



European Economic and Social Committee

TEN/553
Remotely piloted aircraft
systems

Brussels, 15 October 2014

OPINION

of the
European Economic and Social Committee
on the

**Communication from the Commission to the European Parliament and the Council - A new era
for aviation - Opening the aviation market to the civil use of remotely piloted aircraft systems in
a safe and sustainable manner**

COM(2014) 207 final

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Rapporteur: **Mr Simons**
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On 8 April 2014 the European Commission decided to consult the European Economic and Social Committee, under Article 304 of the Treaty on the Functioning of the European Union, on the

*Communication from the Commission to the European Parliament and the Council -
A new era for aviation - Opening the aviation market to the civil use of remotely
piloted aircraft systems in a safe and sustainable manner*
COM(2014) 207 final.

The Section for Transport, Energy, Infrastructure and the Information Society, which was responsible for preparing the Committee's work on the subject, adopted its opinion on 1 October 2014.

The Consultative Committee for Industrial Change contributed to this work a complementary opinion (rapporteur: Mr Simons, co-rapporteur: Mr Philippe), which it adopted on 16 September 2014.

At its 502nd plenary session, held on 15-16 October 2014 (meeting of 15 October), the European Economic and Social Committee adopted the following opinion by 168. votes with 8 abstentions.

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1. Conclusions and recommendations

- 1.1 Europe is extraordinarily well placed to reap the benefits of a developing remotely piloted aircraft systems (RPAS) industry, which promotes employment and cements Europe's role as a knowledge centre for technology and development. Existing European SME funding could further stimulate the development of the RPAS industry.
- 1.2 The terms RPAS and UAV (unmanned aerial vehicle) follow the international regulations set by the International Civil Aviation Organisation (ICAO). ICAO does not use the description "drone", but it is now firmly established in popular parlance. In order to avoid legal confusion, including as regards liability and insurance, it would nonetheless be advisable to work towards using the ICAO terminology in the European context.
- 1.3 It is generally acknowledged that RPAS need to be fully integrated into existing forms of aviation including recognition and identification of each aircraft. This will also be affected, specifically in Europe, by the increasing interest in commercial applications for smaller (< 150 kg) RPAS.

- 1.4 The commercial exploitation of, specifically, smaller RPAS will require further adjustments (for example, more limitations on third-party liability, introduction of lower weight categories of RPAS below 500 kg, adjustments to the risk levels associated with the flight characteristics of very small RPAS, etc.).
- 1.5 One of the fundamental prerequisites for the use of small RPAS is the existence of harmonised rules, in particular for operators of RPAS, pertaining to safety and training; together with rules and appropriate provisions for privacy, data protection, liability and insurance. This will necessitate new or tougher standards that apply to both private and commercial use, for example with regard to the identification of smaller RPAS, and protection from hacking and from third parties taking over control. The Committee recommends that the Commission take a proactive role here.
- 1.6 The Committee fully supports the stated aim of the Communication¹, namely to assess how to create an excellent investment climate for RPAS activities in the European Union, both for production and for operations. It also stresses the resulting positive effects on direct and indirect employment and the associated increase in productivity in general.
- 1.7 Looking to the future, Europe will have to coordinate civil and military developments in this area, profiting from synergies where possible.
- 1.8 There is a need for as accurate a picture as possible of RPAS air traffic in connection with all aircraft in circulation. The appropriate tools must be put in place to make this happen.

2. **Introduction**

- 2.1 RPAS have been in general use – both military and civilian – for many years. The major discussion about commercial applications and their integration with other civil air traffic and the associated safety issues such as legislation, certification and training together with privacy, liability and insurance aspects has only recently got properly under way. Their use could lead to a social revolution that is in some respects comparable to that brought about by the internet, which, having started out in the military world, has been adapted and democratised, revolutionising many professions and creating new ones.
- 2.2 The use of RPAS, particularly for civilian applications, has grown exponentially: in terms of numbers, of size and weight, and of the many applications, the number of which is still growing. At this moment five major markets have already been identified: leisure, information and media, monitoring and inspection (electricity, pipelines, industrial installations), earth sciences (agriculture, environment) and public safety (search & rescue, pollution, policing, crowd control, etc.).

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A new era for aviation – Opening the aviation market to the civil use of remotely piloted aircraft systems in a safe and sustainable manner; COM(2014) 207 final, 8.4.2014.

- 2.3 The availability of less costly, highly flexible and less intrusive RPAS will only partly take over the role of manned aircraft and in particular helicopters. But most of the use of RPAS will be generated by the many new uses of small, extremely versatile and economical airborne tools. This will generate new applications with the associated direct and indirect labour and general economic effects, such as increased productivity.
- 2.4 The question is thus no longer whether, but how and when the integration of RPAS into existing forms of aviation will take place. This will also be affected, specifically in Europe, by the increasing interest in commercial applications for smaller (< 150 kg) RPAS.
- 2.5 Timely consideration will therefore need to be given to these aspects when looking at the integration of RPAS both at European level and in the ICAO. Safety and privacy issues together with harmonised relevant regulation will play a crucial role in the public acceptance of RPAS in Europe and beyond.
- 2.6 The Commission's Communication² provides a good and fairly comprehensive picture of the existing issues and the status quo regarding the use of smaller RPAS in Europe, and of the regulatory initiatives taken by the Commission.

3. **Content of the Commission Communication**

- 3.1 It is estimated that by 2050 many different types of aircraft will be available in diverse formats in civil aviation. Some of these aircraft will be manned, others not. It is therefore important to establish a European market for RPAS, also known as drones. Drones are part of a broader category of unmanned aircraft (UAS) that can be programmed to fly autonomously. RPAS, conversely, are remotely controlled by a pilot.
- 3.2 This technology has undergone rapid development and can now also be used outside the military context. RPAS should therefore be able to fly in unsegregated airspace so as to be part of normal civilian air traffic. Up until now, the technology has been used - for example - for photographing or monitoring infrastructure, but should also in future be able to be used for transporting goods or people.
- 3.3 The Communication sets out the Commission's position on how RPAS can be put into a policy framework at European level and how this market can be developed in such a way as to protect the public interest. Regulation and research and development are to build upon initiatives from a number of actors, including:
- the European Aviation Safety Agency (EASA);
 - the national civil aviation authorities;

² Ibid.

- the European Organisation for Civil Aviation Equipment (EUROCAE);
- Eurocontrol;
- the Joint Authorities for Rulemaking on Unmanned Systems (JARUS).

- 3.4 Safety is a priority in European aviation policy. Current legislation is hampering the development of the European market because national permits are not eligible for mutual recognition by the Member States and thus the whole of Europe. The regulatory framework must take into account the wide variety of aircraft and will first have to address established technologies. More detailed rules can be introduced gradually, which must in turn lead to more complex RPAS operations being permitted.
- 3.5 A number of the technologies that are necessary to the safe integration of RPAS are not yet available. The R&D efforts of the various bodies will therefore need to be directed towards further developing these technologies. This refers mainly to command and control, detect and avoid technologies, protection from various forms of attack, transparent and harmonised emergency procedures, decision-making capacities so as to ensure predictable flight patterns, and human factors.
- 3.6 Of course, it is also important that the security of data transmitted to and from the RPAS be guaranteed. Similarly, the data that the various operators exchange in order to ensure the system works properly must be able to be transmitted securely.
- 3.7 RPAS operations must not lead to breaches of fundamental rights such as the right to privacy. If data have to be collected, the rules on data protection, as set out in Directive 95/46/EC on data protection or framework decision 2008/977, must be complied with. Opening the RPAS market therefore also involves evaluating measures to guarantee fundamental rights.
- 3.8 Given that accidents always will happen, thought must also be given to insurance and compensation arrangements. The Commission will examine whether it is necessary to amend the current arrangements. It will support the emerging RPAS market and boost the competitiveness of the businesses operating in that field – including many SMEs and startups.

4. **General comments**

- 4.1 Although the use of military and civilian RPAS has been going on for some time, and has seen particularly rapid growth in the past few years, the debate about international and national regulation and supervision has only quite recently got under way.
- 4.2 The current nomenclature for unmanned civilian or military aircraft is varied: drone, unmanned aerial vehicle (UAV), unmanned aircraft system (UAS), remotely piloted aircraft system (RPAS) or aircraft (RPA). These descriptions do not always reveal much about the specific characteristics of the various aircraft and systems. The word "drone" is military in origin but is sometimes also used for civilian applications.

- 4.3 The terms RPAS and RPA refer to the rules set by ICAO (the International Civil Aviation Organisation), which seeks to tie in with existing regulations on manned aircraft. The ICAO RPAS handbook refers to RPA as a specific type of unmanned aircraft. All unmanned civil aircraft are covered by the provisions of Article 8 of the Chicago Convention³. ICAO does not use the description "drone". In order to avoid confusion, including as regards liability and insurance, it would be advisable to work towards using the ICAO terminology in the European context.
- 4.4 In accordance with the Commission communication, the term UAV is used to mean an unmanned, autonomously functioning aircraft. An RPAS is an aircraft controlled remotely by a third party. The term "drones" is now firmly established in public parlance for all types. However, in order to avoid legal confusion, it makes more sense to use the formal terminology in regulations.
- 4.5 The European RPAS Roadmap⁴ describes the development and integration into common airspace of civil RPAS in a 15-year timeframe. The roadmap specifically describes three pillars: (1) research and development; (2) safety regulations and technical standardisation, and additional measures such as privacy and data protection; and (3) insurance and liability. The proposals relating to the introduction of common airspace with civil RPAS are aimed at 2016 and the years thereafter.
- 4.6 At the same time, the ICAO has started introducing the long-awaited regulations for integrating unmanned aerial vehicles (UAVs). In 2011 the ICAO UAS Study Group produced a circular (328) on UAS (unmanned aircraft systems) and proposed amendments to Annexes 2, 7 and 13 of the Chicago Convention regarding the use of RPAS in international civil aviation. A new RPAS handbook is expected in the course of 2014, covering subjects such as the conditions for airworthiness certificates, RPAS operational approval, operator certification and new conditions for airworthiness, maintenance and operation.
- 4.7 The ICAO intends to introduce SARPs (standards and recommended practices) and PANs (procedures for air navigation) in the period 2016-18 for RPAS, covering aircraft, users, patenting, sense and avoid, communication and air traffic control regulations. As stated in the UAS Study Group, ICAO will have published all the regulations for RPAS by 2018.

³ Article 8 Unmanned aerial vehicles:

No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorisation by that State and in accordance with the terms of such authorisation. Each contracting State undertakes to insure [sic] that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft.

⁴ Roadmap for the integration of civil Remotely-Piloted Aircraft Systems into the European Aviation System; Final report European RPAS Steering Group – June 2013.

- 4.8 Discussions regarding regulations take place both in ICAO and at European level, with the discussions within JARUS (Joint Authorities for Rulemaking on Unmanned Systems) – an international group of experts from national civil aviation authorities and regional aviation safety organisations – playing an important role. Particular attention should be paid here to safety and to measures to combat the criminal use of both large and smaller systems.
- 4.9 When dealing with RPAS, it is desirable to pay attention both to the general aspects of larger remotely controlled aircraft and to the fastest growing variant thereof in Europe: smaller RPAS systems. Alongside the more public functions of enforcement, emergency management and investigation, the commercial use of (very) small systems for observation, photography, monitoring and control at national level has increased spectacularly. It is therefore important to establish a European market for this use of RPAS.
- 4.10 The protection of fundamental rights such as privacy of images and data was already an issue with the use of manned aircraft and helicopters; here, the increase in scale due to the use of smaller RPAS is particularly important with regard to strengthening and managing the protection of personal and business data and of privacy and respect for fundamental rights. Appropriate rules continue to be a necessity. In connection with the phasing-in of such rules and the associated learning process, temporary rules and a "code of conduct" or "privacy charter" for businesses may have a significant role to play.

5. **Specific comments**

5.1 *Supporting the European market*

- 5.1.1 The Committee is pleased to note that the Commission is also sensitive to the commercial interests of operators of small RPAS. Europe is extraordinarily well placed to benefit from the advantages of a developing RPAS industry. A strong RPAS sector promotes employment and confirms Europe's role as a knowledge centre for technology and development.
- 5.1.2 The fragmentation of the sector and the likelihood of consolidation means that only the most innovative businesses and businesses that are financially the strongest and/or are supported by large corporations will emerge victorious from the battle. It is therefore important that those businesses are given the resources, visibility and regulatory stability to face the challenges and to make use of the development opportunities in this sector. At the top of the list of required resources are innovation and R&D capacities backed up by access to finance. It is also important that the use of legal and regulatory instruments be made easier for the businesses in question. It could be useful to make provision for mutual supply of services between several operators.
- 5.1.3 In order to make use of the opportunities provided by the single market, regulators must address the challenge of implementing a clear yet flexible legal framework that clears the way for investment in new RPAS technology and applications such as 3D printers and the

industrial internet. In this context, the existing European SME funding could further stimulate the development of the RPAS industry. Similarly, the existing SESAR JU programme offers an excellent platform for more financing for research and development (R&D) for further RPAS integration. SESAR 2020 and Horizon 2020 will need to reflect this sufficiently.

- 5.1.4 On the one hand, manufacturers will need to move from the current production of small batches to the production of larger ones, which means they will need to adapt their means of production. Such adaptations must not be at the expense of the high quality of their products and must go hand in hand with further development of their commercial approach. For other types, however, innovation and tailor-made solutions provide a stimulus for the establishment and growth of enterprises, in particular SMEs.
- 5.1.5 The expected changes in the civilian use of drones will lead to significant developments. In order to avoid job losses and to support the emergence of new professions, we need to anticipate what these developments are likely to mean in terms of employment. All the social partners will have to be involved in this from the start. There is a need for research and exploratory studies in this respect, including with regard to the possibility of sustainable and environmentally-friendly solutions and to combating electronic pollution. Education and training must anticipate these changes efficiently.
- 5.1.6 The commercial interests of the RPAS industry will be furthered by the European Union taking a proactive approach to the ITU negotiations on frequency allocation and to preventing unfair competition by third parties. Specifically in the context of the current free trade negotiations with the USA, this is very important.

5.2 *Liability and Insurance*

- 5.2.1 A fundamental prerequisite for the use of RPAS is appropriate existing or new regulations setting out the responsibilities and third-party liability of operators and users of RPAS. There is broad consensus that third-party liability for RPAS must be based on the provisions applicable to manned aircraft.
- 5.2.2 Pilot training: depending on the conditions under which civilian RPAS are used, risks – sometimes serious ones – can arise, both for the users and for possible victims, and material damage can occur. To achieve optimal operating conditions, it is necessary, together with the regulatory authorities and the professional organisations for civilian RPAS or similar organisations, to establish a regulatory framework for training pilots and operators who operate aircraft remotely and for licensing. This will reduce uncertainty as regards the insurance aspects and legal liability.

- 5.2.3 It is reasonable, not least in connection with the high level of automation, that the operator of an RPAS should be directly liable. The current liability arrangements for airlines and aircraft operators are set out in Regulation (EC) No 785/2004 and elsewhere. This regulation does not currently take account of the particular liability and insurance aspects of RPAS.
- 5.2.4 The commercial exploitation of, specifically, smaller RPAS will require further adjustments (for example, more limitations on third-party liability, introduction of lower weight categories of RPAS below 500 kg, adjustments to the risk levels associated with the flight characteristics of very small RPAS, etc.).
- 5.2.5 Insurance for RPAS is available, but as most RPAS missions are currently conducted by state-owned aircraft, there is little demand. The calculation of premiums is often based on manned flights (take-off weight). This system also needs to be adapted to smaller RPAS.

5.3 *Privacy*

- 5.3.1 The commercial use of smaller RPAS (<150 kg), which are capable of collecting large quantities of data and photographic material, must be accompanied from the start with clear guarantees on the protection of privacy. Consideration could, for example, be given to covering pictures over or turning them on or off and to protecting images and other information. There is a clear need for new or tougher standards that apply both to private and commercial use and that, for example, also make it possible to identify smaller RPAS and protect them from hacking and control of them being taken over by a third party.
- 5.3.2 Proposals for amendments to existing Community legislation on the protection of personal data are currently at an advanced stage of negotiation. Among other things, they clarify the obligations and responsibilities incumbent on manufacturers and users of RPAS. Not least in light of the question of whether such standards should be introduced and implemented at European or national level, it is justifiable to expect the Commission to take a proactive approach.

5.4 *Civil/military cooperation*

- 5.4.1 Civil and military use of airspace by both manned and unmanned aircraft and the associated safety standards will lead to a heavier workload for air traffic control services. We therefore support the Commission's intention to take initiatives in this area, and are in favour of cooperation between civil and military activities where commercial applications and innovations can be tested, profiting from synergies where possible. It will also most certainly be necessary to pay attention to regulatory priorities and to the relationship between European and international law.

Brussels, 15 October 2014

The President
of the
European Economic and Social Committee

Henri Malosse
