



EXPLANATORY NOTE

Study on Child Restraint Systems

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Introduction

International practice regarding the use of child restraint systems (CRS) varies considerably. For example, the use of supplementary loop belts to secure infants under two years of age is forbidden in the United States and was also forbidden in Germany, until recently. In contrast, the use of loop belts is common and uncontested in many other countries (including most EU Member States).

The Agency decided that a detailed analysis of the use of CRS was necessary and therefore launched an open call for tenders for a study in 2007. The contract was awarded to TÜV Rheinland. The aim of the study was to provide a scientific basis for any future decision-making by the Agency regarding possible recommendations or regulations at the European level. The study places particular emphasis on safety issues, operational and economic considerations and evaluation of possible options, using a regulatory impact assessment.

Agency review of the report and next steps

The Agency conducted a thorough review of the study and made the following observations:

- The report shows that CRS in the form of add-on or built-in seats provide a level of protection for the child which is comparable to the protection provided to adults.
- The report confirms that there is insufficient statistical basis to mandate CRS in the form of either add-on or built-in seats on the basis of safety considerations alone.
- The economic analysis shows that any economic impact (positive or negative) is likely to be relatively limited, since, on average, infants represent a very small percentage of airline passengers. In practice, however, this percentage varies considerably according to destination and the nature of operation.
- The report highlights that international harmonisation (in particular at the ICAO level) is desirable.

The Agency has therefore decided to initiate a task covering all options, including new regulation, no regulatory action, voluntary measures by operators and further international research and co-ordination. All options will be documented and evaluated using a regulatory impact assessment and submitted for consultation.

Further details of the study

The contract contained three main phases:

- Literature and data search and review:

A report reviewing several studies (notably two studies commissioned by the European Union: Injury Criteria for Enhanced Passive Safety in Aircraft (ICEPS) and Improved Child Restraint (IMPCHRESS)), analysing well-documented accidents such as the Kegworth B-737-400 and summing-up existing regulations in aviation and in the automotive arena.

- Evaluation of available technical solutions:

A report evaluating several solutions, using a safety criterion and an operational practicality criterion. The solutions evaluated were the following: lap-holding; supplementary loop belt; child seat approved for use in motor vehicles and aircraft according to US FMVSS No 213; child seat approved for use in aircraft according to the TSO C-100b; dual child auto/aviation seat according to the draft IMPCHRESS CRD specification; child safety device CARES; built-in child restraint device (i.e. the device is incorporated into the aircraft seat)¹.

- Evaluation of possible regulatory and non-regulatory options:

Three options were evaluated:

- o Do nothing
- o Add-on CRS (e.g. child seat approved for use in aircraft using TSO C-110b), with the following two variants:
 - The device is provided by the airline
 - The device is provided by the passenger
- o Built-in CRS

The evaluation of each option takes into account the following impacts: safety; economic; operational practicality; social; foreign comparable regulatory requirements; environmental. The analysis includes a questionnaire survey of the use of CRS by operators.

¹ No built-in child restraint device has been certified by the Agency as of the date of publication of this study.