

POLICY DEPARTMENTS

Civil Law Rules on Robotics

Media Seminar - Brussels

Purpose

The media seminar of the European Parliament's press service on civil law rules on robotics aims to generate a debate between key media actors and leading MEPs on issues related to the fast development and ever-increasing introduction of robotics and artificial intelligence in different spheres of economic and public life. The development of robotics and artificial intelligence raises legal and ethical issues that require intervention at EU level. While it is up to the Commission to present legislative proposals related to robotics and artificial intelligence, the European Parliament has decided to pave the way for such initiatives. A draft resolution prepared by the Committee on Legal Affairs addresses issues such as: human safety, privacy, integrity, dignity, autonomy, intellectual property rights, data ownership, employment and liability, as well as ethical principles concerning the development of robotics and AI for civil use.

Inside

This publication provides extracts from relevant supporting analyses provided by Parliament's Policy Departments for the Committees on Legal Affairs, on Industry, Research and Energy, on Employment and Social Affairs, on Transport and Tourism, on Foreign Affairs and the Subcommittee on Human Rights. Scan the QR codes or click on the title of each publication for access.



Publications

[European civil law rules in robotics](#) - October 2016

This study aims to evaluate and analyse a number of future European civil law rules in robotics from a legal and ethical perspective. With a view to developments in robotics and artificial intelligence, the European Parliament's Committee on Legal Affairs set out a series of recommendations on civil law rules on robotics, with content for a possible legislative proposal, in October 2016. The text also points out that the aim of the future instrument is to lay down the general and ethical principles governing the development of robotics and artificial intelligence for civil purposes.



Scientific research on these emerging technologies seems to imply that they will change the face of society. Therefore, even if robots are not yet commonplace, the time has come to legislate. Once a new legal and ethical sector surfaces, a general approach to the big theoretical questions needs to be found in the first instance, so as to eliminate any misunderstanding or misconceptions about robotics and artificial intelligence.



[Artificial Intelligence: potential benefits and ethical considerations](#) - October 2016

Artificial Intelligence systems being able to transform vast amounts of complex, ambiguous information into insight, have the potential of revealing long-held secrets and helping solve some of the world's most enduring problems. However, great care must be taken in its development and deployment. To reap the societal benefits of AI systems, it has to be ensured that they follow the same ethical principles, moral values, professional codes, and social norms as we humans would. Research, educational efforts, and carefully designed regulations should be put in place.



This briefing gives an overview of the presence AI in our lives, aspects related to computing power and data, the issues of machines versus humans, and of ethics and trust, amongst others. It also looks into the active engagement of IBM (International Business Machines Corporation), both internally and with collaborators and competitors, in global discussions about how to make AI ethical and as beneficial as possible for people as society.

[Industry 4.0: Study; At a Glance](#) - February 2016

This study analyses the Industry 4.0 Initiative. In the context of the increased integration of physical objects into the information network, the concept of Industry 4.0 refers to the organisation of production processes based on technology and devices autonomously communicating with each other along the value chain. The underlying view is that a fourth disruptive innovation movement is reshaping industry and manufacturing processes, after steam power in the late 1700s, electricity and assembly lines in the mid-1800s, and electronics, IT and globalisation from the 1970s.



The study first sets out the current industrial policy debate and its evolution. Then it looks into the details of Industry 4.0. Next, three key dimensions of change relevant to Industry 4.0 are explored: technological, social and the business paradigm. The study assesses the rationale for public intervention and outlines measures that could be adopted to increase the gains and limit the threats from Industry 4.0. Finally the policy implications are outlined and recommendations are made. The "At a Glance" note gives of brief overview of the study.



[Open innovation in industry, including 3D printing: Study; At A Glance](#) - September 2015

New technologies and innovation concepts are important pathways for growth and competitiveness. Open innovation can strengthen innovation ecosystems. 3D printing has the potential to significantly impact the way production and innovation takes place. The 2014 Commission Communications "For a European Industrial Renaissance" and "Research and innovation as sources of renewed growth" set out Europe's key priorities and provide the background of this study: how to facilitate the renewal of industry and industrial policy in Europe?



Structured in three parts, this study starts with an overview of the concepts of open innovation and 3D printing, where and how the two meet and can reinforce each other, and ending with conclusions and recommendations for policy-makers. The latter need to be addressed to the relevant policy levels: what can be done at EU, Member State and regional level to tackle the most important aspects regarding open innovation and 3D printing? The "At a Glance" note gives of brief overview of the study.



[The future of work: digitalisation in the US labour market](#) - March 2016

There are large differences between the labour markets of Europe and the US, both in terms of structure and in terms of performance, which are key to understanding the difference in reactions to digitalisation. This publication includes a set of briefings with background information on the US labour and social security systems compared to European practice. They analyse the effect of digitalisation on job creation and job losses in the US; the skills required for the jobs of the future; and changing working conditions in the US and particularly in Silicon Valley.





[Employment and skills aspects of the digital single market strategy](#) - November 2015

Digitalisation has a substantial impact on the labour market, by modifying job dynamics, working conditions and required skills. The ongoing impact of digitalisation and the digital single market not only provides opportunities, but also presents challenges in terms of the job dynamics and changes in working conditions. The net effects of digitalisation on employment are ambiguous, but job losses in certain sectors are inevitable. The transformation of jobs calls for different skills requirements which could lead to growing skill gaps and mismatch in the labour market. This briefing analyses the impact of digitalisation on job creation and job losses in different sectors; changing working conditions; and current and future skill requirements.



[Safe integration of drones into airspace](#) - September 2016

Unmanned aircraft systems (UAS or “drones”) are quickly developing worldwide. They are used for a number of applications ranging from surveillance and security to aerial photography, pipeline and power-line inspection, precision agriculture, media and entertainment, and many others. This study details the major safety risks associated with the use of drones into airspace and identifies the technical solutions that could address these risks. It also examines to what extent existing/proposed aviation regulations are appropriate to ensure the safety of drone operations and makes recommendations on this matter. The study highlights that the proposal for a new regulation on common rules in the field of civil aviation, currently undergoing the EU legislative process, already addresses most of these issues.



[Self-piloted cars: the future of road transport?](#) - March 2016

The study provides an analysis of the development of automated vehicles inside and outside the EU, including both the technologies which are already on the market and those under testing and research. The EU is giving increasing attention to automated and connected vehicles as they could have huge impacts on road safety, travel behaviour and urban development. The study reports on state-of-the-art key research projects and large scale testing in this area and discusses future pathways and potential impacts of increasing vehicle automation. It concludes with recommendations on aspects that should be considered when shaping policies to sustain the research and development, and bringing to market, of highly automated and connected vehicles.



[Human rights implications of the usage of drones and unmanned robots in warfare](#) - May 2013

In recent years, the use of drones and other unmanned robots in warfare and other situations of violence has increased exponentially. This study provides an overview of the current and likely future use of such systems and examines the relevant legal implications under human rights law, international humanitarian law and the UN Charter. The present sense of uncertainty as to the applicable legal standards, the rapid development and proliferation of drone and robotic technology, and the perceived lack of transparency and accountability of current policies have the potential of polarizing the international community, undermining the rule of law and, ultimately, of destabilizing the international security environment as a whole.



[Towards an EU common position on the use of armed drones](#) - forthcoming

The European Parliament has often called for a common EU position on armed drones, including in its resolution of February 2014. This briefing will propose a model position on the use of armed drones by developing the key elements that such a position should include. The proposal would take into account the EP resolution and existing international standards and recommendations, notably at the United Nations level. The aim is to ensure the highest of legal clarity and conformity with International Law, and with International Human Rights Law and International Humanitarian Law in particular. The briefing will also provide an update on developments and the EU Member States' positions on the matter.



Policy Departments

There are five policy departments within the European Parliament's DGs for Internal Policies and for External Policies. They are responsible for providing both in-house and external high-level independent expertise, analysis and policy advice at the request of committees and other parliamentary bodies (delegations, President, Bureau, Secretary-General). Their expertise covers all areas of activity of the European Parliament. They are closely involved in the work of committees, which they support in shaping legislation on and exercising democratic scrutiny over EU policies.

Outputs

Most frequently prepared at the request of a European Parliament committee or delegation, the written output of the policy departments comprises a wide range of products, including studies, in-depth country- or issue-specific analyses, briefings examining issues of strategic importance, as well as notes containing short EU-oriented analyses of recent events or developments. They serve a variety of purposes: they can feed directly into the legislative work of a specific committee or serve as a briefing for delegations of members. The policy departments also draft the Fact Sheets on the EU, which provide an overview of European integration and of the European Parliament's contribution to that process. Furthermore, they provide background notes and speaking points.

Events

The policy departments organise events that enhance Parliament's analytical capacity and develop common approaches to current political issues. Public workshops, bringing together groups of experts, are organised to provide independent expertise via written and oral presentations. Expert panels are set up to provide members with regular written contributions or to feed into the parliamentary debate during meetings. Publications are generally presented during committee meetings.

Scrutiny

Policy departments provide research support to enhance the European Parliament's capacity to monitor EU negotiations and the implementation of international agreements. They have also developed an in-house methodology to scrutinise EU-funded projects.

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Fact Sheets on the EU

The Fact Sheets give an overview of European integration and of Parliament's contribution to the process. They cover six main themes:

- the EU's functioning;
- a citizens' Europe;
- the internal market;
- economic and monetary union;
- sectoral policies; and
- external relations.

The Fact Sheets are available in 23 languages and are updated regularly.

www.europarl.europa.eu/factsheets



Supporting Analyses

Access policy departments Studies, Briefings, In-depth Analyses and At-a-Glance notes.

www.europarl.europa.eu/supporting-analyses



Thematic Digests

Leaflets with policy department publications relevant to seminars, inter-parliamentary meetings.



Monthly Highlights

The Monthly Highlights provide an overview, at a glance, of the on-going work of the policy departments, including a selection of the latest and forthcoming publications, and future events.

To receive them, send an email to: ep-policydepartments@ep.europa.eu

