishing first than on accountability, rights, and the protection of the individual citizen.

Thus, the development of artificial intelligence is currently driven by the 'classic' commercial and technological forces that have directed other digital changes, e.g. the development of social media, search engines, and online platforms. Many of the expert group's previous recommendations on business models, data harvesting, algorithms, retention mechanisms, and behavioral manipulation are therefore important to keep in mind when considering artificial intelligence. The starting point of the expert group is that artificial intelligence is both a technological breakthrough and a societal challenge that we must approach with curiosity and balance. Our focus in these recommendations is not to give a comprehensive account of artificial intelligence, as our mandate is limited to big tech, but specifically to describe the unfortunate cocktail of commercially focused big tech companies, rapidly deployed artificial intelligence, and a relatively unprepared society.

Currently, many discussions about artificial intelligence fall back on a distinction between 'the brave' who want to experiment and work with artificial intelligence and 'the fearful' who only see the dangers and want to halt development. But that division does not make sense. Artificial intelligence requires a nuanced and balanced approach, just as when we talk about other scientific and technological innovations such as medicine and chemicals. When we as a society regulate the development and use of medicines and chemicals, we create room for the benefits while limiting the harms. New medicines can only be brought to market and used once we know about their side effects, have developed requirements for their proper use, e.g., through prescriptions, and have found ways to limit potential risks they might have. We must take a similar responsibility to create the right framework for artificial intelligence to contribute positively to the development of society.

The expert group's first set of recommendations concerned addressing a number of problems with big tech business models that we as a society should have put an end to a long time ago. The recommendations form a proposal for the necessary boundaries in order to give artificial intelligence a role in society that makes it possible to both exploit the opportunities and limit the harmful effects. It is important to emphasize that the purpose of the expert group is not to speak for or against a given technological development, but to focus

on the *driving forces, conditions, and societal changes* that big tech creates through their approaches and products.

The recommendations of the expert group are not exhaustive, and the development is difficult to predict. However, we believe that a large part of the problems with artificial intelligence can be solved through a combination of new regulation, enforcement of existing legislation, and a political focus on getting public and private developers of artificial intelligence to take joint responsibility for ensuring that the technology supports democracy and protects citizens and their rights.

The problems are inherently transnational. Therefore, the solutions must be found internationally, including in the EU, which is at the forefront of regulating big tech. The EU is the primary venue for creating common ground rules and enforcing the legislation that is already in place. Denmark should therefore play an active and agenda-setting role in the EU and globally. But it is also important that Denmark take the steps that can pave the way for a responsible digital future with artificial intelligence.



WHAT IS ARTIFICIAL INTELLIGENCE?

Artificial intelligence (or AI) is systems that, with varying degrees of autonomy and based on data, solve tasks in areas such as text, sound, or images. The expert group has specifically discussed generative artificial intelligence. This artificial intelligence creates content from data based on probability, e.g. language models such as ChatGPT, Mistral, Meta's Llama 2, and Google Bard. This form of artificial intelligence is the most debated when it comes to impacting society in the future. However, the expert group has also considered other forms of artificial intelligence, such as recommendation algorithms that customize the content of a website to the individual user.

THE EXPERT GROUP'S DEFINITION OF BIG TECH

The expert group defines big tech as those technology companies that, due to their prevalence in society and the number of users of their digital services, have a special and often dominant impact on key areas of society and the fundamental rights of users.

Big tech companies build, to varying degrees, their business models on collecting huge amounts of data about users. Big tech both provides this data to third parties who e.g. use the information for targeted advertising, and use it to optimize their own business and retain users.

INTRODUCTION



Artificial intelligence has a lot of potential but also presents a number of risks and challenges. One of the expert group's main concerns is about information credibility. With artificial intelligence, it has become easy to create and spread content, and even experts have difficulty assessing the authenticity of the content. Another concern is whether there are sufficiently clear guidelines and the necessary focus on the protection of human rights, data protection, and copyright. Of particular concern is also the use of artificial intelligence in relation to children and young people, who are exposed to inappropriate content or manipulation without adequate protection. Artificial intelligence systems can also be based on biased data. Those systems where algorithms are trained on biased data can lead to unintentional bias and risk reproducing and reinforcing existing errors and prejudices.

Big tech plays a crucial role in the development and application of artificial intelligence. They invest significant resources in the research, development, and implementation of artificial intelligence. Meta has e.g. indicated that in 2023 alone they would spend DKK 225 billion on the development of their artificial intelligence capability,¹ and the expert group

expects the other major players to invest heavily as well. In addition, more and more platforms are using artificial intelligence, such as language models and chatbots, to create user-specific content in order to improve the user experience and retain users for longer.² Language models analyze and generate text, while chatbots interact with users in a conversation-like manner. At the same time, big tech owns several of the cloud services that are part of the foundation of their own and other companies' artificial intelligence systems.

Therefore, the combination of artificial intelligence and big tech increases the risks of artificial intelligence. Partly, because big tech has great power and influence globally. Partly, because society and the public have limited knowledge of and access to big tech and their data sets. Their business models and decisions can have far-reaching consequences for our society – and we will only find out when it is too late. To ensure the responsible and ethical use of artificial intelligence in the future, it is therefore crucial to address and regulate the specific challenges that the combination of artificial intelligence and big tech poses.

> WHAT IS A BOT? AND WHAT IS A CHATBOT?

A bot, or robot, generally refers to a computer program that performs automated tasks. Bots can be used for a wide range of purposes and often mimic or replace human user behavior. E.g., bots can like, share, or post content on social media.

A chatbot is a computer program that the user can talk to or text with. Chatbots help users with various tasks such as answering questions, making purchases, or finding information. Chatbots have been around for many years, but with artificial intelligence, they are becoming more advanced and better at adapting to the individual user. Examples of chatbots are Siri, Alexa, and Google Assistant. Other chatbots are designed to talk to the user and imitate a real person. An example is the chatbot My AI, which is built into Snapchat.

Based on the particular challenges presented by the combination of artificial intelligence and big tech, the expert group makes 13 recommendations. This report is the second publication from the expert group. The report is structured around four themes, each with their own recommendations:

- 1 Big tech's co-responsibility for information credibility on their platforms.
- 2 Protection of children and young people from harmful use and development of artificial intelligence on big tech's services.
- 3 Regulation of unauthorized use of copyrighted material by big tech.
- 4 Market dominance of big tech in the development of artificial intelligence.

With these four themes, the expert group wants to address a selection of the challenges posed by big tech's development and use of artificial intelligence. The purpose is to establish a framework that ensures that big tech's development and use of artificial intelligence

is responsible so that society can harvest the benefits.

We must ensure that the authorities, both internationally and in Denmark, have the resources and knowledge to monitor and enforce regulations in relation to the biggest players. At the same time, the regulatory framework must be continuously updated to keep up with developments in artificial intelligence.

Denmark and Europe must make it clear which direction big tech's development and use of artificial intelligence should take. This must be with respect for human rights and democratic values while ensuring a good foundation for innovation. In this context, it may be worth considering whether it would make sense to gather advisory expertise from across authorities and academia in one place as an "artificial intelligence institute" or something similar.

The majority of the recommendations require effective cooperation in the EU and effective enforcement both nationally and in the European Commission. This is essential to ensure that products and services based on artificial intelligence – like other digital technologies

– comply with other EU rules, such as data protection and copyright rules. In December 2023, the European Commission, the Council of the European Union, and the European Parliament reached an agreement on the regulation on harmonized rules for artificial intelligence (the AI Act).³ The AI Act will be an important step in establishing the necessary framework for artificial intelligence.

Artificial intelligence and digital services are already regulated in the EU – partly through the upcoming AI Act, partly through the Digital Services Act, Digital Markets Act, and GDPR. The recommendations of the expert group may therefore give rise to further regulation or revision of existing EU regulation. Furthermore, the recommendations may form the basis for Danish alliances with other EU

countries and input on effective enforcement and cooperation initiatives for the new European Commission in 2024 and the upcoming Danish EU presidency in 2025. In addition, it is important to work actively for more binding cooperation globally.

Many of the issues that the expert group has already addressed in its first report on democratic control of big tech business models is amplified with the rise of artificial intelligence. The 13 recommendations from the expert group therefore draw directly on the recommendations from the expert group's first report



DELIMITATIONS OF THE EXPERT GROUP

The expert group has not aimed to identify all the challenges of artificial intelligence or to make exhaustive recommendations.

The expert group has not dealt with **the security and defense policy consequences** of the development and use of artificial intelligence. Therefore, there are no recommendations as to whether and if so, how Denmark can use big tech's products and services in relation to security and defense policy.

Nor has the expert group considered **the use and possible dependence of Danish companies and the public sector** on big tech's services and products, including artificial intelligence systems.

Finally, the expert group has not addressed the fact that big tech openly declares that they are working towards **artificial general intelligence**, AGI, a type of superintelligence where machines end up being able to do much of what humans can do.

Several of the above questions can instead be included in the expert group's further work on the theme of the influence of big tech on digital infrastructure.



EU REGULATION OF DIGITAL SERVICES AND ARTIFICIAL INTELLIGENCE



AI Act

In December 2023, an agreement was reached in the EU on the Regulation on Harmonized Rules for Artificial Intelligence (AI Act). The AI Act provides the first binding rules for the use of artificial intelligence worldwide. The regulation introduces a ban on artificial intelligence with unacceptable risks, such as social scoring. The AI Act also places requirements on artificial intelligence with high risk, such as in recruitment or public case management. The regulation also includes a transparency requirement so that users must be made aware that a product or service uses artificial intelligence, such as chatbots, or if content is generated with artificial intelligence, such as deepfakes.



Digital Services Act

The Digital Services Act (DSA) came into force in November 2022 and applies from February 2024. The DSA regulates digital intermediary services, such as social media, online marketplaces, and search engines. Among other things, the DSA makes it possible to report illegal content, to complain to the service if it does not remove illegal content, and to ensure better insight into what content the services have removed. The largest digital platforms must annually identify and analyze any systemic risks stemming from their design and functioning of services and reduce risks associated with, among other things, the spread of illegal content, negative effects on e.g. fundamental rights, electoral processes, public security, and the protection of minors.



Digital Markets Act

The regulation on contestable and fair markets in the digital sector (Digital Markets Act or DMA) came into force in November 2022. Companies must comply with the rules from March 2024. The DMA regulates the largest digital platforms that have many users, a high turnover, and are active in more than three member states, such as Facebook, Instagram, the Google search engine, and Amazon. The DMA aims to ensure a level playing field for business users and end-users utilizing the platforms by, among other things, laying down requirements and obligations for the companies covered – e.g. on the access to data and the application of fair and non-discriminatory terms and conditions.



General Data Protection Regulation

The General Data Protection Regulation (GDPR) has been applicable since 2018 and contains a wide range of requirements that must be complied with when processing personal data. Artificial intelligence is developed using datasets that often contain personal data. The rules on data protection therefore already contain a large number of general principles that must be complied with when developing and using artificial intelligence if personal data is involved in the process.

THE EXPERT GROUP'S RECOMMENDATIONS ON ARTIFICIAL INTELLIGENCE

1

INFORMATION CREDIBILITY

1.1

Measures against harmful and misleading content generated by artificial intelligence

1.2

Big tech must declare content generated by artificial intelligence on their platforms

1.3

Effective researcher and government access to artificial intelligence models

2

PROTECTION OF CHILDREN AND YOUNG PEOPLE

2.1

Chatbots should be disabled by default, not require payment to opt out of, and be free of manipulative design

2.2

The design of artificial intelligence must respect children and young people as vulnerable consumers

2.3

Protection of children and young people from artificial intelligence in toys

2.4

Increased focus on the risks that artificial intelligence may pose to children and young people



3

UNAUTHORIZED USE OF COPYRIGHTED MATERIAL

3.1

Big tech must demonstrate that they do not infringe copyright

3.2

EU rules on licensing agreements in relation to the use of copyrighted material and establishment of a European supervisory body

3.3

European right to complain for rights holders

4

MARKET DOMINANCE

4.1

Better framework for the development of artificial intelligence solutions as an alternative to big tech

4.2

Guidelines for the use and procurement of artificial intelligence solutions in the public sector

4.3

European regulation of artificial intelligence against big tech must be enforced and further developed

BIG TECH'S CO-RESPONSIBILITY FOR INFORMATION CREDIBILITY ON THEIR PLATFORMS

THE EXPERT GROUP'S RECOMMENDATIONS ON INFORMATION CREDIBILITY

- 1.1 Measures against harmful and misleading content generated by artificial intelligence.
- 1.2 Big tech must declare content generated by artificial intelligence on their platforms.
- 1.3 Effective researcher and government access to artificial intelligence models.

Artificial intelligence challenges the information credibility on big tech platforms. Artificial intelligence – including in bots – are tools that in the wrong hands can contribute to increased polarization in the population and a loss of trust in democratic institutions. This can have an impact on cohesion and democracy – and thus poses a risk to the information credibility of society as a whole.

Artificial intelligence makes it easy to create and share fake or manipulated content on big tech platforms in the form of text, images, or audio. Images or audio created by artificial intelligence (so-called *deepfakes*) can convincingly manipulate or mimic a person's voice or appearance. We have already seen examples of politicians, actors, or private individuals appearing in videos where they appear to do or say something they have not actually done or said.⁴

The fake and manipulated content can also be offensive in nature, e.g. if the faces of victims are copied from social media images and pasted onto pornographic or illegal material. In January 2024, fake nude photos of a

world-famous singer were shared on social media platforms such as X and Telegram. One image reached 47 million views before it was removed.⁵ The expert group expects the problem to get bigger and more widespread. The fake content can be targeted to specific social groups and be spread via automatic sharing by bots. At the same time, the material can be so convincing that even experts and the police can find it difficult to distinguish the real from the fake. This can e.g. make it difficult to investigate cases of sexual abuse of children.

Big tech's use of artificial intelligence and recommendation algorithms on their platforms affects how user-generated content is prioritized, amplified, and shared with users of their platforms. Therefore, in its report on business models, the expert group recommended, among other things, that big tech should take more responsibility for their recommendation algorithms.⁶ This recommendation is even more important with the spread of artificial intelligence, as big tech is very much at the forefront of developments in this area.

1.1. Measures against harmful and misleading content generated by artificial intelligence

The expert group recommends that the EU clarifies big tech's obligation to manage the systemic risks raised by the dissemination of harmful and misleading content generated by artificial intelligence on their platforms. This can include manipulated text, images, or audio that negatively affect e.g. users' fundamental rights, public debate, or electoral processes.

In recent years, terms such as "fake news" and "disinformation" have entered the Danish language. The debate has largely been centered around the credibility of the information that circulates on big tech platforms. The development of generative artificial intelligence only makes this debate more relevant, as deep fakes take disinformation and fake news to a completely new level. This challenges the credibility of the information we receive online.

As part of the Digital Services Act, big tech is required to identify and address the negative impact their services and platforms have on e.g. public debate and electoral processes. The expert group therefore recommends that the European Commission clarifies through guidelines how big tech is expected to manage the risks associated with the proliferation of harmful and misleading content generated by

artificial intelligence on their platforms. The guidelines must, among other things, present best practices and recommendations for possible risk mitigation measures, and they must take into account possible consequences for freedom of expression and information, among other things.

1.2. Big tech must declare content generated by artificial intelligence on their platforms

The expert group recommends that the EU introduces a requirement for big tech to label content generated by artificial intelligence. It is important that users can distinguish between content generated by artificial intelligence and other content on big tech's services. The AI Act requires providers of generative artificial intelligence systems to develop their systems so that content generated by artificial intelligence is automatically tagged in a machine-readable format. This makes it easier for *machines* to identify when content is generated by artificial intelligence. The AI Act also requires that creators of content generated by artificial intelligence, including deepfakes, must declare that the content is generated by artificial intelligence so that users can clearly see it. Those who create content with artificial intelligence must declare it in accordance with the rules of the AI Act, which will be enforced by regulators.



SOCIAL MEDIA IS OFTEN YOUNG PEOPLE'S SOURCE OF NEWS

There are significant differences between different population groups' sources of online news. Among 15-24 year-olds, the largest proportion (69%) cites social media as the source of their news. In the older population groups, it is mainly the TV stations' websites that are used as a source of news.⁷ Moreover, a new study that Berlingske [Danish newspaper] has commissioned from Kantar Gallup shows that 43% of 18-35 year-olds get at least half of their daily news from social media. The challenge of getting much of one's news from social media is, among other things, that the content is not always subject to e.g. editorial responsibility, and that the news can therefore be unreliable and false, leading to misinformation.⁸

However, the expert group wants to go further and requires big tech to protect the credibility of information on their platforms. Therefore, they should be obliged to declare content generated by artificial intelligence, if undeclared content is shared on their platforms. Big tech should be required to develop tools on their services that can read the labeling required by the AI Act. If content generated by artificial intelligence reaches a scale where it makes up the majority of content on big tech's services, it should be considered whether it is the human-generated or "validated" content – e.g. from public authorities – that should be declared.

1.3. Effective researcher and government access to artificial intelligence models

The expert group recommends that authorities and researchers are ensured access to the data from big tech that are necessary in order to conduct studies on e.g. the inherent risks and challenges of language models and whether they comply with applicable laws and regulations. Today, we have very little insight into the machinery of big tech.

Therefore, it is recommended that efforts be made in the implementation of the Digital Services Act to ensure the widest possible application of Article 40. This means, among other things, that independent researchers, the European Commission, and national supervisory authorities are given access to the information necessary to monitor, analyze, and assess recommendation systems, training data, etc.

The government has previously endorsed the expert group's recommendation to support researchers' access to big tech's data and expand access to also apply to publicist media⁹ that are registered under the Danish Press Council. The wide application of Article 40 of the Digital Services Act must therefore entail:

1. Supporting Danish researchers' access to data, including assisting with best practices and other help in relation to ensuring unhindered access to data.
2. Work to ensure that the interpretation of Article 40 makes it possible for researchers and authorities to gain access to, among other things, the training data of language models used by online platforms and online search machines covered by the Digital Services Act.



PROTECTION OF CHILDREN AND YOUNG PEOPLE FROM THE HARMFUL USE AND DEVELOPMENT OF ARTIFICIAL INTELLIGENCE ON BIG TECH'S SERVICES

THE EXPERT GROUP'S RECOMMENDATIONS ON THE PROTECTION OF CHILDREN AND YOUNG PEOPLE

- 2.1. Chatbots should be disabled by default, not require payment to opt out of, and be free of manipulative design.
- 2.2 The design of artificial intelligence must respect children and young people as vulnerable consumers.
- 2.3 Protection of children and young people from artificial intelligence in toys.
- 2.4 Increased focus on the risks that artificial intelligence may pose to children and young people.

The retention mechanisms of big tech, such as streaks and infinity scrolls, have major consequences for children and young people. The retention mechanisms can be both manipulative and addictive.¹⁰ Furthermore, big tech harvests large amounts of data used to target content to the individual. Children and young people therefore need extra protection against e.g. content that is not appropriate for their age, retention mechanisms, and data harvesting. This was stated by the expert group in its first report. The government has already acted on several of the recommendations, e.g. by proposing and passing a bill that has raised the age limit from 13 to 15 years for when one can give consent to the processing of personal data in connection with information society services.

Developments in artificial intelligence enhance the platforms' ability to retain and influence children and young people, which makes the expert group's previous recommendations even more relevant. Children

and young people are particularly susceptible to the tools used by artificial intelligence systems. Typically, the systems are designed to retain the user's attention, and they can influence everything from media habits to worldview and self-image. This can happen e.g. through video recommendations on YouTube or algorithms on TikTok that suggest what content users should watch.

Over the years, big tech has evaded their responsibility for content that is unsuitable for children and young people by writing in their terms and conditions that you must be 13 years old to use their services – knowing that children under 13 still use them. And big tech makes money from the kids being there. E.g., a new Harvard study based on US data shows that last year social media generated \$11 billion in revenue from advertising aimed at children and teens. This includes nearly \$2 billion in ad revenue from users aged 12 and under.¹¹ It is therefore crucial that the content and features of big tech's services are age-appropriate if a child is using or likely to use their services.

Most recently, a chatbot has been integrated into Snapchat, which is used by children and young people – and which they have to pay to remove. In addition to chatbots harvesting large amounts of user data, Snapchat's My AI has been criticized for advising children and young people about self-harm and abuse,¹² and chatbots can also influence the user to e.g. provide data, stay on the platform, or make additional purchases.

2.1. Chatbots should be disabled by default, not require payment to opt out of, and be free of manipulative design

The expert group recommends that artificially intelligent chatbots should be disabled by default on digital services such as social media and gaming (both games and gaming sites) if children use or are likely to use them. If children and young people have actively chosen to enable an (age-appropriate) artificially

intelligent chatbot they should be able to turn it off again at any time without payment to the platforms. The purpose of the recommendation is to ensure the autonomy of children and young people on digital services and to remove the financial barriers of users having to pay to remove chatbots they do not want to use. The fact that on specific platforms it is not possible to opt out of chatbots without payment illustrates how data harvesting by chatbots is closely linked to big tech's business models.

In addition, the expert group recommends that big tech should be more responsible for ensuring that artificially intelligent chatbots on digital services such as social media and gaming do not contain manipulative designs. This should prevent children and young people from being locked into interactions with the chatbot, which can influence their behavioral, buying, and spending patterns and harvest their data.



EXAMPLES OF BUILT-IN ARTIFICIAL INTELLIGENCE IN DIGITAL SERVICES

Several social media platforms have built-in chatbots. Snapchat's chatbot My AI is e.g. an artificial intelligence mimicking a human friend that can answer questions about everything from what ingredients to put in a cake to having a conversation about the user's day. These chatbots can risk retaining children and young people's attention on social media. For all users, My AI is an integrated part of Snapchat that users must pay to remove.¹³

Streaming services and video sharing platforms such as YouTube, Netflix, Amazon Prime Video, and Spotify use artificial intelligence to deliver personal recommendations to users. These services analyze the user's past behavior, preferences, and interactions to predict what content the user is likely to like.

Artificial intelligence is also being built into children's toys. E.g., children can play with teddy bears and dolls that interact with them as they play. The child can talk to the teddy bears, ask questions, and play imaginary games with them.¹⁴

2.2. The design of artificial intelligence must respect children and young people as vulnerable consumer

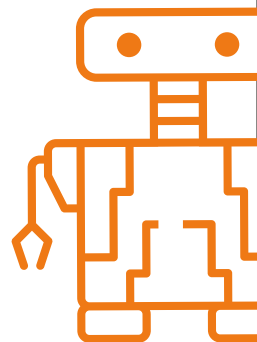
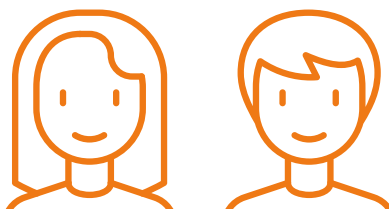
The expert group recommends that efforts are made in the EU to ensure that big tech's services that children and young people have access to must take into account that children and young people are particularly vulnerable consumers and protect them from the exploitation of their vulnerabilities, especially if artificial intelligence functions are used. This applies to risks associated with content, behavior, contact, and commercial terms.¹⁵

In addition, an analysis should be launched of the extent to which big tech's application of artificial intelligence is used to exploit vulnerabilities in children and young people. This should include risk factors specifically associated with artificial intelligence that imitates humans, and not least children. In continuation of this, it should be investigated how big tech uses the knowledge they gather to get children and young people to spend more time on big tech's platforms than they would otherwise have done or, e.g. to buy goods they would not otherwise have bought. The results of the analysis can be incorporated into the upcoming revision of EU consumer protection rules, the EU Consumer Agenda 2025-2030, the cooperation between consumer enforcement authorities, and the AI Act guidelines. In particular, the government should work to ensure that consumer protection rules in the EU – to an even greater extent than today – ensure that user interfaces for children and young people are free from manipulation and misinformation and that the upcoming EU Consumer Agenda focuses on the use of artificial intelligence in relation to children and young people.

2.3. Protection of children and young people from artificial intelligence in toys

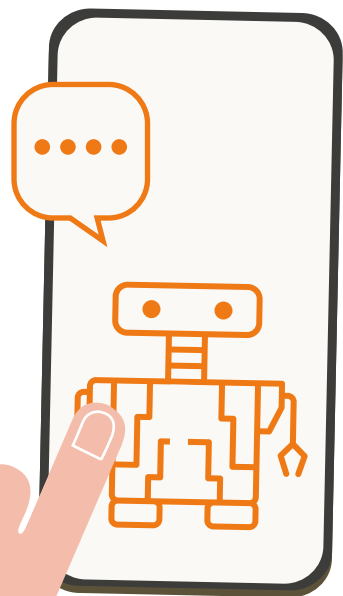
The expert group recommends stricter requirements for toys containing artificial intelligence, such as dolls or robotic pets. In this context, a clear definition of what constitutes a toy is necessary at a time in which the market for "virtual friends", such as a chatbot or girlfriend, is growing worldwide.

Artificial intelligence is moving into more domains of our private lives, including children's rooms and toys. While artificial intelligence can bring about new opportunities for children to interact and learn, we also face a number of challenges. This is especially true for the protection of children's data and the right to privacy. But we also face more ethical and pedagogical dilemmas if artificially intelligent toys can adapt to the child's play and personality and potentially imitate a friendship with the child. Therefore, it is recommended that the upcoming revision of the toy safety directive introduces a requirement that toys with built-in artificial intelligence are subject to the high-risk requirements of the AI Act and are third-party certified before the toy can be used by children and young people.



2.4. Increased focus on the risks that artificial intelligence may pose to children and young people

The expert group recommends that there should be a special focus on risks to children and young people when designing and enforcing regulations in regards to big tech whose services use artificial intelligence to do things like promote and produce content. It is crucial that big tech treats regulations and guidelines seriously.



Therefore, the expert group recommends that big tech should be responsible for ensuring that the content and features of their services are age-appropriate if a child is using or is likely to use the services. Furthermore, big tech should – as a minimum – sign up now to the forthcoming EU Age Appropriate Design Code. The recommendation is in line with the report on big tech business models, where the expert group recommended the introduction of an age-appropriate code of conduct.

In addition, the expert group recommends working towards guidelines issued by the European Commission for Article 35 of the Digital Services Act on how big tech should act to address systemic risks of artificial intelligence in those of their apps, sites, and services that children use or are likely to use. This must be done in collaboration with the Digital Services Coordinators, taking into account, among other things, the fundamental rights of children. Moreover, challenges associated with the special risks of artificial intelligence for children and young people must be part of the EU's upcoming Consumer Agenda for 2025-2030 and be part of the work of the European Commission's "Better Internet for Kids" strategy, which the Digital Services Act also refers to. E.g. as part of the work that the European Commission will implement under the strategy's pillar on "Safer digital experiences (better protection of children online)".

Furthermore, the expert group recommends issuing guidelines that elaborate and clarify the AI Act's prohibition of direct manipulation. This means that the guidelines and standards for the regulation should clarify how providers of high-risk artificial intelligence systems should pay particular attention to whether persons under 18 years of age have access to or are affected by the system when implementing the risk management system.

REGULATION OF THE UNAUTHORIZED USE OF COPY-RIGHTED MATERIAL BY BIG TECH

THE EXPERT GROUP'S RECOMMENDATIONS ON UNAUTHORIZED USE OF COPY-RIGHT MATERIAL

- 3.1. Big tech must demonstrate that they do not infringe copyright.
- 3.2. EU rules on licensing agreements in relation to the use of copyrighted material and establishment of a European supervisory body.
- 3.3 European right to complain for rights holders.

When big tech train their artificial intelligence models, it requires large amounts of data, e.g. images and texts from various sources. It has been found that several language models are based on material from e.g. the cultural and research sector, which has been available on the internet and which is probably protected by copyright.¹⁶ In short, the works of rights holders have been unlawfully used to train big tech's language models.

It is rare that big tech voluntarily pay rights holders for the works that have been used to train their artificial intelligence models. And rights holders are often unaware that their works are being used by big tech. This is a major challenge, and with the current regulation, rights holders are not entitled to insight into how and to what extent their works have been used. Transparency in relation to the use of copyrighted material by big tech is essential for rights holders. Both to ensure that the models are not trained on content that big tech companies are not allowed to use and to give rights holders better conditions for entering into agreements and being paid for the use of their material.

The AI Act introduces transparency requirements for providers of so-called general-purpose models, such as ChatGPT, which is artificial intelligence designed to perform a wide range of tasks across different domains. The transparency requirement means that providers of general-purpose models must publish information about the use of training data, which is protected by copyright law. This forces providers of general-purpose models to investigate whether the datasets on which the models are trained have been acquired and used legally.

With the rapid development of artificial intelligence, it is crucial that additional requirements based on the transparency requirements of the AI Act are imposed on big tech when using copyrighted material. The expert group has concrete suggestions as to how this can be done.

3.1. Big tech must demonstrate that they do not infringe copyright

The expert group recommends introducing requirements for big tech forcing them to be able to demonstrate that they have not infringed copyright law. In this context, the expert group recommends applying a rule of presumption that copyrighted content is included in artificial intelligence models. Big tech will then have to be able to prove that they have not used copyrighted content without the consent of the rights holders. This can e.g. be done by big tech providing insight into which data sets their models are trained on, or that they account for training data in response to questions from rights holders. The recommendation must be included in the work of relevant copyright forums in the EU.

3.2. EU rules on licensing agreements in relation to the use of copyrighted material and establishment of a European supervisory body

The expert group recommends establishing a system for the conclusion of collective licensing agreements for the exploitation of copyrighted works for training generative artificial intelligence systems. This will give big tech the opportunity to enter into agreements on the use of a large number of works while ensuring that rights holders receive payment for the use of their content. The licensing agreements are already being used, when composers and musicians enter into collective agreements with e.g. DR (the Danish Broadcasting Corporation) on the playback of music on DR's radio channels.



COPYRIGHTED MATERIAL

Copyright protects, among other things, books, music, visual art, arts and crafts, films, radio, television broadcasts and websites. In general, the creator of a literary or artistic work owns the copyright to the work. This means that the author or rights holder has the exclusive right to make copies of the work and make it available to others until 70 years after the holder of the copyright's death.

Illegal copies of books or research articles have been the focal point of a number of lawsuits against Microsoft, Google, and Alphabet, among others.¹⁷ Most recently, the New York Times has filed a lawsuit against Microsoft and OpenAI for copyright infringement.¹⁸ There are also examples of Danish rights holders' works being used in connection with the training of artificial intelligence.

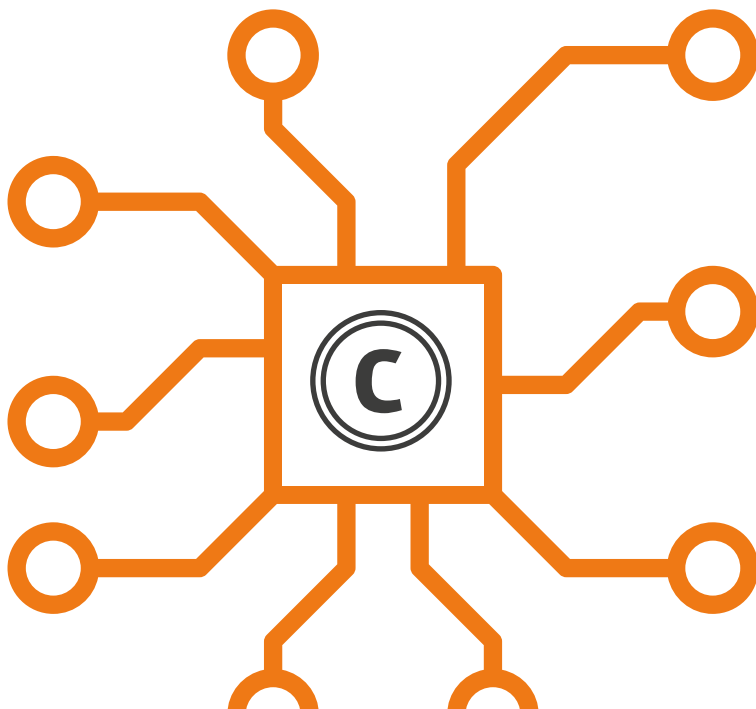
In December 2023, the German media house Axel Springer entered into an agreement with OpenAI, which means that users of ChatGPT will be able to receive summaries of selected global news content from Axel Springer's media.¹⁹

In addition, the expert group recommends a European supervisory body to monitor big tech's use of copyright-protected material in generative artificial intelligence systems. Currently, neither rights holders nor authorities have any insight into whether big tech's generative artificial intelligence systems are trained on content, which has been used in violation to copyright law. A European supervisory body will ensure that copyrighted material is not unlawfully used. Enforcement could be done through the European Commission's new AI Office, which among other things will enforce the AI Act.

3.3. European right to complain for rights holders

The expert group recommends the introduction of a European complaint handling procedure for rights holders in relation to the obligations imposed on big tech in relation to the use of copyrighted material in their generative artificial intelligence systems.

E.g., in cases where big tech does not provide a right holder with (sufficient) insight into which of the right holder's works have been used for the training of the system. However, this presupposes that big tech is subject to obligations in the form of transparency, licensing agreements, or the like, to which the right of complaint may relate to, cf. recommendation 3.2.



MARKET DOMINANCE OF BIG TECH IN THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE

THE EXPERT GROUP'S RECOMMENDATIONS ON MARKET DOMINANCE

- 4.1. Better framework for the development of artificial intelligence solutions as an alternative to big tech.
- 4.2 Guidelines for the use and procurement of artificial intelligence solutions in the public sector.
- 4.3 European regulation of artificial intelligence against big tech must be enforced and further developed.

In the future, markets for artificial intelligence are likely to be characterized by large-scale general artificial intelligence models that will be used and adapted by other companies. Currently, big tech is at the forefront of developing language models, and the expert group predicts that they will dominate in other areas as well.

Big tech has several competitive advantages that can make it difficult for other companies to develop alternatives. Firstly, big tech has vast resources and technical capacity. Secondly, big tech has their own cloud solutions and access to large amounts of user data, which is crucial in the development of artificial intelligence models. Thirdly, big tech has the opportunity to link new artificial intelligence products and services with other services in their companies, such as Microsoft's Office suite, social media, search engines, and apps.²⁰ This allows them to profit much more broadly from their investments, and their artificial

intelligence models can benefit from further access to data the more services they are used on. The result could be that much of the knowledge that users gain from chatbots is generated by the chatbot or chatbots that win the market. This could mean that the leading chatbots gain even more knowledge about us and thus achieve a kind of monopoly of knowledge. The lack of competition can also mean that smaller Danish companies will pay too much for big tech's artificial intelligence solutions.

In Europe, we have come a long way in regulating big tech. But the regulation must be implemented and, not least, enforced effectively if it is to have the desired effect. In addition, it is important to launch initiatives so that citizens and businesses do not only have access to artificial intelligence models that are mainly developed by big tech from third-party countries.

It is important to focus on creating a free and fair market and ensuring that consumers, businesses, and public institutions have a real choice among artificial intelligence systems. We must create good conditions for the development of language models based on European values and norms such as respect for human rights, democracy, and equality. Open source models can play a role here. Both because there is more transparency about how the model is built and how the training algorithms work, and because they allow other companies to build on the models and create new services.

We also need to support and collaborate with European countries that are further ahead than Denmark in developing language models. Only in this way can we promote the development of alternatives to big tech's language models and thus counteract big tech's market dominance.

4.1. Better framework for the development of artificial intelligence solutions as an alternative to big tech

The expert group recommends that the government works for an innovative and strong entrepreneurial environment where Danish and European companies developing artificial intelligence can attract the necessary investments to develop and scale their business. This will strengthen the ability of Danish and European companies to develop alternatives to the services of big tech. As part of this, Denmark and Europe must educate, attract, and retain the necessary IT and data science skills.

The recommendation aims to promote a digital single market in order to create an innovation and growth environment for tech companies in Europe. This requires, among other

things, a common European industrial policy that is oriented towards new technologies in microchips, quantum technology, and artificial intelligence. In this regard, the Strategic Technologies for Europe Platform (STEP) can help direct funds towards new technologies. Existing initiatives within the EU's industrial policy, such as the EU Chips Act and the new Quantum Pact, can also help to promote the development and spread of artificial intelligence in Europe. Denmark must actively try to develop and contribute to the many European initiatives and obtain funding from the funds.

At a national level, it should be investigated whether language data that reflects Danish language, cultural norms and values can be made more accessible as training data for Danish and European companies working to develop language models as alternatives to big tech. Specifically, by 1) mapping, 2) assessing, and 3) making available the Danish language data with the greatest potential in this area. The work must take into account ongoing initiatives and applicable rules, including copyright and competition law, and can advantageously be done in collaboration with other Nordic and European countries.

4.2. Guidelines for the use and procurement of artificial intelligence in the public sector

The expert group recommends creating the best possible framework for new, innovative artificial intelligence solutions in the public sector. E.g., public contracting authorities can enter into market dialogues and thereby utilize the knowledge of a wider range of companies when drawing up tender documents, as well as use functional requirements and innovation clauses that can promote new solutions.

The public sector should take the lead and use artificial intelligence solutions that allow the potential to be realized while ensuring the protection of citizens' rights and a high standard of data ethics. In October 2023, the Danish Data Protection Agency issued guidelines on the use of artificial intelligence by public authorities and a mapping report of the use of artificial intelligence in the public sector. In addition, the Danish Agency for Digitization published guidelines for public authorities on the responsible use of generative artificial intelligence in January 2024.

However, the expert group wants to go further than that and therefore recommends issuing additional guidelines and best practices for the responsible procurement and use of artificial intelligence in the public sector. This can help ensure efficient public procurement within this area and allow for the realization of quality and economic potential to the benefit of citizens. In addition, the expert group

recommends implementing more binding measures regarding responsible procurement for public authorities. It should be investigated whether changes to the Public Procurement Act are needed to ensure responsible public procurement in relation to both the protection of citizens' rights and data ethics.

The AI Act imposes requirements on public authorities' use of artificial intelligence depending on which risk category the use falls under. A significant part of public case handling and administration is expected to be considered high-risk under the AI Act and will therefore have to comply with a number of specific requirements. The recommendation must therefore be considered together with the future requirements in the AI Act, and common guidelines for the use of artificial intelligence in the public sector must be based on the AI Act.



4.3. European regulation of artificial intelligence against big tech must be enforced and further developed

The expert group recommends that the government works to ensure that the AI Act is implemented effectively and consistently in Denmark and enforced effectively by the European Commission. This is crucial to ensure fair competition and opportunities for Danish companies as well as the protection of citizens' fundamental rights, as the regulation suggests. As part of this, it is essential that Danish authorities closely monitor developments in the artificial intelligence market and that they have the necessary technical knowledge, resources, and ability to intervene quickly. In this context, it may be relevant to explore the possibilities of gathering advisory expertise across authorities and academia in one place, e.g. in the form of an "artificial intelligence institute". This is because it requires continuous research and government focus

at the highest international level to follow the development of artificial intelligence due to the complexity of the technology, the speed of development, and the potential and challenges that the technology presents.

The European Commission must also focus on the importance of artificial intelligence in the implementation and enforcement of the Digital Markets Act. The expert group therefore recommends that the government call on the European Commission to investigate whether big tech's cloud services such as AWS, Azure, and Google Cloud should be designated as core platform services, in which case they would be subject to the requirements of the Digital Markets Act. Finally, the government should work for the European Commission to investigate whether there are any artificial intelligence services that should eventually be included in the list of services that would be covered by the Digital Markets Act.





COMPOSITION OF THE EXPERT GROUP

At the time of submitting this report, the expert group has the following composition:

- Mikkel Flyverbom (chairman), Copenhagen Business School
- Lars Thinggaard, Tech for Life
- Lone Sunesen, TV MIDT/VEST
- Mie Oehlenschläger, Tech & Childhood
- Miriam Michaelsen, Media Council for Children and Youth
- Pernille Tranberg, DataEthics
- Peter Svarre, digital strategist, speaker, and author
- Rebecca Adler-Nissen, University of Denmark
- Rikke Frank Jørgensen, Danish Institute for Human Rights
- Sune Lehmann, Technical University of Denmark
- Thomas Bolander, Technical University of Denmark

The Ministry of Industry, Business, and Financial Affairs has served as the expert group's secretariat in collaboration with other relevant ministries, including the Ministry of Digital Government and Gender Equality, the Ministry of Culture, the Ministry of Foreign Affairs, the Ministry of Justice, and the Ministry of Children and Education.

TERMS OF REFERENCE FOR THE EXPERT GROUP

International big tech has a huge impact on society, the economy, and the everyday lives of ordinary people both nationally and internationally. The Danish government has launched a number of initiatives, but there will continue to be a need for political development and new initiatives.

Against this background, as part of the government's proposal "Big tech: fairer competition and better consumer protection" from August 2021, the government will set up an external expert group. The purpose of the expert group will be to support the government's work to address issues associated with the tech giant agenda from a national and international perspective.

Baggrund

The consequences of big tech's development and influence have an impact on a wide range of areas, including tax, culture, and competition. Common to the big tech is that their entry into the Danish market is driven by a high demand for their services from both businesses and citizens.

However, the presence and development of big tech also brings with it a number of challenges that are equally transnational in nature.

Big tech often operate on a business model based on collecting as much data about their users as possible. In practice, it is impossible

for users to know what data they have voluntarily and involuntarily disclosed to big tech and how it is used for resale, marketing, etc.

Many of the most widespread online platforms are owned by international big tech and provide a forum for communication and public debate today. In this way, big tech has a major influence on the rules of public debate and democratic discourse.

Likewise, there are also challenges related to the spread of illegal and harmful content, unfair competition, tax issues, digital malaise among children and young people, opaque algorithms, and polarizing mechanisms. In addition, big tech also challenge decent labor market conditions, especially workers' rights.

Finally, big tech play an increasing foreign and security policy role in the context of the continued technological great power rivalry between the US and China, which is why it will be important to balance critical dialogue with perspectives on opportunities for knowledge sharing, innovation, and collaboration.

Task description

The expert group will serve as a forum for discussing structural issues where big tech's business model challenges our society, culture, economy, well-being, etc. Furthermore, the government will have the opportunity to ask the expert group to consider and assess specific cases and dilemmas within the tech agenda.



Specifically, the expert group will:

- Discuss the challenges of big tech's business model and its consequences for Danish society, including the democratic conversation.
- Make proposals, including highlighting possible positive as well as negative consequences, on how democratic control of big tech, with a particular focus on their business model, can be strengthened.
- Identify other issues for Danish society in light of the structural challenges resulting from big tech's business model and qualify these and their consequences for Danish society.
- Present proposals and concrete recommendations, including considering whether it should be solved nationally or at the EU level, to deal with these issues.
- Involve and discuss international experiences in their work to ensure a responsible technological development that supports Danish democracy, prosperity, and security in a globally connected world.


The individual minister has the opportunity to request that the expert group be involved in relation to specific issues and dilemmas within his or her area of responsibility. In its work, the expert group must ensure the ongoing involvement of the Data Ethics Council.

Organization

The chairman and members of the expert group are personally appointed by the Minister for Industry, Business and Financial Affairs. The expert group is expected to consist of 12 members with expertise and experience in the tech giant agenda.

The expert group will initially be established for a two-year period.

The expert group will be provided with a secretariat by the Ministry of Industry, Business, and Financial Affairs.

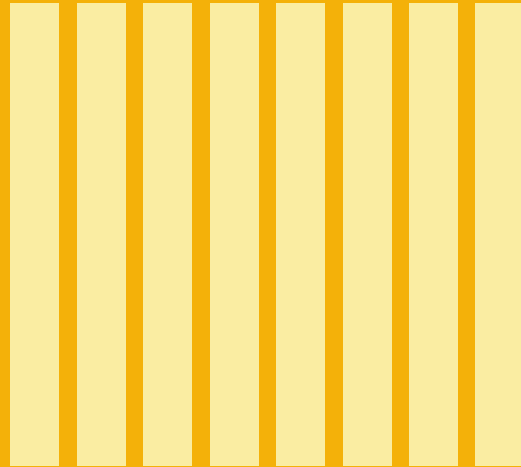


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Regeringens ekspertgruppe

TECH-GIGANTER