SEVENTH FRAMEWORK PROGRAMME

ASCOS safety certification

MINUTES OF MEETING

ASCOS WORKSHOP

USER GROUP 1

Meeting Title: ASCOS Workshop User Group 1			
Date 30/10/2012	Meeting Time 9.00 am – 5.00 pm	Meeting Location NLR, Amsterdam	
Meeting called by	Gerard Temme, CertiFlyer		
Work Package	WP 6.4		
Type of meeting	Workshop / User Group meeting		
Facilitator	NLR		
Prepared by	Lucia Wamiti / Gerard Temme (CertiFlyer)		
Attendees	Name	Organisation	Remark
	Ken Engelstad	EASA	
	Hendrik Schorcht	TUV-Nord	
	Rudi den Hertog	Next Generation Aircraft	
	Piotr Michalak	Polish Civil Aviation Authority	
	Juan Alberto Herreria	isdefe	
	Rob van der Boom	Ministry of Transport, Public Works and Water Management	
	Patrick Mana	SESAR Joint Undertaking	
	Matthieu Feuvrier	APSYS	
	Jean Pierre Heckmann	APSYS	
	Maite Trujillo	European Space Agency	
	Tristan Pierre	Dassault Aviation	
	Terry Longhurst	CAAi	
	Alfred Roelen	NLR	
	Nuno Aghdassi	Avanssa	
	Tom Tessitore	FAA	
	Bernard Pauly	Thales	
	Gerard Temme	CertiFlyer	
	Lennaert Speijker	NLR	
	Luca Save	Deep Blue	
Additional distribution			

Agenda

Agenda Topic		
Time	Description Title	Main Speaker
09:00	Welcome and Coffee	-
09:15	Introduction & Agenda	Gerard Temme
09:30	Introduction of Partners and UG Members	All
10:00	General Introduction of ASCOS	Lennaert Speijker
10:30	Introduction of technical work packages	WP leaders
12:30	Lunch	
13:30	Introduction of SESAR and expectations	Patrick Mana
14:00	Introduction of EASA and expectations	Ken Engelstad
14:30	Introduction of FAA and expectations	Tom Tessitore
15:00	Break	
15:30	Questions and Answers	All
16:00	End of meeting	

Document Change Log

Version	Author(s)	Date	Affected Sections	Description of Change
0.1	L. Wamiti	15/12/12	All	Initial version.
0.2	G.Temme	19/12/12	2.1, 2.2, 5	Review comments processed
1.0	G. Temme	22/02/13	2.2, 4, 5	Review comments processed

1 Introduction

As part of the ASCOS project, several end users of the final research results have been invited to form a user group (UG). The role of the user group is to e.g. give input and provide feedback on changes proposed to certification procedures during the project. The user group members will be kept well informed through meetings, and are encouraged to provide a peer review/feedback on deliverables. In turn, UG members are asked to support the ASCOS project by providing information such as accident/incident data etc. where possible.

These minutes are the result of the first meeting between the UG members and ASCOS members.

2 Meeting content

2.1 ASCOS Overview: Lennaert Speijker, NLR

The main objective of the ASCOS project is “to develop certification process adaptations, with supporting safety tools, to ease the certification of safety enhancement systems and operations” - rather than propose new regulations. This involves identifying areas where current certification procedures could be improved, and developing supporting methods and tools that will enable safety improvement of the total aviation system. This will be done in a total system approach by including all areas of the aviation system, and by focusing on the priority areas that already have been identified with the Users Group.

2.2. Introduction of technical work packages

WP1: Certification Process - Bernard Pauly, Thales

The main objective is to analyse existing certification procedures to identify shortcomings or bottlenecks, and propose improvements. The scope is the total aviation context, thus airworthiness, air traffic management, aerodromes etc. From this, new approaches to certification will be developed and evaluated, with those deemed feasible being selected for further development.

Q: How do you plan to reconcile the different approaches and standards that currently are in place? For example, certain processes are evaluated only on a binary scale, while others are more subjective regarding how well they serve their purpose?

A: The aim of ASCOS is to combine certification approaches from the different domains, find the best of them and implement them in one global system.

Q: With the evolution of different kinds of systems in place, (e.g. function based vs. service based), how/when do you take into account the fact that new technology and new ways of operations are being introduced to existing certification procedures?

A: Currently, WP3 is aimed at the definition and development of tools which should take this into account. But it may be worthwhile to begin in WP1 by identifying current and future changes to systems and/or services which may be relevant. **(Action 1)**

The following points were also raised in the ensuing discussion:

- What criteria are you going to use to decide what new techniques are selected for further consideration?
- When using risk assessments, how do you take into account the fact that the information and/or data available is based on old systems/procedures, while you want to implement it for a completely new system for which there is little available data?
- How can you use safety management systems effectively? These also need to be evaluated for their suitability with respect to any new certification procedures that are established.

Based on experiences gained from SESAR JU:

- It should be useful to consider the outcomes of the SESAR 16.1.4 project “Proof of concept”. The proof of concept will consist of an early and incomplete realization of the physical system to verify in real environment(s) the achievability of the Safety/Performance requirements associated to all ATM elements (equipment, people and procedure).
- It should be relevant to consider in the innovative approach of the certification process not only the “functional” point of view but also a “data” point of view due to the fact that in the collaborative aspect of the aviation domain, many stakeholders contribute to the management and exchange of operational data (create, use, modify…)

Further remarks:

There is often reluctance from industry to take up changes due to perceived increase in risk and/or costs. This is an important factor and should be taken into account when developing any new approach – how to make it something that industry will actually want to implement and put into practice.

(from SESAR JU) It should be useful to consider the outcomes of the SESAR 16.1.4 project "Proof of concept". The proof of concept will consist in an early and incomplete realization of the physical system to verify in real environment(s) the achievability of the Safety/Performance requirements associated to all ATM elements (equipment, people and procedure). **(Action 2)**

(from SESAR JU) It should be relevant to consider in the innovative approach of the certification process not only "functional" point of view but also "data" point of view due to the fact that in the collaborative aspect of the aviation domain many stakeholders are contributing to manage and exchange operational data (create, use, modify…) **(Action 3)**

WP2: Continuous Safety Monitoring - Nuno Aghdassi, Avanssa

The focus of this work package is on developing tools for continuous safety monitoring based on the baseline risk picture for safe performance of the total aviation system. The tool will work with ECCAIRS, however the aim is to supplement this with additional data where required to obtain the most accurate safety performance indicators (SPI's).

Q: Can you clarify what is meant by the term risk picture?

A (N. Aghdassi): This will be based on existing causal models. It will be expanded upon by identifying key accident/incident scenarios that can occur (as identified by the European Aviation Safety Programme, EASP), isolating the different causal factors and implementing these in the causal model. This is then considered the risk picture.

Q: Will soft-factors such as organizational maturity and culture, be taken into account when developing SPI's?

A: Yes, the aim is to find a way to include these and other organizational aspects.

Q: There is a lot of variability in the amount and type of data that is currently collected by different institutions. How are you proposing to get around this and ensure you have enough data to work with?

A: The aim is to make better use of the data that is already being collected. For instance by mining continent-wide databases. However you are correct in that having a good set of consistent data for benchmarking, and the benchmarking process itself will be essential.

Further Remarks:

The total aviation system can quickly become quite large (i.e. extending to airport management, ground handling etc.), so boundaries should be defined to limit the scope. In particular, WP1 and WP2 need to be working within the same constraints. **(Action 4)**

WP3: Safety Risk Management - Jean Pierre Heckmann, Matthieu Feuvrier (APSYS)

This work package is tasked with developing a total aviation system risk assessment method, with safety based design system and tools to support it.

This is done by identifying safety risks, then identifying recommendations to reduce the risk. In addition, the key is to not only link it to the appropriate domain (i.e. ATC, Aerodromes etc.), but to ensure that the recommendations are implemented in such a way that they are actually used.

The following points were raised:

- This work package is supposed to include future risks not present in current aviation systems. How far into the future do you want to look? Are you accounting for changes that projects such as SESAR/NextGen will bring?

- How are you going to evaluate the recommendations if the risk assessments or models are based on old data, while new regulations and new technologies are being used?

Further remarks:

It is important to consider throughout the entire project what the effect of new technologies or new operational procedures may have and how to take this into account.

It may be advisable to liaise with WP1 early and consider what types of models (e.g. static vs. dynamic risk modelling) will be most suitable for selection and development. (see ACTION 1)

WP4: Certification test cases - Lennaert Speijker, NLR

This work package is concerned with the application of the new certification approach (i.e. adaptations) and supporting safety based design systems and tools in selected example case studies, which focus on key safety priority areas. The overall safety impact of bringing proposed safety enhancements in operational use will be quantified. The priorities used in selecting the case studies, is based on Annual Safety Review Reports from EASA and the SRC and input/feedback from Users Group members during the proposal phase. It was noted that there is still some flexibility within the case studies regarding the details of the concepts/ systems being used in the case studies. It may be worthwhile to begin the definition phase (of the case studies), which is currently planned to start at T18, earlier in order to improve the consistency between the activities within the different work packages.

The possibility to do so will be discussed at the next Project Steering Committee Meeting. **(Action 5)**

Patrick Mana questions whether or not ASCOS has considered using input from other on-going projects such as SESAR? These may prove useful, and he offers to make available useful information freely provided that there are no intellectual property right conflicts. However, it was also noted that results may appear to be biased if there is too much sharing of information and similar results or recommendations between EU projects. Therefore, it is also possible to consider approaching a 3rd party to obtain additional information as baseline for the definition of the case study concepts/systems. The ASCOS coordinator will discuss the possibility of using initial concepts and systems that are being developed within SESAR as baseline for the case studies foreseen in WP4. **(Action 6)**

WP5: Validation - Juan Alberto Herreria, isdefe

The key goal in this work package is to show that the tools developed are fit for purpose. In order to meet this goal, feedback is required by way of evaluating the newly proposed certification process adaptations, and thinking about how these can be further improved. As stated previously, this is not about having different regulations, but how the current process and regulations could be streamlined or modified to make life easier for users.

WP6: Dissemination and Exploitation – Gerard Temme, CertiFlyer

This work package relates to ensuring the information and results of this project reach as wide an audience as possible. As far as dissemination goes, the information will be shared in different ways. Initial deliverables include the website, brochure and flyers. These can be found at www.ascos-project.eu. Regarding exploitation, the aim is to ensure that the results of the project are actually taken up and used by industry, therefore this package will also be used to introduce users to the project results and obtain their feedback.

Further remarks:

Though this is only a research project, a limited amount of time has been allocated in WP6 for exploitation. Any further work toward implementation in industry over time requires either a new work package, or an entirely separate project.

2.3 User Group Presentation: SESAR – Patrick Mana

From a SESAR perspective, they are very open to the idea of collaboration, not only with respect to sharing of information, but to ensure consistency between the recommendations and results of ASCOS. But first consider the scope of the project and the extent to which it overlaps with SESAR to identify areas where the two projects meet. In the SESAR project,

there are certain work packages that could be useful for ASCOS, but these must be used carefully as the objectives and data are specific to SESAR goals.

Further remarks:

- Ensure testing at different levels to ensure the final product will be relevant to the different domains and stakeholders.
- Ensure all the work is done with safety in mind.

2.4 User Group Presentation: EASA - Ken Engelstad

EASA are also keen to collaborate, and would propose a meeting between EASA certification group and ASCOS in 2013. **(Action 7)**

Key points:

- Keep in mind that there are changes underway as EASA will also become responsible for safety regulations for airports and ATM systems. These should be accounted for during the project.
- If possible, try and keep proposed changes to areas of EASA 'soft law' which would allow for quicker implementation
- It is important to also evaluate the risk associated with changes to current rules (e.g. could they cause confusion or conflicts with existing procedures?)

2.5 User Group Presentation: FAA – Tom Tessitore

The FAA are also interested in collaboration and knowledge sharing, and have some experience in this area as they also sought to streamline their certification procedures in the recent past. ASCOS members are encouraged to learn from their experiences.

Key points:

- Organisation culture and existing safety procedures are extremely important when trying to change or improve certification procedures.
- Certain tools have been created by the FAA, if you would like to learn more about these, contact Tom Tessitore.

2.5 Additional comments following the meeting: Rudi den Hertog

While performing your work, please remember that risks and hazards are not the same thing. When considering different scenario's, for a given hazard, the *risk* is different depending on the user. Keep this in mind and define them appropriately.

3 Meeting Wrap-up

When is the next UG meeting?

Officially it is scheduled for some time in 2013 after WP1 has been completed. However if any WP leaders want to meet (certain) user group members in the intervening period, this is encouraged.

If such meetings are to be scheduled, please inform Gerard Temme and ensure that the results of such meetings are shared with the rest of the group if necessary.

4 Meeting Presentations

All the presentations are available for consortium partners in the ASCOS Restricted Sharepoint Portal; see Meetings with the User Group > Workshop No.1. Slides will also be sent to user group members by email.

#	Presentation	Main Speaker	File name
1	General introduction of ASCOS	Lennaert Speijker	
2	WP1:Certification Processes	Bernard Pauly	
3	WP2: CSM	Nuno Aghdassi	
4	WP3: SRM	Matthieu Feuvrier, Jean Pierre Heckmann	
5	WP4: Case Studies	Lennaert Speijker	
6	WP5: Validation	Juan Alberto Herreria	
7	WP6: Dissemination & Exploitation	Gerard Temme	
8	UG1: SESAR	Patrick Mana	
9	UG2: EASA	Ken Engelstad	
10	UG3: FAA	Tom Tessitore	

5 List of Actions

List of Actions			
#	Action Items	Responsible	Deadline
1	Investigate the possibility of (earlier) collaboration between WP 1 and WP3 in order to identify which future changes to systems or services (WP1) should be taken into account when developing new tools (WP3).	Thales/B. Pauly and APSYS/J.P. Heckmann, M. Feuvrier	
2	Consider in WP1 the outcomes of the SESAR 16.1.4 project “Proof of concept”	Thales/B. Pauly, NLR/ Speijker	
3	consider in the innovative approach of the certification process in WP1 not only “functional” point of view but also “data” point of view	Thales/B. Pauly, NLR/ Speijker	
4	Define boundaries to limit what is being considered in ‘the total aviation system’ – particularly for WP1 and WP2.	Thales/B.Pauly and Avanssa/N.Aghdassi	
5	Investigate the possibility of starting the definition phase of the case studies earlier than originally planned in the Description of Work	NLR/Speijker (with PSC)	
6	Evaluate the possibility of using concepts/systems developed within SESAR as baseline for the case studies foreseen in WP4	NLR/Speijker (with P. Mana)	
7	To find a date for a meeting – at EASA, Cologne – between the EASA Certification Directorate and ASCOS Key members (in early 2013)	NLR/Speijker (with Engelstad)	