

EASA Functional Test Based Means of Compliance with SC Light-UAS – issue 1 - Comment Response Document

General comments

Comment				Comment	Suggested resolution	From the commenter point of view a modification of the published text is:	EASA comment disposition	EASA response
NR	Author	Section	Page					
1	XSUN	General	All	XSUN thanks EASA for publishing this proposed MOC which addresses some open questions.	N/A	Not requested;	Noted	Thank you for your comment. EASA acknowledges the comment but will not change the text.
2	FlyingBasket	General	N/A	<p>FlyingBasket would like to propose the harmonization with the different NAAs the requirement of the Design Verification Report for SAIL III. If not, the European Simple Market equality and the IR EU 2019/947 Article 13-Cross Border lack of sense, the different UAS OEM have not the same opportunities to scale up their business around Europe.</p> <p>There is incongruency in the current regulation "Annex E to AMC1 to Article 11", the OSO#4 is Low Robustness of assurance and although the applicant does not need to support the declaration with evidences to substantiate the claimed integrity, the NAA may request EASA to validate them, when the evidence may not be available.</p>	<p>The competent authority ("should") request EASA to validate the claimed integrity.</p> <p>OR</p> <p>Keep the current regulation deleting the previous sentence for SAIL III, since OSO #4 "low robustness" for assurance level, the applicant declares that the required level of integrity has been achieved, "Supporting evidence may or may not be available", therefore this MoC is not needed.</p>	Recommended;	Noted	Thank you for your comment. This comment appears to be outside the scope of the MoC and more a request to amend the regulation. EASA acknowledges the comment but will not change the text.
3	FlyingBasket	General	N/A	<p>EASA may issue in accordance with the current IR 2019/947 a requirement when an UAS OEM could not meet the requirement of the technical OSOs (e.g OSO#4 (L), OSO #5 (L)...), but still the NAA may granted an Operational Authorization for SAIL III if they are capable to demonstrate the flight under defined conditions for Proof of Concepts and under the Member States's Law for Sandbox.</p> <p>See examples how UK CAA apply it https://publicapps.caa.co.uk/docs/33/CAP1827_sandbox_brief_v2.pdf</p> <p>https://publicapps.caa.co.uk/docs/33/Future%20Flight%20Challenge%20Sandbox%20Guidance%20(CAP2130).pdf</p> <p>If every configuration needs to be verified to demonstrate the potential of the drone use case in urban area, a DVR which the corresponding analytical-based or fuctional test-based is needed, EASA is not supporting the development of the drone business.</p>	<p>"In case of experimental flights that investigate new technical solutions, the competent authority may accept that recognised standards are not met."</p> <p>Create a guidance similar to Regulation (EU) 2019/897 for 21.A.701 requirement and establish the procedure for issuing operational authorization for Medium Risk or when the Enhacement Contaiment DV is required , approving associated FTB MoC FH needed tailoring with the number of flights (time of exposure) for the proof of concept under the sandbox.</p>	Recommended;	Noted	Thank you for your comment. This comment appears to be outside the scope of the MoC and more a request to amend the regulation. However, EASA is preparing such a policy for experimental flights. EASA acknowledges the comment but will not change the text.

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4	Wingtra	General	N/A	Explanation about Minimum and maximum number of units to perform the FHs required by the FTB is needed.	An explanation about how many UAV units are required to complete the flight tests (FH) is required. Normally the units have a limit life (e.g., 300FH, and therefore 10 units would be required to complete the FHs for SAIL III). Suggestion: Minimum of 3 units and maximum of 15 units. All units have to comply with a strong configuration as per ASTM F3478.	Requested	Noted	Thank you for your comment. The text of the MoC indicates a number of aircraft in line with ASTM standard (which established the minimum of 3) and request that the number is agreed with the Agency. Therefore, the maximum number need to be proposed by the applicant and agreed with the Agency. This provides flexibility in the preparation of the Demonstration Test Plan. EASA acknowledges the comment but will not change the text.
5	Wingtra	General	N/A	Explanation if already logged customer flights or testing flights (with the same configuration) are valid to complement the FTB approach.	An explanation about the use of already logged FHs by customers and Flight Testing team linked to the same configuration of the unit under DV approach. Suggestion: FHs logged by other entities (flight testing team or 3rd parties) that are ensuring a controlled configuration can be used to complete the FTB dedicated FHs approach.	Requested	Noted	Thank you for your comment. The MoC provides several elements of flexibility with regard to the definition of the number of FH. EASA acknowledges the comment but will not change the text.
6	Wing Aviation	General	N/A	Wing supports the proposed MoC which is aligned with the activities of JARUS SRM WG on Annex E. Wing would like to encourage EASA to add some elements and improvements in the MoC, consistent with the work of JARUS SRM and with the intent to help the industry implement this MoC in a standardised way. The specific proposals are detailed in the following comments.	N/A	Not requested;	Partially Accepted	Thank you for your comment. EASA acknowledges the comment and has accepted most the detailed comments
7	Robots Expert Finland Ltd	General		Robots Expert welcomes an evidence-based approach by EASA for demonstration of robustness of the technical design.			Noted	Thank you for your comment. EASA acknowledges the comment
8	Robots Expert Finland Ltd	General		The growth of the unmanned aviation sector depends on the ability to tightly control costs, and ensure a very rapid innovation cycle. Therefore, any Means of Compliance need to be as light and rapid as possible, so that new product software and hardware of UAS systems can be rolled out in an agile manner.	Ensure, that MoC for UAS are developed with without jeopardising the potential benefit of more advanced UAS missions to reduce emissions and to better serve society. In a sense, lean forward towards new ways of enabling rapidly evolving, innovative UAS rather than lean back towards methods known from manned aviation. The authority costs involving in obtaining SAIL II OA are counted in the hundreds of euros. To have costs soar 100x or more between SAIL II and SAIL III seems disproportionate to the added risk.	Recommended;	Noted	Thank you for your comment. The MoC provides several elements of flexibility with regard to the definition of the number of FH. EASA acknowledges the comment but will not change the text.
9	Drone Alliance Europe	General	N/A	The Drone Alliance Europe (DAE) supports the proposed MoC as it is aligned with the activities of JARUS SRM WG on Annex E. DAE recommends that EASA make some improvements to the MoC, to make it consistent with the work of JARUS SRM and with the intent to assist the drone industry in implementing this MoC in a standardised way.	N/A	Not requested;	Noted	Thank you for your comment. EASA acknowledges the comment but will not change the text.

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10	Safran Electronics & Defence	General	3	The title reads "Means of Compliance Functional Test Based (FTB) MoC for SC Light-UAS"	The intent of this MoC is to propose to demonstrate reliability and durability through several hours of functional flight tests. We would thus suggest to rename the MoC by replacing "Functional" with "Flight" or "Functional Flight". Wording should be then updated accordingly in the rest of the document.	Recommended;	Noted	Thank you for your comment. The MoC allows to convert some FHs in ground or lab tests, therefore functional is more appropriate. EASA acknowledges the comment but will not change the text.

Introductory note and identification of issue

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11	FlyingBasket	Introductory note and identification of issue	1	Contradicting statements about SAIL level. The subject states SAIL III and below, and the Introductory Note talks about SAIL III and IV.	To avoid misunderstanding, specify if FTB MOC to SC light UAS at medium risk covers only III and below OR add a full stop after "for substantiation of requirements of the SC have not yet been adopted by EASA. FULL STOP. With the release of this document..."	Recommended;	Accepted	Thank you for your comment. Changes were introduced to the text to make clear that the MoC is applicable, and the approach considered acceptable for UAS operated in SAIL III and below. EASA has revised the text as proposed.

Background

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12	Kevan McHale Seahawk Consulting Ltd	Background	2	The term "Conops" is also used in the JARUS SORA documents, in those documents the scope of the Conops appears more like an "exposition" covering many areas of training, safety management, organisation, product development etc. It is suggested that in the context of this document Conops is probably a narrower concept relating to the how, where and under what conditions the UAS will be operated as this is in support o a de facto certification activity.	Define the scope of the required "Conops"	Recommended;	Noted	Thank you for your comment. The term "Conops" is not only used in JARUS SORA documents but is used as well in EU regulation 2019/947. In the regulation the following could be found as part of the first step for conducting a SORA: "The concept of operations (ConOps) description is the foundation for all other activities, and should be as accurate and detailed as possible. The ConOps should not only describe the operation, but also provide insight into the UAS operator's operational safety culture." EASA acknowledges the comment but will not change the text.
13	OTLE	Background	2	Footnote 3 Quote.....Under certain assumptions3.....unquote (3) Statistical independence of experiments We need more explanations about that.			Partially Accepted	Thank you for your comment. The intention was to refer to the binomial distribution. EASA has revised the text accordingly.
14	Wingtra	Background	2	Text on the MOC: "This MoC requires a significant amount of flight test hours to be carried out in controlled and safe conditions with a positive outcome." Definition of a positive outcome and consequences in case that positive outcome is not reached is required (for instance, if 2000FH have been successfully completed, what would happen if a failure occurs at that time).	Add an explanation about what possibilities do the applicants have in case a failure happens close to complete the 3000FH.	Requested	Partially Accepted	Thank you for your comment. The text for "failures" illustrates now more clearly that this is achieved determining an additional number of tests. EASA has revised the text accordingly.
15	Wing Aviation	Background	2	The MoC allows for operating in a lower SAIL environment and using successful operations in that environment to increase the level of SAIL and thus the risk of the operating environment. We would like to suggest the statement highlighted below in the Background section be updated to better match this approach: "This MoC requires a significant amount of flight test hours to be carried out in controlled and safe conditions with a positive outcome" The operator needs flight hours, not necessarily test hours, as they may be operational hours. Additionally, we would like to suggest that "controlled" conditions be removed, as it should be sufficient to accumulate the hours in any place the operator is currently approved to operate.	Change sentence to: This MoC requires a significant amount of flight hours to be carried out in approved and safe conditions with a positive outcome.	Recommended;	Accepted	Thank you for your comment. EASA has revised the text as proposed.

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16	FAA	Background	1	Does GRC take into account optional risk reducing systems such as a parachute that may reduce the KE of a falling UA?	Identify what benefit, if any, is given for energy reduction devices to the risk class determination.	Recommended;	Noted	Thank you for your comment. The residual (final) ground risk leading to the definition of FHs accounts for possible mitigations. However, the demonstration of the reliability of such mitigations is performed according to a different MoC (MoC to 2512). EASA acknowledges the comment but will not change the text.
17	OTLE	Background	2	Footnote 2: Quote.....Allowable rate of loss of control of the operation per flight hour (FH) is linked with the SAIL2 and achieved by means of Operational Safety Objects (OSOs)...unquote. a. Does the theory 10-SAIL relate just to the expected competence of the operators an pilots, low SAIL-> low competence, high SAIL -> high competence? b. If so, i. where comes the theory from? Experience, reporting, estimates..... ii. or the number of expected operations in parallel (100 Operator in parallel, Each OpsHour one Operator would loose control?) .	Clarification required		Noted	Thank you for your comment. In the SORA the SAIL is by definition linked to the risk and to the probability of loss of control / FH (refer in particular to SORA Annex F). In general, the higher the SAIL, the higher the OSO robustness, including the OSO covering the required pilot competence. It is not for this MoC to provide standards related with the OSO referring to the pilot competence. EASA acknowledges the comment but will not change the text.

1. Applicability

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18	FOCA	1. Applicability	3	<p>EASA offers the possibility to apply for an UAS Design Verification for the following cases (Form FO.CSERV.00198-001):</p> <ul style="list-style-type: none"> - UAS full design verification (SAIL III or IV) - SORA Step 9 Enhanced Containment - Mitigation Means linked with design - Change to an existing design verification <p>It is encouraged to clarify, whether the FTB MOC is applicable for the demonstration of compliance in the case of DVR for only "Mitigation Means linked with design".</p>	<p>This MoC is applicable to:</p> <ul style="list-style-type: none"> - UAS design verification (UAS full design verification, Mitigation means linked with design)/ type certification for operation in the specific category with SAIL III and below , and - Design verification basis / type certification basis provided by SC Light UAS medium risk SAIL III 		Not accepted	<p>Thank you for your comment. EASA will address mitigation means linked with design by means of dedicated MoC to Light-UAS.2512. EASA will not therefore not change the text.</p>

2. Methodology

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19	ENAC	2. Methodology	2, 3	<p>The overall number of flight hours to be distributed across the DTP is expected to be 3000". The minimum target of 3000 FH seems to be quite burdensome for an operator / manufacturer and probably these FH are not necessarily less than the demonstration of compliance by conventional methods, becoming excessively complicated to respect for an operator who could still decide to proceed with a design verification which would allow operations up to SAIL IV.</p> <p>In the footnote at page 2 it is stated that the allowable risk level can be evaluated as 10⁻⁶-(SAIL) subsequently it is unclear why the expected number of 3000FH does not follow this criterion.</p>	<p>As Authority we recommend that the proportional approach, based on the complexity and risk associated with the operations, leading to the reduction of required flight hours based on the SAIL risk class as expressed at page 3 footnote 6 is put in the main body of the MOC.</p> <p>Particularly we would expect EASA to provide a list of required flight hours for the DTP for each SAIL level as per the below list:</p> <ul style="list-style-type: none"> - SAIL I -> XXX FH - SAIL II -> YYY FH - SAIL III -> ZZZ FH <p>EASA to clarify the rationale for the required number of flight hours for each SAIL class and particularly for SAIL III.</p>		Accepted	Thank you for your comment. Rationale is better clarified, and several elements of flexibility allow a reduction of the nominal 3000 FHs. EASA has revised the text as proposed.
20	ENAC	2. Methodology	3	It is unclear if a dedicated flight campaign is required in order to demonstrate compliance with the requirements of SC-LIGHT UAS or if credit can be taken for previous operations conducted at SAIL lower than III.	EASA to clarify the chance to use results derived from previous flight testing activities.		Accepted	Thank you for your comment. This has been clarified. EASA has revised the text as proposed.
21	PL CAA	2. Methodology	3	"The overall number of flight hours to be distributed across the DTP is expected to be 3000". Assuming that the tests will be performed daily for 8 hours, such a test must last 375 days. It seems to me that such tests should be required from UAV manufacturers who have facilities for this. The operator should focus on the operating procedures.	Shorter tests.		Not accepted	Thank you for your comment. EASA does not agree with the comment. EASA does consider appropriate to restrict to manufacturers on the basis that the comment would exclude operators based on not having facilities. EASA will not change the text.
22	PL CAA	2. Methodology	3	Such tests should be required from UAV manufacturers who have facilities for this. The operator should focus on the operating procedures.			Not accepted	Thank you for your comment. EASA does not agree with the comment. EASA does consider appropriate to restrict to manufacturers on the basis that the comment would exclude operators based on not having facilities. EASA will not change the text.

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23	Safran Electronics & Defence	2. Methodology	3	<p>"The overall number of flight hours to be distributed across the DTP is expected to be 3000. Test should be performed using a number of aircraft in line with ASTM F3478-20 section 5.3 and agreed with the Agency."</p> <p>ASTM F3478-20 Section 5.3 states that a minimum of 3 demonstration articles must be used. It is therefore assumed that the minimum number of FH per demonstration article is around 1000 FH. However guidance should be given regarding the minimum number of FH per UA that could be considered. When many UAS are involved (including in-service UAS, operated at lower SAIL level), the quantity of flight hours per UAS will reduce proportionally - but the conclusions for reliability and durability would be less representative (less FH per UA).</p>	A minimum number of FH per UA should be specified or indicated.	Recommended;	Not accepted	Thank you for your comment. EASA does not agree with the comment. It is not considered necessary to specify this element, this will be agreed as part of the DTP. Furthermore, the comment (less representativeness) is not shared by EASA with regard to conclusions on the demonstrated probability of loss of control / FH. EASA will not change the text.
24	Safran Electronics & Defence	2. Methodology	3	<p>"The overall number of flight hours to be distributed across the DTP is expected to be 3000. Test should be performed using a number of aircraft in line with ASTM F3478-20 section 5.3 and agreed with the Agency."</p> <p>ASTM F3478-20 Annexes A1, A2 and A3 provide a list of test cases. All test cases could however be covered through much less than 3000 FH.</p>	It should be clarified that test cases involving components that degrade through wear and tear (typically mechanical components but also batteries) should be performed towards the end of the service life of these components (i.e. a few FH / FC before scheduled replacement occur).	Recommended;	Noted	Thank you for your comment. It is expected that considerations regarding components that degrade through wear and tear are being considered under the instructions for continuing airworthiness and therefore those components would be in serviceable condition throughout the whole demonstration test campaign. EASA acknowledges the comment but will not change the text.
25	XSUN	2. Methodology	3	<p>"Applicants are invited to refer to ASTM standard F3478-204 for elements 1 to 4." Alternative standards or further explanations should be proposed to avoid relying on chargeable standards</p>		Recommended;	Noted	Thank you for your comment. At the time of issuing this MoC, the ASTM standard is the only document addressing such a functional testing. When other standards would become available the Agency could also consider their appropriateness to demonstrate compliance with the SC-Light UAS. EASA acknowledges the comment but will not change the text.
26	XSUN	2. Methodology	3	<p>"The overall number of flight hours to be distributed across the DTP is expected to be 3000." It is not clear why 3000 and not 1000 FH since the safety objective of SAIL III is 10-3. Furthermore, the extensive number of 3000 FH does not seem realistic for certain UAS or kind of operations.</p>	XSUN suggests replacing the sentence by : "The overall number of flight hours to be distributed across the DTP depends on the UAS design and the kind of operations. This number of flight hours should not be less than 10 standard missions of the UAS and could be combined with other means of compliance."	Requested	Partially accepted	Thank you for your comment. Rationale is now better clarified. EASA has revised the text accordingly.

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27	FlyingBasket	2. Methodology	3, 4	<p>From a practical view point, for an UAS OEM, implementing a 3000h flight test program implies a great effort and not feasible for the huge variety of applications with the same UAS type (and does not with the same configuration) and the revenue of the expected application.</p> <p>Several ConOps are easily to reach the reliability as it is the same application always, i.e. logistic - to carry package from one site to other, but there are other companies that use the UAS for multiple ConOps and applications.</p> <p>"FH operated in a lower SAIL level can be claimed".</p>	Implement the guidance for the reliability grow model considering the operational life, and the ConOps of a UAS type with similar configuration (see Configuration baseline / Control Change Management comment).	Recommended;	Accepted	Thank you for your comment. Option for the applicant to request credit for other operations under different SAIL has been introduced. EASA has revised the text as proposed.
28	FlyingBasket	2. Methodology	4	<p>"UAS with a similar configuration" what does it means? What can be considered as the same configuration "baseline" and what cannot?</p> <p>Which are the changes in configuration that eventually require a re-assessment of the test based MoC?</p>	<p>Guidance for change management is very vague, it needs to be much further substantiated</p> <p>Include in the MoC when a "Change to an existing design verification report" is needed and in a similar way to classify "Major or minor change", which are the FTB MoC FH required to substantiate the change.</p> <p>It should be enough for "Minor" changes to implement the change and repeat the test by the UAS OEM without the validation of EASA as it is medium risk (SAIL III).</p>	Requested	Noted	Thank you for your comment. To classify changes one would need to assume that the design organization has a DOA, which for SAIL III may usually not be the case. EASA acknowledges the comment but will not change the text.
29	FAA, The UAS Integration Research Office (AUS), Research Engineering & Analysis Division (AUS-300)	2. Methodology	3	<p>Where exactly does the expectation of 3,000 flight hours come from? Is it a result of attempting to demonstrate reliability at some specific statistical confidence level?</p> <p>Some of the specific performance characteristics that are referenced are not really tied to flight hours. For instance, takeoff and landing performance are really discrete events that are only very loosely tied to cumulative flight hours.</p> <p>Would targeting a specific number of takeoffs and landings, for example, be useful? Depending on endurance capabilities of a given platform, you could achieve 3000 flight hours in any number of actual flights (and thus takeoffs and landings).</p>	Clarify where the 3,000 flight hour expectation came from, and why the specific accumulation of flight hours is mentioned but not an accumulation of any other specific discrete events.	Recommended;	Accepted	Thank you for your comment. Rationale is now better explained. EASA has revised the text as proposed.
30	AESA Spain	2. Methodology	3	<p>3000 flight hours are more than a year (assuming 8 hours/day). It could lead up to 2 years of real flight tests, which is too much in our opinion. Also, most motors widely used have a lifespan much lower than 3000 hours.</p>	We consider necessary to reduce the number of flight hours for testing. We suggest to reduce the number of flight hours requested by a magnitude order to 300 hours.	Requested	Noted	Thank you for your comment. The quantitative rationale is now clarified for the nominal flight hours and several flexibility elements are introduced to provide the possibility to reduce the nominal number of flight hours. EASA acknowledges the comment but will not change the text.

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31	AESA Spain	2. Methodology	3	The overall number of flight hours distributed across the DTP (3000 hours) are for complying with the whole requirements of the SC Light UAS medium risk or for each requirement? In case it is for all requirements, how many hours are needed for a single requirement? For example just for the Light-UAS.2511	Clarify the distribution of hours of the DTP	Requested	Noted	Thank you for your comment. The nominal flight hours are overall, not for each requirement. How the hours are distributed among these elements is for the applicant to define and to be agreed with the Agency. EASA acknowledges the comment but will not change the text.
32	Volocopter GmbH	2. Methodology	3	The requirement on 3000 FH is not fully clear and explained in the text. The MOC mentioned that certain assumption was taken ('Statistical independence of experiments'), however this assumption is not further elaborated nor clarified in the text. The MOC should allow the number of FH being determined according to the allowable rate of loss of control for defined SAIL, i.e., 10-SAIL / FH.	Please elaborate and explain in the MOC text the rationale between 3000 FH requirement. Please consider linking the FH requirement to the established rate of loss of control for specific SAIL.		Partially accepted	Thank you for your comment. Rationale is now better explained. EASA has revised the text accordingly.
33	OTLE	2. Methodology	3	a. Quote...not exceeding 300 FH for SAIL II...unquote. Why is it for SAIL II more than required by GM 21.A.35(f)(2) Flying Time for Function and Reliability Testing, ED Decision 2012/020/R All flying carried out on an aircraft not significantly different from the final type design may count towards the 150 hours airframe flight time required by 21.A.35(f)(2)? Remark: based on FH-statistics of our flight test sites, we will need about 50 weeks to accomplish the required 300 FHs. This is quite an effort for an SAIL II DVR without any privileges to apply minor modifications to the verified configuration. b. Are there any EASA Ideas how to handle minor configuration changes (e.g. like Delta-DVRs, DVR amendments..... in the future), to apply proportionality between test effort and the nature of the design change?	not exceeding 150 FH for SAIL II		Noted	Thank you for your comment. EASA notices that this and other comments focus on the nominal flight hours and do not consider the elements of flexibility introduced by the MoC to reduce such number. EASA acknowledges the comment but will not change the text.

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34	Wing Aviation	2. Methodology	3	<p>The reference to ASTM standard F3478-20 is welcome and supported.</p> <p>It is proposed to be more precise when referring to the ASTM standard, e.g. by linking the 4 elements requested to specific sections of the ASTM F3478 standard:</p> <ol style="list-style-type: none"> 1. a demonstration test plan (DTP) could be linked specifically to ASTM F3478-20 section #8 2. demonstration prerequisites could be linked specifically to ASTM F3478-20 section #5 while adapting the applicable references for OM (UFM) and ICA 3. data collection criteria could be linked specifically to ASTM F3478-20 sections #8.2 and #9 4. final reporting could be linked specifically to ASTM F3478-20 section #10. 	Refer to the proposal embedded in the comment.	Recommended;	Accepted	Thank you for your comment. Better reference to the ASTM standard is provided. EASA has revised the text as proposed.
35	Wing Aviation	2. Methodology	3	<p>Comment related to footnote #6.</p> <p>We would like to propose the rewording of the following sentence to make the reference to the 300 FH threshold easier to read:</p> <p>"In case a DVP is voluntarily applied to for SAIL lower than III, EASA would recommend the application of the FTB methodology, which would lead to defining a DTP based on a number of FHs not expected to exceed 300."</p>	<p>Reword footnote #6 as follows:</p> <p>"In case a DVP is voluntarily applied to for SAIL II, EASA would recommend the application of the FTB methodology, which would lead to defining a DTP based on a number of FHs not expected to exceed 300. SAIL I is not considered a realistic case for a DVP".</p>	Recommended;	Accepted	Thank you for your comment. Footnote changed (however even further modified deleting the observation for SAIL I). EASA has revised the text as proposed.
36	Wing Aviation	2. Methodology	N/A	<p>Wing welcomes the possibility introduced by EASA to allow applicants to get a lower SAIL approval and then, through operational experience, gather sufficient operating hours to justify an increase in overflown population density under representative operating conditions. This enables UAS operators to take a "crawl, walk, run" approach with approvals and demonstrate to EASA their operational competence in real-world operations. Expanded operating conditions would require additional testing and/or analysis.</p> <p>We would like to propose the following improvements.</p>	<p>Reword the paragraph as follows:</p> <p>"Applicants may consider operating under a low SAIL approval and then, through operational experience, gather sufficient operational data to justify an increase in the SAIL, based upon the demonstrated increase in operational reliability. This would only be valid if the flight conditions are proved applicable, the UAS configuration is proved similar such the differences do not invalidate the claimed FH, and the recorded evidence of such FH is fully available. This substantiation would need to be agreed upon with the Agency.</p> <p>Note that this possibility does not cover expanded operating conditions which would require additional testing and/or analysis to be performed by the UAS manufacturer."</p>	Requested	Partially Accepted	Thank you for your comment. The previous EASA text has been changed (however not exactly as Wing's suggestion). EASA has revised the text accordingly.
37	FAA	2. Methodology	3	Does compliance with ASTM F3478-20 constitute a sufficient showing for light UAS approval?	Identify which sections of ASTM F3478-20 apply to which sections of the MOC.	Recommended;	Accepted	Thank you for your comment. Better reference to the ASTM standard is provided. EASA has revised the text as proposed.

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38	Drone Alliance Europe	2. Methodology	2	<p>DAE supports allowing applicants to get a lower SAIL approval and then, through operational experience, gather sufficient operating hours to justify an increase in overflowed population density under representative operating conditions. This enables UAS operators to take a “crawl, walk, run” approach with approvals and demonstrate to EASA their operational competence in real-world operations. Expanded operating conditions would require additional testing and/or analysis.</p> <p>We would like to propose the following improvements.</p>	<p>Reword the paragraph as follows: “Applicants may consider operating under a low SAIL approval and then, through operational experience, gather sufficient operational data to justify an increase in the SAIL, based upon the demonstrated increase in operational reliability. This would only be valid if the flight conditions are proved applicable, the UAS configuration is proved similar such the differences do not invalidate the claimed FH, and the recorded evidence of such FH is fully available. This substantiation would need to be agreed upon with the Agency.</p> <p>Note that this possibility does not cover expanded operating conditions which would require additional testing and/or analysis to be performed by the UAS manufacturer.”</p>	Requested	Partially Accepted	Thank you for your comment. Please refer to comment 36. EASA has revised the text accordingly.
39	FAA	2. Methodology	3	I think these footnotes will allow for incorporation of the various hours flown under the FAA's D&R framework for a given reliability category. We should be sure there is a path for validation (in both directions) of UA that have flown a range of hours or have unique operating limitations.	Begin work to identify SSDs and SEIs for low risk unmanned aircraft certification.	Recommended;	Accepted	Thank you for your comment. EASA has now provided a rationale to transparently derive the number of FHs, linked to the upcoming quantitative SORA approach. This should help a path for validation. EASA has revised the text as proposed.
40	Robots Expert Finland Ltd	2. Methodology	3	It is not clear where the number 3000 FH comes from? ASTM F3478-20 does not specify 3000 FHs, or any other number of FHs. SAIL II operations can be permitted based on operator declaration only. This also means that very few test flights are sufficient for the operator to familiarise themselves with a new UAS. Many operations in the SAIL II category consists of a few flights over the span of the whole operation, sometimes limited to one (1) flight only. This is typical for research & innovation activities as well as for demonstration flights. To think that up to 300 FH could be required for SAIL II and up to 3000 FH for SAIL III seem to be poorly aligned with the reality of drone operations and their (usually very low) business potential. Added to this, some discussions take place in the US to allow SAIL IV flight based on 7000 FH (2.3x the proposed 3000 FH for SAIL in this proposed MoC).	To ensure a rapid innovation cycle also for SAIL III operations, we propose that an evidence-based Design Verification process, including conducting a test programme, should be possible to conduct inside a calendar quarter, including all EASA interaction. Furthermore, for economic reasons, the number of test platforms should be kept at a minimum to allow also startups and micro-companies with only tens or hundreds of thousands of euros of total budget (salaries, UAS, OA+DVR costs) to achieve SAIL III. We propose to limit the number of required evidence-based flight hours in SAIL III to be 3 UAS running 4h per working day each times 60 working days = ~700 FH. This level of flight testing would still be 100x that of what is reality for many SAIL II operations including flight testing, and it would be 1/10 of the FH proposed by FAA for SAIL IV.	Requested	Partially accepted	<p>Thank you for your comment.</p> <p>1) It is not forbidden by the standard to utilize only 3 UAS.</p> <p>2) EASA has now provided more rationale for the NOMINAL flight hours.</p> <p>3) The European approach is based on SORA and for the SORA by definition SAIL III means probability of loss of control of 10^{-3} / FH;</p> <p>4) the D&R approach with regard to the derivation of the specific number of FHs is based on the statistical rule of 3; 4) the FAA does not adopt the SORA, the specific rate loss of control required for the FAA projects and how it is derived is not public while if a project is SAIL III its loss of control is automatically public for the reason that the SORA logic is public</p> <p>5) the same number of hours are being by JARUS in the next SORA; EASA has included several elements of flexibility to decrease the FHs and now distinguished the nominal FHs, defined on the base of SAIL III, from the final agreed one</p> <p>EASA has revised the text accordingly.</p>

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41	Robots Expert Finland Ltd	2. Methodology	3	It is problematic from equal access, training and project feasibility evaluation points of view, that the proposed MoC refer to standards, which can only be accessed after paying a fee. To even evaluate the appropriateness of this proposed MoC, the referred ASTM standard would have to be procured. The methodology referred should be part of publicly available MoC documentation.	Make standards referred to in the AMC/MoC material available free of charge.	Recommended;	Not accepted	Thank you for your comment. EASA does not agree with the comment. This is not legally possible for EASA. Policy is defined by SDOs. EASA will not change the text.
42	Robots Expert Finland Ltd	2. Methodology	3	For SAIL II, the applicant for an OA should be convinced, that they have the required robustness, and their declaration should be sufficient for the competent authority, without any prescribed number of flight testing hours.	Remove any and all references to FH for SAIL II.	Requested	Not accepted	Thank you for your comment. EASA does not agree with the comment. There is no prescribed number of FHs for SAIL II. This MoC does not impose anything on SAIL II. However, there might be voluntary applications for SAIL II. EASA will not change the text.

3. Areas of particular attention

Comment				Comment	Suggested resolution	From the commenter point of view a modification of the published text is:	EASA comment disposition	EASA response
NR	Author	Section	Page					
43	PL CAA	3. Areas of particular attention	4	Please, clarify what it means to qualify at the minimum level? Please provide a specific reference to requirements from Art. 11 of 2019/947.	More details needed.		Partially accepted	Thank you for your comment. For the moment there is no standard adopted to cover pilot qualification for AMC to article 11. EASA has revised the text accordingly.
44	M. Allouche	3. Areas of particular attention	4	Remote Pilot: "Different capabilities of the remote pilot may in some cases determine different results in preserving control of the operation". Another aspect should be mentioned that may have an impact on the role of the Remote Pilot in the framework of FTB: In some applications, the role of the Remote Pilot may be limited to intervention in case of emergency only, thanks to the high level of automation in the system	Add: Account should also be taken of the role of the Remote Pilot in due consideration of the level of automation		Noted	Thank you for your comment. This element was already introduced in the consultation paper. EASA acknowledges the comment but will not change the text.
45	FlyingBasket	3. Areas of particular attention	4	Here the text seems contradicting. On one hand it says that it has to be taken into account in the DTP that the end user could be a pilot with minimum qualification, on the other hand it says that higher qualified pilots can be necessary for proper testing.	To better specify that a more skilled pilot can be/shall be used to further stress the machine and better assess the limitations of the machine, not that a more skilled pilot should be used to make up for poor handling qualities of the machine and therefore to better keep the operation under control compared to a less experienced one	Recommended;	Accepted	Thank you for your comment. "and thoroughly assess the design" has been added. EASA has revised the text as proposed.
46	FlyingBasket	3. Areas of particular attention	5	Higher qualified pilot is an abstract or undefined term.	Maybe indicate most experienced pilot or specify which qualifications are required.	Recommended;	Not Accepted	Thank you for your comment. EASA does not agree with the comment. Pilot qualifications in the specific category are determined based on the SORA. Where standards still lack, they need to be agreed with the Agency starting from available sources (e.g. AWDrone). As we normally do for design MoC/standards. EASA will not change the text.
47	FAA, The UAS Integration Research Office (AUS), Research Engineering & Analysis Division (AUS-300)	3. Areas of particular attention	4	The verbiage describing tracking and responding to failures appears confusing. Is the intent that failures are tracked in order to estimate the overall failure rate throughout the 3,000 flight hour campaign? If every failure results in a design or procedural change, then wouldn't that result in essentially having to reset the Flight Hour "clock" back to zero? Is the intent to both count the number of failures along the way, while also mitigating them throughout as well? Seems like you're not really getting a valid data sample if that is the case	Clarify how configuration changes can be authorized in response to failures, while still counting those failure tallies toward an overall metric, and how overall conclusions can be drawn from a sample that was evolving throughout	Recommended;	Accepted	Thank you for your comment. Clarification has been added. EASA has revised the text as proposed.

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48	FOCA	3. Areas of particular attention	4	For the sake of clarity, it is suggested to remark that the configuration of the UAS shall be frozen prior the beginning of the flight testing activities, and any changes in configuration during the flight testing activities should be substantiated and might invalidate previous already demonstrated flight hours.	It is suggested to expand the paragraph to remark that the configuration of the UAS shall be frozen prior the beginning of the flight testing activities, and any changes in configuration during the flight testing activities should be substantiated and might invalidate previous already demonstrated flight hours.		Accepted	Thank you for your comment. EASA has revised the text as proposed.
49	Wing Aviation	3. Areas of particular attention	N/A	Applicants should be allowed to maintain, repair, or replace UAS subsystems during FTB demonstrations in line with the UAS Operator Maintenance Programme developed based on the UAS designer scheduled maintenance requirements and adapted to the specificities of UAS operations.	Add in Section 3. Areas of particular attention, under the subparagraph on UAS configuration: "Applicants may be able to maintain, repair, or replace UAS sub-systems during FTB demonstrations provided such tasks are conducted according to the UAS operator's maintenance programme and requirements adapted to the intended Concept of Operations and the demonstration test plan (DTP)".	Requested	Noted	Thank you for your comment. This element is already included as indirect reference to the instruction for continuing airworthiness in the ASTM standard and it is part of the demonstration prerequisites which are referred to in section 2. Methodology. EASA acknowledges the comment but will not change the text.
50	Wing Aviation	3. Areas of particular attention	4	Comment related to: "In such cases, the applicant needs to perform a root cause analysis and define design or procedural modifications to address the failure condition". There may be cases in which the outcome of the required root cause analysis does not trigger a design or procedural modification. Therefore, the following wording is proposed: "In such cases, the applicant needs to perform a root cause analysis, which may trigger design or procedural modifications to address the failure conditions. The root cause analysis and, when applicable, the proposed modifications should be discussed and agreed upon with the Agency".	Reword sentence as follows: "In such cases, the applicant needs to perform a root cause analysis, which may trigger design or procedural modifications to address the failure conditions. The root cause analysis and, when applicable, the proposed modifications should be discussed and agreed upon with the Agency"	Recommended;	Accepted	Thank you for your comment. EASA has revised the text as proposed.
51	Wing Aviation	3. Areas of particular attention	N/A	It is considered essential that the applicant sets safe life limits for UAS subsystems sensitive to wear-out conditions based on the maximum cycles and hours demonstrated by one or more fleet leader high cycles and time UAS.	Add in Section 3. Areas of particular attention: "The applicant sets safe life limits for UAS subsystems sensitive to wear-out conditions based on the maximum cycles and hours demonstrated by one or more fleet leader high cycles and time UAS"	Recommended;	Noted	Thank you for your comment. Life limits are included, however indirectly, in the methodology section 2 when referring to demonstration prerequisites which refers to section 5 of the ASTM standard linked with instructions for continuing airworthiness which includes life limits. EASA acknowledges the comment but will not change the text.
52	Wing Aviation	3. Areas of particular attention	4	Add "ASTM" to "F3478".	ASTM F3478	Recommended;	Accepted	Thank you for your comment. EASA has revised the text as proposed.
53	Wing Aviation	3. Areas of particular attention	4	Add a hyphen between "end" and "user".	end-user	Recommended;	Accepted	Thank you for your comment. EASA has revised the text as proposed.

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54	Wing Aviation	3. Areas of particular attention	5	Comment related to: "Higher qualified pilots for testing corners of the envelope or for carrying out likely failure tests can be necessary [...]". Replace "can" with "may".	Higher qualified pilots for testing corners of the envelope or for carrying out likely failure tests may be necessary [...]	Recommended;	Accepted	Thank you for your comment. EASA has revised the text as proposed.
55	FAA	3. Areas of Particular Attention	4	Is this addressing changes in design to an approved/certified aircraft configuration? Have you defined what design change criteria will be applied for light UAS?	Provide information on changes in design for light UAS.	Recommended;	Accepted	Thank you for your comment. Further information has been added. EASA has revised the text as proposed.
56	FAA	3. Areas of Particular Attention	4	Do the design modifications need to be run through the full 3000 hours of testing, or is there a reduced subset of hours that can be applied? If not, how is the amount of testing needed for a given change determined?	Clarify how the number of hours of testing is defined for design changes / modifications.	Recommended;	Accepted	Thank you for your comment. In general design modifications do not need to run through 3000 FHs of testing. It has been clarified that a number of dedicated tests (which may not be only flight test) will be defined to address the change where needed (refer to MoC for additional detail). EASA has revised the text as proposed.
57	FAA	3. Areas of Particular Attention	4	How will EASA address proposed design changes during certification that are not related to a failure? The FAA's experience with these light UAS are that the applicants are constantly working design changes, and a 'frozen' design configuration will be replaced by a later model in a very short period of time.	Carry over language in the 'Failures' section to address changes unrelated to safety concerns.	Recommended;	Accepted	Thank you for your comment. A note has been added to cover the case (with further information included in the text as per previous comment). EASA has revised the text as proposed.
58	FAA	3. Areas of Particular Attention	4	How will design changes to AE be handled? Will these include software updates to computers and smartphones?	Clarify whether design changes to AE require the same level of review as changes to the aircraft.	Recommended;	Accepted	Thank you for your comment. EASA does not use the "AE" terminology and it should be considered that the command unit is defined as part of the configuration subject to design verification / type certification. However, the comment is addressed in a new note. EASA has revised the text as proposed.
59	FAA	3. Areas of Particular Attention	5	Should this address maximum UA to pilot ratio as well?	Include a requirement to test at the maximum pilot/operator to aircraft ratio.	Recommended;	Noted	Thank you for your comment. The MoC endorses the ASTM standard and this standard already includes the testing of pilot to aircraft ratio. EASA acknowledges the comment but will not change the text.
60	Drone Alliance Europe	3. Areas of particular attention	4	Applicants should be allowed to maintain, repair, or replace UAS subsystems during FTB demonstrations in line with the UAS Operator Maintenance Programme developed based on the UAS designer scheduled maintenance requirements and adapted to the specificities of UAS operations.	Add in Section 3. Areas of particular attention, under the subparagraph on UAS configuration: "Applicants may maintain, repair, or replace UAS subsystems during FTB demonstrations provided such tasks are conducted according to the UAS operator's maintenance programme and requirements adapted to the intended Concept of Operations and the demonstration test plan (DTP)".	Requested	Noted	Thank you for your comment. ICA as per Light-UAS.2625 will need to be available as part of the design verification / type certification project (2625 is not covered by the MoC). Such ICA may contain specificities for the DTP. EASA acknowledges the comment but will not change the text.
61	FOCA	3. Areas of particular attention	4	The term "DVR" are not defined within the MoC paper. For the sake of clarity is it suggested to define the acronyms.	The DTP needs to substantiate the UAS design in the context of the CONOPS associated with the Design Verification Report (DVR)/Type Certification (TC) application. This may lead to significant effort for the organization of tests in the appropriate scenario. Guidance is provided by F3478		Accepted	Thank you for your comment. EASA has revised the text as proposed.

4. Compliance with SC Light UAS

Comment				Comment	Suggested resolution	From the commenter point of view a modification of the published text is:	EASA comment disposition	EASA response
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62	Safran Electronics & Defence	4. Compliance with SC Light UAS	5	What about Light-UAS.2235 "Structural strength and deformation" (b)?	Considering that 2250(a) is covered by FTB MoC, then FTB should be an acceptable MoC for 2235 (b) as well.	Recommended;	Not accepted	Thank you for your comment. EASA does not agree with the comment. Light-UAS.2250(b) is about the "design data" and therefore cannot be demonstrated through functional tests. EASA will not change the text.
63	Safran Electronics & Defence	4. Compliance with SC Light UAS	5	What about Light-UAS.2350 "Forced landing or a crash"?	Deliberate crashes of test articles representative of the final UA configuration could be used to demonstrate compliance with Light-UAS.2350 (a). Representativeness to be based on structural parts, with equipment not necessary for the test being replaced by equivalent items in terms of mass and structural resistance (when use of the real item is prohibitive for cost reason).	Recommended;	Noted	Thank you for your comment. The applicant can consider proposing deliberate crashes of test articles as per comment to demonstrate compliance with Light-UAS.2350 (a). A note was already introduced to allow the applicant to integrate the substantiation of additional requirements during the test campaign. EASA acknowledges the comment but will not change the text.
64	Azur Drones	4. Compliance with SC Light UAS		Regarding safety topics: The FTB approach regarding safety allows to meet a quantitative objective of 10-x. Nevertheless, there are some qualitative objectives that cannot be met by FTB alone This is typically the case for: Light-UAS.2510 (a)(2), Light-UAS.2510 (a)(3) and Light-UAS.2510 (b) Light-UAS.2511 (b)(1). Light-UAS.2511(b)(2) and Light-UAS.2511(c)	replace: Light-UAS.2510 by Light-UAS.2510 (a) (1), taking into account that Light-UAS.2510 (a)(2), Light-UAS.2510 (a)(3) and Light-UAS.2510 (b) are not covered and to be covered with others MoC Light-UAS.2511 by Light-UAS.2511 (a), taking into account Light-UAS.2511 (b)(1). Light-UAS.2511(b)(2) and Light-UAS.2511(c) are not covered and to be covered with others MoC		Noted	Thank you for your comment. The footnote associated with requirement 2510 already declared that this requirement is only partially covered. Additionally EASA considers that if the required number of FHs are carried out appropriately, it could be reasonably concluded ("reasonably" is part of SORA wording) that no single failure condition leads to a loss of control. Alternatively, it can be considered that if such single failure conditions were present, its insurgence would be demonstrated to be sufficiently unlikely so that an equivalent level of safety is ensured. Explanation for 2511 have been revised and simplified. EASA acknowledges the comment but will not change the text.
65	MIGL	4. Compliance with SC-Light UAS	5	The principle of selecting detailed paragraphs of SC-LIGHT UAS medium SAIL for FTB-MOC applied by EASA is not clear for us. Nevertheless, we understand that the FTB MOC allows the DVP - Applicant to choose/ analyze / propose additional requirements.	Issue some guidance material for the selection principle.		Noted	Thank you for your comment. The selection of requirements from the SC covered by the MoC was done by internal coordination/discussion internally at the Agency. Stakeholders have the possibility to comment on this selection. The applicant could still consider extend/using the DTP to substantiate requirements not listed in the current MoC. This should be agreed with the Agency in the framework of the design verification/certification project. EASA acknowledges the comment but will not change the text.

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66	Wingtra	4. Compliance with SC-Light UAS	5	<p>Please consider applicable to be part of the scope of the FTB, the requirement:</p> <p>Light-UAS.2500 Systems and equipment function - General (b) Equipment and systems required to comply with type certification requirements, airspace requirements or operating rules, or whose improper functioning would lead to a hazard, must be designed and installed so that they perform their intended function throughout the operating and environmental limits for which the UA is certified.</p> <p>Systems and equipment function can be demonstrate their functioning through the FTB as it is intended in the FTB to cover the full envelope. Design and installation requirement should be part of the FTB as robustness can be demonstrated via flight hours.</p>	<p>Add the requirement Light-UAS.2500 (b) to the list in section 4, page 5 as a possibility to the applicant to perform the Flight Test to demonstrate this requirement.</p> <p>Or it is covered in the following text (page 6/7)? "Note: applicants could consider to extend the DTP to substantiate further requirements not above listed provided that they propose adequate complementary means of compliance for those requirements, that the relevant testing is compatible with the functional test campaign and that the Agency agrees with such extension."</p>	Requested	Accepted	Thank you for your comment. The requirement has been added in the list of those considered covered. EASA has revised the text as proposed.
67	Wing Aviation	4. Compliance with SC-Light UAS	5-6	<p>We would like to suggest adding a more detailed description of each applicable requirement, e.g.</p> <ul style="list-style-type: none"> - Light-UAS.2100 (a), (b) - Mass and centre of gravity - Light-UAS.2105 - Performance data - Light-UAS.2135 - Controllability, manoeuvrability, and stability - Light-UAS.2160 - Vibration and buffeting 	Refer to the proposal embedded in the comment.	Recommended;	Not accepted	Thank you for your comment. EASA does not agree with the comment. The current MoC cannot be used in isolation and reference is needed to the SC-Light UAS. Both documents should be used together. Regarding (if this is the meaning of the comment) adding more detail with regards to the one of the SC, we would consider that the SC together with the referenced ASTM standard is sufficient to define the DTP. EASA will not change the text.
68	Wing Aviation	4. Compliance with SC-Light UAS	5	<p>We would like to suggest adding Light-UAS.2335 to the list of requirements that this MoC can substantiate, which reads as follows:</p> <p>"Light-UAS.2235: Structural strength and deformation (a) The structure must be shown not to fail throughout the limit flight envelope with sufficient margin to ensure the applicable safety objectives are met." (b) The structure must be shown not to interfere with safe operation throughout the limit flight envelope." (c) The effects of the operating environment must be taken into account when complying with subparagraphs (a) and (b)."</p> <p>This would be consistent with having the Light-UAS.2405 (related to lift/thrust/power systems integrity) compliance covered limit flight envelope.</p>	> Light-UAS.2235 - Structural strength and deformation	Requested	Not accepted	Thank you for your comment. EASA has decided to not accept the comment as the DTP may not be able to test structural limits or it would require an unproportionate effort wrt to a different dedicated MoC proportionate for this risk class. EASA will not change the text.
69	Wing Aviation	4. Compliance with SC-Light UAS	5	<p>Comment related to "Light-UAS.2375(a1)"</p> <p>We propose (a1) to be separated in independent brackets.</p>	> Light-UAS.2375(a)(1)	Recommended;	Accepted	Thank you for your comment. EASA has revised the text as proposed.

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70	Wing Aviation	4. Compliance with SC-Light UAS	6	<p>Comment related to footnote #8.</p> <p>To be coherent with the rest of EASA's official documents, including the EU UAS regulations, replace "a flight termination system" with "means to terminate the flight".</p>	8 Only where the SAIL demonstration is considered sufficient to cater for (un)containment risk. The demonstration of dedicated containment means, such as means to terminate the flight or technical mitigation means, could be proposed as integrated into the DTP.	Recommended;	Accepted	Thank you for your comment. EASA has revised the text as proposed.
71	M. Allouche	4. Compliance with SC-Light UAS	5	<p>"Where the DTP is appropriately defined, this MoC can substantiate the following requirements of SC Light UAS medium risk".</p> <p>Our understanding (as implicitly mentioned through the sentence of page 6: "Requirements of SC Light UAS not listed above require different means for showing of compliance...") this that is FTB MoC can adequately replace other conventional substantiation means such as analysis, calculation etc.</p>	Add: "Where the DTP is appropriately defined, this MoC can substantiate (in lieu of other possible substantiation means) the following requirements of SC Light UAS medium risk".		Accepted	Thank you for your comment. EASA has revised the text as proposed.
72	M. Allouche	4. Compliance with SC-Light UAS		<p>It is considered that Light-UAS 2235 (structural integrity "throughout te limit flight envelope") could as well be added quite similarly to Light-UAS 2405 dealing with Lift/Thrust/Power System Integrity also throughout limit flight envelope) at least partially - 2510 - footnote 7 "e.g. developmant assurance levels": Sounds like an invitation to use methods similar to ARP 4754 / DO178C which is not the intent here. Assuming .</p>	Add Light-UAS 2235 in the list with a footnote that "where appropriate, additional analysis may be required.		Not accepted	Thank you for your comment. EASA has decided to not accept the comment as the DTP may not be able to test structural limits or it would require an unproportionate effort wrt to a different dedicated MoC proportionate for this risk class. EASA will not change the text.
73	Drone Alliance Europe	4. Compliance with SC-Light UAS	5	<p>DAE suggests adding Light-UAS.2335 to the list of requirements that this MoC can substantiate, which reads as follows:</p> <p>"Light-UAS.2235: Structural strength and deformation (a) The structure must be shown not to fail throughout the limit flight envelope with sufficient margin to ensure the applicable safety objectives are met." (b) The structure must be shown not to interfere with safe operation throughout the limit flight envelope." (c) The effects of the operating environment must be taken into account when complying with subparagraphs (a) and (b)."</p> <p>This would be consistent with having the Light-UAS.2405 (related to lift/thrust/power systems integrity) compliance covered limit flight envelope.</p>	Add "Light-UAS.2235" to the list in the appropriate order	Requested	Not accepted	Thank you for your comment. EASA has decided to not accept the comment as the DTP may not be able to test structural limits or it would require an unproportionate effort wrt to a different dedicated MoC proportionate for this risk class. EASA will not change the text.

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74	M. Allouche	4. Compliance with SC-Light UAS		2510 - footnote 7 "e.g. development assurance levels": it sounds like an invitation to use methods similar to ARP 4754 / DO178C which is not the intent here. Whilts FTB should largely cover software verification at least at system level. It is understood however that this MoC does not address SW requirements and that may be additional SW requirements, however A5 alternative approach should be mentioned in this footnote as well	add e.g. development assurance levels or any alternative criteria		Noted	Thank you for your comment. The intention of the note is mainly to clarify that this requirement is only partially covered by the MoC and need additional means. The mention to "development assurance aspects" is provided only as an example and for clarification to the reader. EASA acknowledges the comment but will not change the text.