

**Amendment 4**

**Marijana Petir, Arne Gericke, Bernd Kölmel, James Nicholson, Mark Demesmaeker, Jana Žitňanská, Klaus Buchner, Georgios Epitideios, Eleftherios Synadinos, Philippe Loiseau, Bernard Monot, Marie-Christine Arnautu, Joachim Starbatty, Rikke Karlsson, Kosma Zlotowski, Albert Deß, Luis de Grandes Pascual, Francisco José Millán Mon, Patricija Šulin, Alojz Peterle, Ivica Tolić, Tomáš Zdechovský, Željana Zovko, Elisabetta Gardini, Miroslav Mikolášik, Peter Liese, Michaela Šojdrová, Anna Záborská, Pavel Svoboda, Teresa Jiménez-Becerril Barrio, Jadwiga Wiśniewska, Stanisław Ożóg, Zbigniew Kuźmiuk, Mylène Troszczynski, Gilles Lebreton, Louis Aliot, Sylvie Goddyn, Jean-Luc Schaffhauser**

**Report****A8-0005/2017****Mady Delvaux**

Civil Law Rules on Robotics  
2015/2103(INL)

**Motion for a resolution****Paragraph 1***Motion for a resolution**Amendment*

Calls on the Commission to propose the following common Union definitions *of cyber physical systems, autonomous systems, smart autonomous robots and their subcategories by taking into consideration the following characteristics of smart robot:*

- *the acquisition of autonomy through sensors and/or by exchanging data with its environment (inter-connectivity) and the trading and analysing of those data;*
- *self-learning from experience and by interaction (optional criterion);*
- *the adaptation of its behaviour and actions to the environment;*
- *absence of life in the biological sense;*

Calls on the Commission to propose the following common Union Definitions:

- *Artificial intelligence is a computerised system able to simulate a part of human cognitive functions such as learning and problem solving;*
- *Robots are programmed computer controlled physical machines capable of carrying out a complex series of physical actions automatically;*
- *Cyber-physical systems (CPS) are engineered systems that are built from, and depend upon, the seamless integration of computational algorithms and physical components;*
- *Autonomous systems are physical systems with embedded energy source(s) allowing it to operate without*

*depending of one or more external sources of energy;*

- *Autonomous robots are physical robots with embedded energy source(s) allowing it to operate independently of one or more external sources of energy;*

- *Self-driving systems are programmed computer-controlled systems with physical captors giving local physical environment and position information of the system to the controller of this system, and able to control and operate physical self-generated movements (shiftings) without human intervention;*

- *Smart robots are autonomous robots with physical captors including cameras, scanning the local physical environment and providing geolocalisation data of the robot, data recording functionality (learning) associated with a programmed capacity to adapt its behaviour and actions accordingly, taking into account both the environment data and the data history stored by the robot itself;*

- *Humanoid robots are robots with a partial or total human body physical appearance;*

Or. en

**Amendment 5**

**Marijana Petir, Arne Gericke, Bernd Kölmel, James Nicholson, Mark Demesmaeker, Jana Žitňanská, Klaus Buchner, Georgios Epitideios, Eleftherios Synadinos, Philippe Loiseau, Bernard Monot, Marie-Christine Arnautu, Joachim Starbatty, Rikke Karlsson, Kosma Zlotowski, Albert Deß, Luis de Grandes Pascual, Francisco José Millán Mon, Patricija Šulin, Alojz Peterle, Ivica Tolić, Tomáš Zdechovský, Željana Zovko, Elisabetta Gardini, Miroslav Mikolášik, Peter Liese, Michaela Šojdrová, Anna Záborská, Pavel Svoboda, Teresa Jiménez-Becerril Barrio, Jadwiga Wiśniewska, Stanisław Ożóg, Zbigniew Kuźmiuk, Mylène Troszczynski, Gilles Lebreton, Louis Aliot, Sylvie Goddyn, Jean-Luc Schaffhauser, Angel Dzhambazki**

**Report**

**A8-0005/2017**

**Mady Delvaux**

Civil Law Rules on Robotics

2015/2103(INL)

**Motion for a resolution**

**Subheading 15 (before Paragraph 36)**

*Motion for a resolution*

*Amendment*

Human repair *and enhancement*

Human repair

Or. en

**Amendment 6**

**Marijana Petir, Arne Gericke, Bernd Kölmel, James Nicholson, Mark Demesmaeker, Jana Žitňanská, Klaus Buchner, Georgios Epitideios, Eleftherios Synadinos, Philippe Loiseau, Bernard Monot, Marie-Christine Arnautu, Joachim Starbatty, Rikke Karlsson, Kosma Zlotowski, Albert Deß, Luis de Grandes Pascual, Francisco José Millán Mon, Patricija Šulin, Alojz Peterle, Ivica Tolić, Tomáš Zdechovský, Željana Zovko, Elisabetta Gardini, Miroslav Mikolášik, Peter Liese, Michaela Šojdrová, Anna Záborská, Pavel Svoboda, Teresa Jiménez-Becerril Barrio, Jadwiga Wiśniewska, Stanisław Ożóg, Zbigniew Kuźmiuk, Mylène Troszczynski, Gilles Lebreton, Louis Aliot, Sylvie Goddyn, Jean-Luc Schaffhauser, Angel Dzhambazki**

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**Motion for a resolution****Paragraph 36***Motion for a resolution**Amendment*

6. Notes the great advances delivered by and further potential of robotics in the field of repairing and compensating for damaged organs and human functions, ***but also the complex questions raised in particular by the possibilities of human enhancement***, as medical robots and particularly cyber physical systems (CPS) may change our concepts about the healthy human body since they can be worn directly on or implanted in the human body; underlines the importance of urgently establishing in hospitals and in other health care institutions appropriately staffed committees on robot ethics tasked with considering and assisting in resolving unusual, complicated ethical problems involving issues that affect the care and treatment of patients; calls on the Commission and the Member States to develop guidelines to aid in the establishment and functioning of such committees;

36. Notes the great advances delivered by and further potential of robotics in the field of repairing and compensating for damaged organs and human functions, as medical robots and particularly cyber physical systems (CPS) may change our concepts about the healthy human body since they can be worn directly on or implanted in the human body; underlines the importance of urgently establishing in hospitals and in other health care institutions appropriately staffed committees on robot ethics tasked with considering and assisting in resolving unusual, complicated ethical problems involving issues that affect the care and treatment of patients; calls on the Commission and the Member States to develop guidelines to aid in the establishment and functioning of such committees;



**Amendment 7**

**Marijana Petir, Arne Gericke, Bernd Kölmel, James Nicholson, Mark Demesmaeker, Jana Žitňanská, Klaus Buchner, Georgios Epitideios, Eleftherios Synadinos, Philippe Loiseau, Bernard Monot, Marie-Christine Arnautu, Joachim Starbatty, Rikke Karlsson, Kosma Zlotowski, Albert Deß, Luis de Grandes Pascual, Francisco José Millán Mon, Patricija Šulin, Alojz Peterle, Ivica Tolić, Tomáš Zdechovský, Željana Zovko, Elisabetta Gardini, Miroslav Mikolášik, Peter Liese, Michaela Šojdrová, Anna Záborská, Pavel Svoboda, Teresa Jiménez-Becerril Barrio, Jadwiga Wiśniewska, Stanisław Ożóg, Zbigniew Kuźmiuk, Mylène Troszczynski, Gilles Lebreton, Louis Aliot, Sylvie Goddyn, Jean-Luc Schaffhauser, Angel Dzhambazki**

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Civil Law Rules on Robotics  
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**Motion for a resolution****Paragraph 44***Motion for a resolution**Amendment*

44. Highlights the importance of foreseeing changes to society, bearing in mind the effect that the development and deployment of robotics and AI might have; asks the Commission to analyse different possible scenarios and their consequences on the viability of the social security systems of the Member States; ***takes the view that an inclusive debate should be started on new employment models and on the sustainability of our tax and social systems on the basis of the existence of sufficient income, including the possible introduction of a general basic income;***

44. Highlights the importance of foreseeing changes to society, bearing in mind the effect that the development and deployment of robotics and AI might have; asks the Commission to analyse different possible scenarios and their consequences on the viability of the social security systems of the Member States; ***recommends that employees who lost their jobs to robotisation should be offered ongoing trainings to improve their skills in other areas and sectors and help them find a new job;***

Or. en

**Amendment 8**

**Marijana Petir, Arne Gericke, Bernd Kölmel, James Nicholson, Mark Demesmaeker, Jana Žitňanská, Klaus Buchner, Georgios Epitideios, Eleftherios Synadinos, Philippe Loiseau, Bernard Monot, Marie-Christine Arnautu, Joachim Starbatty, Rikke Karlsson, Kosma Zlotowski, Albert Deß, Luis de Grandes Pascual, Francisco José Millán Mon, Patricija Šulin, Alojz Peterle, Ivica Tolić, Tomáš Zdechovský, Željana Zovko, Elisabetta Gardini, Miroslav Mikolášik, Peter Liese, Michaela Šojdrová, Anna Záborská, Pavel Svoboda, Teresa Jiménez-Becerril Barrio, Jadwiga Wiśniewska, Stanisław Ożóg, Zbigniew Kuźmiuk, Mylène Troszczynski, Gilles Lebreton, Louis Aliot, Sylvie Goddyn, Jean-Luc Schaffhauser, Angel Dzhambazki**

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**Motion for a resolution****Paragraph 59 – point f***Motion for a resolution**Amendment*

*f) creating a specific legal status for robots in the long run, so that at least the most sophisticated autonomous robots could be established as having the status of electronic persons responsible for making good any damage they may cause, and possibly applying electronic personality to cases where robots make autonomous decisions or otherwise interact with third parties independently;* *deleted*

Or. en