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**TEXTS ADOPTED**

*Provisional edition*

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**Safe use of remotely piloted aircraft systems (RPAS) in the field of civil aviation**

**European Parliament resolution of 29 October 2015 on safe use of remotely piloted aircraft systems (RPAS), commonly known as unmanned aerial vehicles (UAVs), in the field of civil aviation (2014/2243(INI))**

*The European Parliament,*

- having regard to the Commission communication of 8 April 2014 entitled ‘A new era for aviation – Opening the aviation market to civil use of RPAS in a safe and sustainable manner’ (COM(2014)0207),
- having regard to the Treaty on the Functioning of the European Union, and in particular Articles 4(2)(g) and 16 and Title VI thereof,
- having regard to the Charter of Fundamental Rights of the European Union, and in particular Articles 7 and 8 thereof,
- having regard to Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data,
- having regard to the opinion of the European Data Protection Supervisor on the Commission communication to Parliament and the Council entitled ‘A new era for aviation – Opening the aviation market to the civil use of remotely piloted aircraft systems in a safe and sustainable manner’,
- having regard to the final report of the European RPAS Steering Group entitled ‘Roadmap for the integration of civil Remotely-Piloted Aircraft Systems into the European Aviation System’,
- having regard to the Riga Declaration on remotely piloted aircraft (drones) entitled ‘Framing the future of aviation’,
- having regard to the report of the House of Lords entitled ‘Civilian Use of Drones in the EU’,

- having regard to the European Aviation Safety Agency (EASA) proposal entitled ‘Concept of Operations for Drones – A risk based approach to regulation of unmanned aircraft’,
  - having regard to the Chicago Convention of 7 December 1944,
  - having regard to Rule 52 of its Rules of Procedure,
  - having regard to the report of the Committee on Transport and Tourism and the opinion of the Committee on Civil Liberties, Justice and Home Affairs (A8-0261/2015),
- A. whereas small, radio-controlled model aircraft have been flown by enthusiasts for many decades; whereas during the last 15 years, there has been rapid growth in the use of RPAS, more commonly known as UAVs or drones; whereas in particular small RPAS, designed for both hobbyist and recreational purposes have become increasingly popular;
- B. whereas technology developed primarily for military purposes is now being applied commercially, pushing legislative boundaries; whereas today RPAS used in a professional context also provide significant benefits for different civil uses, the added value of which increases with the distance between the aircraft and the remote pilot (BVLOS (beyond-visual-line-of-sight) operations); whereas RPAS applications, which are highly varied and could extend to still more fields in the future, can be used, for example, for safety inspections and monitoring of infrastructure (rail tracks, dams, and power facilities), assessing natural disasters, (environmentally responsible) precision farming operations and media production, airborne thermography, or parcel delivery in isolated regions; whereas the rapid development of new applications can be foreseen in the near future, which illustrates the innovative and dynamic nature of the RPAS industry;
- C. whereas RPAS technology can replace direct human intervention in dangerous environments;
- D. whereas there are two types of RPAS applications, namely professional RPAS applications and recreational RPAS applications; whereas these two categories, which are intrinsically different from each other, should be governed by different requirements within the same EU regulatory framework;
- E. whereas current EU legislation stipulates that the European Aviation Safety Agency (EASA) is, in principle, the certifying authority for RPAS with a maximum take-off mass of more than 150 kg; whereas RPAS of 150 kg or less fall under the jurisdiction of the Member State;
- F. whereas RPAS regulations exist or are being developed in Austria, Croatia, Czech Republic, Denmark, France<sup>1</sup>, Germany, Italy, Ireland, Poland, Spain and the UK<sup>2</sup>; whereas approved flying schools in Denmark, the UK and the Netherlands, and more than 500 licenced RPAS pilots in the Netherlands and the UK are already operational;
- G. whereas all RPAS rules in place in Europe are tailored to assessing the safety risk of the operation; whereas such RPAS rules are ‘operator centric’ and do not take the ‘aircraft centric’ approach used in manned aviation; whereas the risk depends not only on the type of machine and its characteristics (weight, speed, etc.), but also on additional factors, such

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<sup>1</sup> <http://www.developpement-durable.gouv.fr/Quelle-place-pour-les-drones-dans.html>

<sup>2</sup> <http://www.caa.co.uk/default.aspx?catid=1995&pageid=16012>

as the area overflow, the altitude, the expertise of the operator and the particular type of operation and the ability of the operator to deal with unforeseen circumstances;

- H. whereas the potential for economic growth in this industry, from the manufacturer to the end user is immense, for both large businesses and the supply chain composed of thousands of SMEs alike as well as innovative start-ups; whereas it is imperative to maintain world class standards of manufacturing and standards of operations while promoting European leadership;
- I. whereas in recognition of the rapid development of this market, RPAS are rightly being incorporated into existing aviation programmes, such as the Single European Sky Air Traffic Management Research (SESAR) Joint Undertaking and Horizon 2020; whereas industry has already invested significant financial resources and would be encouraged to redouble its investment effort if SMEs, which make up its largest part, were able to obtain financing more easily; whereas additional funding for further research and development will be crucial to supporting this new industry and the safe and secure integration of RPAS into airspace;
- J. whereas even at this early stage, the Member States, industry and the Commission have all recognised the potential of this market and are keen to stress that any policy framework must enable the European industry to grow in order to compete globally;
- K. whereas this nascent market offers significant opportunities for investment, innovation and job creation across the supply chain, and to the benefit of society, while recognising at the same time that the public interest must be safeguarded, including in particular issues related to privacy, data protection, accountability and civil liability;
- L. whereas, notwithstanding the economic potential of RPAS, its development will be one of the most important future challenges as regards aviation industry safety and the safety and security of people and companies;
- M. whereas the EU should, as quickly as possible, produce a legislative framework purely for civil use of RPAS;
- N. whereas the European legislative framework must, on the one hand, allow industry to go on innovating and to develop under optimum conditions and, secondly, give the public an assurance that life and property, as well as personal data and privacy, will be effectively protected;

### ***The international dimension***

1. Notes that the US is seen by many as the leading market for the use of RPAS, albeit for military operations; stresses however that Europe is the leader in the civilian sector with 2 500 operators (400 in the UK, 300 in Germany, 1 500 in France, 250 in Sweden, etc.) compared to 2 342 operators in the rest of the world, and should do its utmost to boost its strong competitive position;
2. Notes that Japan has a large number of RPAS operators and two decades of experience, mostly in RPAS precision-farming operations, such as crop spraying; recalls that it was the first country to allow RPAS technology to be used in farming activities during the mid-nineties and the number of operators multiplied within a few years;

3. Notes that Israel has a very active manufacturing industry, but with a direct focus on military RPAS; underlines the fact that an integrated civil-military air navigation service now makes it easier to integrate RPAS into Israeli airspace;
4. Notes that Australia, China (where many of the very small RPAS are manufactured) and South Africa are among the 50 other countries that are currently developing RPAS;
5. Stresses that the global dimension of RPAS must be acknowledged and calls upon the Commission to take full account of this;

#### ***State of play in EU Member States***

6. Stresses that all the Member States have some RPAS activities, either in manufacturing and/or operationally;
7. Underlines the fact that unless an exemption is granted, operating activities are only legal if there is national legislation in place; recalls that this is based on the ICAO rule that all operations performed by unmanned air vehicles must be granted a specific authorisation<sup>1</sup>;
8. Notes that because there are no harmonised rules at EU level, the development of a European drone market might be impeded, given that national authorisations are generally not mutually recognised among the Member States;

#### ***Key issues***

9. Considers that the RPAS sector urgently requires European and global rules in order to ensure cross-border RPAS development; considers that a clear European legal framework is needed to ensure investment and development of a competitive European RPAS sector; underlines the fact that if no action is taken promptly, there is a risk that the economic potential and positive effects of RPAS will not be fully realised;
10. Recalls the economic importance of this sector, and underlines the need for suitable policies to protect privacy and ensure data protection, safety and security, which are proportionate to their aim while not imposing an unnecessary burden on SMEs;
11. Believes that a European framework, if it were clear, effective, reliable, and put in place without delay, might assist the discussions on global rule making for the use of drones;
12. Considers that future legislation of that kind will need to establish a clear distinction between professional and recreational use of remotely piloted aircraft;
13. Underlines the fact that safety and security are paramount for any RPAS operations and rules and that they must be commensurate with the risks; considers that the future European regulatory framework should be tailored to the specific risks associated with BVLOS flights without, however, acting as a deterrent to such flights;
14. Underlines the fact that the subject of data protection and privacy is key in order to promote broad public support for the use of civil RPAS, and is therefore also key in order to facilitate the growth and the safe integration of RPAS into civil aviation, while strictly respecting Directive 95/46/EC on data protection, the right to the protection of private life enshrined in Article 7 of the Charter of Fundamental Rights of the EU (CFR), the right to

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<sup>1</sup> [http://www.icao.int/Meetings/UAS/Documents/Circular%20328\\_en.pdf](http://www.icao.int/Meetings/UAS/Documents/Circular%20328_en.pdf)

the protection of personal data enshrined in Article 8 of the Charter of Fundamental Rights of the EU and Article 16 of the Treaty on the Functioning of the European Union (TFEU); calls on the Commission and the Member States to ensure that, in the development of any EU policy on RPAS, privacy and data protection guarantees are embedded in line with the principles of necessity and proportionality; calls, in this regard, on the Commission to foster the development of standards on the concepts of privacy by design and privacy by default;

15. Agrees with and fully supports the five essential principles for future RPAS development set out in the Riga Declaration:
  - RPAS need to be treated as new types of aircraft with proportionate rules based on the risk of each operation;
  - EU rules for the safe provision of RPAS services need to be developed to enable the industry to invest;
  - Technology and standards need to be developed to enable the full integration of RPAS into European airspace;
  - Public acceptance is key to the growth of RPAS services;
  - The operator of an RPAS is responsible for its use;
16. Stresses that in the short term, from an ATM perspective, operational procedures are already in place to allow RPAS to fly outside specific and restricted areas; recalls that many civil and military RPAS are flown using dedicated corridors by increasing the standard separation criteria normally used for manned aircraft;
17. Stresses the importance of ‘out-of-sight’ flights for the development of the sector; considers that European legislation should favour this modus operandi;
18. Recognises that the impact of RPAS on manned traffic is limited due to the small ratio of RPAS to manned aircraft; notes, however, that ATM pressures may increase due to the welcome growth of sports and recreational RPAS, which may in some circumstances pose a threat to air traffic safety, and calls for this factor to be taken into account by the relevant authorities and by future EU rules, in order to ensure a continued efficient standard of ATM across the Member States;
19. Underlines the fact that in the long term, technical and regulatory solutions should preferably enable RPAS to use the airspace alongside any other airspace user without imposing on the latter new equipment requirements; notes that there are a large number of small RPAS operating below 500 feet, together with manned aircraft; stresses that although Air Navigation Service Providers (ANSPs) do not provide Air Traffic Control (ATC) services at these altitudes, they do have a responsibility to provide sufficient information for both types of aircraft to coexist in the same airspace; notes that EUROCONTROL is supporting states in creating a common understanding of the issues involved and in driving harmonisation as much as possible;
20. Considers the question of identifying drones, of whatever size, to be crucial; underlines that solutions should be found which take into account the recreational or commercial use to which drones are put;

## *Solutions for the future*

21. Believes that a clear, harmonised and proportionate European and global regulatory framework needs to be developed on a risk-assessed basis, which avoids disproportionate regulations for businesses that would deter investment and innovation in the RPAS industry, whilst adequately protecting citizens and creating sustainable and innovative jobs; considers that thorough risk assessment should be based on the 'concept of operations' established by the EASA and should take into account characteristics of the RPAS (weight, scope of operation, speed) and the nature of their use (recreational or professional); believes that this framework should be part of a long-term perspective, taking into account the possible future developments and other aspects of these technologies;
22. Supports the Commission's intention to remove the 150kg threshold and to replace it with a coherent and comprehensive EU regulatory framework that would allow national competent authorities, qualified bodies or associations to assume validation and oversight activities; considers that the proportionality of the rules should be complemented by the necessary flexibility in processes and procedures;
23. Considers that the development of the EASA's competences in the area of RPAS should be taken into consideration in the Agency's budget to ensure that it can carry out the missions assigned to it;
24. Calls on the Commission to ensure that in the development of any EU policy on RPAS, privacy and data protection guarantees are embedded by making, as a minimum requirement, impact assessments and privacy by design and by default compulsory;
25. Is concerned over potential illegal and unsafe uses of RPAS (i.e. RPAS being transformed from a civilian tool into a weapon used for military or other purposes, or RPAS being used to jam navigation or communication systems); calls on the Commission to support the development of the necessary technology to ensure safety, security and privacy in the operation of RPAS, including through Horizon 2020 funds directed primarily towards research and development into systems, technologies, etc. that can be used to enhance privacy by design and default and support the development of technologies such as 'detect and avoid', geo-fencing, anti-jamming and anti-hijacking, as well as privacy by design and by default enabling the safe use of civilian RPAS;
26. Encourages innovative technologies in the area of RPAS that have an enormous potential for job creation, in particular green jobs, because this includes professions from a vast spectrum; encourages the development and exploration of the great potential of involving SMEs with respect to the services concerned with the production of specialised parts and materials; highlights the need to organise and promote centres for qualifications and training;
27. Considers that rules at EU and national level should clearly indicate the provisions applicable to RPAS in relation to the internal market and international commerce (production, sale, purchase, trade, and use of RPAS) and the fundamental rights of privacy and data protection; believes also that these rules should contribute to the correct enforcement of privacy, data protection and any other law related to the different risks and responsibilities associated with flying RPAS, such as criminal, intellectual property, aviation and environmental law; underlines the need to ensure that any person operating

an RPAS should be made aware of the basic rules applicable to the use of RPAS, and that those rules should be specified in a notice for purchasers;

28. Considers that the industry, regulators, and commercial operators must come together to guarantee legal certainty favouring investment and to avoid the ‘chicken-and-egg’ problem, whereby industry is reluctant to invest in developing the necessary technologies without certainty about how they will be regulated, while regulators are reluctant to develop standards until industry comes forward with technologies for authorisation; stresses that SMEs should be genuinely linked to this standardisation process;
29. Considers that a ‘risk-based approach’ in line with the Riga Declaration and the concept of operations as developed by the EASA, is a solid basis for ensuring the safe operation of RPAS, and that European regulatory requirements will need to be based on either a case-by-case or a type/class-based approach, whichever is appropriate, and will ensure a high level of safety and interoperability; considers that in order to ensure the success of RPAS manufacturers and operators, it is vital that the European Organisation for Civil Aviation Equipment (EUROCAE) standardisation requirements be validated by the relevant regulatory body;
30. Considers that future European and global rules on RPAS should address issues relating to:
  - airworthiness;
  - certification specifications;
  - commercial and recreational use;
  - the identity of the drone and the owner/operator;
  - the approval of training organisations for pilots;
  - training and licensing of pilots;
  - operations;
  - liability and insurance;
  - data protection and privacy;
  - ‘geofencing’;
  - no-fly (exclusion) zones;
31. Invites the Member States to ensure that when training is provided to professional users and owners of RPAS, it includes specific training on data protection and privacy, and that professional users of RPAS are subject to mutual recognition by Member States in order to eliminate any market restrictions;
32. Underlines that RPAS flying beyond visual line of sight (BVLOS) must be equipped with ‘detect-and-avoid’ technology in order to detect aircraft using the same airspace, ensuring that RPAS do not put at risk the safety of manned aircraft, and in addition, take into account densely-populated areas, no-fly zones, such as airports, power plants, nuclear and

chemical plants, and other critical infrastructure; urges therefore the Commission to provide for the necessary research and development budgets through the SESAR Joint Undertaking;

33. Calls on the Commission and the bodies and companies concerned to boost their research and development programmes; considers that, taking into account the expected economic spin-offs from this sector, the EU should favour the development of European technologies, for example through Horizon 2020; asks for account also to be taken of the development of drone detection and capture technologies in research programmes;
34. Recalls that the European GNSS Programme EGNOS augmenting the GPS signal was certified for civil aviation in 2011 and that Galileo will in the next few years gradually enter into the exploitation phase; believes in this respect that an advanced system of air traffic management as well as applications for RPAS based on European GNSS programmes will positively contribute to the safe operation of RPAS;
35. Notes that RPAS in line with a risk-based approach should be equipped with an ID chip and registered to ensure traceability, accountability and a proper implementation of civil liability rules;
36. Supports the concept of operations for drones developed by the EASA which defines three different categories of RPAS and corresponding rules;
37. Notes that enforcement of RPAS legislation is key to the safe and successful integration of RPAS in European airspace;
38. Calls on the Commission and the Member States to ensure sufficient means of enforcement of RPAS legislation;
39. Stresses that the Joint Authorities for Rulemaking on Unmanned Systems (JARUS) is an international voluntary membership body comprising national civil aviation authorities from 22 EU and non-EU countries and regulatory agencies/bodies; recalls that JARUS is chaired by a representative of the EASA, the Agency which will deal with future RPAS regulation; recalls that JARUS's purpose is to develop technical, safety and operational requirements for the certification and safe integration of large and small RPAS into the airspace and at aerodromes;
40. Considers that JARUS could ensure that any future EU rules will be coordinated with international arrangements in other countries, through a process of mutual recognition;
41. Considers that the data protection authorities of the Member States should work together in order to share data and best practices, and ensure compliance with existing data protection guidance and regulations, such as Directive 95/46/EC;
42. Underlines the fact that the use of RPAS by law enforcement and intelligence services must respect the fundamental right to privacy, data protection, freedom of movement and freedom of expression, and that the potential risks connected to such use of RPAS, regarding both surveillance of individuals and groups and the monitoring of public spaces such as borders, need to be addressed;
43. Believes that the data protection authorities of the Member States should share existing specific data protection guidance for commercial RPAS, and calls on the Member States to carefully implement data protection legislation in such a way that it fully addresses the

public's concerns regarding privacy and does not lead to a disproportionate administrative burden on RPAS operators;

44. Strongly recommends that the current discussions between EU and national policymakers and regulators, industry, SMEs and commercial operations should be opened up, and that a public debate should be launched with the participation of citizens and other relevant stakeholders, such as NGOs (including civil rights organisations) and law enforcement authorities, in order to take note of and address the concerns regarding the protection of fundamental rights and the responsibilities and challenges facing different actors in safeguarding these rights and protecting the security of citizens when RPAS are used;
45. Takes the view that the Parliament must establish its position prior to the Commission's adoption of its aviation package, thereby responding to the industry call for clear guidance;
46. Underlines the need for a clear legal framework based on relevant criteria regarding the use of cameras and sensors, especially by commercial and private RPAS, that will ensure the effective protection of the right to privacy and data protection as well as safeguarding the security of citizens, taking into account the ever decreasing size of RPAS components, leading to more portable and undetectable devices;
47. Calls on the TRAN and LIBE committees to arrange a joint hearing with representatives of industry, national privacy protection organisations, the European Data Protection Supervisor, the Commission, and NGOs working in the area of fundamental rights;
48. Calls on the Commission to consider a regular reporting mechanism that would take into account technical developments as well as policy developments and best practice at national level, and would also address RPAS incidents, and to present an overview and evaluation of the regulatory approaches at Member State level, so as to allow comparison and identify best practices;

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49. Instructs its President to forward this resolution to the Council and the Commission.