

2017 EASA–FAA International Safety Conference

Summaries of conference sessions

“Global aviation safety for a global industry”

Brussels, 14-16 June 2017

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1 Plenaries

1.1 Plenary A – Building Mutual Trust

Moderator: Jesper Rasmussen, Flight Standards Director (EASA)
Panel members: FAA: John Duncan, Director, Flight Standards Service
EASA: Trevor Woods, Certification Director
CASA: Shane Carmody, Chief Executive Officer and Director of Aviation Safety
Boeing: Elizabeth Pasztor, Vice President of Safety, Security & Compliance
Airbus: Yannick Malinge, Senior Vice President & Chief Product Safety Officer

Speakers were asked to identify enabler and obstacles to building and improving mutual trust, focusing on building between authorities and between authority and industry.

Summary Points

- Trust can be built and maintained, if lost must find ways to rebuild as it facilitates decision making and partnership. Trust can be built between regulators and with industry over time to enable safe operation. Regulators and industry are partners with mutual responsibility and accountability.
- Using metrics, we can have more straightforward way for regulators to rely on other regulators, it's more complex with industry – but it's possible. More diversity in operational safety solutions based on performance based regulation will require higher levels of trust to be built. Early engagement between authority and industry will be needed; allows for maturing process as we move forward.

Discussion

Cultural challenge is difficult/engrained, however, if benefits are seen than it helps encourage the change and top-down management. Partners working together to be open/transparent/communicate and provide feedback when process isn't working. Working together in providing top-down leadership management approach is useful. It's a drain on resources to keep "checking" each other's work. FAA and EASA convinced to reduce level of effort through Validation Roadmap and next revision of the TIP.

There is a need to build confidence between agencies and internally within system (moving to SMS). Common certification basis is very important. It's a learning process. Handling diversity can be done through the compliance philosophy. Rules of engagement are clear and transparent – so that industry knows how to meet those requirements. High-levels of communication are vital.

Polls

Do you believe that real trust can be built between Authorities and Companies?

157 

Yes



89 %

No



11 %

With more performance-based regulation , where do you think the aviation industry will be in terms of operative safety solutions 10 years from now?

160 

More diverse



69 %

More standardised



18 %

Do not know



13 %

Questions asked in Sli.do during the session

Question text	Upvotes
What measures are being taken to ensure that the culture of trust established in the quad is driven down to the project level specialists of the authorities?	41
What are Easa's and FAA's top 3 priorities in a short term (i.e. In 2017 and 2018), and in a longer term?	22
Trust allows us to rely on another CAA's system. Recent MAG changes suggested inadequacies by adding elements. Is trust between US/EU authorities diminishing?	20
Many relations from industry with the Regulator are built on trust. But I see the authorities not trusting each other by accepting the oversight of the NAA.	17
After TIP 6 agreed, is the idea that any regulatory change is mutual, i.e identical wordings to avoid moving away from each other again?	16
As Patrick and John both mentioned, there are many countries invoked in our global aviation industry. How do we build trust across those cultural differences?	15
How to make sure that within Authorities a trust based system is implemented at inspector level as well based on a top down approach In particular for BASAs?	14
If we have trust why do we have continuously multiple audits	14
What part do Airlines and Labor Associations play in this circle of trust as they share their data?	12
What actions will the agencies take to flow trust concepts to the aviation inspector? It's difficult to build trust when the inspector is always suspicious.	11
The last 2 revs to MAG have diminished reciprocal acceptance by undermining acceptance of equivalent system. Is trust between the US/EU authorities diminishing?	10
Lot said about building trust but how do you recover when it's lost.	8
What are the Key Activities for Authorities to Build up Trust in operational Level of Cooperation ? What the Key Barriere ?	7
Is moving aircraft with valid ARC between EASA NAA registries, a good example of trust between NAA's? In the field it's not perceived as such.	6
Is "building trust" mechanism a way to freeze the current situation on the market? EASA and FAA will trust each other, what about others?	6
Can you explain how the assessment of punitive damages (fines/restrictions) will help promote trust between stakeholders in today's environment?	5
What impact on trust results from the perception that there is a lack of consistency in how Inspectors at any given Operator interpret and apply regulations?	5
Compliance is a given prerequisite before moving towards RBT and PBO. Is the level of compliance high enough to move on?	5
When trust is to be given between many different people, how much: "personal perception" and "evidence" influence the process? Is evidence not fully recognised?	4

Will there be a European version of info share	3
What feedback mechanisms are being developed so an industry member can request CAA management help if project specialist is contrary to cultural changes?	3
Interesting statement re the safety implications of a PED ban, but concerns over the TSA requirements to open panels during transit checks we're over ruled?	2
Ref. to Trevor 's slide of the practical Elements of Trust:The Level of Trust depends on the individual Performance. Isn't standardisation in conflict with this?	2
Perhaps ambiguous regulations and/or lack of compliance make it hard to build trust?	2
Is the concept of an equivalent level of compliance stipulated by EASA and the FAA a possible solution to exact wording?	2
Even good ideas need renewal and refreshing from time to time. What's in the pipeline to reinvigorate the need for change?	0
How do we ensure that the agreements, rules and procedures are interpreted and implemented consistently?	0

1.2 Plenary B – Securing the fundamentals

Moderator: EASA: Luc Tytgat, Strategy and Safety Management Director
Panel members: FAA: John Duncan, Director, Flight Standards Service
EASA: Jesper Rasmussen, Flight Standards Director
Airbus: Didier Robin, Vice President Airworthiness Technical Directorate
Boeing: Doug Lane, Director of Regulatory Administration & Deputy ODA Lead Administrator
ASD: Vincent De Vroey, Civil Aviation Director
GAMA : Gregory Bowles, Vice President of Global Innovation & Policy

The subject of discussion focusing on Performance Based Regulations (PBR) without jeopardizing the fundamentals as well as hinting to some opportunities and challenges

Summary Points

- Aviation regulators must take in consideration the impact of overregulating and the heavy burden on the operator to ensure that the product meets the regulations. PBR with clear safety intent, will increase efficiency and reduce redundancies...
- Flexibility to meet the safety objective exists in the rules, and MoCs exist in the standards
- Reliance on industry standards is proof that flexibility is needed versus hard rules that are difficult to adapt to the changing technologies and innovations such as Tilt Rotors and Unmanned aircraft operations
- Regulations must allow operators to operate in accordance with both the letter and spirit of the law, such as the FAA AQP training, Fatigue Risk Management Systems (FRMS), etc...

Polls

Is Performance Based Regulation (PBR) a risk regarding the necessity to maintain level playing field? 114 👤

Yes



No



I do not know



Shall we replace overtime all prescriptive rules by Performance Based Regulation (PBR)?

115 👤

Yes



No



Questions asked in Sli.do during the session

Question text	Upvotes
How do you decide which regulations are more suited to PBR verses prescriptive	24
Regulators like to regulate. They can get set in their ways. How do we encourage/train regulators to retain an open mind on PBR methods of compliance?	24
Implementation of PBR: big bang (such as Part/CS23) or step by step along the current road map of regulatory changes. Which road to take?	22
Currently Alt Means of Compliance require issue papers. How do you implement PBR with standards supported AMC without the administrative burden of issue papers?	18
When will you kill the Changed Product Rule that finally has dissuading effects on product's improvements enabled by PBR.	13
In the EU system, difference is made between hard law and soft law. Do you see PBR limited to hard law?	12
with PBR, Is there a Risk of higher level of involvement from Authorities to ensure that the new Products are as safe as they are today?	10
Greg, should we be concerned that prescriptive compliance standards could be equally detrimental to adoption of new technology as prescriptive rules are today?	8
Regarding being responsive to technology. It has been discussed that rulemaking and AMC takes upwards of 5 years. How long do standards take to develop.	8
How will the authorities know if the novel method for the novel product meets the PBR standard? Will they have the competence to know if industry is competent?	7
23.2100 (b) [...] range of loading conditions using tolerances *acceptable to the Administrator*- shouldn't perf metrics be measurable?	7
Should the PBR be adopted by all regulators and replace the prescriptive rules? What about the less advanced regulators (with ICAO LEI <60%)?	6

How can you protect proprietary technologies in the PBR model	6
New applicant picks up the PRB. First question to the cert authority: how do I do that? What should be the answer?	6
It was stated that tiltrotors are a "radical innovation". Bell Helicopter flew the first tiltrotor (XV-3) in 1955. This view exemplifies the paradigm.	6
What about liability (regulators) with regard to PBR, what are your views? Has liability been considered?	6
Do you plan workshops/lessons as mandatory for company to ensure alignment of interpretation of regulations & exams for approved company individuals?	5
So is the shift as simple as organisations answering the question of how well am I managing compliance as opposed to how compliant am I ?	5
Can we rely on standards making organisations for delivering updated AMC along with tech innovation ?	5
Does PBO move the regulators into sharing some of the operational responsibility with the operators?	5
Will the agency allow us (naa & organisation) to deviate from the AMC's, which are based on compliance based oversight, without '1000' of AltMoc's, to act PBO?	5
What are the hazards in your perspective if oversight is only based on PBO	4
I consider that the future will bring a combination of PBR and prescriptive regulation to access the benefits of both. Or will PBR exclude prescriptive reg?	2
PBR vs LOL..contradict or support each other?	2
Can prioritizing which areas to convert to PBR be as simple as which regulations have the most CRI, Issue Papers, Special Conditions, AMOC?	1
Where are the "low hanging fruits"? To try out and gain experience	0
In many places non-compliance fly under the radar even today. Relying on reporting and data would be risky.	0
Is there a future for Management Based Regulation (focus on company's design system) in product certification, with minimum product focused rules?	0

2 Panel Sessions

2.1 Panel 1 – A Strategic Look at Rulemaking – Cooperation for Emerging Technologies

Moderator: AIA: George Novak, Assistant Vice President
Panel members: EASA: Jean-Marc Cluzeau, Head of Strategy & Programmes
EASA: Julian Hall, Deputy Certification Director
FAA: Lirio Liu, Director, Office of Rulemaking
Thales: Eric Parelton, Vice President Airworthiness Certification

Summary Points

- New technologies are developing fast and authorities shall cope with this rapid development the appropriate way. Too prescriptive, un-proportioned regulations may kill innovation.
- Industry needs to familiarise authorities on new technologies as soon as possible, through securing the early engagement of the authority.
- Rulemaking is not the only way to address new technologies or new operational models. Safety awareness, safety promotion or even exemption can be used to fix issues a timely and effective manner.
- Newcomers from outside the aviation community are actively proposing new technologies / operational needs. This diversity must be recognised and focused actions must be defined for these newcomers.

Discussions

Ways to improve regulations? How to speed it up?

Need to use risk-based approach, moving towards performance-based. Institutionalize some of the more agile ways. Don't over regulate. Identify trends. Show flexibility. Bring in new entrants. Integrated approach across airworthiness, flight operations and air space.

Polls

N/A

Questions asked in Sli.do during the session

Question text	Upvotes
How can industry help the authorities' specialists become/stay knowledgeable of new technologies to be knowledgeable project participants?	20
In addition to certification improvements, how can FAA/EASA improve regs to support new operational models (e.g.: Uber in the sky).	15
How can we enhance our horizon scanning methodologies so we are better placed to anticipate the direction and pace of emerging/disruptive innovation?	10
Time from conception to production also applies to rule making. How to speed it up keeping open and transparent processes with the involvement of stakeholders?	9
What process and standards can regulators use to assess risk in new technologies?	9
Standards grow in importance. However standards are often the Cinderella of cert. How will you get more experienced people to participate	8
CS23 rewrite focuses on safety objectives. How are other parts (25/27/29) focusing on less prescriptive regulations, more towards objectives	6
Eric: How can authorities standardise new technology MoC without going to the highest common denominator?	5
Performance Based Régulations are THE Key to cope with new technologies in à sustainable way: why no Rulemaking action planned to rewrite CS/PART 25??	5
Today, some EASA safety driven rulemaking tasks are taking more than 5 years to finalise. If ever finalised. What are the biggest obstacles on the way?	5
Is the ongoing effort to corporatize the FAA Air Traffic Organization partially due to the inability of FAA to keep up with emerging technologies?	4
The push-back on new business model regulations by EU National Authorities, expl Single EU Certificate, shows conservative thinking. How can EASA help?	4
How can we get rules developed once for new features vs twice and then "harmonize". We should just harmonize.	4
Julian: With current resource constraints, do regulators really have the bandwidth for taking advantage of learning opportunities with industry?	3
Lessons learned often drives rules. With fast implementation of tech how do you learn lessons quickly too.	2
Julian: How do we assure authorities can plan for forward looking participation like conferences and standards meetings when budgeting?	2
If rapid Rulemaking is to be all three: reactive, proactive and predictive, will harmonisation be considered secondary	2

With regard to the gap analysis of the existing regulations, what is the EASA/FAA position on the new concept for the Aerodrome Obstacle Surfaces (ICAO)

0

2.2 Panel 2 – Challenges and Opportunities: Aircraft and Engine Certification and Oversight

Moderator: EASA: Trevor Woods, Certification Director
Panel members: EASA: Laurent Gruz, Head of Propulsion, Parts & Appliances
FAA: Dorenda Baker, Director, Aircraft Certification Service
CAAC: Chaoqun Xu, Director General, Aircraft Airworthiness Department
GE Aviation: Dave Chapel, Director of Flight Safety
Rolls-Royce: Belinda Swain, Chief Airworthiness Engineer

Summary Points

- Engine-airframe interface is a complex issue. Complex scenario with design and manufacturing in different states. Communications between parties early in the program is essential in ensuring timely delivery of the product in the relevant countries.
- Should we continue with separate TCs? EASA-FAA WG report recommends to keep them separate. Panelists and the audience strongly agreed (except Irkut).
- Consistency of regulatory framework between engine and aircraft certification is necessary.
- Need to monitor progress of the 29 recommendations issued by the EASA-FAA WG through an implementation plan

Discussions

The panel agreed with the workgroup's consensus that engines and aircraft should continue to be certified under separate TCs. Russia (Irkut manufacturing) disagreed

However, multiple delays of programs are still being caused by engine/aircraft certification interface, and reality and consistency of certification conditions should be considered.

Under the FAA's Aircraft Certification system, engine/aircraft/software certification is consolidated under one umbrella vs. at various geographical locations.

Need to implement the WG recommendations and pick up other products and take future steps to integrate engine and aircraft certification.

Polls

Do you think that we should continue to issue separate engine and aircraft type certificates?

36 

Yes



No



8 %

Do not know



11 %

After: Do you think that we should continue to issue separate engine and aircraft type certificates?

14 

Yes



No



7 %

Do not know



0 %

Questions asked in Sli.do during the session

Question text	Upvotes
What measures will the tracking board use to monitor effectiveness of the engine and aircraft certification activities?	6
Is there a way to separate the certification of the software intensive engine controller and the physical aspects of the engine?	4
How are requirements like EWIS aligned AC/engine to avoid clashing requirements & how is guidance especially on FAA certified airplanes DER's ensured?	4
how the BASA allows the aircraft TC on one side to reuse at no cost the relevant compliance demonstrations prepared for the engine TC (such as software aspects)	3
Did the group consider propellers as well? Aren't there similar interface issues?	1
Is one of the identified problem areas rotorlock and inflight relight envelope definition? Is the issue related to FAA's policy paper on relight demonstration?	0

2.3 Panel 3 – Establishing a Collaborative Framework to Advance Aviation Safety

Moderator: Finnish CAA: Pekka Henttu, Chairman of the EASA MB
Panel members: EASA: Erick Ferrandez, Deputy Head of Safety Intelligence & Performance
FAA: Michael O'Donnell, Director, Office of Accident Investigation and Prevention
British Airways: Capt. Tim Steeds, Director of Safety and Security
ECA: Paul Reuter, Technical Director
ATR : Christopher McGregor, Head of Flight Safety

Summary Points

- We need to create a culture of trust to guarantee that data will be used to the right purpose.
- Non punitive, voluntary reporting is important.
- Small operators should have access to the data to learn from the others.
- Beyond the technological requirements, we have to be organised to analyse data: Partnership with Industry through a collaborative approach is needed (ref. D4S).
- A collaborative framework for safety can be successful when fundamentals of trust, data confidentiality are met and the objective is strictly for aviation safety. Information sharing, over raw data, between ASIAS and Data4Safety was prioritized by session participants.
- Harnessing big data technologies and getting analytical skill sets to manage is key to establishing successful data frameworks to advance safety.

Discussion:

Collaborative framework is a voluntary framework between authorities and industry to share data. Trust, regulation and compliance with data/experience sharing serves as foundation to enabling that framework to be strengthened. From EASA, in cultural management aspects, providing an environment that data can be collected, putting together expertise and agree on actions needed to move forward. For FAA, utilizing CAST to not only lower accident rates, but to maintain through SMS. SMS is an enabler to allow for trust and data exchange to move forward. Voluntary aspect is key – SMS allows to bring even sensitive data, and non-punitive, de-identified (similar to ASIAS) to the table.

Trust in data – fundamentals are important. Trust in data confidentiality and competent handling by data integrators and regulators is important for operators. Change into collaborative approach to volunteer data – tricky since it requires trust, changing mentality, and thinking of bigger picture. Need something to enable industry to move

Framework and how it fits into regulatory oversight: Look at regulations if they meet the safety need. Data can be useful in measuring – e.g. what does it tell us, take it back to the regulations and see if it makes sense. In US, assurance helps us to see if safety regulation is effective. Infoshare and Data4Safety are avenues for data sharing. Evolution of IT technology aspects has changed dynamic of technical – need to find ways to harness big data technologies. Investment in analytical capabilities in people will be instrumental in making a data framework successful.

Data protection should be utilized for safety benefit, not economic gain. Collaborative framework relies on doing it right the first time, and data use is properly used. Concerns on data confidentiality need to be addressed before successful framework. Start producing useful data will help to build trust. Funding and the right people that know how to mine the data.

Industry finds sharing information, rather than data, is more beneficial in the cooperation between ASIAS and Data4Safety.

Polls

Do you think that Collaborative Frameworks can advance safety through the sharing and analysis of data?

104 

Yes



98 %

No



What are the main inhibitors to collaborative frameworks?

104 

Building trust among partners to share data



63 %

The technical challenges (applying Big Data and advanced analytics to aviation safety data)



Funding and resources



Which of the following do you see as more beneficial in the cooperation between the different systems (e.g. ASIAS/Data4Safety)?

103 

Sharing data (i.e. sharing raw data so that each system can use the other's data), or



Sharing information (i.e. sharing the end results and/or conducting joint studies)



Questions asked in Sli.do during the session

Question text	Upvotes
How can we make sure that the focus is on real operational safety improvement and we don't get lost in a sea of data and IT programmes?	24
How do we collaborate most effectively where there is a data vacuum, for example within emerging technology?	20
How can we encourage information sharing by owners/operators of small aircraft <10 pax? This segment is in the greatest need of data but least likely to share.	15
Relationship between company and authority is often adversarial (punitive or blocking). How can we change culture into cooperative?	13
Paul: which additional information should be used to set the context of aircraft/airline flight data? ATC, ANSPs data? Others?	9
Different cultural relationships and trust levels exists on different countries. How to address a harmonised just culture between regulators and community?	9
Sharing and analysing data takes time and effort. As a specific product designer how can we best contribute to the many data initiatives and get the best value?	7
Are collaborative frameworks effectiveness limited if implementation rates for identified safety enhancements are not high?	7
How can CAAs take the success of data sharing programs like CAST and apply these paradigms to Other sectors that haven't traditionally shared safety data?	5
As an attorney who has facilitated both safety and compliance, I think the panel has a misguided idea about what lawyers do in this industry.	5
What are the top 3 challenges to achieving wanted outcomes of collaborative frameworks?	4
What is the time frame for the Data4Safety project?	4
what exactly is the framework looking? is there a clear direction or is this still in the phase of gathering obstacles? what is the envisaged endresult?	4
Partial data can lead to incorrect assumptions. What are the criteria set to establish when there is enough data?	4
Who should direct the limited resources available for analysis	3
Capt. Steeda suggested that assns involved in data sharing are looking to make money. AEA's SMS data program is an Assn facilitating data sharing without \$/E	3
Why does Rulemaking by releasing 'friends business flying / uber Sky' ' not introducee at the sametime a more comprehensive rules for the AtoA AOC operators?	2
What are incentives for an effective collaboration between airlines, intelligence services and EASA in order to come to a harmonised safety assessment?	2
Hoe can we promote Collaborative framework even we are waiting for two years on the prommist actions of the EC in relation to 376/2014	2

Are some of the panel members stating that they are aiming towards conducting routine downloads of CVR data and combining it with Flight Data downloads?	2
May FAA provide an example where ASIAs has allowed detecting predictive safety hazard?	2
Why should all fields be filled in by filling occurrence report, even though you really don't know what to fill in. Technician must help man not make him 'frustrated	1
Will air accident investigators participate in D4S	1
Do we share the purpose of sharing data to build trust? We want to identify hazards from anonymous data not to identify context ?	0

2.4 Panel 4 – Ramp Inspection Programmes: the way forward

Moderator: IATA : Giancarlo Buono, Regional Director, Safety and Flight Operations
Panel members: EASA: Jesper Rasmussen, Flight Standards Director
FAA: John Duncan, Director, Flight Standards Service
KLM: Bart de Vries, Executive Vice President Flight Operations
Qatar Airways: Capt. Donal Cotter, Vice President Regulatory Affairs
Fedex: Capt. John Bolich, Regional Director Operations EMEA and India

Summary Points

- Ramp Inspections are an important element of oversight systems.
- The focus shall be on safety, and the approach shall be risk-based.
- A global ramp inspection system is recognised as the way forward.
- EASA and FAA are encouraged to work together in this direction and to drive the change.
- Industry is ready to be a partner in this journey.

Discussion:

- EASA is working on making SAFA fully risk based. We have to be much more risk based than in the past, and now we have the data to do it; e.g. we are introducing the concept of “over-inspection”.
- We are working on a points system that will incentivize Authorities to perform the “right” inspections.
- States will be entitled to adapt their volume of inspections, on the basis of their national risk picture.
- We have to be risk based, also given the resources’ constraints we all face.
- It is important to ensure that data flows in an appropriate way.
- The volume of inspections needs to be linked with the level of operators’ performance.
- How do we make sure that important things found in ramp inspections are fed back into the system in order to address the underlying root causes?
- Airlines don’t love SAFA, but they can live with SAFA. However, looking at what happens in other parts of the world, there is a strong need for further standardisation. How can we achieve that?
- China is a very good example, as it has introduced a penalty points (demerit) system.
- If there is no global approach, Countries will take their own approach – not harmonized
- A reward for “very compliant airlines” would be great.
- FAA and EASA can play a big role in making this a global programme, and IATA as well.
- Inappropriate findings “corrupt” data. This reinforces the need for adequate training of inspectors.
- Example presented: the ramp inspector wanted to see the documentation of repair made in 2001; this led to a useless finding, which would pollute the results of a risk analysis.

Polls

Do you believe that ramp inspection programs are a valuable tool to ensure safety?

45 

Yes



No



Do you believe that a global standardized ramp inspection program would be the right direction to take for the future?

35 

Yes



No



Questions asked in Sli.do during the session

Question text	Upvotes
Both CAT and non-commercial ops are subject to ramp inspections yet SAFA checklists only exist for CAT. When can we expect a non-commercial SAFA checklist?	9
How do we create trust? Many ramp inspectors lack experience or proper training. Too often personal opinions are used as reference.	8
The EASA Aircrew Medical Fitness Opinion proposal for alcohol during ramp inspections - safety improvement or introduction of another risk?	6
Interested in regulators response to comment that inspections aren't necessary and what might be other alternatives	4
What is regulators response to non acceptance of electronic forms?	4
What consideration do SAFA Ramp Inspectors have to give to delayed aircraft - do they need to consider the implications of EU261 on operators?	4
How can we deal with the subjectivism of some inspectors in different regions all over the world? A global training standard for inspectors is not enough.	3

If, finally, all NAAs implemented a globally harmonized ramp inspection programme / checklist to their national operators, SAFA would become useless?	3
Capt.Cotter talks about incentive schemes. The accountable managers are not motivated by a diploma, how are authorities supporting compliance via motivation?	3
Should there be allowances for some operators to be exempt from inspections?	2
Last Aircrew Medical Fitness Technical meeting unanimously opposed exception from ramp inspections if national programme exists. How will this be reflected?	1

2.5 Panel 5 – Challenge of Digitalisation

Moderator: EASA: Luc Tytgat, Strategy & Safety Management Director
Panel members: FAA: Michael O'Donnell, Director, Office of Accident Investigation and Prevention
Thales: Philippe Keryer, Executive Vice President Strategy, Marketing, R&T, Digital Transformation
Irish Aviation Authority: Eamonn Brennan, Chief Executive
Flight Safety Foundation: Jon Beatty, President and CEO
Boeing: John Craig, Chief Engineer of Cabin & Network Systems

Summary Points

- Living in the era of data overload, the challenge to collect and analyze relevant data to inform decision-making. It's an opportunity for efficiency gains, but the role and purpose of data must be established.
- Digitalisation allows for safety and efficiency gains, but the challenges such as cybersecurity and change management are persistent.
- The panel Challenge of Digitalisation reviewed the opportunities that the Digital Transformation can bring to the aviation sector in terms of new industrial processes or services. It also reviewed the new challenges such as data protection, privacy, cybersecurity that come with it.
- The discussions highlighted the reflexions on how to cope with the ever-growing massive amount of data, how to process, analyse them and take the right decisions on it. Also our capacity to provide the right level of protection. Solutions are there. They are of technical but also of "cultural" nature as our industry has to embrace the Digital Transformation that will lead to ever more data and autonomous systems.
- The poll showed that digital transformation is expected to deliver both enhanced safety and efficiency, however the audience gave EASA and FAA food for thought as a vast majority (close to 80%) found that the legal framework is an impediment to this transformation.

Discussion

Important consideration on how we manage data in an era of data overload. Making sure experts work together. Need to develop cybersecurity mentality, similar to safety culture – so the information sharing. Opportunities and challenges exist with digitalisation and data only useful when converted to decision making. Complexities and growing amount of data need to be addressed in a meaningful way, perhaps look at other sectors (e.g. automotive, medical). Volume of data coming into the system is massive. Have to ask about what is the role of data in aviation safety? What do we do with all of it there? Modern aircraft produces high volumes of data. Challenge that regulator has is collecting *relevant* data and making informed decision. Digitalisation can be an opportunity for efficiency. Important that occurrence reports are part of usable SMS. Regulators use digitalization to manage drones – can use the data and conflict to use effectively in the system. Data needs to be used in a fair, just culture. More information means availability to use and misuse. Need to ensure it's being used in a secure and productive method. Looking at ways to analyze more effectively, process is being accelerated has not changed. Projects should be defined so that training and resources can be assigned.

Polls

In your views, the main benefit of digitalisation in aviation is:

104 

Safety enhancement

 11 %

Efficiency gains

 22 %

Both

 67 %

The main challenge to digitalisation is:

103 

Privacy Issues

 17 %

Cyber threats

 44 %

Change management

 40 %

The current regulatory framework is:

98 

Favourable to the development of digital solutions

 23 %

An impediment to the digital solutions

 77 %

Questions asked in Sli.do during the session

Question text	Upvotes
Aviation is a conservative area, when will we see and fully accept digital Airworthiness records?	17
Mr. Brennan, how can the digitalization you specified replace actual physical inspection or oversight on an aircraft that never transits your Irish airports?	16
Digitalisation is no more the challenge; it's already there. Secure continuous chain of digital information is the big one.	14
The cyber threat is triggering privacy, safety and security issues. How to reassure the stakeholders of the system stability and incentivize the digitalisation?	13
Product life cycles can be short in the digital world. This is alien to aviation. Will this shorten aviation systems life cycles	11
How will training catchup if so much is changing so quickly. Particularly when this is between the human interfaces - pilot, controller, engineer	9
What is being done to improve protection of aviation safety data so that it can not be used for other purposes, such as litigation/liability?	9
How do you see the participation of IoT companies (e.g. Cisco) on aviation data analysis?	7
To IAA: what is the challenge to move a classic authority to a full paperless digital authority ?	6
What steps have been/are being taken to ensure the agencies have the right skills & capabilities to deal with digitilisation?	6
Will the Authority be ready to grant airworthiness approvals based on the use of digital functional 3d objects to replace some ground or flight tests ?	5
Don't you think young generation has no challenges with digitalization as they are born with iPads in the hands in a fully connected environment ?	4
What happens when AI is set loose on aviation systems	2
The average age of an inspector is? Cultural shock maybe an issue	2
Ramp inspections : Which steps have been taken for digital chain to ease implementation of a risk based approach	0
Depending on the document "A Practical Guide for Improving Effective Flight Path Monitoring", does it safe to get so much digitalised inside the cockpit?	0

2.6 Panel 6 – Challenges and Opportunities: New CNS/ATM Technologies and Safety

Moderator: Belgian CAA: Nathalie Dejace, Acting Director General of Civil Aviation
Panel members: EASA: Pascal Medal, Chief Engineer
FAA: Anthony Ferrante, Director, Air Traffic Safety Oversight Service
IATA : Giancarlo Buono, Regional Director, Safety and Flight Operations
CANSO: Jean Marc Loscos, European Programmes
FAA: Steve Bradford, Chief Scientist - Architecture and NextGen Development
SESARJU: Marouan Chida, SJU CNS and Avionics Expert

Summary Points

We are making good progress on harmonization, but not at a fast enough pace. For example, it will take until 2028 to fully harmonize on data communications. In terms of navigation, we are moving from ground using radar and voice communication to satellite based infrastructure and digital communication.

We need to work on harmonization not just between the U.S. and EU, but also the rest of the world. ICAO is well positioned to provide the global guidelines to ensure global interoperability. One of the example of this coordination and harmonization is the remote tower concept.

There is a need for harmonization, but also for rationalization and better communication between all stakeholders, because of conflicting interests. There is a need to agree on what need to be implemented to bring benefits to all parties. Both the regulators and the end users need to engage early in the process in developing the technology roadmaps.

The recommendation is to expand the existing forums to all aspects of CNS to reach a global comprehensive approach.

Polls

Do you think the harmonisation of the CNS infrastructure is in the right track? 42 👤

Yes



No



Questions asked in Sli.do during the session

Question text	Upvotes
What plans do ANSPs have to take advantage of Aireon and its space-based ADS-B tracking?	8
What's the biggest challenge for SESAR and NextGen? What else can be done for better harmonization?	8
where do we stand now for NextGen / SERAR? When will the big change happen?	2
How should we be assessing and managing single point of failure vulnerabilities associated with growing reliance on GNSS?	6
What are the next evolutions of remote ATS etc and how do we get into the right place to meet the challenges and embrace the opportunities?	8
Will there be incentives for operators to implement future CNS/ATM mandates?	2
Did the vertical collision risk numbers account for TCAS as a mitigation or are they purely based on altitude deviation?	4
How do we best address the security aspects of remote ATS provision?	7
With a look towards the future. Will the change be "evolutionary" allowing current avionics or will it be "revolutionary" requiring new avionics equipment?	4

3 Technical Sessions

3.1 Technical Session 1 – Challenges and Opportunities in New Technology

Panel members: EASA: Dominique Roland, Head of General Aviation & RPAS
FAA: Dorenda Baker, Director, Aircraft Certification Service
FAA: Anthony Ferrante, Director, Air Traffic Safety Oversight Service
GAMA : Gregory Bowles, Vice President of Global Innovation & Policy

Summary Points

1. How to accommodate new technologies

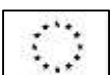
- Partnership and data sharing between authorities and industry
- Performance based rules (e.g. CS23) and industry standards
- Write new regulations broadly to accommodate the goal + not the technology
 - Let industry with regulations create new means of compliance Interim approach (exemptions/devaluations, special conditions, etc.)
- Risk assessment of the whole operation
- Communicate with customers new entrants using new ways (twitter, Facebook etc.)
- Holistic approach including airworthiness, licensing, operation, airspace, aerodromes
- Train new entrants on aviation processes – authority outreach to Uber occurred
- International cooperation, experimentations
- Research and proof of concepts
- Adequate resourcing by authorities
- Encourage non required equipment to be and allow it to be installed on aircraft to be able gain experience with it
- Sharing of airspace is vital. Europe has country boundaries, US is looking at separation, sequencing on coordination of air traffic

2. New technologies

- a. Small electronic powerplants
 - Can be battery or hybrid
 - Can solve aerodynamic problems + lead to higher performance
 - VTOL could be possible
- b. With computer controlled aircraft controls
 - Pilots become operators
 - Computer won't allow flight into ground, mid-air collisions, upsets in weather, take off into bad conditions
- c. Air traffic new technologies
 - Space based sequencing
 - Satellites control air traffic
 - Remote air traffic control using cameras + sensors

Polls

N/A



Questions asked in Sli.do during the session

Question text	Upvotes
How can an applicant ensure consistent rules, guidance, interpretations across multiple CAAs for new technology?	12
If UBER wants a flying car "2x safer", it is fundamentally less safe as the today actual aircraft safety level, how it can be acceptable for a regulator?	11
We all use the same airspace. Is a radical rethink needed for the way airspace is divided up	11
Given that many new entrants to the industry do not have an aviation background is enough being done to inform, promote and educate on airworthiness	10
How many projects or applications do the CAAs need to see before the technology is no longer considered "new" with all CRI, IP, etc?	8
Based on the Solar Impulse project, are the industry and regulators prepared for a pax a/c powered 100% by solar cells (maybe first introduced as bizav a/c)?	7
Initial rulemaking might end up into CRIs or equivalent. How will be the requirements make transparent for the after sales modifications by third parties.	7
Is enough being spent on safety/airworthiness related Research. How best can collaboration be encouraged	6
To Dorenda : tailoring the design Régulations / Specifications to "USAGE": what do you mean? To which level?	6
What are the needed CAA actions to ready the infrastructure/ATC and the airspace for the UberAir vehicle(s)?	4
With the techno evolving quickly, does the FAA / EASA intend to change their organisation to shift substantial ressources on those topics ?	2
Does FAA consider norsee's policy a tool to accommodate new technologies?	2
What means can be used to assess safety performance of theses new vehicles in operations	2
We've talked about commencing the rulemaking process only after a clear tech and ops picture emerges. How do we deal with a picture that doesn't stop evolving?	1
Operational challenges are bigger than product technologies. Is autonomous ATM the enabler of autonomous aircraft coexistence with traditional aircraft?	1
Should regulation encourage diversity. Danger of a few dominant players as per social media and phones	1
On new entrants, reaching an understanding can take long time, they don't understand the language of our sector	1
Operational aspects are predominant. In Europe, compliance check is Member States responsibility. How to ensure the level playing field?	0
How should the authorities keep up with the developement? And be standardised to other authorities?	0

3.2 Technical Session 2 – Regulator and Industry Collaborative Efforts

Panel members:

- EASA: Jean-Marc Cluzeau, Head of Strategy & Programmes
- FAA: John Duncan, Director, Flight Standards Service
- FAA: Lirio Liu, Director, Office of Rulemaking
- AIA: George Novak, Assistant Vice President
- Dassault Aviation: Gilles Garouste, Certification Deputy Vice-President

Summary Points

Mechanisms for industry/ regulators collaboration exist today and will become increasingly more important in the current environment , as we move to PBR and as new comers , driven by new technology and innovation come into play.

Industry involvement not only for Rulemaking but also for associated Guidance including that associated to BASA implementation, shall be earlier and will require more resources from industry and their association. Those mechanisms should bring tangible deliverables and not only discuss.

Associations should ensure that not only the big players are heard and represented.

The regulators should also meet more often to align strategy as well as interpretation of the rules and TIPS and cascade those within Organisations .

We used to learn from accident, with less accidents, we need to use all operational inputs and data to forecast potential problems and address them in a collaborative way world wide.

Polls

N/A

Questions asked in Sli.do during the session

Question text	Upvotes
We've talked a lot about alternatives to rulemaking this week. How can industry get involved early & formally in AC/AMC development?	9
After 30 years of harmonizing regulations it's time to move collaborative efforts to TSO and standards (Eurocae and RTCA) in support of BASA.	9
How avoiding that the same requirements with the same AC/AMC result in different interpretation and compliance finding between EASA and FAA?	7
How to ensure that collaborative efforts do not result in capture of the regulators by the big players?	7
For existing rules, how do we move to improvement through performance measuring vs. legal interpretation?	5
80 to 90 percent of the cert regs are harmonized. Collaborative effort on differences is necessary. This is an authority (BASA) issue NOT an applicant issue.	5

Reflecting on your past collaborative efforts, what has worked well in building and maintaining collaborative relationships? What would you do differently?	4
The conversation has focused on collaboration in rulemaking tasks. What are the panel's views on collaborating to generate operational safety improvements?	4
How ensuring consistent follow up of TIP procedures for all products (A/C, R/C ...) across FAA offices / EASA sections, e.g validation of RFM revisions?	3

3.3 Technical Session 3 – Challenges and Opportunities: Unmanned Aircraft Systems (UAS)

Panel Members: EASA: Yves Morier, Principal Advisor to the Flight Standards Director
FAA: John Duncan, Director Flight Standards Service
Federation Professionnelle du Drone Civil: Stephane Morelli, President
Civil Aviation Bureau of Japan: Mitsuo Kawakami, Director of Air Worthiness

Summary Points

The panel addressed three key issues: What are the challenges for the future; security and privacy concerns; and the needed performance based approach to standards.

One of challenges is to build the connection with the community. The UAS community is comprised of new entrants, and typically they are not part of the traditional aviation community where we already have established relationship. So we are working to build those relationships. In terms of regulation, we need to move- from a prescriptive view to performance based standards. Further we must safely integrate UAS into the airspace and UTM is a key element. For UTM, we need to define CONOPS and systems and the relationship between UTM and ATM. Finally, safety promotion and training are necessary to safely integrate UAS into the system. The panel also addressed the issue of risk and the collection of safety data.

Polls

What is the most important issue in UAS according to you:

49 

1. How will we handle UAS Traffic Management (UTM) in the future

 14 %

2. How do we balance Safety and Security/Privacy considerations

 27 %

3. As regulators move to performance based regulations, what are the key standards for UAS/RPV

 14 %

4. As regulators, how do we find the right balance in defining vehicle requirements vs pilot requirements in achieving safety

 10 %

5. What are the key challenges for the future (e.g. autonomous UAS); Flying taxis, etc.

 35 %

Questions asked in Sli.do during the session

Question text	Upvotes
How will you collect safety data on the safety performance of small UAS	13
I consider unknowing "hobbyists" operating modern UAS to be the greatest threat to the NAS. How do you intend to educate and manage these hobbyists?	12
How effective is registration at actually mitigating the safety risks?	10
What measures can be taken to mitigate the risk of geofencing being disabled by drone operators for nefarious purposes?	10
How will you deal with the difference between the real risks of operation and the public perception of safety risks. Today's pilot reports get media coverage	8
Lower airspace changes needed to be agreed at international level. What means are there to get this done in a timely manner	7
Do you think that making registration mandatory will hinder the development of the industry by scaring users off or making the process too bureaucratic?	7
taxi drones are promising means of transportation for congested cities, why the Authorities do not consider them as a top priority on their Rulemaking plan?	7
Will EASA provide SARPS on UAS detection / identification / defense, as to ensure aerodrome & airspace safety?	7
Autonomous aircraft technology is also rapidly developing, and presents different challenges to UAS. How can regulators ensure they are well placed to respond?	7
How do you apply aviation standards to consumer electronics and home builders	6
Is small drone registration a solution to the safety problem - or is it more about the security and privacy debate?	6
Given the long lead times for business and large transport aircraft what are you doing to enable rules for design today for operations within the next 10 years	5
With the Internet of things why not mandate internet connection for all drones so geofencing maps can be updated instantly	4
considering both the operation and certification of UASs; how will the BASA/WA be organized around the varying security policies of different countries	3
What role can safety promotion play in improving safety for UAS	3
To what extent can aviation learn from car manufacturers, working in intelligent separation and cooperation of unmanned vehicles for years?	2
how do you account for payload of the drones? in future small/light drones will be able to carry heavy loads of all kinds of materials	2
What will happen first unmanned taxis or unmanned cargo aircraft	2

How to ensure UAVs seller are well aware of the rules and are able to explain them properly ?	1
Assuming that we are just at the early beginning of developments are we already moving too slowly in terms of public safety	1
What about drone strike (vs. bird strike) to an aircraft? Any serious collision study available with robust results measuring severity?	1

3.4 Technical Session 4 – Update on EASA-FAA Operational Suitability cooperation and the latest revision 5 amendment 1 to the TIP

Panel Members: EASA: Andrea Boiardi, Chief Expert – OSD
 FAA: Elie Nasr, Manager of the Flight Standards Service’s New Program Implementation Branch

Summary Points

First step was taken with TIP Rev. 5.1. The ultimate goal is the automatic reciprocal acceptance. To achieve this goal there is a need to gain experiences with some consolidated projects:

- Working groups have begun to address the remaining OSD elements and they are in the early stage of the process.
- Industry was actively participating with very good questions:
 - o How the process with relation to MMEL will apply to existing products?
 - o Expressed the desire to be involved in the discussions.

Polls

N/A

Questions asked in Sli.do during the session

Question text	Upvotes
Basis for mutual acceptance is the visibility of the data especially for STC validation. Isn't more standardized issue of OSD by TCH and STDH necessary?	10
What is the process to work toward a single MMEL for existing products? This is where most of the activity exists and would provide greatest benefit to all.	10
The previous session discussed authorities and industry collaboration. When will you involve industry in the quadrilateral discussions referred to by Andrea?	9
What are the steps for delegation to ODA of certain 'osd' related matters. Is there a project already decided?	8
What is the estimated release date by the FAA for OSD requirements?	6
TIP 5.1 considers MMEL changes to follow the procedure. A single doc would benefit all of us. Should industry/authority cooperate to have MMEL as single doc?	6

How do you envision carrying out MRB/MTB confidence reviews of FAA/EASA processes? How to ensure little to no impact on applicant and program schedule.	6
Trust between industry and regulators has been a theme. How are lessons learned in validation of Type Cert being applied in the OSD WGs to build trust quickly?	5
TIP 5.1 Sec 2.4.6 states that ICA will be managed by the VA office. Is there any cooperation and reliance on CA system for approval/acceptance of ICA?	4
Ownership of the single mmel, from US TCH/STCH holder and from EU TCH/STCH perspective?	3
Have you considered the 'digitalization' impact on the MMEL validation and publication processes?	3
FAA AEG is also involved in RFM review. It is not the case of EASA OSD. What is the plan for harmonization?	2