PIA Maintenance to support EPAS 2019-2023

This Preliminary Impact Assessment (PIA) is a draft update of the PIA Maintenance Issue 1 of 2017. It is elaborated as a follow-up of EASA evaluation report related to the EASA maintenance licensing system and maintenance training organisations[1]. The later document identified issues and shortcomings in the maintenance licensing system and maintenance training organisations regulatory framework.

Based on the evaluation report, this PIA Maintenance provides an assessment of the draft actions.

This paper has been sent out for an official consultation to the Advisory Bodies on 16 May 2018 to prioritise these actions in the European Plan for Aviation Safety (EPAS) 2019-2023. The results of the consultation and the priority list of actions will be used to define the scope of the RMT.0255[2] Review of Part-66; RMT.0544[3] Review of Pat-147, as well as some other actions which are recommended by the PIA.

Stakeholders are kindly invited to provide a feedback to the questions raised throughout the text in order to:
1.further quantify and detail the analysis of impacts provided
2.indicate if, apart from the actions included in this PIA, new ones should be proposed and/or if the proposed ones should be modified in terms of scope and tools (RMT, SPT etc).

Deadline for answer: 13 July 2018

1   What is the issue/rationale?

Drivers: level-playing field, efficiency and proportionality

A very important input for this PIA is the EASA evaluation report related to the EASA maintenance licensing system and maintenance training organisations (Part- 66 and Part-147), performed in 2017 and finalized in Q1 2018. The main conclusion of this report is that the European licensing system has a strong EU added value and provides a robust system that must be kept, although some areas where there is room for improvement have been identified. The actions address mainly Part-66, Part-145 and Part-147 organisations.

The actions analysed are grouped according to the related issue. Each issue is framed within an intervention strategy where one or several actions are proposed. As follows the list of intervention strategies in this PIA:

- ✓   Part-66 AML categories/subcategories issues

- ✓   Basic knowledge issues

- ✓   Type rating training issues

- ✓   Legacy aircraft issues

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[1] https://www.easa.europa.eu/document-library/general-publications/evaluation-report-related-easa-maintenance-licensing-system
[2] Reference to EPAS 2018-2022 chapter 5.2.2 https://www.easa.europa.eu/sites/default/files/dfu/EPAS_2018-2022%20v2.2.8%20for%20MB.pdf
[3] Reference to EPAS 2018-2022 chapter 7.8

32   ✓ On the job training issues

33   ✓ Examination, cheating and fraud / conflict of interest within Part-147 organizations issues

34 As referred in the title, globally considered the main drivers of this PIA are level-playing field and efficiency and
35 proportionality. However in this PIA, while not explicitly mentioned as driver, safety is a very important aspect
36 that is not to be neglected especially with reference to examination, cheating and fraud / conflict of interest within
37 Part-147 organisations due to the related potential safety risks.

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39 **2   What do we want to achieve?**

40 To improve the efficiency/proportionality and the level playing field of the maintenance system, mainly focused
41 on Part-66 and Part-147 organisations, while addressing the specific issues, related to the current identified gaps
42 and inefficiencies of the system.

43 The specific objectives are defined for each intervention strategy and are presented further in the text.

44 **3   How do we monitor improvement?**

45 Continuing monitoring efficiency of the maintenance system, including (but not only) checking:

46   -   level of practical skills acquired by candidates in basic and type rating trainings

47   -   level of inconsistencies in the implementation/interpretation of rules for type rating training

48   -   cases of "legacy aircraft" for which no type rating course is available

49   -   effectiveness of OJT including corresponding level flexibility

50   -   improvement of basic syllabus

51   -   extent of use of training needs analysis methodology for practical tasks

52   -   number of cases of fraud and cheating within Part-147 organizations

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54 **4   What is the justification for the candidate actions?**

55 **Action 1 – Study to identify the aircraft maintenance licence (AML) categories that may need to be**
56 **deleted, merged or created**
57 Owner [FS.1.1] Driver: Efficiency and Proportionality

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59 EASA intends to prepare a questionnaire and disseminate it to the competent authorities (CA) with a request to
60 gather industry data in order to identify the AML categories that may need to be deleted, merged or created,
61 benefit of the change and its associated impact in the current system.

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63 Industry will be requested to provide primary data which will then be provided to the competent authorities and
64 EASA for further analysis.

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71 PIA indicators for prioritisation on Action 1

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Efficiency and Proportionality	N/A[4]	N/A	3	N/A	2019 (1 year for development)	No	B	Res

72 **Action 2 – Introducing Competency Based training in maintenance system**

73 Owner [FS.1.1] Driver: Level Playing field, Efficiency and Proportionality , RMP-EPAS 5.2.2 and 7.8

74 The action proposes changes to the training standards for basic and type training by using the principles of
75 methodologies of Competence Based Training, including attitude aspects, which are currently being established
76 by ICAO.

77 A competency-based approach to training and assessment has the potential to encourage and enable individual
78 aviation professionals to reach their highest level of operational capability while ensuring a basic level of
79 competence as a minimum standard. Part-147 will have to develop competency framework for each category,
80 change the training courses and in some cases invest more in devices. This will affect the students who have to
81 pay additional costs for the basic training.
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83 PIA indicators for prioritisation on Action 2

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)[5]	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Efficiency and Proportionality/Level-playing field	B1.4	7	5	1.4	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021 Q3 + 1 year[6]	No	B	Rule

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[4] The final score for this action could not be measured as the precise estimate of benefits could not be forecasted but it is suggested to check after implementation with the use of indicators.

[5] Rulemaking implementation time is defined as time between ToR publication and Opinion publication. Due to the nature of rulemaking the impacts will be only applicable at a much later stage.

[6] after rules are in place min 1 year MTO to adopt the courses

88 **Action 3 – Transfer the Basic Modules from the Implementing Rules (Appendix I) to AMC material**

89 Owner [FS.1.1] Driver: Efficiency and Proportionality , RMP-EPAS 7.8

90 The action suggests transferring most of the elements of the Basic Modules from the Implementing Rules
91 (Appendix I) to AMC material in order to make the basic syllabus easier to be updated. The transfer would be
92 done in a performace-based way, keeping high level goals in the implementing rule.

93 Benefits will be gained by an easy, quickly and less bureaucratic change of the syllabus and thus achieving
94 efficiency of the system while avoiding costs for the comitology process. The only costs involved are related to a
95 standard rulemaking task for EASA. For each forthcoming change in the training syllabus, there will be no change
96 in the recurrent costs, as the process to amend it would be the same.
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99 PIA indicators for prioritisation on Action 3

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Efficiency and Proportionality	B3	6	2	3	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021 Q3	No	B	Rule

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101 **Action 4 – Extending the training needs analysis to the practical element in the type rating**
102 Owner [FS.1.1] Driver: Efficiency and Proportionality , RMP-EPAS 7.8

103 The action is aimed at improving the selection criteria for the practical task using the training needs analysis
104 methodology.

105 The benefit would constitute a systematic approach in selecting practical tasks, thus improving highly the
106 efficiency. Maintenance training organisation will incur one-off cost to redefine the list of the practical tasks in
107 the syllabus, which might require to change/buy/procure new tools to perform the practical tasks or establish a
108 contract with Part-145 organisations.
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110 PIA indicators for prioritisation on Action 4

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Efficiency and Proportionality	B1.4	7	5	1.4	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021 Q3+ 1 year[7]	No	B	Rule

[7] after rules are in place - MT will need max 1 year to redefine the list of the practical tasks in the syllabus

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111 **Action 5 – Harmonisation with ICAO standards and guidelines on CBT for practical training**

112 Owner [FS.1.1] Driver: Efficiency and Proportionality/Level-playing field , RMP-EPAS 5.2.2 and 7.8

113 To increase the effectiveness and efficiency of the training programmes, the individual trainee's current
114 competency status must be considered against the competencies to be achieved. During this process, individual
115 training needs will be identified and the training will focus on filling these gaps using the appropriate
116 methodologies.

117 The competence on the type for the licence holders will be significantly improved thus leading to less maintenance
118 errors, related to the specific type. Also, it encourages and enables individual aviation professionals to reach their
119 highest level of operational capability while ensuring a basic level of competence as a minimum standard.
120 Maintenance training organisation will incur one-off costs to develop a competency framework for each type, to
121 change the training courses.
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124 PIA indicators for prioritisation on Action 5

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Efficiency and Proportionality/Level-playing field	B1.2	6	5	1.2	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021 Q3 + 1 year[8]	No	B	Rule

125 **Action 6 – Introduce a requirement for an adequate level of knowledge of the language in which the**
126 **training is delivered**

127 Owner [FS.1.1] Driver: Level Playing Field, RMP-EPAS 5.2.2

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129 The action proposes that the language proficiency is to be checked before the student is allowed to participate in
130 courses imparted in that language. This will ensure that students correctly understand the subjects taught during
131 the training. The language check will be performed by the training organisation itself.

132 The risk of misunderstanding the training would be minimised and thus lead to high efficiency of the system and
133 mitigate the maintenance errors. The action will ensure that all students will follow the course without disturbing
134 its pace. Maintenance training organisation will incur costs to define in their maintenance training organisation
135 exposition (MTOE) how they will assess the proficiency of the level of the language in which the training is
136 delivered.
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[8] after rules are in place min 1 year MTO to adopt the courses

143   PIA indicators for prioritisation on Action 6

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Level Playing Field	B3.5	7	2	3.5	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021 Q3	No	B	Rule

144   **Action 7 – Introduction of a company authorization provision in the rules for a legacy aircraft**
145   Owner [FS.1.1] Driver: Efficiency and Proportionality, RMP-EPAS 7.8

146   The action envisages introducing a special company authorization for the Part-145 to be issued for AML holders
147   without the type rating. Part-145 could recognize a special company authorization to certifying staff and support
148   staff to those AML holders who, notwithstanding have not carried out the type rating training, have demonstrated
149   an adequate understanding of the legacy aircraft to be maintained together with the associated organisation
150   procedures.

151   The proposed action will mitigate the risk for the unavailability of the AML holder's type rating training. In the
152   case of lack of resources of Part-145 organisations to perform the assessment of the AML holders, this action is
153   expected to incur significant additional costs. However this is estimated to impact only a small part of Part-145
154   organisations. Furthermore, the Part-145 organisations will be required to make one-off costs to change their
155   procedures in order to accommodate the change.
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157   PIA indicators for prioritisation on Action 7

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Efficiency and Proportionality	B1.4	7	5	1.4	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021	No	B	Rule

158   **Action 8 – Mutual Recognition of direct approvals for type rating courses**
159   Owner [FS.1.1] Driver: Efficiency and Proportionality, RMP-EPAS 7.8

160   The action envisages introducing mutual recognition of direct approvals for type rating courses of legacy aircraft
161   according to Part-66.B.130.

162   Each authority would not need to approve the type rating course if already approved by one EASA MS. In addition,
163   AML holders would not need to go through type rating course in several countries, avoiding an extra cost for
164   attending each country's course. The only costs involved are related to a standard rulemaking task for EASA.
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166   PIA indicators for prioritisation on Action 8

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Efficiency and Proportionality	B3.5	7	2	3.5	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021	No	B	Rule

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168 **Action 9 – Introducing mechanisms for flexibility in the on the job training in Part-147**
169 Owner [FS.1.1] Driver: Efficiency and Proportionality/Level-playing field , RMP-EPAS 5.2.2 and 7.8

170 The action will introduce the following flexibility in the OJT in the Part-147 approved training organisations to
171 approve the OJT to the ATO. The ATO will have their scope extended to the OJT and approved by the competent
172 authority that issued the ATO. The ATO will provide the OJT by their own means or by subcontracting to other
173 approved organizations (Part-145). When the student completes the OJT, the ATO will issue the type training
174 certificate that will be recognised by all NAAs and the student can get the endorsement by the authority that
175 issued the AML.

176 The AMTO will have further management activities and will get more business. The authority issuing the AML will
177 not have to approve the OJT for a single AML holder when the Part-147 has this privilege. The Part-147
178 organisations will incur costs to define the OJT, apply for the approval and be audited by the competent authority.
179 In addition, Part-147 organisations might face challenges in efficiently coordinating with and subcontracting Part-
180 145 organisations. For the competent authorities, it is expected to have an increase in their workload in terms of
181 handling the applications, audits before the approval and small increase in the oversight of the Part-147. The
182 student (if not paid by the Part-145 they work for) will have to assume the extra cost of the Part-147 organisation.
183
184 PIA indicators for prioritisation on Action 9

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Efficiency and Proportionality/Level-playing field	B1.4	7	5	1.4	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021	No	B	Rule

185 **Action 10 – Introducing an appropriate NAA final assessment/performance based monitoring in Part-**
186 **147 organisations**
187 Owner [FS.1.1] Driver: Safety , RMP-EPAS 5.2.2

188 A sample of students from one AMTO will be subject to an assessment to check if their level of knowledge is
189 adequate. The aim is to detect if the AMTO is issuing certificates to students not having the necessary knowledge
190 or practical skills.

191 The competent authority will gain an accurate perception of the actual level of knowledge of the students in a
192 given organisation. The organisations will also be discouraged to use fraud practices as they will be easily detected
193 by this extra independent assessment. The benefit of this action is that we will have better detection of the
194 potential fraud cases. The competent authority will have to establish the procedures, facilities and staff necessary
195 to carry out the assessment and analyse the results.
196 The workload is expected to be at medium to high level for the CA. However, this workload might be slightly
197 decreased by the reduction of extra audits. Overall, the workload for the competent authorities is estimated at a
198 medium level.
199 The impact in the surveillance of the organisation will be negligible.
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201 PIA indicators for prioritisation on Action 10

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Safety	B1.4	7	5	1.4	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021 + 1 year[9]	No	B	Rule

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**Action 11 – Establish an European centralized questions database (ECQB) and make it use on
voluntary basis for the Part-147 organisations**
206 Owner [FS.1.1] Driver: Safety , RMP-EPAS 5.2.2

207 The establishment of a central database of questions (ECQB), similar to the one already existing for pilots, will
208 make available a single source of questions which can be used on a voluntary basis. The access to the questions
209 will only be at EASA and avoid that they are made available to the students before the exam.

210 Only Part-147 organisations using the ECQB will benefit from it while the potential differences of level as they
211 exist today will still be maintained. The creation and maintenance of the database will be the same regardless of
212 the number of users and exams run. If it is also used by NAAs, this will decrease the cost per exam. The costs for
213 EASA might be mitigated, if EASA sets up a charge/fee for the use of the system by the Part-147 organisations.
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215 In case action 12 is taken, this action will not be considered as both actions are considered as alternatives.
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[9] after rules are place a transition period for the competent authorities to establish the assessments and start performing
them. This transition period will be at least one year.

225 PIA indicators for prioritisation on Action 11

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Safety	B1.2	6	5	1.2	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021	No	B	Rule

226 **Action 12 – Establish an European centralized questions database (ECQB) and make it use**
227 **compulsory for all Part-147 organisations**
228 Owner [FS.1.1] Driver: Safety, RMP-EPAS 5.2.2

229 The establishment of a central database of questions (ECQB), similar to the one already existing for pilots, will
230 make available a single source of questions which will be mandatory to use. This will ensure that the questions
231 for the exams are not given to the students before the exam. Also, having a single database of questions will avoid
232 duplication of efforts by the different AMTOs having to develop each of them its own database and will ensure
233 that the level of the questions is uniform in all the exams run using the system.

234 Compared to the previous action, the compulsory use will ensure higher benefits while the figures for the costs
235 are expected to be the same.
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237 PIA indicators for prioritisation on Action 12

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Safety	B1.6	8	5	1.6	Start 2018 ToR 2018 Q3 NPA 2020 Q3 Opinion 2021	No	B	Rule

238 **Action 13 – Focused oversight on cases of fraud**
239 Owner [FS.1.1] Driver: Safety

240 This action proposes to stress the problems of fraud to the NAAs and add specific questions in the NAAs and EASA
241 audit checklist and collect data on the actual cases of fraud.

242 It is suggested that the benefits are assessed after the implementation of the action with the support of
243 monitoring indicators (ex-post assessment). Furthermore, this action will require low cost and workload for the
244 EASA and NAAs to add these specific questions and to analyse them.
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251   PIA indicators for prioritisation on Action 13

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Safety	N/A	N/A	3	N/A	1 year starting time 2019	No	B	Focused oversight

252   **Action 14 – Safety promotion on preventing, detecting and mitigating fraud cases in Part-147**
253   **organisations**
254   Owner [FS.1.1] Driver: Safety

255   The action includes organisation of workshops, discussions with the NAAs/industry on how to prevent, detect and
256   mitigate fraud cases.

257   It is suggested that the benefit is assessed after the implementation of the action with the support of monitoring
258   indicators (ex-post assessment). The costs are expressed in the organization of a workshop or series of workshops
259   to explain the problems and the added questions to systematically collect the data.
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261   PIA indicators for prioritisation on Action 14

Driver	PIA score	Benefits (Improvement Level based on a scale from 0 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 0 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Third countries	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Safety	N/A	N/A	3	N/A	1 year starting time 2019	No	B	SP

262   **Action 15 – Regular update of Part-66 rules**
263   Owner [FS.1.1] Driver: Efficiency/ proportionality

264   This action proposes modifications to the subjects under Part-66 Appendix I such as: introduction of a syllabus
265   module dedicated to UAS, electric and hybrid propulsions; revision of all the modules to identify those that are
266   less used in today's industry and remove them from the appendix.
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268   As the action constitutes a regular update, no assessment of the impacts is needed. This action is indeed not
269   included in the ranking.
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272 **5   Ranking**

PIA score[10]	Action	Title	Driver	Benefit Level	Implementation Cost	Cost-effectiveness	Strategic priority [11]	Action type
B3.5	RMT.0544	Introduce a requirement for an adequate level of knowledge of the language in which the training is delivered	Level Playing Field	7	2	*3.5*	*B*	Rule
B3.5	RMT.0255 and changes in Part-145	Mutual Recognition of direct approvals for type rating courses	Efficiency and Proportionality	7	2	*3.5*	*B*	Rule
B3	RMT.0255	Transfer the Basic Modules from the Implementing Rules (Appendix I) to AMC material	Efficiency and Proportionality	6	2	*3*	*B*	Rule
B1.6	RMT.0544	Establish an European centralized questions database (ECQB) and make it use compulsory for all Part-147 organisations	Safety	8	5	*1.6*	*B*	Rule
B1.4	RMT.0255 and changes in Part-145	Introduction of a company authorization provision in the rules for a legacy aircraft	Efficiency and Proportionality	7	5	*1.4*	*B*	Rule
B1.4	RMT.0255 and RMT.0544	Introducing Competency Based training in maintenance system	Efficiency/ proportionality and Level-playing field	7	5	*1.4*	*B*	Rule
B1.4	RMT.0255	Extending the training needs analysis to the practical element in the type rating	Efficiency and Proportionality	7	5	*1.4*	*B*	Rule
B1.4	RMT.0255 and RMT.0544	Introducing mechanisms for flexibility in the on the job training in Part-147	Efficiency and Proportionality/Level-playing field	7	5	*1.4*	*B*	Rule

[10] The PIA score is indicating if the tasks is linked to a strategic priority (A), standard priority (B) or an regular update task (C). The numerical figure is the cost-effectiveness score.
[11] Tasks are attribute a strategic priority if they are contributing to a strategic action area as identified in the paper "Strategic priorities for the safety programmes 2017-2021".

PIA score[10]	Action	Title	Driver	Benefit Level	Implement ation Cost	Cost-effectiv eness	Strategic priority [11]	Action type
B1.4	RMT.0544	Introducing an appropriate NAA final assessment/ performance based monitoring in Part-147 organisations	Safety	7	5	*1.4*	*B*	Rule
B1.2	RMT.0255 and RMT.0544	Harmonisation with ICAO standards and guidelines on CBT for practical training	Efficiency and Proportion ality/Level-playing field	6	5	*1.2*	*B*	Rule
B1.2	RMT.0544	Establish an European centralized questions database (ECQB) and make it use on voluntary basis for the Part-147 organisations	Safety	6	5	*1.2*	*B*	Rule
N/A	RES	Study to identify the AML categories that may need to be deleted, merged or created	Efficiency and Proportion ality	N/A	3	N/A	*B*	Res
N/A	FOT	Focused oversight on cases of fraud	Safety	N/A	3	N/A	*B*	Focused oversight
N/A	SPT	Safety promotion on preventing, detecting and mitigating fraud cases in Part-147 organisations	Safety	N/A	3	N/A	*B*	SP

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274 **Existing actions from the previous RMP-EPAS 2018-2022**

Action number	Owner	Objective – intended impacts
Op. 05/2015	EASA FS 1	New B2L and L Part-66 licences. Lighter AML subcategories proportionate to general aviation aircraft. (Pending adoption by the Commission).
Op. 07/2015	EASA FS 1	Limitation of the Part-147 privileges related to stand-alone basic examinations. Following the discovery of fraud cases in some Part-147 organizations.(Pending adoption by the Commission)
RMT.0097	EASA FS 1	B1 & B2 Support Staff: To clarify the qualification, authorisation process, rolesand responsibilities of maintenance personnel.
RMT.0106	EASA FS 1	Certification specifications and guidance material for maintenance certifying staff type rating training The main objective is to improve the level of safety by requiring the applicant for a type certificate (TC) or restricted TC for an aircraft to identify the minimum syllabus of maintenance certifying staff type rating training, including the determination of type rating. This minimum syllabus, together with the requirements contained in Appendix III to Annex III (Part-66) to Commission

		Regulation (EU) No 1321/2014, will form the basis for the development and approval of Part-66 type rating training courses.
RMT.0281	EASA FS 1	New training/teaching technologies for maintenance staff Set up the framework for: — e-learning and distance learning; — simulation devices or STDs; — specialised training such as human factors, FTS, continuation training; and — blended teaching methods.
RMT.0541	EASA FS.1.2	Aircraft type ratings for Part-66 Aircraft Maintenance Regular update of the TR list.

275 **6   What are the actions proposed to be discarded?**

276 The following actions are proposed to be discarded, because they have a negative cost-effectiveness, e.g. costs
277 are higher than the benefits.
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279 **RMT – Improving basic knowledge in maintenance system**
280 *Driver: Efficiency/Proportionality and Level playing field*
281 This task is an alternative to Action 2 ("Introducing Competency Based training in maintenance system") and
282 would introduce a final practical examination and/or attitude assessment. Both would include practical exercises
283 developed from the maintenance manual standards and adequate to the skills to be tested.
284

285 The mechanisms of protection against fraud would be improved, ensuring improved skills and abilities for the
286 future licence holders. New additional (recurrent) costs would be added to the system for the introduction of a
287 final practical examination and/or a final attitude assessment. It should be considered a one-off cost for the
288 workload carried out by the assessors to develop the mechanism of the new exam and the practical examination;
289 then, there would be recurrent costs to undertake these exams by the assessor for every student. This would
290 incur very high resources in staff, requiring new assessors (either NAA or Part-147, depending who will assess the
291 students).
292

293 **RMT – Redefining the structure of the OJT to introduce requirements to fulfil the objective in a more flexible**
294 **way**
295 *Driver: Efficiency/Proportionality and Level playing field*
296

297 This task would redefine the structure of the OJT, while introducing requirements to fulfil the objective in a more
298 flexible way. This could be achieved through introduction of a modular OJT carried out in different organisations,
299 for example: splitting the OJT program in two modules (a line maintenance level module and a base maintenance
300 level module). The OJT would be considered terminated when both modules are carried out.
301

302 The OJT can be split in modules that can be carried out in different Part-145 AMOs with adequate activities. This
303 may lead to better preparation of licence holders and to open the market for organisations to perform modular
304 OJT. The OJT could be carried out more feasible in cases of maintenance organisations with limited activities. On
305 the other hand, this task might increase the complexity of the system. Furthermore, the competent authorities
306 would have more workload to approve the OJT modules in different organisations and to coordinate the whole
307 process of approvals for the same OJT. AML holders might face additional costs in case the cost of separate
308 modules fees would be higher than the one fee for the whole training.
309
310
311
312
313

314 **RMT – Introducing apprenticeship in Part-145 organisations**
315 *Driver: Efficiency/Proportionality and Level playing field*
316
317 This task would introduce the requirement of a period of apprenticeship in a Part-145 AMO to apply for an AML
318 holder.
319
320 This action may deteriorate the level playing field between MTOs. Big MTOs usually have consolidated agreements
321 with the Part-145 organization, which allow them to procure the students with an apprenticeship program easier
322 than the small MTOs. Additionally, there may be difficulties for the students to go to Part-145 organisation which
323 may be far away from the Part-147 organisation. Part-145 will have costs to provide the apprenticeship which will
324 be transferred to Part-147 and then to the student. Part-147 need to update as well their syllabus for the training.
325
326 **RMT – Introducing mechanisms for flexibility in the on the job training in Part-145**
327 *Driver: Efficiency/Proportionality and Level playing field*
328
329 This task would remove the OJT from Part-66 and put it under the Part-145 shifting it from licence to company
330 authorisation. The AML holder would get the authorisation in the company they work for. The company
331 authorisation is not part of the license, so not mutually recognised. In addition, there would be a mechanism put
332 in place to recognise the past OJT acquainted, such that the AML holder would not be required to repeat the OJT
333 in the new employment place.
334
335 The same competent authority approves the Part-145 AMO and the OJT so there would be no conflict of having
336 students under different (license) authorities performing the same OJT in the same organisation. The company
337 authorisation would not be recognised and there would be a change in the type rating system. Negative impact
338 would incur for the AML holder who are not employed by Part-145. They need to find a way to finance the OJT.
339 The population of the affected AML would be very highly impacted, as the action will be applicable for all European
340 and non-European AML holders.
341
342 **RMT – Introducing a personal AML log book in maintenance system**
343 *Driver: Efficiency/Proportionality*
344
345 This task would introduce a log book where all the information relevant to the applicant/holder would be kept.
346 The log book would cover the whole working life of the AML holder. By doing so, the information for issuance and
347 amendment of the licences in one EU database system can be easily retrievable and accessible.
348
349 The one-off costs for establishing this database, for maintaining (hosting) would be very significant. It should be
350 compatible with all systems in the EASA MS and it should be secured to protect personal data.

351 **7 Next steps**

352 The indicators presented above will support the prioritisation of:
353   - The elements to include in the RMT.0255 and RMT.0544
354   - The actions in the EPAS 2019-2023 (namely for the 3 candidate actions on FOT, STP and RES)
355
356 Following the comments received from the Advisory Bodies on this PIA (ABs in the lead are indicated in the
357 following table), the updated list of prioritised elements and actions (with respective justifications) will be
358 included in the EPAS 2019-2023.
359

Advisory Body	ABs in the lead*
MAB	
TeB ADR	
TeB ATM/ANS	
TeB Air Crew	
TeB Air Ops	
TeB GA	
TeB P&CA	X
TeB SM	
SAB	
ADR TEC	
ATM/ANS TEC	
D&M TEC	
E&M TEC	X
FS TEC	
Commercial Airplane Safety committee	
Certification committee	
Drones committee	
GA sectorial committee	
Rotorcraft sectorial committee	

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361   *Each Advisory Body may provide comments.

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PIA Report

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Authorisation :			
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Reviewed 2	Gilles Gardiol		14.05.2018

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1 Issue analysis

1.1 Background

This PIA is an update of the PIA Maintenance Issue 1 from 2017 which contains the main justifications for the RMT.0588.

This year, the PIA is elaborated based on the EASA evaluation report related to the EASA maintenance licensing system and maintenance training organisations (Part- 66 and Part-147), performed in 2017 and finalized in Q1 2018.

This evaluation report addresses a legal requirement[12] of monitoring the application of the rules and assessing the impact of their implementation, in particular in relation to the European maintenance licensing system[13] and maintenance training organisations[14]. The specific objective of the report was to identify any existing problems in the system and to collect recommendations on how to address them.

The main conclusion of this report is that the European licensing system has a strong EU added value and provides a robust system that must be kept, although some areas where there is room for improvement have been identified. Some of the issues identified are:

— difficulty to meet the objectives of the Regulation in some cases, such as the required on-the-job training, update the content of the training courses with technological evolution or legacy aircraft where there are no available courses;

— less efficient processes due to duplication of efforts, as training courses approved by a competent authority are not mutually recognised by other competent authorities;

— reduction of the efficiency of some processes because of the lack of commercial cases offering specific courses; and

— high impact on the credibility of the maintenance training system due to fraud cases and, in some cases, cultural acceptance of cheating.

The potential actions that stems from the evaluation report together with its priority will be formalised in the EASA safety programmes after being assessed with this Preliminary Impact Assessment (PIA) Maintenance Issues.

The PIA is mainly addressed to Part-66 and Part-147 organisations. However, taking into consideration the links/interfaces between Part 66, Part 147 and Part 145, the regulation Part 145 is

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[12] Article 24(3) of Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1) (http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1518171425760&uri=CELEX:32008R0216).
13 Annex III (Part-66) to Commission Regulation (EU) No 1321/2014 of 26 November 2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 362, 17.12.2014, p. 1) (http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32014R1321).
[14] Annex IV (Part-147) to Commission Regulation (EU) No 1321/2014 of 26 November 2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 362, 17.12.2014, p. 1) (http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32014R1321).

also considered in the PIA. Therefore actions on Part 145 organisations will also be proposed in this PIA when relevant.

1.2   General description

1.2.1   What is/are the driver/s in this PIA?

The main drivers for this PIA are level-playing field, efficiency and proportionality. However as defined at page 2 also safety aspects are very important for what concerns the issue on examination cheating and fraud.

1.2.2   Efficiency/Proportionality/Level playing field issues – General description

The evaluation report reveals the following main issues with regard to Part-66 and Part-147.

1 **Table 1 Issues regarding Part-66 and Part-147**

Criterion / ITEMS	Relevance	Effectiveness	Efficiency	Coherence	EU added value
Simplification of Part-66	The number of categories, although numerous, provides a robust system. No need to expand the licensing system to include components. Type rating endorsement in the licence is strongly supported, except for legacy CMPA where no type training course is available.	Without impacting the robustness of the system, merging some categories might simplify the system. The understanding and implementation of the licensing system may be impacted due to its complexity. The current regulation does not provide an effective way of addressing legacy aircraft type rating when there is no course available.	No commercial case for MTOs to offer B3 basic training courses or type rating courses of legacy aircraft because the demand is very low. Duplication of efforts due to the lack of mutual recognition of OJT and type rating courses directly approved by a Member State.	OJT and TRT courses directly approved by the Member States are not mutually recognised.	Request of extension of the mutual recognition to OJT and type rating courses directly approved by a Member State. No added value in considering a European licensing system to component maintenance.
Practical training in basic knowledge and TRT	The rule does not provide enough requirements and guidance to ensure that the candidates have achieved a sufficient practical training level during the basic knowledge course.	The practical training elements are difficult to implement in a real environment by an MTO, which leads among other things to low and not standardised training levels.	In practice, practical skills are often enhanced later e.g. during the practical training elements of a TRT (impacting its duration) or qualification in a maintenance organisation.	Some elements of the flight crew licences could be considered, such as CBT principles.	
OJT	The described OJT is not considered useful to the end user because the objective could be fulfilled in a more flexible way.		The current requirements of the OJT are often not proportionate to achieve the objective of the OJTs.		
SMS	No need to implement SMS in Part-147. As a maximum, a reinforcement of the key items of safety management to avoid fraud.	The system does not provide any incentive for organisations which performs well.	The introduction of an 'activity and performance report' may help to modulate the oversight cycle.		

Criterion ITEMS	Relevance	Effectiveness	Efficiency	Coherence	EU added value
Examination, cheating and fraud		Processes to detect and prevent fraud and cheating are not robust enough.	The abuse of the privilege to provide examination without a previous training course have economically put at risk the Part-147 business model, making the delivery of a complete basic knowledge course less sustainable.		Request to ensure credibility in the maintenance training system at EU level (the current system can be heavily impacted by the frauds and corporate culture to cheat).
Instructors, examiners, assessors and assessments	The rule does not provide enough criteria for instructors, examiners and assessors.

There are not enough mitigating measures to address the conflict of interest. | The assessment is an essential element but is currently too much knowledge-based, not enough competency-based and not sufficiently recorded. | | It is proposed to follow an approach similar to that for pilots. Pilots need to undergo a recurrent proficiency check to revalidate the validity period of their licence. | |
| **Development of the course material and English language proficiency** | Part-66 basic knowledge syllabus is out of date and does not keep pace with the technology evolution. | The maintenance training organisations consider they are not well supported for the TRT courses by the TCHs.

The introduction of an English language proficiency requirement may be a filter to discover cheating/fraud on examinations; especially outside the EU the examinations are conducted in English. | The low level of English normally slows down the pace while imparting TRT courses. | It is proposed to follow an approach similar to that for pilots. The standard for the pilot licensing system requires a minimum ICAO pilot language proficiency. | |
| **General comments** | Safety promotion may aid standardisation. | To reach the objectives of the rule, the oversight of the MTOs and independent CS should be strengthened. | Efficiency could be improved with the introduction of some paperless elements such as a central European AML database and electronic licences taking into consideration cybersecurity matters. | | |

2

3   Due to the complexity and numerous issues, they are grouped as follows:
4   • Part-66 AML categories/subcategories issues – intervention logic 1 (chapter 3 in this PIA)
5   • Basic knowledge issues – intervention logic 2 (chapter 4 in this PIA)
6   • Type rating training issues – intervention logic 3 (chapter 5 in this PIA)
7   • Legacy aircraft issues – intervention logic 4 (chapter 6 in this PIA)
8   • On the job training issues – intervention logic 5 (chapter 7 in this PIA)
9   • Examination, cheating and fraud / conflict of interest within Part-147 organizations issues –
10   intervention logic 6 (chapter 8 in this PIA)
11
12   Each issue is explained below in terms of intervention strategy. The intervention strategy is designed for
13   solving a single or group of interrelated issues in a specific topic/sub-topic in the maintenance system (e.g.
14   Part-66 AML categories and the identified issues, related to this topic).
15

16   **1.2.3   Who is affected?**
17   The affected stakeholders are the following:

18   • Competent authorities in 32 EASA MS;

19   • Maintenance Organisation (Part -145) in EASA States which are 1960[15] and outside EASA MS
20   which are overseen by EASA as a competent authority 342[16]

21   • Maintenance Organisation (Part-M Subpart-F) which are 503[17]

22   • Maintenance Training Organisation (Part-147) in EASA States which are 282[18] and outside
23   EASA MS which are overseen by EASA as a competent authority which are 67[19]

24   • AML aircraft maintenance licence holders in EASA MS which are ca 63 700[20]

25   • Associations, representing affected maintenance stakeholders
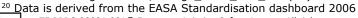
26   **1.2.4   Current actions**
27   The table below presents the current action in the domain of maintenance issues. These actions are
28   related to one or several of the issues highlighted in the text.

29   Table 2 – List of current actions

Action number	Owner	Objective – Intended impacts
Op. 05/2015	EASA FS 1	New B2L and L Part-66 licences. Lighter AML subcategories proportionate to general aviation aircraft. (Pending adoption by the Commission).
Op. 07/2015	EASA FS 1	Limitation of the Part-147 privileges related to stand-alone basic examinations. Following the discovery of fraud cases in some Part-147 organizations.

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[15] Data is derived from the EASA Standardisation dashboard 2018
[16] Data comes from the EASA webpage consulted on March 2018 (https://www.easa.europa.eu/download/continuing-airworthiness-organisations/Foreign_EASA_Part_145.pdf)
[17] Data is derived from the EASA Standardisation dashboard 2006
[18] Data is derived from the EASA Standardisation dashboard 2018
[19] Data comes from the EASA webpage consulted on March 2018 (https://www.easa.europa.eu/download/continuing-airworthiness-organisations/Foreign_EASA_Part_147.pdf)
[20] Data is derived from the EASA Standardisation dashboard 2006

		(Pending adoption by the Commission)
RMT.0097	EASA FS 1	B1 & B2 Support Staff: To clarify the qualification, authorisation process, roles and responsibilities of maintenance personnel.
RMT.0106	EASA FS 1	Certification specifications and guidance material for maintenance certifying staff type rating training The main objective is to improve the level of safety by requiring the applicant for a type certificate (TC) or restricted TC for an aircraft to identify the minimum syllabus of maintenance certifying staff type rating training, including the determination of type rating. This minimum syllabus, together with the requirements contained in Appendix III to Annex III (Part-66) to Commission Regulation (EU) No 1321/2014, will form the basis for the development and approval of Part-66 type rating training courses.
RMT. 0281	EASA FS 1	New training/teaching technologies for maintenance staff Set up the framework for: — e-learning and distance learning; — simulation devices or STDs; — specialised training such as human factors, FTS, continuation training; and — blended teaching methods.
RMT.0541	EASA FS.1.2	Aircraft type ratings for Part-66 Aircraft Maintenance Regular update of the TR list.

2 Objectives

The overall objective of the proposed actions is to improve the efficiency/proportionality and the level playing field of the maintenance system, mainly focused on Part-66 and Part-147 organisations, while addressing the specific issues, related to the current identified gaps and inefficiencies of the system.

The specific objectives are defined for each intervention strategy and are presented below.

3 Intervention strategy 1 - Part-66 AML categories/subcategories issues

Driver: Efficiency/ proportionality
Owner FS 1.1 Maintenance & Production Standardisation Section

3.1 What is the problem?

The complexity of Part-66 is often highlighted in the above mentioned evaluation of the maintenance licencing system and maintenance training organisations notably due to:

— the number of categories such as those for light aircraft; and

— the lack of mutual recognition (referring to on-the-job training (OJT), type rating training (TRT) course directly approved by an EASA MS, etc.)

In the course of the evaluation, EASA has not received univoque indications on the way forward. Three distinct positions have been identified:

1) Reduction of the number of the categories/subcategories, for example: merging B1 and B2 privileges; merging B1.x subcategories; combining B1.2/B3/L; merging all "Ax"; deleting cat. "C".

2) Addition of other categories/subcategories such as for "cabin"; or "components" or "airframe repairs".

3) To keep the AMLs categories as they are.

51   The number of categories, although numerous, provides a robust system. No need to expand the
52   licensing system to include components (the latest Package containing B2L & L licences, Control of
53   Suppliers and Part-147 fraud cases) as requested by some stakeholder.

54   *How important is the problem? How could it evolve?*

55   There is not a clear scenario for a change in the categories and subcategories. If the situation is not
56   changed, it provides, in particular with the alleviation for GA a rather complete set of possible options
57   and too much room for different interpretations; however, there is a certain (economical) interest in
58   having the B1 and B2 categories combined, or Cat. A.x merged in one. It will be advisable to combine
59   them in one category only if most of the holders will go for the combination. At present there is no
60   statistical data as to know how many of these cases exist. However, the impacts for the current AML
61   holders should be taken into adequate consideration.

62   **3.2   Purpose and description of the intervention strategy**

63   **3.2.1   Which objective(s) for the Intervention strategy?**
64   The interventions strategy is aimed at addressing the issues above, while seeking more evidence on
65   the concrete problems and proposals for simplifying Part-66 AML categories/sub-categories. The
66   proposed action is therefore focused on preparing and undertaking a complementary study to collect
67   statistical and factual data in order to evaluate correctly the repercussions on the existing AML
68   holders. The study will help to clarify various understandings of categories/subcategories across
69   stakeholders and it will help to define a common ground across several views.

70   **3.2.2   What is the description of the intervention strategy?**
71   Research/Study
72   Action 1.1: Study to identify the AML categories that may need to be deleted, merged or created,
73   benefit of the change and its associated impact in the current system. The details of the study,
74   including types of questions and tools to use, would be described at a later stage.

75   **3.2.3   Interfaces to be considered**
76   Change in the license (sub)categories have a relevant impact on the maintenance organization Part-
77   145 and Part-M Subpart F because they shall predispose appropriate manpower resources qualified
78   according to Part-66 categories.

79   **3.3   Impact analysis**

80   **3.3.1   Time implementation[21]**
81   The study will be undertaken within 1 year time. The study would be undertaken upon first results of
82   the implememementation of new Part-66 "Lighter AML", currently proposed for adoption.

83   **3.3.2   Implementation cost level**
84   EASA intends to prepare a questionnaire and disseminate it to the competent authorities (CA) with a
85   request to gather industry data. Industry will be requested to provide primary data which is estimated

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21 The time implementation for the actions analysed in this PIA considered the time to implement the action. Apart
from this, additional time should be considered in order to get the benefits foreseen by the actions.

86   at 1 day per AML holder. The data will be provided to the competent authorities for further analysis.
87   The CA would then send the data to EASA. The workload for the competent authorities and EASA will
88   depend on the design of the study that will be defined at a later stage. In case data will be collected
89   and the first analysis will be performed by NAAs, an impact of circa 30 days per authority is estimated
90   (varying according to the amount of data) and circa 30 days for EASA to collect data from all countries
91   and finalise the analysis.

92   The overall cost for the study is considered low 3 with a scale from 1 (very low/negligible costs) to 10
93   (very high) level of costs.

94   **Table 3 – Implementation Cost level Intervention strategy "Part-66 AML categories/subcategories issues"**

Intervention Strategy 1	Implementation cost level (ICL)
Overall* for Action 1.1 Study to identify the AML categories that may need to be deleted, merged or created (broken-down per stakeholder)	3
	(AML holder – 1 day;30 days per CA and 30 days for EASA)

95 *At the minimum, the overall implementation cost level for the intervention strategy shall be expressed according a
96 scale from 1 to 10 (1: very low, 10: very high). This implementation cost level shall be justified by the costs per action,
97 broken down per stakeholder.

3.4   Summary of decision-criteria for the intervention strategy

99 It is proposed to launch a study due to the low cost and potential high benefits. The priority of the action is
100 considered low.

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101 **Questions to Stakeholders**

102 1. *Please provide feedback on the estimated workload for AML and Competent Authority. Try to*
103   *estimate a maximum number of questions and guidelines on the main questions.*

104 2. *Please comment on the implementation time (1 year)*

105 3. *Is it a priority action?*

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4   Intervention strategy 2 - Basic knowledge issues

107 Driver: Efficiency/ proportionality and Level playing field
108 Owner FS 1.1 Maintenance & Production Standardisation Section

4.1   What is the problem?

110   According to the feedback presented in the evaluation report, the basic knowledge syllabus of Part-
111   66 is obsolete and does not capture the current technology. Based on the feedback from Part-147
112   AMTOs and industry associations there is a strong demand to allow some basic knowledge modules
113   to be split as well the Module 13 for Category B2, in particular modules 11A (Cat. A and B1), 11B (Cat.
114   B1) and 12 (Cat. A and B1), since they are particularly long. The number of questions and the duration
115   of the examination directly relate to the number of hours of the basic knowledge training and the
116   complexity of the module. Due to the number of subjects and the content of the syllabus in Appendix
117   I, the duration of training on some modules often exceeds one year. After such a long period it may
118   be difficult for the students to pass the examination in a single session.

119   Furthermore, the basic knowledge modules are not aligned with the type rating training content.

120	Some maintenance training organisations (MTOs), during the delivery of type rating training (TRT)
121	courses, have also observed a lack of basic knowledge and standard practices; a few TCHs and AMOs
122	have also confirmed that some maintenance errors originate from an insufficient basic knowledge. A
123	competence-based training (CBT), with a range of skills linked to maintenance manual standard
124	practices may be beneficial.

125 In addition, the amending process of the syllabus is lengthy and demanding (due to its status of
126 Implementing Rule).

127 Finally, there is a proposal to streamline this process of paper issuance and amendment of licences
128 and convert it to digital.

129 *How important is the problem? How could it evolve?*

130 All the basic courses and exams are developed from the basic knowledge syllabus of Part-66 as it is
131 the legal requirement. The training organisations cannot depart from the modules established or add
132 new ones to adapt to the technological changes. As a consequence all the basic courses are affected
133 by the issue.

134 If the syllabus is not changed, the student receives a basic education that could result inadequate for
135 the understanding of modern aircraft technology. An "obsolete" basic knowledge could impede the
136 appropriate assimilation of the contents and concepts studied during a subsequent type rating
137 training.

138 In the future, more technological changes can be envisaged. If the basic knowledge modules are not
139 aligned, a bigger gap can be expected with time.

140 **4.2   Purpose and description of the intervention strategy**

141 **4.2.1   Which objective(s) for the Intervention strategy?**
142 The interventions strategy is aimed at achieving several objectives:

143 • To modernise the basic syllabus and remove 'old' technology elements; antique systems and
144 enhance coherence between Appendix I and Appendix III to Part-66.

145 • To improve the practical skills acquired by the candidates during the basic training.

146 • Streamline the information for issuance and amendment of the maintenance licences into a
147 single EU digital database.

148 • To make the basic syllabus easier to be updated.

149 **4.2.2   What is the description of the intervention strategy?**
150 **Objective:** To modernise the basic syllabus and remove 'old' technology elements; antique systems and
151 enhance coherence between Appendix I and Appendix III to Part-66

152 RMT Action 2.1 Regular update of Part-66 rules
153 The RMT will propose the following modifications to the subjects under Part-66 Appendix I:
154 • Revision of all the modules to identify those that are less used in today's industry and remove
155 them from the appendix.

156 • Identification of the subjects that are not in the appendix but are necessary to cover the new
157 technologies (Consider the need to expand certain modules' content as regards

158		'digitalisation', such as health monitoring (e.g. health and usage monitoring systems (HUMS)),
159		remote maintenance, software architecture and aircraft configuration management, on-
160		board maintenance computer and computer skills).

161 · Introduction of a syllabus module dedicated to UAS; electric and hybrid propulsion; tilt rotor
162 aircraft; cybersecurity.

163 · Introduce the learning objectives.

164 · Consider the introduction of minimal guidance for the practical element (e.g. specify what is
165 needed for the sheet metal/composite repairs; practical training scenarios).

166 · Split 'long' modules or allow examinations to be split in Part-66, Appendix II, notably for
167 Modules 11, 12 and 13.

168 · To consider to align some modules for B1/B2 such as Modules 4, 5, 7 in which minimal
169 differences exist.

170 · To consider to cover as much as possible of module 14 B2 under module 15 B1.

171 · To introduce on modules 1 to 4 a system of credits for candidates holding an academic
172 educational degree or equivalent to shorten the number of instruction hours.

173 · Revise and eventually combine modules 3, 4 and 5 aligning the content with the present
174 status of the art of digitalisation. The RMT will introduce a new module containing subjects
175 related to complex tasks/skills craft-related skills/crafts and new technology (ex: wiring and
176 avionics with complex trouble shooting; sheet metal; composite…)

177 As the action constitutes a regular update, no assessment of the impacts is needed.

178 **Objective**: To improve the practical skills acquired by the candidates during the basic training

179 RMT Action 2.2 Introducing Competency Based training in maintenance system
180 The action will propose changes to the training standards for basic and type training by using the
181 principles of methodologies of Competence Based Training, including attitude aspects, which are
182 currently being established by ICAO[22]. Until the ICAO documents will not be available, some CBT
183 pratices, already used in the flight crew license domain, may be taken and adapted to the
184 maintenance crew training.
185

186 RMT Action 2.3 Improving basic knowledge in maintenance system (**alternative to action 2.2 if it will**
187 **not be taken)**
188 The RMT will introduce the following elements:
189 · A final practical examination and/or
190 · A final attitude assessment

191 Both should include practical exercises developed from the maintenance manual standards and
192 adequate to the skills to be tested.
193 RMT Action 2.4 Introducing apprenticeship in Part-145 organisations
194 The RMT will introduce the requirement of a period of apprenticeship in a Part-145 AMO to apply for
195 an AML holder.
196

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An agency of the European Union

197 **Objective:** Streamline the information for issuance and amendment of the maintenance licences into a single
198 EU digital database

199   <u>RMT Action 2.5 Introducing a personal AML log book in maintenance system</u>
200   The RMT will introduce a log book where all the information relevant to the applicant/holder will be
201   kept. The log book will cover the whole working life of the AML holder.
202
203 **Objective:** Make the basic syllabus easier to be updated

204   <u>RMT Action 2.6 Transfer the Basic Modules from the Implementing Rules (Appendix I) to AMC</u>
205   <u>material</u>
206   The action suggests transferring most of the elements of the Basic Modules from the Implementing
207   Rules (Appendix I) to AMC material in order to make the basic syllabus easier to be updated. The
208   transfer would be done in a performace-based way, keeping high level goals in the implementing
209   rule.
210 All actions above are proposed to be implemented as rulemaking actions, as none of the other possible type
211 of actions (a safety promotion task, a focused oversight task, study/research) are not suitable to meet the
212 objectives of the intervention strategy.
213

214 **_Questions to Stakeholders_**

215 _4. Please comment on scope of each action and its applicability to address the defined problem(s). If you_
216 _consider that other actions are much better placed to address the problems, please define them._

217 _5. Do you support the statement that all actions have to be implemented as a RMT? Are other types of_
218 _actions (SPT, FOT) suitable to meet the objectives of the intervention strategy?_

4.2.3 Interfaces to be considered

220   A stable interface should be established with EASA certification experts, in order to acquire new
221   technological elements coming from the certification activities (electrical engines, fuel cell
222   technology, and new composite materials).

4.3 Impact analysis

4.3.1 Benefit level

225   The benefit of each action is assessed in terms of impact for the whole system, using the scale in
226   Annex II. Therefore, for instance there might be a slight increase between the benefit of one action
227   and the benefit of another (e.g. a scale 5 for an action with medium benefit and a scale 6 for another
228   action which would mean that there is a slight improvement in the level of benefit).
229

230   <u>RMT Action 2.2 Introducing Competency Based training in maintenance system</u>
231   CBT programs result in maintenance personnel that are trained and examined/assessed against
232   competency standards. The basic knowledge of the students will be significantly improved by
233   increasing the training effectiveness and efficiency: in the current basic training system, the training
234   is centred on subject contents, the delivery is instruction time-based and it is teacher-centred; in a
235   CBT system, the delivery is based on the guidance to perform defined tasks and it is student-centred.
236   The impact will be significant also due to the high number of students affected (in EASA MS and in
237   third countries, overseen by EASA).

238	The main benefit of a competency-based approach to training and assessment is its potential to
239	encourage and enable individual aviation professionals to reach their highest level of operational
240	capability while ensuring a basic level of competence as a minimum standard[23]. A benefit level is
241	considered 7 (high) with a scale from 1 (very low benefit) to 10 (very high benefit) (please refer to
242	Annex II for more explanation on the benefit level).

243 244 **RMT Action 2.3 Improving basic knowledge in maintenance system (alternative to action 2.2 if it will not be taken)**

245	The mechanisms of protection against fraud will be improved, ensuring improved skills and abilities
246	for the future licence holders. Thus is expected to lead to high level of efficiency and lower level of
247	maintenance errors, related to the manual ability. A benefit level is considered 7 (high) with a scale
248	from 1 (very low benefit) to 10 (very high benefit) (please refer to Annex II for more explanation on
249	the benefit level).

251 **RMT Action 2.4 Introducing apprenticeship in Part-145 organisations**

252	It is expected to have a low benefit, as it may deteriorate the level playing field between MTOs. Big
253	MTOs usually have consolidated agreements with the Part-145 organization, which allow them to
254	procure the students with an apprenticeship program easier than the small MTOs. Additionally, there
255	may be difficulty for the students to go to Part-145 organisation which may be far away from the
256	Part-147 organisation and this will impose more costs. A benefit level is considered 4 (low to medium)
257	with a scale from 1(very low benefit) to 10 (very high benefit) (please refer to Annex II for more
258	explanation on the benefit level).

260 **RMT Action 2.5 Introducing a personal AML log book in maintenance system**

261	The information for issuance and amendment of the licences in one EU database system can be easily
262	retrievable and accessible. The benefit will be medium 5 with a scale from 1(very low benefit) to 10
263	(very high benefit) (please refer to Annex II for more explanation on the benefit level).

265 266 **RMT Action 2.6 Transfer the Basic Modules from the Implementing Rules (Appendix I) to AMC material**

267	Benefits will be gained by an easy, quickly and less bureaucratic change of the syllabus and thus
268	achieving efficiency of the system. The economy of scale will be achieved, because it would avoid
269	costs for the EC for the comitology process. The workload for the EC would be minimised. The benefit
270	will be 6 medium to high with a scale from 1 (very low benefit) to 10 (very high benefit) (please refer
271	to Annex II for more explanation on the benefit level).

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[23] ICAO doc AN 12/48-16/35 9 September 2016: Benefits of competency-based training and assessment

272 **Table 4 –Improvement level per type of support of the intervention strategy "Basic knowledge issues"**

Intervention Strategy 2	Benefit level (BL)
Action 2.2 Introducing Competency Based training in maintenance system	7
Action 2.3 Improving basic knowledge in maintenance system (**alternative to action 2.2 if it will not be taken**)	7
Action 2.4 Introducing apprenticeship in Part-145 organisations	4
Action 2.5 Introducing a personal AML log book in maintenance system	5
Action 2.6 Transfer the Basic Modules from the Implementing Rules (Appendix I) to AMC material.	6

273

274 **Questions to Stakeholders**

275 6. Please indicate if you agree with the benefit **justifications** for each action. If no agreement, please
276   justify.

277 7. Do you agree with the variations of the benefits in the table above?

278

279 **4.3.2   Time implementation**

280 The time implementation for each action is assessed below.

Table 5 - Time implementation per type of support of the Intervention Strategy "Basic knowledge issues"*Intervention Strategy 2*	Time implementation (years)
Action 2.2 Introducing Competency Based training in maintenance system	RMT - 4 years; after rules are in place min 1 year MTO to adopt the courses; 1 cycle of basic training duration to max 2400 hours.
Action 2.3 Improving basic knowledge in maintenance system (**alternative to action 2.2 if it will not be taken**)	Same as for Action 2.2
Action 2.4 Introducing apprenticeship in Part-145 organisations	Same as for Action 2.2
Action 2.5 Introducing a personal AML log book in maintenance system	RMT - 4 years
Action 2.6 Transfer the Basic Modules from the Implementing Rules (Appendix I) to AMC material.	RMT - 4 years

281

282 **Questions to Stakeholders**

283 8. Please comment whether there should be a transition period for each of these actions? If yes, how
284   long should it be for each action?

285 9. Please comment on the implementation time for each action.

286

4.3.3 Implementation cost level

<u>RMT Action 2.2 Introducing Competency Based training in maintenance system</u>

Part-147 have to develop competency framework for each category, change the training courses and in some cases to invest more in devices.

The costs for EASA are as for a standard RMT (ca 1200 hours over 4 years per 1 RMT). It should be noted that these hours for EASA are for a complete RMT which will include many actions and not only the action mentioned here.

The increased costs will affect and will be transferred to the students who have to pay additional costs for the basic training.

The overall cost level is considered medium 5 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

<u>RMT Action 2.3 Improving basic knowledge in maintenance system (**alternative to action 2.2 if it will not be taken)**</u>

New additional (recurrent) costs will be added to the system for the introduction of a final practical examination and/or a final attitude assessment. It should be considered a one-off cost for the workload carried out by the assessors to develop the mechanism of the new exam and the practical examination; then, there will be recurrent costs to undertake these exams by the assessor for every student. This will incur very high resources in staff, requiring new assessors (either NAA or Part-147, depending who will assess the students). The time needed also concerns the applicants for the AML that will have to undertake the exam and the assessment. The overall cost level is considered high 8 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

<u>RMT Action 2.4 Introducing apprenticeship in Part-145 organisations</u>

Part-145 will have costs to provide the apprenticeship which will be transferred to Part-147 and then to the student. Part-147 need to update as well their syllabus for the training (one-off cost). Overall, the costs will be medium level 5 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

<u>RMT Action 2.5 Introducing a personal AML log book in maintenance system</u>

The one-off costs for establishing this database, for maintaining (hosting) would be very significant. It should be compatible with all systems in the EASA MS and it should be secured to protect personal data. Thought it could not be estimated in quantitative terms, it is expected that overall costs will be high 8 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

However this qualitative judgement does not include the fact that once the system is be set up, the operating costs to issue and amend the AML would be significantly reduced.

<u>RMT Action 2.6 Transfer the Basic Modules from the Implementing Rules (Appendix I) to AMC material</u>

The costs for EASA are as for a standard RMT (ca 1200 hours over 4 years per 1 RMT). It should be noted that these hours for EASA are for a complete RMT which will include many actions and not only the action mentioned here. For each forthcoming change in the training syllabus, there will be no change in the recurrent costs, as the process to amend it would be the same. Overall, costs will be very low 2 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

331 **Table 6 – Implementation Cost level of the Intervention strategy "Basic knowledge issues"**

Intervention Strategy 2	Implementation cost level (ICL)
Overall* for Action 2.2 Introducing Competency Based training in maintenance system	**5**
Overall* for Action 2.3 Improving basic knowledge in maintenance system ***(alternative to action 2.2 if it will not be taken)***	**8**
Overall* for Action 2.4 Introducing apprenticeship in Part-145 organisations	**5**
Overall* for Action 2.5 Introducing a personal AML log book in maintenance system	**8**
Overall* for action 2.6 Transfer the Basic Modules from the Implementing Rules (Appendix I) to AMC material.	**2**

332 *At the minimum, the overall implementation cost level for the intervention strategy shall be expressed according a
333 scale from 1 to 10 (1: very low, 10: very high). This implementation cost level shall be justified by the costs per action,
334 broken down per stakeholder.

335

336 **Questions to Stakeholders**

337 *10. What level of cost implementation do you consider for action 2.2 Introducing Competency Based*
338 *training in maintenance system? What would be the level of the cost for Part-147 organisations?*

339 *11. Do you agree with the estimated level of cost for Action 2.3 Improving basic knowledge in*
340 *maintenance system? Please justify, supported with quantification of your assessment: e.g. how*
341 *much the workload will for the assessors will be affected by the introduction of a final practical*
342 *examination and/or a final attitude assessment?*

343 *12. Action 2.3 is alternative to 2.2. According to the cost-effectiveness indicator action 2.2 would be*
344 *preferred. Do you agree? If yes/no please details.*

345 *13. How much might cost an apprenticeship in Part-145 organisations?*

346 *14. Cost for Action 2.5: what is the annual workload to issue and amendment the licences in your*
347 *Compentent Authority?*

348 *15. Do you agree with the estimated level of cost for Action 2.5 Introducing a personal AML log book in*
349 *maintenance system? If not, please justify, supported with quantification of your assessment.*

350
351
352

4.4 Summary of decision-criteria for the intervention strategy

354 *Table 7 – Summary of decision-criteria of the Intervention strategy "Basic knowledge issues"*

Action	Benefits (Improvement Level based on a scale from 1 – low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 1 – low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Action 2.2 Introducing Competency Based training in maintenance system	7	5	1.4	2018 5 years	B	RMT
Action 2.3 Improving basic knowledge in maintenance system *(alternative to action 2.2 if it will not be taken)*	7	8	0.9	2018 5 years	B	RMT
Action 2.4 Introducing apprenticeship in Part-145 organisations	4	5	0.8	2018 5 years	B	RMT
Action 2.5 Introducing a <u>personal AML</u> log book in maintenance system	5	8	0.6	2018 4 years	B	RMT
Action 2.6 Transfer the Basic Modules from the Implementing Rules (Appendix I) to AMC material.	6	2	3.0	2018 4 years	B	RMT

355

5 Intervention strategy 3 - Type rating training issues

356

357 Driver: Efficiency/ proportionality and level-playing field
358 Owner FS 1.1 Maintenance & Production Standardisation Section

5.1 What is the problem?

359

360 According to the feedback presented in the evaluation report, there is inefficiency of the system in
361 the type rating because it is perceived too theoretical subject oriented. The rule does not provide
362 enough requirements and guidance to ensure that the candidate's trainees receive sufficient hands-
363 on training before the assessment and the endorsement of the type rating in the license.

364 English language is an issue during the imparting of TRT courses as it is often noted that an insufficient
365 knowledge of the participants slows down the pace of teaching. There are as well inconsistencies in
366 description of the difference training in the regulation which leads to diverting opinions at the
367 implementation/interpretation.

368 *How important is the problem? How could it evolve?*

369 It is known that the students of a type rating course spend the major part of the time in the class for
370 the theory, rather than experimenting hands-on activity on the aircraft type because a real aircraft is
371 not always available for economic reasons. A not good proficiency in the course language (English in
372 the major part of the cases) impairs the information on the type acquired by the student.

373 This theoretical-oriented training (weaken by a poor knowledge of the language) may lead to an
374 incomplete preparation with the consequent risk of maintenance errors when the student will be a
375 certified staff.

376 **5.2   Purpose and description of the intervention strategy**

377 **5.2.1   Which objective(s) for the Intervention strategy?**
378 The interventions strategy is aimed at achieving several objectives:

379 • To improve the selection criteria for the practical task using the training needs analysis (TNA)
380 methodology.

381 • To improve the practical skills acquired by the candidate during the type rating training (TRT).

382 • To assure that students correctly understand the subjects taught during the training in terms
383 of language barriers.

384 • To avoid inconsistencies and provide clear guidance in the implementation/interpretation of
385 the rules for type rating training

386 **5.2.2   What is the description of the intervention strategy?**
387 **Objective**: To improve the selection criteria for the practical task using the TNA methodology.
388 RMT Action 3.1 Extending the training needs analysis to the practical element in the type rating
389 Currently, the system is inefficient due to lack of criteria when selecting the practical tasks in the type
390 rating training. The action is aimed at improving the selection criteria for the practical task using the
391 TNA methodology. The action suggests changes in the Part-66 rules.
392
393 **Objective**: To improve the practical skills acquired by the candidate during the TRT.
394 RMT Action 3.2 Harmonisation with ICAO standards and guidelines on CBT for practical training
395 Today the competencies that a particular student brings into a type rating training are not taken into
396 account. Typically, no entry requirements are stipulated or assessed before a trainee enters a course.
397 As a result, for some students, the course content is just a repetition of previously attended training
398 and for others the course content may be above their level of comprehension. To increase the
399 effectiveness and efficiency of the training programmes, the individual trainee's current competency
400 status must be considered against the competencies to be achieved. During this process, individual
401 training needs will be identified and the training will focus on filling these gaps using the appropriate
402 methodologies. Clear training objectives, stating competency elements to be achieved through
403 examination and assessment, are another key element of efficient training programs.
404 The action is targeted to improve the skills acquired by the candidate during the TRT and would
405 include regulatory changes in the Part-66 and Part-147 rules.
406
407 **Objective**: To assure that students correctly understand the subjects taught during the training.
408 RMT Action 3.3 Introduce a requirement for an adequate level of knowledge of the language in which
409 the training is delivered.
410 The action proposed that the language proficiency is to be checked before the student is allowed to
411 participate in courses imparted in that language. This will ensure that students correctly understand
412 the subjects taught during the training. The language check will be performed by the training
413 organisation itself. The action suggests changes in the Part-147 rules.
414

415   **Objective**: To avoid inconsistencies and provide clear guidance in the implementation/interpretation
416   of the rules for type rating training

417   <u>RMT Action 3.4 Improve the definitions and requirements of the "difference training"</u>
418   The action constitutes a regular update of the Part- 66 rules and will be implemented as part of the
419   Action 2.1 Regular update of Part-66 rules. As the action constitutes a regular update, no assessment
420   of the impacts is needed.

421

422   All actions above are proposed to be implemented as rulemaking actions, as none of the other
423   possible type of actions (a safety promotion task, a focused oversight task, study/research) are not
424   suitable to meet the objectives of the intervention strategy.

425

426 **Questions to Stakeholders**

427 *16. Please comment on scope of each action and its applicability to address the defined problem(s). If you*
428 *consider that other actions are much better placed to address the problems, please define them.*

429 *17. Do you support the statement that all actions have to be implemented as a RMT? Are other type of*
430 *actions (SPT, FOT) suitable to meet the objectives of the intervention strategy?*

431 ### 5.2.3   Interfaces to be considered
432   Not applicable

433 ## 5.3   Impact analysis

434 ### 5.3.1   Benefit level
435   The benefit of each action is assessed in terms of impact for the whole system, using the scale in
436   Annex II. Therefore, for instance there might be a slight increase between the benefit of one action
437   and the benefit of another (e.g. a scale 5 for an action with medium benefit and a scale 6 for another
438   action which would mean that there is a slight improvement in the level of benefit).

439

440   <u>RMT Action 3.1 Extending the training needs analysis to the practical element in the type rating</u>
441   The benefit would constitute a systematic approach in selecting practical tasks, thus improving highly
442   the efficiency. The selection of the task will be driven by the training needs and much closely linked
443   to the type of the aircraft (relevant to the type), rather than driven by other factors (e.g. economic).
444   The TNA concept was already introduced in the theoretical part and is proved to be efficient. The
445   regulation already contains a methodology for the determination of the content for the theoretical
446   knowledge: the Training Needs Analysis (TNA). This methodology could also be used to select the
447   practical tasks providing a single method and predictable results, similar in all the training
448   organisations. The benefit is estimated at high level 7 with a scale from 1(very low benefit) to 10 (very
449   high benefit) (please refer to Annex II for more explanation on the benefit level).

450

451   <u>RMT Action 3.2 Harmonisation with ICAO standards and guidelines on CBT for practical training</u>

452   The primary advantage of CBT is that the focus is on the achievement of defined competency
453   standards. Main benefits will be:

454   •   Participants will acquire competencies required for their jobs.

455	• Participants build confidence as they succeed in mastering type specific competencies.
456 457	• Training time is used more efficiently and effectively as the instructor is a facilitator of learning as opposed to a provider of information.
458 459	• More training time is devoted to evaluating each participant's ability to perform essential job skills.

460 The competence on the type for the licence holders will be significantly improved thus leading to less
461 maintenance errors, related to the specific type. In terms of scope, the affected stakeholders will be
462 the students (in EASA MS and in third countries, overseen by EASA). However, the impact might be
463 limited, in comparison to the integration of the CBT in basic training, because the type competence
464 is an additional bit to the basic knowledge. The main benefit of a competency-based approach to
465 training and assessment is its potential to encourage and enable individual aviation professionals to
466 reach their highest level of operational capability while ensuring a basic level of competence as a
467 minimum standard[24]. The benefit is estimated at medium to high 6 with a scale from 1(very low
468 benefit) to 10 (very high benefit) (please refer to Annex II for more explanation on the benefit level).

469

470 <u>RMT Action 3.3 Introduce a requirement for an adequate level of knowledge of the language in which</u>
471 <u>the training is delivered.</u>
472 The benefit will be very high, because the risk of misunderstanding the training would be minimised
473 and thus lead to high efficiency of the system and mitigate the maintenance errors. The action will
474 ensure that all students will follow the course without disturbing its pace. The benefit is estimated at
475 high level 7 with a scale from 1 (very low benefit) to 10 (very high benefit) (please refer to Annex II
476 for more explanation on the benefit level).

477 **Table 8 –Improvement level per type of support of the intervention strategy "Type rating training issues"**

Intervention Strategy 3	Benefit level (BL)
Action 3.1 Extending the training needs analysis to the practical element in the type rating	7
Action 3.2 Harmonisation with ICAO standards and guidelines on CBT for practical training	6
Action 3.3 Introduce a requirement for an adequate level of knowledge of the language in which the training is delivered	7

478

479 **Questions to Stakeholders**

480 18. *Please indicate if you agree with the benefit **justifications** for each action. If no agreement, please*
481 *justify.*

482 19. *Do you agree with the variations of the benefits in the table above?*

483

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[24] ICAO doc AN 12/48-16/35 9 September 2016: Benefits of competency-based training and assessment

5.3.2 Time implementation

The time implementation for each action is assessed below.

Table 9 - Time implementation per type of support of the intervention Strategy "Type rating training issues"

Intervention Strategy 3	Time implementation (years)
Action 3.1 Extending the training needs analysis to the practical element in the type rating	RMT - 4 years; after rules are in place - MT will need max 1 year to redefine the list of the practical tasks in the syllabus.
Action 3.2 Harmonisation with ICAO standards and guidelines on CBT for practical training	RMT - 4 years; after rules are in place min 1 year MTO to adopt the courses; 1 cycle of type training duration to max 6 weeks.
Action 3.3 Introduce a requirement for an adequate level of knowledge of the language in which the training is delivered	RMT - 4 years

Questions to Stakeholders

20. Please comment whether they should be a transition period for each of these actions? If yes, how long should it be for each action?

21. Please comment on the sufficiency of the implementation time for each action.

5.3.3 Implementation cost level

RMT Action 3.1 Extending the training needs analysis to the practical element in the type rating

Maintenance training organisation will incur one-off cost to redefine the list of the practical tasks in the syllabus. These costs are expected to be a medium level, as the change of the tasks might require to change/buy/procure new tools to perform the practical tasks or establish a contract with Part-145 organisations. The overall cost level is considered medium 5 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

RMT Action 3.2 Harmonisation with ICAO standards and guidelines on CBT for practical training

Maintenance training organisation will incur one-off costs to develop competency framework for each type, change the training courses. These costs are expected to be at a medium level.

The costs for EASA are as for a standard RMT (ca 1200 hours over 4 years per 1 RMT). It should be noted that these hours for EASA are for a complete RMT which will include many actions and not only the action mentioned here.

The overall cost level is considered medium 5 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

RMT Action 3.3 Introduce a requirement for an adequate level of knowledge of the language in which the training is delivered

Maintenance training organisation will incur costs to define in their maintenance training organisation exposition (MTOE) how they will assess the proficiency of the level of the language in which the training is delivered. The cost will be very low.

The costs for EASA are as for a standard RMT (ca 1200 hours over 4 years per 1 RMT). It should be noted that these hours for EASA are for a complete RMT which will include many actions and not only the action mentioned here.

516   The overall cost level is considered very low 2 with a scale from 1 (very low/negligible costs) to 10
517   (very high) level of costs.
518
519   Table 10 – Implementation Cost level of the intervention strategy "Type rating training issues"

Intervention Strategy 3	Implementation cost level (ICL)
Overall* for Action 3.1 Extending the training needs analysis to the practical element in the type rating	**5**
Overall* for Action 3.2 Harmonisation with ICAO standards and guidelines on CBT for practical training	**5**
Overall* for Action 3.3 Introduce a requirement for an adequate level of knowledge of the language in which the training is delivered	**2**

520   *At the minimum, the overall implementation cost level for the intervention strategy shall be expressed according a
521   scale from 1 to 10 (1: very low, 10: very high). This implementation cost level shall be justified by the costs per action,
522   broken down per stakeholder.

523   **Questions to Stakeholders**

524   22. *Do you agree with the estimated level of cost for all actions in this intervention strategy? Please*
525   *justify, supported with quantification of your assessment.*

526   ## 5.4   Summary of decision-criteria for the intervention strategy

527   Table 11 – Summary of decision-criteria of the intervention strategy "Type rating training issues"

Action	Benefits (Improvement Level based on a scale from 1 – low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 1 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Action 3.1 Extending the training needs analysis to the practical element in the type rating	7	5	1.4	2018 5 years	B	RMT
Action 3.2 Harmonisation with ICAO standards and guidelines on CBT for practical training	6	5	1.2	2018 5 years	B	RMT
Action 3.3 Introduce a requirement for an adequate level of knowledge of the language in which the training is delivered	7	2	3.5	2018 4 years	B	RMT

528   # 6   Intervention strategy 4 - Legacy aircraft issues

529   Driver: Efficiency and Proportionality
530   Owner FS 1.1 Maintenance & Production Standardisation Section

6.1 What is the problem?

Feedback received from industry indicated that for certain Group 1 aircraft (ref. 66.A.5) it is difficult, if not impossible, to find Part-147 organisations appropriately approved to provide the required type training (mainly due to the difficulty for such organisations to justify a business case). This is typically the case for a low number of out-of-production aircraft still flying, often known with the popular name as "legacy aircraft".

The current option of having the type training courses directly approved by the competent authority does not seem to be very practical, since the direct approval is:

- A one-time approval on a case-by-case basis for a single course or a predefined group of courses, and Part-145 approved maintenance organisation or the manufacturer cannot receive a permanent approval for aircraft type training because is not in their scope of approval.

- No Part-147 Certificate of Recognition can be issued for the purpose of the mutual recognition between Member States. However, an appropriate training certificate can be issued after successful completion of both elements.

- The type training course is only valid for Part-66 AML type rating endorsement in that Member State which has issued this direct approval, which means it cannot be used for aircraft type endorsement in other Member States (no mutual recognition of the certificate), unless this other competent authority has approved the course.

Taking into account the high number of aircraft types considered as "legacy aircraft" and the fact that there are 32 competent authorities issuing Part-66 licences, this would imply the need for a significant number of direct and temporary approvals (most of them for a very low number of aircraft).

The current regulation in Part-66 does not provide an effective way of addressing "legacy aircraft" type rating.

How important is the problem? How could it evolve?

Part-147 training organisations provide source of instruction for current production aircraft with a high demand for training, however the cost to develop and maintain a course has made it difficult for out of production "legacy aircraft" with very low student demand. In the future many Part-147 organizations will delete new "legacy aircraft" from their scope of approval (Part-147 schedule) or never take them on the schedule, which will cause problems for aircraft operators as they don't get MRO staff qualified anymore.

6.2 Purpose and description of the intervention strategy

6.2.1 Which objective(s) for the Intervention strategy?

The interventions strategy is aimed at enhancing the efficiency of the licensing system regarding the "legacy aircraft" type rating when there is no course available; to identify equivalent type rating endorsement means for legacy "complex motor powered aircraft (CMPA)".

569 **6.2.2 What is the description of the intervention strategy?**

570 <u>RMT Action 4.1 Introduction a company authorization provision in the rules for a legacy aircraft</u>

571 The action envisages introducing a special company authorization for the Part-145 instead of
572 endorsing individual type rating for legacy aircraft. The action constitutes changes in Part-66 and
573 Part-145 rules. These individuals should be assessed to check an adequate understanding of the
574 legacy aircraft to be maintained together with the associated organisation procedures.

575

576 <u>RMT Action 4.2 Mutual recognition of direct approvals for type rating courses</u>

577 The action envisages introducing mutual recognition of direct approvals for type rating courses of
578 legacy aircraft according to part-66.B.130.

579 The actions above are proposed to be implemented as rulemaking actions, as none of the other
580 possible type of actions (a safety promotion task, a focused oversight task, study/research) are not
581 suitable to meet the objective of the intervention strategy.

582 **Questions to Stakeholders**

583 *23. Please comment on scope of the action and its applicability to address the defined problem(s). If you*
584 *consider that other action(s) is/ are much better placed to address the problems, please define them.*

585 *24. Do you support the statement that this action has to be implemented as a RMT? Are other type of*
586 *actions (SPT, FOT) suitable to meet the objective of the intervention strategy?*

587 *25. Please identify the types of aircraft that would be affected by 4.1 (legacy aircraft).*

588 **6.2.3 Interfaces to be considered**

589 Not applicable

590 **6.3 Impact analysis**

591 **6.3.1 Benefit level**

592 <u>RMT Action 4.1 Introduction of a company authorization provision in the rules for a legacy aircraft</u>

593 The benefit of this action would be very high, because for these legacy aircraft types there are no
594 type rating training delivered by Part-147 organisation. As regards the magnitude (number) of these
595 aircrafts, there is no exact information on their numbers in the EASA MS. However, some examples
596 are A300-600 (32 aircraft, operated in EASA MS), A310 (7 aircrafts, operated in EASA MS), B747-200
597 (1 aircraft, operated in EASA MS), MD11 (14 aircrafts, operated in EASA MS), L1349).

598 Furthermore, the benefit is expected to be very high also due to the fact, that in the future there
599 would be more legacy aircraft in this case and the proposed action will mitigate the risk for
600 unavailability of the AML holder's type rating training.

601 A benefit level is considered 7 (high) with a scale from 1(very low benefit) to 10 (very high benefit)
602 (please refer to Annex II for more explanation on the benefit level).

603 <u>RMT Action 4.2 Mutual recognition of direct approvals for type rating courses</u>

604 This action would bring efficiency: indeed each authority would not need to approve the type rating
605 course if already approved by one EASA MS. Therefore duplication of efforts would be avoided.

606	In addition, AML holders would not need to go through type rating course in several countries,
607	avoiding an extra cost for attending each country's course.
608	A benefit level is considered 7 (high) with a scale from 1 (very low benefit) to 10 (very high benefit)
609	(please refer to Annex II for more explanation on the benefit level).

610 **Table 12 –Improvement level per type of support of the intervention strategy "Legacy aircraft issues"**

Intervention Strategy 4	Benefit level (BL)
Action 4.1 Introduction of a company authorization provision in the rules for a legacy aircraft	7
Action 4.2 Mutual recognition of direct approval of type rating course	7

611

615

616 6.3.2 Time implementation

617 **Table 13 - Time implementation per type of support of the intervention Strategy "Legacy aircraft issues"**

Intervention Strategy 4	Time implementation (years)
Action 4.1 Introduction of a company authorization provision in the rules for a legacy aircraft	4 years (rulemaking task)
Action 4.2 Mutual recognition of direct approval of type rating course	4 years (rulemaking task)

618

622 6.3.3 Implementation cost level

623 <u>RMT Action 4.1 Introduction of a company authorization provision in the rules for legacy aircraft</u>

624 Part-145 organisations will incur into additional costs related to the:

625 - Need to update the internal procedures

626 - Need to dedicate resources to assess maintenance personnel

627 However this is estimated to impact only a small number of Part-145 organisations.

628	The costs for EASA are as for a standard RMT (ca 1200 hours over 4 years per 1 RMT). It should be
629	noted that these hours for EASA are for a complete RMT which will include many actions and not only
630	the action mentioned here.

631 The overall cost level is considered medium 5 with a scale from 1 to 10 (very high) level of costs.

632

633   <u>RMT Action 4.2 Mutual recognition of direct approvals for type rating courses</u>

634   The costs for EASA are as for a standard RMT (ca 1200 hours over 4 years per 1 RMT). It should be
635   noted that these hours for EASA are for a complete RMT which will include many actions and not only
636   the action mentioned here.

637   The overall cost level is considered low 2 with a scale from 1 (very low/negligible costs) to 10 (very
638   high) level of costs.

639
640   Table 14 – Implementation Cost level of the intervention Strategy "Legacy aircraft issues"

Intervention Strategy 4	Implementation cost level (ICL)
Overall* for Action 4.1 Introduction of a company authorization provision in the rules for a legacy aircraft	5
Action 4.2 Mutual recognition of direct approval of type rating course	2

641   *At the minimum, the overall implementation cost level for the intervention strategy shall be expressed according a
642   scale from 1 to 10 (1: very low, 10: very high). This implementation cost level shall be justified by the costs per action,
643   broken down per stakeholder.

644

645   **Questions to Stakeholders**

646   29. *Do you agree with the estimated level of cost for this action for* **Part-145 organisations***? Please justify,*
647   *supported with quantification of your assessment: e.g. it is said above "the Part-145 organisations*
648   *will be required to make one-off costs to change their procedures in order to accommodate the*
649   *change"* ➔ *What is the workload to change these procedures? Are there other cost factors than the*
650   *procedures to change?*

651   30. *What is the percentage of Part-145 organisations that will be affected by the significant costs*
652   *mentioned?*

653

654

655   6.4   Summary of decision-criteria for the intervention strategy

656   *Table 15 – Summary of decision-criteria of the intervention Strategy "Legacy aircraft issues"*

Action	Benefits (Improvement Level based on a scale from 1 –low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 1 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Action 4.1 Introduction of a company authorization provision in the rules for a legacy aircraft	7	5	1.4	2018 4 year	B	RMT
Action 4.2 Mutual recognition of direct approvals for type rating courses	7	2	3.5	2018 4 year	B	RMT

657   7   Intervention strategy 5 - On the job training (OJT) issues

658   Driver: Efficiency/ proportionality and level-playing field

659   Owner FS 1.1 Maintenance & Production Standardisation Section

660   7.1   What is the problem?

661   The intervention strategy addresses 2 major issues with the OJT:

662   1. The OJT requirements are often not proportionate to achieve the objective of the OJTs:

663   664   665   - OJT program cannot be feasible in approved maintenance organization (AMO) having limited activities. The OJT programme is sometimes felt as too ambitious and takes too much time due to the non-availability of tasks qualifying for the OJT programme;

666   667   - The rule does not clarify whether OJT is required for the 1st type rating in a "C" category.

668   - Too many difference in implementation among MS.

669   670   2. The OJT requirements are often not proportionate to achieve the objective of the OJTs carried out in an AMO located outside Europe:

671   672   673   - The approval of OJT carried out in an AMO located outside Europe, poses some difficulties as the EASA approves a MOE, which cannot cover the OJT programme (EASA is not a licensing authority);

674   675   - The rule does not give requirement to recognize a previous significant experience for expert candidates applying for the first type rating in the license;

676   *How important is the problem? How could it evolve?*

677   678   679   The overall objective of the OJT may give the perception that it is an unnecessary administrative burden in cases where the candidate has extensive experience. Additionally different implementation of OJT among the Member States have been reported that may impact an standardised approach.

680 In some cases it is impossible to carry out the OJT program and the rule does not assist to find a
681 solution. This causes frustration for the AML holders, after the accomplishment of the type rating
682 training, because without OJT the endorsement of the first type rating in the license is not allowed.

7.2 Purpose and description of the intervention strategy

7.2.1 Which objective(s) for the Intervention strategy?
685 The interventions strategy is aimed at achieving two objectives:

686 • To proportionate the OJT system to the end user in a more flexible way.

687 • To revise and clarify the OJT requirement to fulfil the OJT objective in a more flexible way.

7.2.2 What is the description of the intervention strategy?
689 All actions below contribute to the objectives of the intervention strategy.
690

691 <u>RMT Action 5.1   Redefining the structure of the OJT to introduce requirements to fulfil the objective</u>
692 <u>in a more flexible way</u>
693 The action will redefine the structure of the OJT, while introducing requirements to fulfil the objective
694 in a more flexible way. This could be achieved through introduction of a modular OJT carried out in
695 different organisations, for example: splitting the OJT program in two modules:
696   -   A Line Maintenance level module; and
697   -   A Base maintenance level module.
698   The OJT is considered terminated when both modules are carried out. This will improve the
699 workload of the NAA to approve and control the modules, but the existance of a personal AML log
700 book proposed in action 2.5 would facilitate the traceability and the oversight.
701

702 <u>RMT Action 5.2 Introducing mechanisms for flexibility in the on the job training in Part-145</u>
703 The action will remove the OJT from Part-66 and put it under the Part-145 shifting it from licence to
704 company authorisation. The AML holder will get the authorisation in the company they work for. The
705 company authorisation is not part of the license, so not mutually recognised. In addition, there will
706 be a mechanism put in place to recognise the past OJT acquainted, so the AML holder would not be
707 required to repeat the OJT in the new employment place.
708

709 <u>RMT Action 5.3 Introducing mechanisms for flexibility in the on the job training in Part-147</u>
710 <u>(alternative to Action 5.2)</u>
711 In addition to the existing rules, the action will introduce the following flexibility in the OJT in the
712 Part-147 approved training organisations (ATO): to approve the OJT to the ATO. The ATO will have
713 their scope extended to the OJT and approved by the competent authority that issued the ATO. The
714 ATO will provide the OJT by their own means or by subcontracting to other approved organizations
715 (Part-145). When the student completes the OJT, the ATO will issue the type training certificate that
716 will be recognised by all NAAs and the student can get the endorsement by the authority that issued
717 the AML.
718

719 All actions above are <u>proposed</u> to be implemented as rulemaking actions, as none of the other
720 possible type of actions (a safety promotion task, a focused oversight task, study/research) are not
721 suitable to meet the objectives of the intervention strategy.
722
723

729 ### 7.2.3 Interfaces to be considered

730 Interfaces and protocols between approved training organization Part-147 and approved
731 maintenance organization Part-145 should be established.

732 ## 7.3 Impact analysis

733 ### 7.3.1 Benefit level

734 The benefit of each action is assessed in terms of impact for the whole system, using the scale in
735 Annex II. Therefore, for instance there might be a slight increase between the benefit of one action
736 and the benefit of another (e.g. a scale 5 for an action with medium benefit and a scale 6 for another
737 action which would mean that there is a slight improvement in the level of benefit).

738

739 <u>RMT Action 5.1   Redefining the structure of the OJT to introduce requirements to fulfil the objective</u>
740 <u>in a more flexible way</u>
741 The benefit is expected to be at a medium level because it introduces flexibility to approve an OJT
742 and improves the suitability of the OJT. The OJT can be split in modules that can be carried out in
743 different Part-145 AMOs with adequate activities. This may lead to better preparation of licence
744 holders and to open the market for organisations to perform "modular" OJT. The OJT could be carried
745 out more feasible in cases of maintenance organisations with limited activities. However this option
746 might increase the complexity of the system. A benefit level is considered 5 (medium) with a scale
747 from 1 (very low benefit) to 10 (very high benefit) (please refer to Annex II for more explanation on
748 the benefit level).

749

750 <u>RMT Action 5.2 Introducing mechanisms for flexibility in the on the job training in Part-145</u>
751 The same competent authority approves the Part-145 AMO and the OJT so there is no conflict having
752 students under different (license) authorities performing the same OJT in the same organisation. The
753 company authorisation is not recognised, but it is expected that when moving from one AMO to
754 another, the need of OJT will be reduced to get the new company authorisation. The benefit is
755 however low, as compared to action 5.3, because there will be a change in the type rating system,
756 while in action 5.3 we are not changing the current type training system. A benefit level is considered
757 4 (low to medium) with a scale from 1 (very low benefit) to 10 (very high benefit) (please refer to
758 Annex II for more explanation on the benefit level).

759

760 <u>RMT Action 5.3 Introducing mechanisms for flexibility in the on the job training in Part-147</u>
761 <u>(alternative to Action 5.2)</u>
762 The training certificate will be recognised by all NAAs and the student can get the endorsement by
763 the authority that issued the AML. The AMTO will have further management activities and will get
764 more business. The authority issuing the AML will not have to approve the OJT for a single AML holder

765   when the Part-147 has this privilege. The set-up will be similar to the one already existing today for
766   type training: two routes, the Part-147 organisation having the TRT approved or the direct approval
767   by the competent authority of the AML holder. The current type rating system is not changed. A
768   benefit level is considered 7 high with a scale from 1 (very low benefit) to 10 (very high benefit)
769   (please refer to Annex II for more explanation on the benefit level).

770 **Table 16 –Improvement level per type of support of the intervention strategy "On the job training (OJT) issues"**

Intervention Strategy 5	*Benefit level (BL)*
Action 5.1 Redefining the structure of the OJT to introduce requirements to fulfil the objective in a more flexible way	5
Action 5.2 Introducing mechanisms for flexibility in the on the job training in Part-145	4
RMT Action 5.3 Introducing mechanisms for flexibility in the on the job training in Part-147 *(alternative to Action 5.2)*	7

771

772 | **Questions to Stakeholders** |
| --- |

773 *33. Please indicate if you agree with the benefit **justifications** for each action. If no agreement, please*
774 *justify.*

775 *34. Do you agree with the variations of the benefits in the table above?*

776

777 **7.3.2   Time implementation**

778   The time implementation for each action is assessed below.

779 **Table 17 - Time implementation per type of support of the intervention Strategy "On the job training (OJT) issues"**

Intervention Strategy 5	*Time implementation (years)*
Action 5.1 Redefining the structure of the OJT to introduce requirements to fulfil the objective in a more flexible way	RMT -4 years; after rules are place a transition period for new OJT implementation
Action 5.2 Introducing mechanisms for flexibility in the on the job training in Part-145	RMT -4 years; after rules are place a transition period for the existing licenses to align with the new system including the approval of the company authorisation.
RMT Action 5.3 Introducing mechanisms for flexibility in the on the job training in Part-147 *(alternative to Action 5.2)*	RMT -4 years; after rules are place a transition period for the approval of the (type) OJT to the Par-147 that apply for it.

780

7.3.3   Implementation cost level

RMT Action 5.1   Redefining the structure of the OJT to introduce requirements to fulfil the objective in a more flexible way

The costs for EASA are as for a standard RMT (ca 1200 hours over 4 years per 1 RMT). It should be noted that these hours for EASA are for a complete RMT which will include many actions and not only the action mentioned here.

The costs for Part-145 are expected to be low and would consist of revising the structure of the OJT.

As regards the competent authorities, they would have more workload to approve the OJT modules in different organisations and to coordinate the whole process of approvals for the same OJT.

AML holders might face additional costs in case the cost of separate modules fees would be higher than the one fee for the whole training.

The overall cost level is considered medium 6 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

RMT Action 5.2 Introducing mechanisms for flexibility in the on the job training in Part-145

The costs for EASA are as for a standard RMT (ca 1200 hours over 4 years per 1 RMT). It should be noted that these hours for EASA are for a complete RMT which will include many actions and not only the action mentioned here.

Part-145 organisations will incur low cost to define the OJT and to approve the company authorisation.

For the competent authorities there will be little increase in their workload for the oversight of Part-145 organisations. Negative impact will incur for the AML holder who are not employed by Part-145. They need to find a way to finance the OJT.

The population of the affected AML would be very highly impacted, as the action will be applicable for all European and non-European AML holders.

The overall cost level is considered medium 5 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

RMT Action 5.3 Introducing mechanisms for flexibility in the on the job training in Part-147 (alternative to Action 5.2)

The costs for EASA are as for a standard RMT (ca 1200 hours over 4 years per 1 RMT). It should be noted that these hours for EASA are for a complete RMT which will include many actions and not only the action mentioned here.

The Part-147organisations will incur medium level cost to define the OJT, apply for the approval and be audited by the competent authority. They also will increase its management activities to manage the OJT, but this extra cost will be paid by the student. In addition, Part-147 organisations might face challenges in efficiently coordinating with and subcontracting Part-145 organisations: this could lead to higher costs for Part-147 organisations.

822 For the competent authorities it is expected to have a medium level increase in their workload in
823 terms of handling the applications, audits before the approval and small increase in the oversight of
824 the Part-147.

825 The student (if not paid by the Part-145 they work for) will have to assume the extra cost of the Part-
826 147 organisation.

827 The overall cost level is considered medium 5 with a scale from 1 (very low/negligible costs) to 10
828 (very high) level of costs.

829

830 Table 18 – Implementation Cost level of the intervention strategy "On the job training (OJT) issues"

Intervention Strategy 5	Implementation cost level (ICL)
Overall* for action 5.1 Redefining the structure of the OJT to introduce requirements to fulfil the objective in a more flexible way	6
Overall* for action 5.2 Introducing mechanisms for flexibility in the on the job training in Part-145	5
Overall* for action 5.3 Introducing mechanisms for flexibility in the on the job training in Part-147 *(alternative to Action 5.2)*	5

831 *At the minimum, the overall implementation cost level for the intervention strategy shall be expressed according a
832 scale from 1 to 10 (1: very low, 10: very high). This implementation cost level shall be justified by the costs per action,
833 broken down per stakeholder.

834

835 **Questions to Stakeholders**

836 36. *Do you agree with the estimated level of cost for each action? Please justify, supported with*
837 *quantification of your assessment.*

838

839 7.4 Summary of decision-criteria for the intervention strategy

840 Table 19 – Summary of decision-criteria of the intervention strategy "On the job training (OJT) issues"

Action	Benefits (Improvement Level based on a scale from 1 – low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 1 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Action 5.1 Redefining the structure of the OJT to introduce requirements to fulfil the objective in a more flexible way	5	6	0.83	2018 4 years RMT	B	RMT
Action 5.2 Introducing mechanisms for flexibility in the on the job training in Part-145	4	5	0.8	2018 4 years RMT	B	RMT
RMT Action 5.3 Introducing mechanisms for flexibility in the on the job training in Part-147 *(alternative to Action 5.2)*	7	5	1.4	2018 4 years RMT	B	RMT

841 8 Intervention strategy 6 - Examination cheating and fraud / conflict of interest within Part-
842 147 organisations

843 Driver: Safety
844 Owner FS 1.1 Maintenance & Production Standardisation Section

845 8.1 What is the problem?

846 The intervention strategy addresses the issues with the examination cheating and fraud/conflict of
847 interest within Part-147 organisations. According to the feedback and the assessment, presented in
848 the evaluation report for the maintenance licensing system and the maintenance training
849 organisations, the likelihood of fraud or cheating is widely acknowledged as many fraud cases,
850 whistle-blower cases, have been noted or reported.

851 This intervention strategy is driven by safety taking into consideration the potential safety risks of
852 inadequate AML holders competence.

853 The biggest case (HATA) of massive fraud started when, after an Agency Standardisation Inspection
854 and the raising of a class-D finding, the Hellenic Civil Aviation Authority (HCAA) revoked the Part-147
855 maintenance training organisation approval of the Hellenic Aviation Training Academy (HATA),
856 EL.147.0007, because of alleged examination fraud at the organisation.

857 On reception of the notice of revocation[25] the EASA addressed it by issuing the EASA SIB 2014-32.

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[25] This refers to the case where certificates for which the Commission decided, in accordance with art. 11.2 of Reg. (EC) 216/2008, that they do not comply with Reg. (EU) 1321/2014 and that the recognition ceased to apply. Further reference: https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1525687102448&uri=CELEX:32016D2357

858   The Commission Decision (EU) 2016/2357 declared the lack of effective compliance with Reg (EC)
859   216/2008 and its implementing rules of the Certificates of Recognition for basic knowledge
860   examination on technical modules issued by HATA as well as the Part-66 aircraft maintenance licenses
861   issued by competent authorities on the basis of these certificates.

862   A three month long reassessment of the documentation provided by applicants for Part-66 licenses
863   including technical modules issued by HATA was necessary.

864   70.000 files were checked by 38 countries in order to find over 500 licences with HATA certificates
865   resulting in suspension or revocation of more than 350 licences. In total possibly 2500 persons were
866   affected with over 15.000 exams.

867   At present this was the largest case but smaller cases happen on at least half of the EASA States.
868   While most of them have a small impact on the licensing activity (exclusion of an invigilator, AMTO
869   issuing CoR without being approved for such training…) the system in general is affected.

870   Credibility in the maintenance training system can be heavily impacted by the frauds and corporate
871   culture to cheat.

872   *How important is the problem? How could it evolve?*

873   The EASA Member States have ensured an active vigilance to detect and correct the cases of fraud
874   and cheating; however, as the AML provide an advantage to the holder in terms of access to the job
875   market the tendency is for the fraud/cheating to increase unless appropriate measures are put in
876   place and a constant vigilance is necessary to detect new cases as well new fraudulent practices as
877   soon as possible. This could lead to important safety concerns related to potential occurrences
878   (incidents/accidents) due to inadequate competence of AML holders.

879   8.2   Purpose and description of the intervention strategy

880   8.2.1   Which objective(s) for the Intervention strategy?
881   The interventions strategy is aimed at:

882   -   enhancing the robustness of the system

883   -   mitigate the risk of frauds and cheating which could lead to potential safety risks

884   8.2.2   What is the description of the intervention strategy?
885   All actions below support the objective of the intervention strategy.
886

887   RMT Action 6.1 Introducing an appropriate NAA final assessment/performance based monitoring in
888   Part-147 organisations
889   A sample of students from one AMTO will be subject to an assessment to check if their level of
890   knowledge is adequate. The aim is to detect if the AMTO is issuing certificates to students not having
891   the necessary knowledge or practical skills. The action constitutes changes in the Part-147 rules.
892

893   RMT Action 6.2 Establish an European centralized questions database (ECQB) and make it use on
894   voluntary basis for the Part-147 organisations
895   The establishment of a central database of questions (ECQB), similar to the one already existing for
896   pilots, will make available a single source of questions. If the use is voluntary the benefits will depend

897 on the AMTOs that will use it. The access to the questions will only be at EASA and avoid that they
898 are made available to the students before the exam.
899

900 RMT Action 6.3 Establish an European centralized questions database (ECQB) and make its use
901 compulsory for all Part-147 organisations *(alternative to action 6.2)*
902 The establishment of a central database of questions (ECQB) similar to the one already existing for
903 pilots will make available a single source of questions. If the use is compulsory for all the AMTOs it
904 will ensure that the questions for the exams are not given to the students before the exam. Having a
905 single database of question will also avoid duplication of efforts by the different AMTOs having to
906 develop each of them its own database and will ensure that the level of the questions is uniform in
907 all the exams run using the system. The details on the design of the ECQB would be defined at a later
908 stage.
909

910 All actions above are underlined proposed to be implemented as rulemaking actions, as none of the other
911 possible type of actions (a safety promotion task, a focused oversight task, study/research) are not
912 suitable to meet the objectives of the intervention strategy.
913

914 FOT Action 6.4 Focused oversight on cases of fraud
915 Stress the problems to the NAAs and add specific questions in the NAAs and EASA audit checklist and
916 collect data on the actual cases of fraud.
917

918 SPT Action 6.5 Safety promotion on preventing, detecting and mitigating fraud cases in Part -147
919 organisations
920 The action includes organisation of workshops, discussions with the NAAs/industry on how to
921 prevent, detect and mitigate fraud cases. The scope and places of the workshops (in EASA
922 headquarter and/or in each EASA MS) will be further defined.
923

924 **Questions to Stakeholders**

925 *37. Please comment on scope of each action and its applicability to address the defined problem(s). If you*
926 *consider that other actions are much better placed to address the problems, please define them.*

927 *38. Do you support the kind of actions as proposed? Would you propose other type of actions instead of*
928 *the proposed ones suitable to meet the objectives of the intervention strategy?*

929

930 **8.2.3 Interfaces to be considered**
931 Not applicable

932 **8.3 Impact analysis**

933 **8.3.1 Benefit level**
934 The benefit of each action is assessed in terms of impact for the whole system, using the scale in
935 Annex II. Therefore, for instance there might be a slight increase between the benefit of one action
936 and the benefit of another (e.g. a scale 5 for an action with medium benefit and a scale 6 for another
937 action which would mean that there is a slight improvement in the level of benefit).

938

939	<u>RMT Action 6.1 Introducing an appropriate NAA final assessment/performance based monitoring in</u>
940	<u>Part-147 organisations</u>
941	By performing this cross check, the competent authority will gain an accurate perception of the actual
942	level of knowledge of the students in a given organisation. The organisations will also be discouraged
943	to use fraud practices as they will be easily detected by this extra independent assessment. The
944	benefit of this action is that we will have better detection of the potential fraud cases and avoid
945	potential safety risks. A benefit level is considered 7 high with a scale from 1 (very low benefit) to 10
946	(very high benefit) (please refer to Annex II for more explanation on the benefit level).
947	
948	<u>RMT Action 6.2 Establish an European centralized questions database (ECQB) and make it use on</u>
949	<u>voluntary basis for the Part-147 organisations</u>
950	The voluntary use will ensure the only part of these benefits that will be limited to the organisations
951	using it and maintain the potential differences of level as they exist today. The introduction of this
952	database could contribute to the mitigation of potential occurrences related to inadequate
953	competence of AML holder. A benefit level is considered 6 medium to high with a scale from 1 (very
954	low benefit) to 10 (very high benefit) (please refer to Annex II for more explanation on the benefit
955	level).
956	
957	<u>RMT Action 6.3 Establish an European centralized questions database (ECQB) and make its use</u>
958	<u>compulsory for all Part-147 organisations</u> ***(alternative to action 6.2)***
959	The compulsory use will ensure the maximum of these benefits. The introduction of this database
960	could contribute to the mitigation of potential occurrences related to inadequate competence of AML
961	holder, even more than action 6.2 considering that benefits will be achieved in all the exams. A benefit
962	level is considered high to very high 8 with a scale from 1 (very low benefit) to 10 (very high benefit)
963	(please refer to Annex II for more explanation on the benefit level).
964	
965	<u>FOT Action 6.4 Focused oversight on cases of fraud</u>
966	The benefit level is not assessed, as it could not be done before the action is implemented. It is
967	suggested that the benefit is assessed after the implementation of the action with the support of
968	monitoring indicators (ex-post assessment).
969	
970	<u>SPT Action 6.5 Safety promotion on preventing, detecting and mitigating fraud cases in Part -147</u>
971	<u>organisations</u>
972	The benefit level is not assessed, as it could not be done before the action is implemented. It is
973	suggested that the benefit is assessed after the implementation of the action with the support of
974	monitoring indicators (ex-post assessment).

Table 20 –Improvement level per type of support of the intervention strategy "Examination cheating and fraud / conflict of interest within Part-147 organisations"

Intervention Strategy 6	Benefit level (BL)
Action 6.1 Introducing an appropriate NAA final assessment/performance based monitoring in Part-147 organisations	7
Action 6.2 Establish an European centralized questions database (ECQB) and make it use on voluntary basis for the Part-147 organisations	6
Action 6.3 Establish an European centralized questions database (ECQB) and make its use compulsory for all Part-147 organisations *(alternative to action 6.2)*	8

977

978

979

Questions to Stakeholders
*39. Please indicate if you agree with the benefit **justifications** for each action. If no agreement, please justify.*
40. Do you agree with the variations of the benefits in the table above?

984

8.3.2 Time implementation

986   The time implementation for each action is assessed below.

Table 21 - Time implementation per type of support of the intervention Strategy "Examination cheating and fraud / conflict of interest within Part-147 organisations"

Intervention Strategy 6	Time implementation (years)
Action 6.1 Introducing an appropriate NAA final assessment/performance based monitoring in Part-147 organisations	RMT -4 years; after rules are place a transition period for the competent authorities to establish the assessments and start performing them. This transition period will be at least one year.
Action 6.2 Establish an European centralized questions database (ECQB) and make it use on voluntary basis for the Part-147 organisations	RMT -4 years
Action 6.3 Establish an European centralized questions database (ECQB) and make its use compulsory for all Part-147 organisations *(alternative to action 6.2)*	RMT -4 years
Action 6.4 Focused oversight on cases of fraud	1 year
Action 6.5 Safety promotion on preventing, detecting and mitigating fraud cases in Part -147 organisations	1 year

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990

991	**Questions to Stakeholders**
992	*41. Please comment whether they should be a transition period for each of these actions? If yes, how long*
993	*should it be for each action?*
994	*42. Please comment on the implementation time for each action.*

8.3.3 Implementation cost level

RMT Action 6.1 Introducing an appropriate NAA final assessment/performance based monitoring in Part-147 organisations

The costs for EASA are as for a standard RMT (ca 1200 hours over 4 years per 1 RMT). It should be noted that these hours for EASA are for a complete RMT which will include many actions and not only the action mentioned here.

The competent authority will have to establish the procedures, facilities and staff necessary to carry out the assessment and analyse the results. The workload is expected to be at medium to high level for the CA. However, this workload might be slightly decreased by the reduction of extra audits. Overall, the workload for the competent authorities is estimated at a medium level.

The impact in the surveillance of the organisation will be negligible. The questions to test the students should be the same among all EU MS, because it will ensure consistency and coherence of the quality of this system.

The overall cost level is considered medium 5 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

RMT Action 6.2 Establish an European centralized questions database (ECQB) and make it use on voluntary basis for the Part-147 organisations

The estimate of cost for the Part-66 and Part-147 potential ECQB (250 000 euro) comes from the EASA ECQB for pilots:

- The cost provided by SM 3.3 only covers the creation and maintenance of a question bank, using only simple questions (no essays).The assumption is that 1,500 new questions are developed and 2,000 existing questions are reviewed each year.

- Staff: 3 Managers, 1 Assistant and 1 Project coordinator.
- Remuneration of external experts for writing questions: 150,000 €
- License fees for IT tools: 55,200 €

- The IT budget is not included in the cost figures provided as it comes out of EASA IT's budget not SM 3.3.

- The EASA ECQB figures do not include any budget for exam delivery, but it can be assumed that it would require about the same number of staff etc. as for the database maintenance.

- Staff: 3 Managers, 1 Assistant and 1 Project coordinator.

The creation and maintenance of the database will be the same regardless of the number of users and exams run, so if the use is voluntary and only a few organisations use it, the relative cost for exams will be high.

If it is used also by NAAs, this will decrease the cost per exam as the database will be the same. The costs for EASA might be mitigated, if EASA set up a charge/fee for the use of the system by the Part-147 organisations.

The overall cost level is considered medium 5 with a scale from 1 (very low/negligible costs) to 10 (very high) level of costs.

1035   RMT Action 6.3 Establish an European centralized questions database (ECQB) and make its use
1036   compulsory for all Part-147 organisations **(alternative to action 6.2)**

1037   The figures for cost are the same as in action 6.2, but if the use is compulsory the cost per exam can
1038   be estimated using the number of existing AMTOs that will have to use it.

1039   If it is used also by NAAs this will decrease the cost per exam as the database will be the same.

1040   The overall cost level is considered medium 5 with a scale from 1 (very low/negligible costs) to 10
1041   (very high) level of costs.

1042

1043   FOT Action 6.4 Focused oversight on cases of fraud

1044   Low cost/workload for the EASA and NAAs to add these specific questions and to analyse them. The
1045   overall cost level is considered low 3 with a scale from 1 (very low/negligible costs) to 10 (very high)
1046   level of costs.

1047

1048   SPT Action 6.5 Safety promotion on preventing, detecting and mitigating fraud cases in Part -147
1049   organisations

1050   The cost is to be estimated in a workshop or series of workshops to explain the problems and the
1051   added questions to systematically collect the data. The cost of the modification of the checks list and
1052   its impact is negligible. The overall cost level is considered low 3 with a scale from 1 (very
1053   low/negligible costs) to 10 (very high) level of costs.

1054

1055 **Table 22 – Implementation Cost level of the Intervention strategy" Examination cheating and fraud / conflict of interest within**
1056 **Part-147 organisations"**

Intervention Strategy 6	Implementation cost level (ICL)
Action 6.1 Introducing an appropriate NAA final assessment/performance based monitoring in Part-147 organisations	**5**
Action 6.2 Establish an European centralized questions database (ECQB) and make it use on voluntary basis for the Part-147 organisations	**5**
Action 6.3 Establish an European centralized questions database (ECQB) and make its use compulsory for all Part-147 organisations *(alternative to action 6.2)*	**5**
Action 6.4 Focused oversight on cases of fraud	**3**
Action 6.5 Safety promotion on preventing, detecting and mitigating fraud cases in Part -147 organisations	**3**

1057 *At the minimum, the overall implementation cost level for the intervention strategy shall be expressed according a
1058 scale from 1 to 10 (1: very low, 10: very high). This implementation cost level shall be justified by the costs per action,
1059 broken down per stakeholder.

1060

1061 **Questions to Stakeholders**

1062 43. *Do you agree with the estimated level of cost for each action? Please justify, supported with*
1063 *quantification of your assessment.*

1064

8.4 Summary of decision-criteria for the intervention strategy

Table 23 – Summary of decision-criteria of the Intervention Strategy" Examination cheating and fraud / conflict of interest within Part-147 organisations"

Action	Benefits (Improvement Level based on a scale from 1 – low to 10 – very high)	Costs (Implementation Cost Level based on a scale from 1 –low to 10 – very high)	Cost-Effectiveness	Start and Implementation time (years)	Priority Type (Strategic A, Standard B, Regular Update C)	Action Type (Rule, SP, Res, Focussed oversight)
Action 6.1 Introducing an appropriate NAA final assessment/performance based monitoring in Part-147 organisations	7	5	1.4	2018 5 years	B	RMT
Action 6.2 Establish an European centralized questions database (ECQB) and make it use on voluntary basis for the Part-147 organisations	6	5	1.2	2018 4 years RMT	B	RMT
Action 6.3 Establish an European centralized questions database (ECQB) and make its use compulsory for all Part-147 organisations *(alternative to action 6.2)*	8	5	1.6	2018 4 years RMT	B	RMT
Action 6.4 Focused oversight on cases of fraud		3	na	2019 1 year	B	FOT
Action 6.5 Safety promotion on preventing, detecting and mitigating fraud cases in Part -147 organisations		3	na	2019 1 year	B	SPT

9 Conclusions

9.1 Comparison of actions

Table 24 - Comparison of actions

Intervention strategy/Action	Benefits	Costs	Cost-Effectiveness	Implementation time (years)	Priority Type	Action Type
Intervention strategy 1 Action 1.1: Study to identify the AML categories that may need to be deleted, merged or created	na	3	na	1 year	B	Study
Intervention strategy 2 Action 2.2 Introducing Competency Based training in maintenance system	7	5	1.4	5 years	B	RMT
Intervention strategy 2 Action 2.3 Improving basic knowledge in maintenance system *(alternative to action 2.2 if it will not be taken)*	7	8	0.9	5 years	B	RMT
Intervention strategy 2 Action 2.4 Introducing apprenticeship in Part-145 organisations	4	5	0.8	5 years	B	RMT
Intervention strategy 2 Action 2.5 Introducing a <u>personal AML</u> log book in maintenance system	5	8	0.6	4 years	B	RMT
Intervention strategy 2 Action 2.6 Transfer the Basic Modules from the Implementing Rules (Appendix I) to AMC material.	6	2	3.0	4 years	B	RMT
Intervention strategy 3 Action 3.1 Extending the training needs analysis to the practical element in the type rating	7	5	1.4	5 years	B	RMT
Intervention strategy 3 Action 3.2 Harmonisation with ICAO standards and guidelines on CBT for practical training	6	5	1.2	5 years	B	RMT
Intervention strategy 3 Action 3.3 Introduce a requirement for an adequate level of knowledge of the language in which the training is delivered	7	2	3.5	4 years	B	RMT
Intervention strategy 4 Action 4.1 Introduction of a company authorization	7	5	1.4	4 year	B	RMT

Intervention strategy/Action	Benefits	Costs	Cost-Effectiveness	Implementation time (years)	Priority Type	Action Type
provision in the rules for a legacy aircraft						
Intervention strategy 4 Action 4.2 Mutual recognition of direct approval of type rating course	7	2	3.5	4 year	B	RMT
Intervention strategy 5 Action 5.1 Redefining the structure of the OJT to introduce requirements to fulfil the objective in a more flexible way	5	6	0.83	4 years RMT	B	RMT
Intervention strategy 5 Action 5.2 Introducing mechanisms for flexibility in the on the job training in Part-145	4	5	0.8	4 years RMT	B	RMT
Intervention strategy 5 RMT Action 5.3 Introducing mechanisms for flexibility in the on the job training in Part-147 *(alternative to Action 5.2)*	7	5	1.4	4 years RMT	B	RMT
Intervention strategy 6 Action 6.1 Introducing an appropriate NAA final assessment/performance based monitoring in Part-147 organisations	7	5	1.4	5 years	B	RMT
Intervention strategy 6 Action 6.2 Establish an European centralized questions database (ECQB) and make it use on voluntary basis for the Part-147 organisations	6	5	1.2	4 years RMT	B	RMT
Intervention strategy 6 Action 6.3 Establish an European centralized questions database (ECQB) and make its use compulsory for all Part-147 organisations *(alternative to action 6.2)*	8	5	1.6	4 years RMT	B	RMT
Intervention strategy 6 Action 6.4 Focused oversight on cases of fraud	na	3	na	1 year	B	FOT
Intervention strategy 6 Action 6.5 Safety promotion on preventing, detecting and mitigating fraud cases in Part -147 organisations	na	3	na	1 year	B	SPT

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9.2 Selected actions

1076 An indicative priority order based upon the cost effectiveness can be found below:

PIA score[26]	Intervention strategy (IS)	Action	Title	Driver	Benefit Level	Cost Effectiveness	Priority Type	Action type
B3.5	IS 3	Action 3.3	Introduce a requirement for an adequate level of knowledge of the language in which the training is delivered.	Level – playing field	7	3.5	Standard	RMT. 0544
B3.5	IS 4	Action 4.2	Mutual recognition of direct approval of type rating course	Efficiency/ proportionality	7	3.5	Standard	RMT. 0255 and changes in Part-145
B3	IS 2	Action 2.6	Transfer the Basic Modules from the Implementing rules (Appendix I) to AMC material.	Efficiency/ proportionality	6	3.0	Standard	RMT.0255
B1.6	IS 6	Action 6.3	Establish an European centralized questions database (ECQB) and make its use compulsory for all Part-147 organisations (*alternative to action 6.2)*	Safety	8	1.6	Standard	RMT.0544
B1.4	IS 4	Action 4.1	Introduction of a company authorization provision in the rules for a legacy aircraft	Efficiency/ proportionality	7	1.4	Standard	RMT. 0255 and changes in Part-145
B1.4	IS 2	Action 2.2	Introducing Competency Based training in maintenance system	Efficiency/ proportionality and Level- playing field	7	1.4	Standard	RMT.0255 and RMT.0544
B1.4	IS 3	Action 3.1	Extending the training needs analysis to the practical element in the type training	Efficiency/ proportionality	7	1.4	Standard	RMT.0255
B1.4	IS 5	Action 5.3	Introducing mechanisms for flexibility in the on the job training in Part-147 (*alternative to Action 5.2)*	Efficiency/ proportionality and Level- playing field	7	1.4	Standard	RMT.0255 and RMT.0544
B1.4	IS 6	Action 6.1	Introducing an appropriate NAA final assessment/performance based monitoring in Part-147 organisations	Safety	7	1.4	Standard	RMT.0544

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[26] The PIA score is indicating if the tasks is linked to a strategic priority (A), standard priority (B) or a regular update task (C). The numerical figure is the cost-effectiveness score.

		Action	Title	Driver				
B1.2	IS 3	Action 3.2	Harmonisation with ICAO standards and guidelines on CBT for practical training.	Efficiency/ proportionality and Level-playing field	6	1.2	Standard	RMT.0255 and RMT.0544
B1.2	IS 6	Action 6.2	Establish a European centralized questions database (ECQB) and make it use on voluntary basis for the Part-147 organisations.	Safety	6	1.2	Standard	RMT.0544
na	IS 1	Action 1.1	Study to identify the AML categories that may need to be deleted, merged or created	Efficiency/ proportionality	na	na	Standard	Study
na	IS 6	Action 6.4	Focused oversight on cases of fraud	Safety	na	na	Standard	Focused Oversight Task (FOT)
na	IS 6	Action 6.5	Safety promotion on preventing, detecting and mitigating fraud cases in Part -147 organisations	Safety	na	na	Standard	Safety Promotion task (SPT)

1077 **9.3 Discarded actions**

1078 The following actions are proposed to be discarded, because they have a negative cost-effectiveness, e.g.
1079 costs are higher than the benefits. The table is indicative and is presented for consideration and validation.

Action	Title	Driver	Benefit Level	Cost level	Cost Effectiveness	Action type
Action 2.3	Improving basic knowledge in maintenance system *(alternative to action 2.2 if not CBT action will be taken)*	Efficiency/ proportionality and Level playing field	7	8	0.9	RMT
Action 5.1	Redefining the structure of the OJT to introduce requirements to fulfil the objective in a more flexible way	Efficiency/ proportionality and Level playing field	5	6	0.8	RMT
Action 2.4	Introducing apprenticeship in Part-145 organisations	Efficiency/ proportionality and Level playing field	4	5	0.8	RMT
Action 5.2	Introducing mechanisms for flexibility in the on the job training in Part-145	Efficiency/ proportionality and Level playing field	4	5	0.8	RMT

| | Action 2.5 | Introducing a personal AML log book in maintenance system | Efficiency/ proportionality | 5 | 8 | 0.6 | RMT |

1080

10 Next steps

1082 The indicators presented above will support the prioritisation of:

1083 - The elements to include in the RMT.0255 and RMT.0544

1084 - The actions in the EPAS 2019-2023 (namely for the 3 candidate actions on FOT, STP and RES)

1085

1086 Following the comments received from the Advisory Bodies on this PIA the updated list of prioritised
1087 elements and actions (with respective justifications) will be included in the EPAS 2019-2023.

1088

1089 ## 11 Appendices

1090 ### 11.1 Appendix 1 – List of available documents

1091 *Table 25 – List of available documents*

Document	Title
1	Evaluation report on maintenance licencing system and the maintenance training organisations

1092

1093 ### 11.2 Appendix 2 – Scale for measuring the benefit level

1094 **Efficiency/Proportionality and Level Playing field**

1095 The benefit of each action is assessed in terms of impact for the whole system, using the scale in
1096 Annex II. Therefore, for instance there might be a slight increase between the benefit of one action
1097 and the benefit of another (e.g. a scale 5 for an action with medium benefit and a scale 6 for another
1098 action which would mean that there is a slight improvement in the level of benefit). Where no
1099 explanation is provided, the value of the score should be interpreted as slight improvement compared
1100 to lower score (or slightly less efficient then above score).

1101 *Table 26 – Scale of measuring the benefit level in the intervention strategies/Efficiency and Proportionality*

Score	Title	explanation
1	Inefficient Part-66/Part-147 regulatory framework	The system is too complex and requests a lot of time, efforts and resources to be changed. There is a high level of maintenance errors due to insufficient basic knowledge of the maintenance licence holders. Inefficiencies in the type rating training issues. The OJT requirements are not proportionate. There is a duplication of efforts due to the lack of mutual recognition of OJT and type rating courses directly approved by a Member State. The efficiency is hampered by many noted cases of fraud, cheating and conflict of interest within Part-147 organisations.
2		
3	Low efficiency/level playing field in Part-66/Part-147 regulatory framework	The efficiency of the system is low, the regulatory framework is complex and demanding. There is a significant level of maintenance errors due to insufficient basic knowledge of the maintenance licence holders. Some inefficiencies in the type rating training issues are existing. The OJT requirements are often not proportionate. Low level playing field due to lack of mutual recognition of OJT and type rating courses directly approved by a Member State. Unacceptable level of cases of fraud, cheating and conflict of interest within Part-147 organisations.
4		
5	Medium level of efficiency/level playing field in Part-66/Part-147 regulatory framework	The efficiency of the system is improved, but still not highly efficient. The level of maintenance errors is minimised with some improvements in the basic knowledge and type rating training. The information for issuance and amendment of the licences in one EU database system is easily retrievable and accessible. The fraud/conflict of interest cases are minimised, but there is still a risk.
6		

Score	Title	explanation
7	High level of efficiency/ level playing field in Part-66/Part-147 regulatory framework	The efficiency of the system is highly improved. The Part-66 AML categories/sub-categories will be simplified, thus achieving high level of efficiency. There are almost no maintenance errors. The basic knowledge and type rating training is improved. The fraud/conflict of interest cases are significantly minimised.
8		
9	Very high level of efficiency/ level playing field in Part-66/Part-147 regulatory framework	The system is simplified and achieve very high level of efficiency and level playing field. The level of maintenance errors is minimised due to better competency based training of the basic knowledge and type rating training. The OJT requirements are proportionate and promote a level playing field. The system is very efficient due to mutual recognition of OJT and type rating courses directly approved by a Member State. No fraud/conflict of interest cases.
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1103 **Safety**

1104

1105 Table 27 – Scale of measuring the benefit level in the intervention strategies/Safety

Score	Title	explanation
1	Very high safety risk related to Examination cheating and fraud / conflict of interest within Part-147 organisations	Inadequate competence of AML holders as a result of examination cheating and fraud/conflict of interest could lead to high safety risks.
2		
3	High safety risk related to Examination cheating and fraud / conflict of interest within Part-147 organisations	Risk slightly mitigated.
4		
5	Medium safety risk related to Examination cheating and fraud / conflict of interest within Part-147 organisations	Risk partially mitigated.
6		
7	Low safety risk related to Examination cheating and fraud / conflict of interest within Part-147 organisations	Important part of the risk mitigated.
8		
(9) 10	(almost) No safety risk related to Examination cheating and fraud / conflict of interest within Part-147 organisations	Risk (almost) fully mitigated.

1106