



Network Manager
nominated by
the European Commission



Trade-offs and complexity/Over - deliveries - safety or capacity issue

11th May 2017

CEO Safety Conference

Frankfurt

Tony Licu

Head of Safety Unit

EUROCONTROL Network Manager

Work-as-Imagined



fairness zone

Work-as-Done



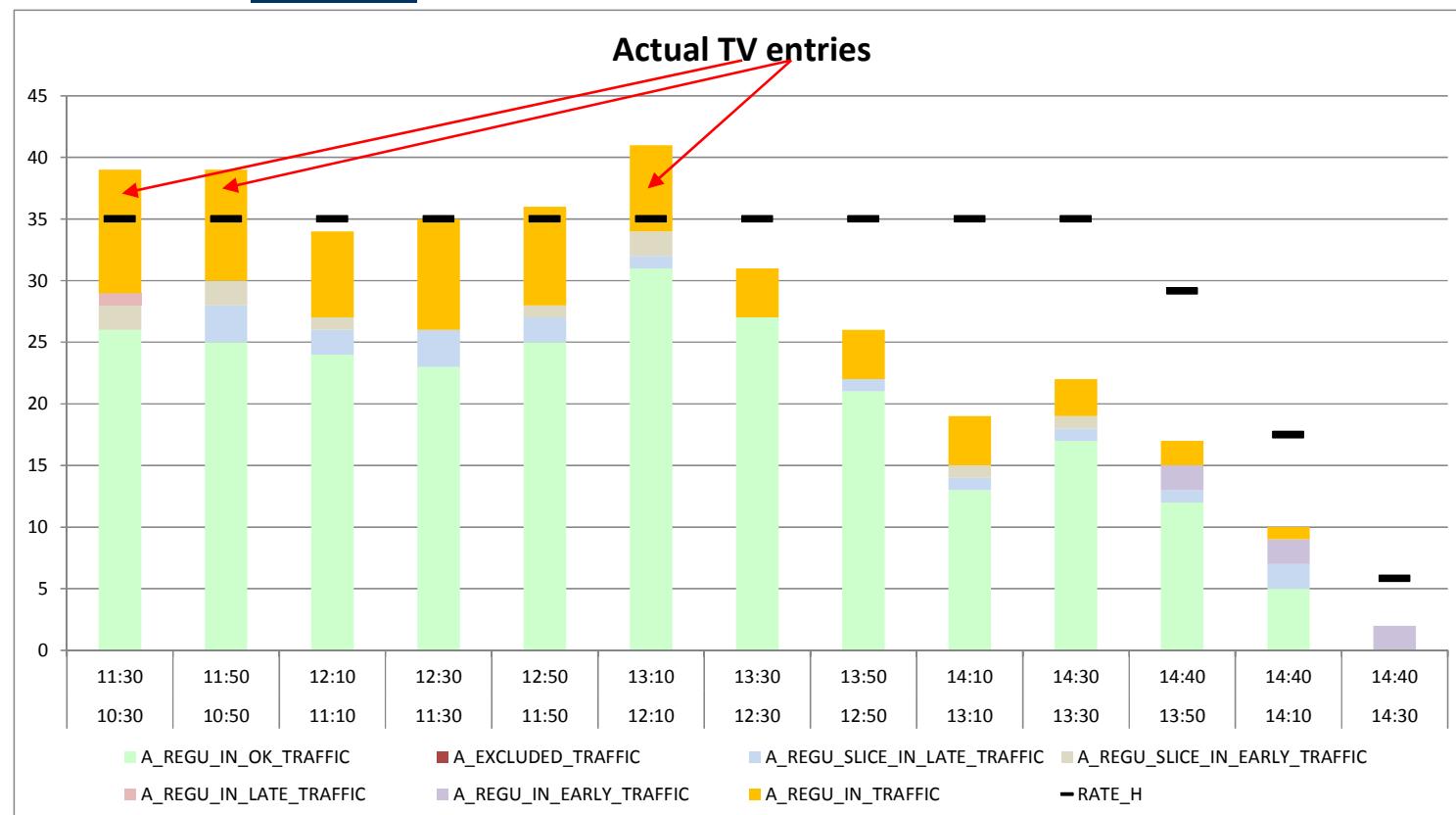
WORK
AS
I IMAGINED





What are Over-deliveries ?

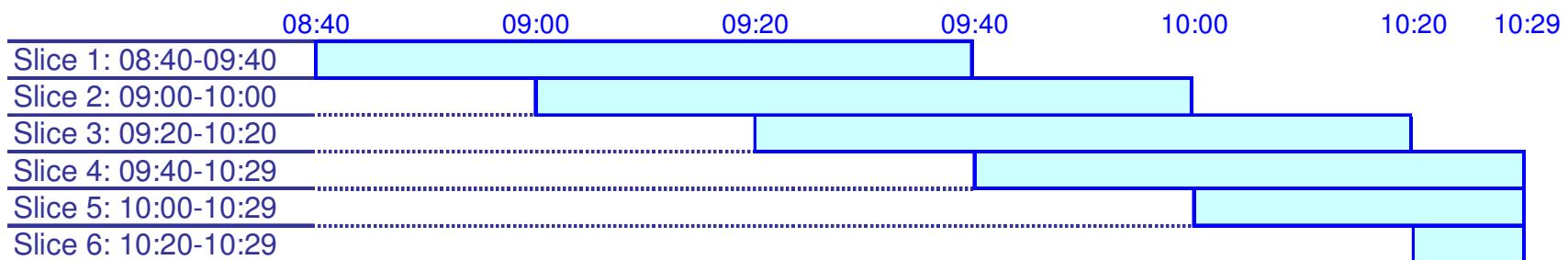
- Over-deliveries: total number of entries in the regulated traffic volume is above 110% of regulated rate
- In the NM Performance Plan an indicator is defined based on the definition above as an indicator for Capacity KPA





Slices (Hourly intervals)

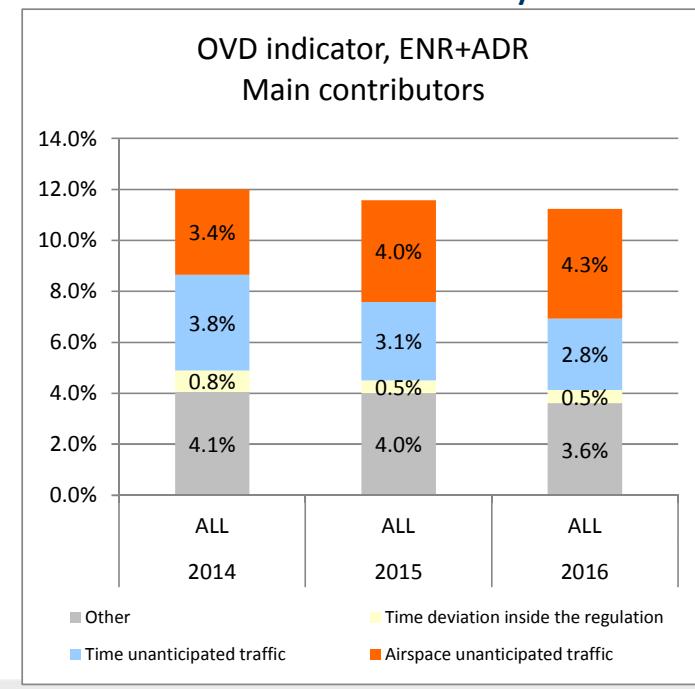
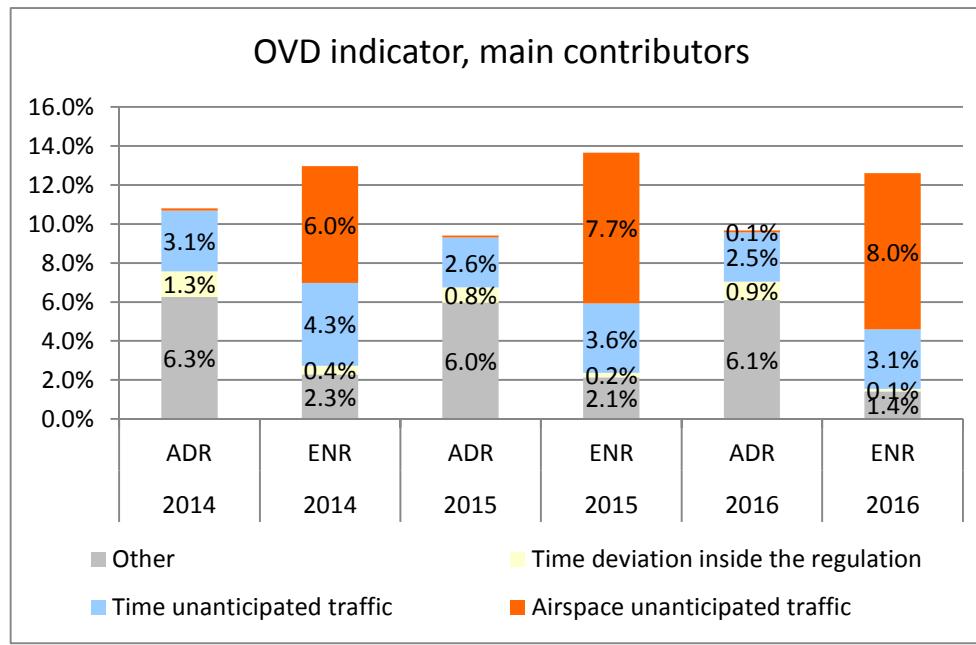
- The hourly slices are generated by slicing the regulated time in overlapping hourly intervals every 20 minutes
- This method ensures that the evolution of actual entries in the regulated traffic volume (TV) captures any period with over-delivery.
- A slice at the end of the regulation may be less than an hour
- Example: A regulation starting time is 08:40 and the regulation ends at 10:29
 - There will be six slices defined as follows





Main contributors to OVD

- The main contributors shown in the graphs are:
 - Airspace Deviations (horizontal, vertical) from the flight plan that are causing un-anticipated traffic in the regulated sector
 - Time deviations that are causing un-anticipated traffic in the regulated sector
 - Time deviations inside the regulation that are causing bunching
 - Others like: late activation of the regulations and the aircraft are already airborne etc





Actual entries in the TV – REG perspective

- Flights that were planned to and actually entered TV btw REG START/END (OK)

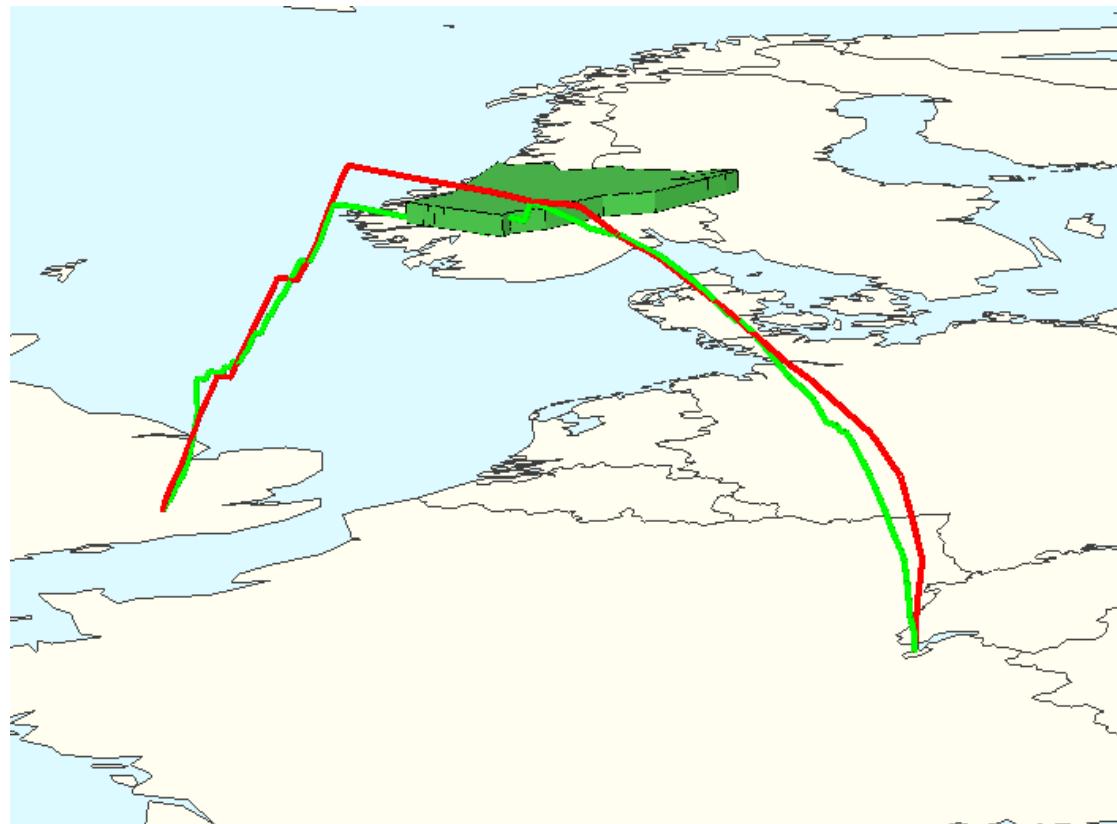


- Flights that were planned to enter TV but before REG START; because the flight is late it arrives in the TV after REG START – Time un-anticipated traffic (LATE)
- Flights that were planned to enter TV but after REG END; because the flight is early it arrives in the TV before REG END – Time un-anticipated traffic (EARLY)



Actual entries in the TV – REG perspective

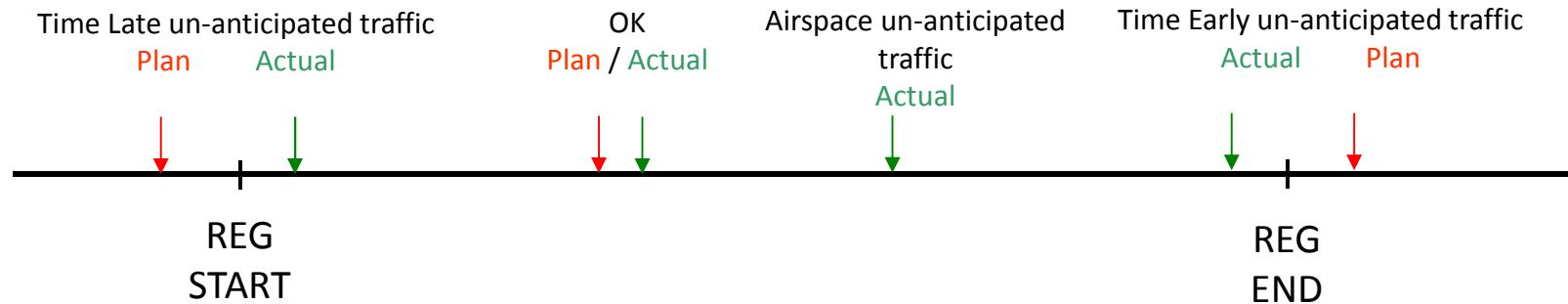
- Flights that were not planned to enter TV (Airspace unanticipated traffic)





Actual entries in the TV – REG perspective

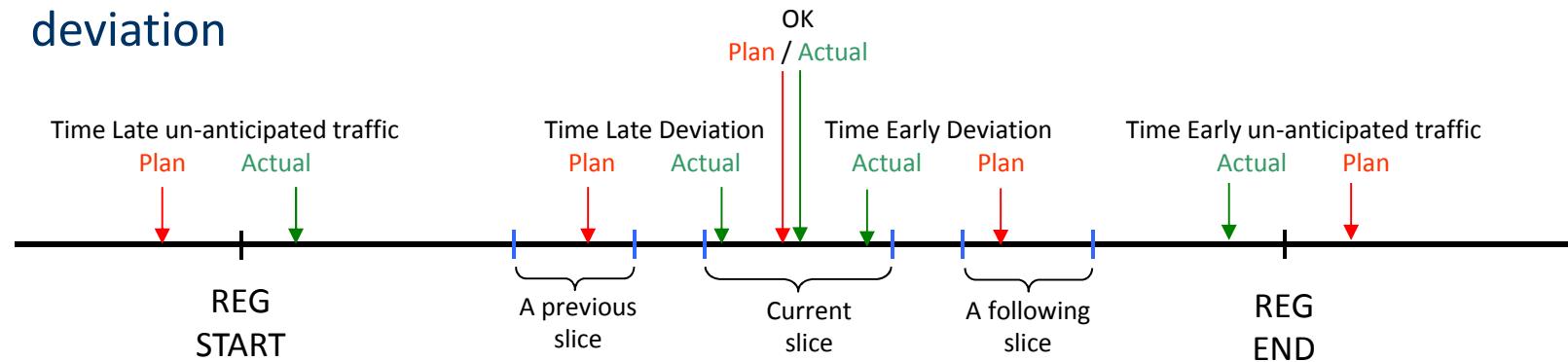
- In summary
 - Planned and Actual
 - Airspace un-anticipated traffic
 - Time un-anticipated traffic





Actual entries in the TV – Reg Slice perspective

- The below categories are the same (when TV entry time is within the slice)
 - Time un-anticipated traffic
 - Airspace un-anticipated traffic
- The flights that were planned and actually entered TV btw REG START/END
 - planned and actual entries in the correct slice - OK
 - Planned to enter a previous slice but they are late – Time late deviation
 - Planned to enter a following slice but they are early – Time early deviation





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<https://flic.kr/p/9WiHms>

<http://bit.ly/hstargets>

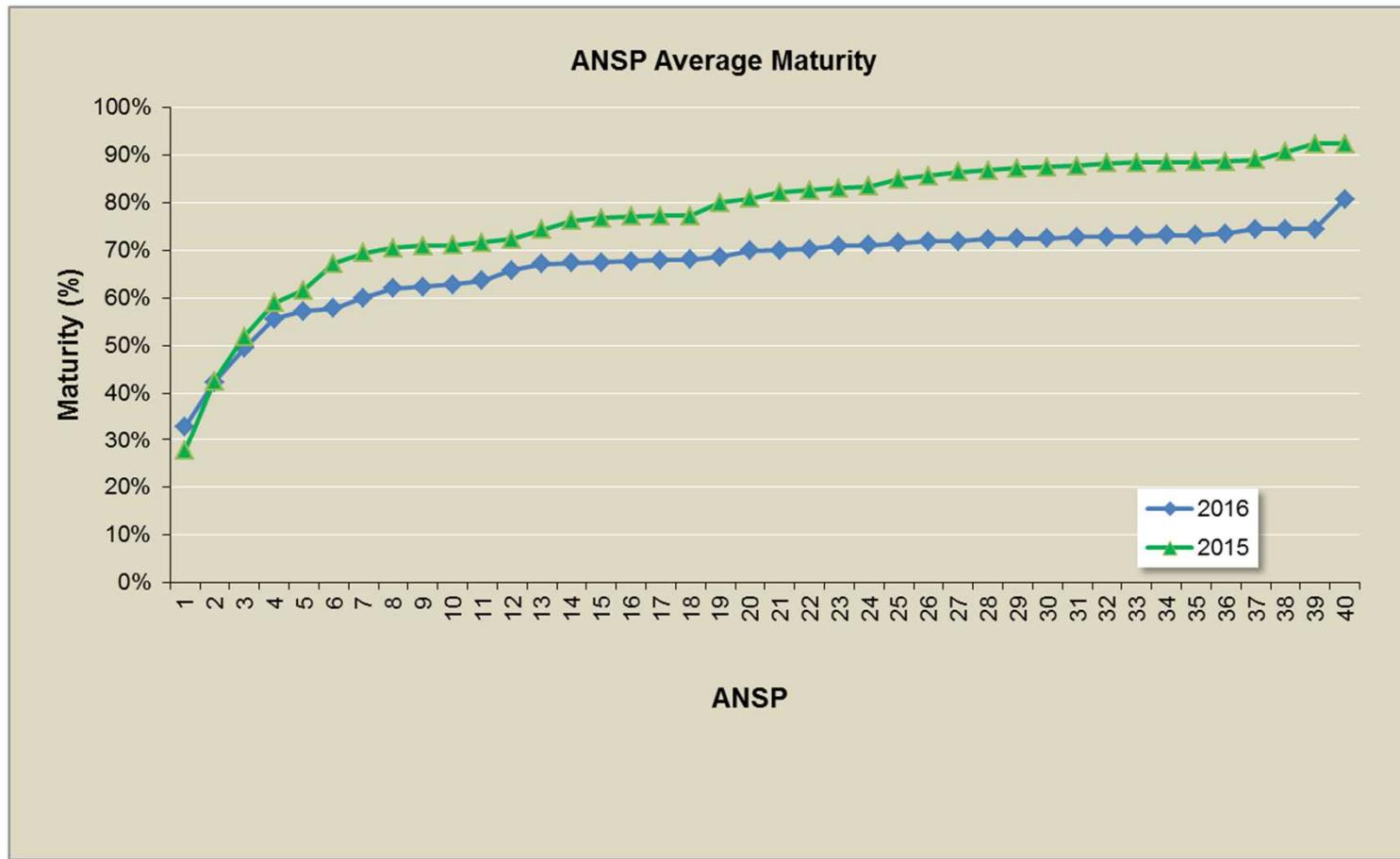


Conclusions on Over-deliveries

- OVD Indicator is already defined in the NPP as a Capacity indicator (in line also with the comments from ANSPs/FABs received when NPP was consulted);
- Main contributors are identified
 - NM systems improved to allow full monitoring and analysis of OVD;
- NM is working with stakeholders to reduce the over-deliveries in line with NPP objectives;
- Is it a candidate for a Safety Indicator as well ?
- Why chasing it ? Would it make the system safer ? If yes how ? Would it make it more efficient? If yes how ? – still looking into it

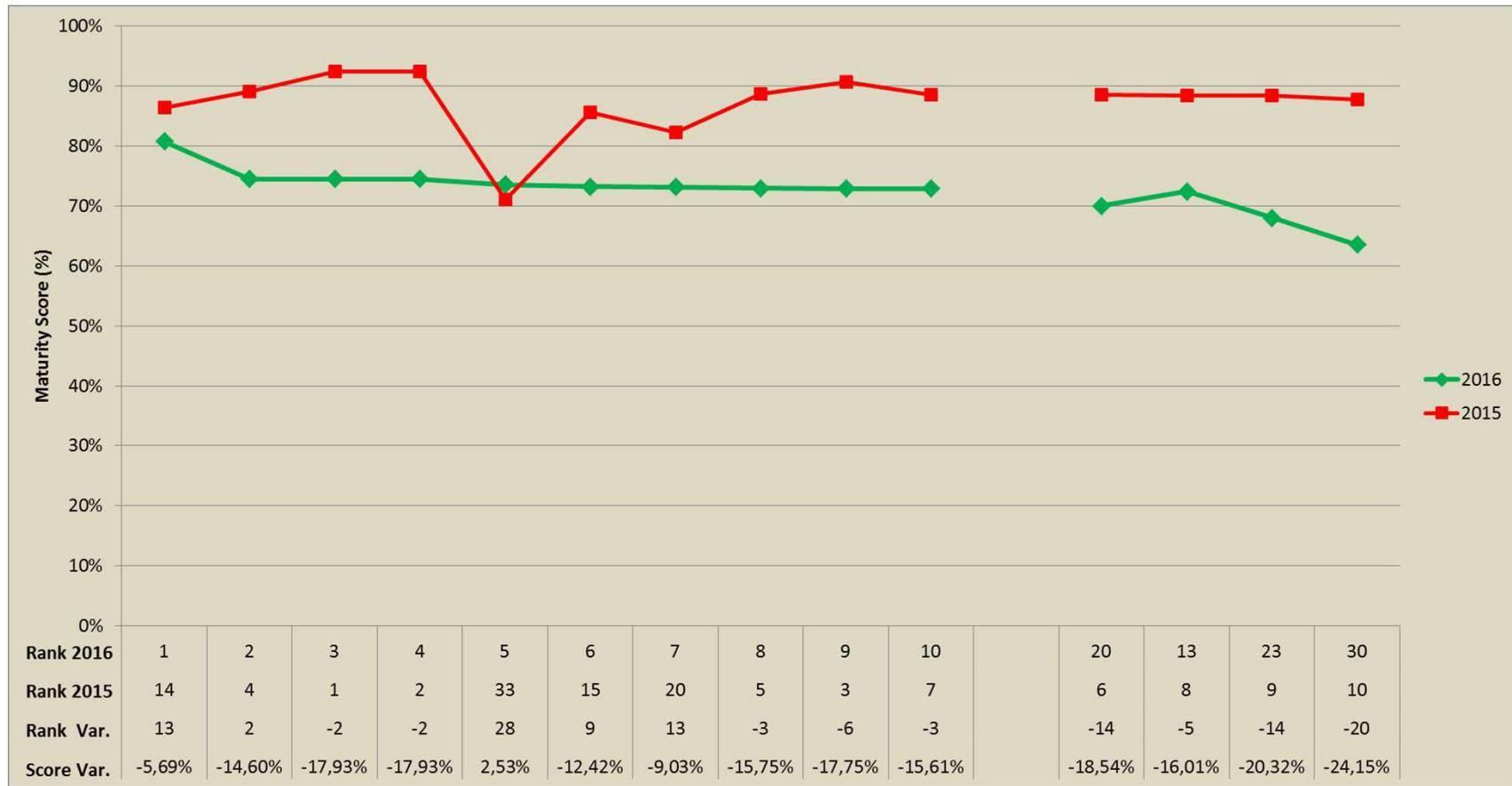


SMS Standard of Excellence Overall results 2015 – 2016





HoweverTop 10 2016 vs. 2015





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ES² (Experience Sharing to Enhance SMS/Safety) Programme feedback and way forward 2017-2019

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ES² Project manager
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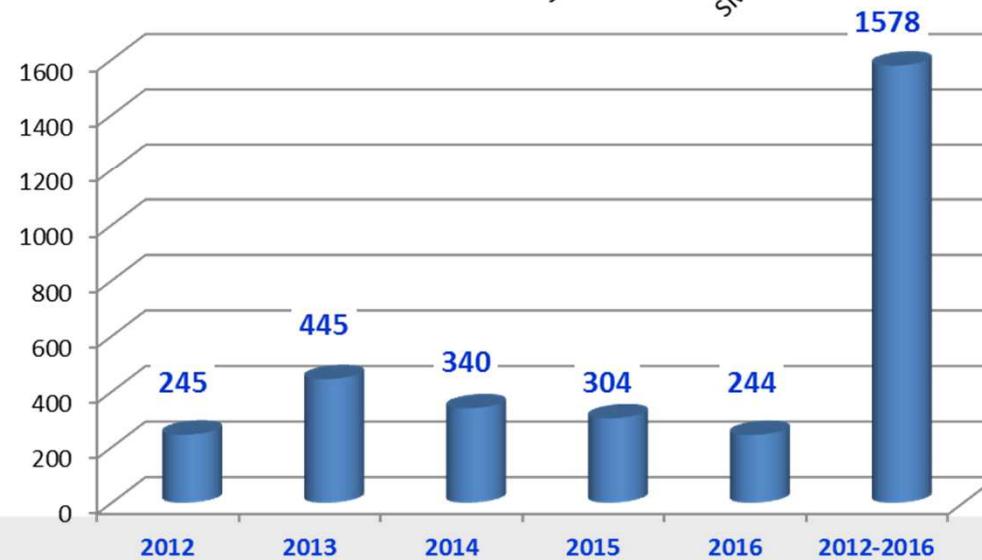
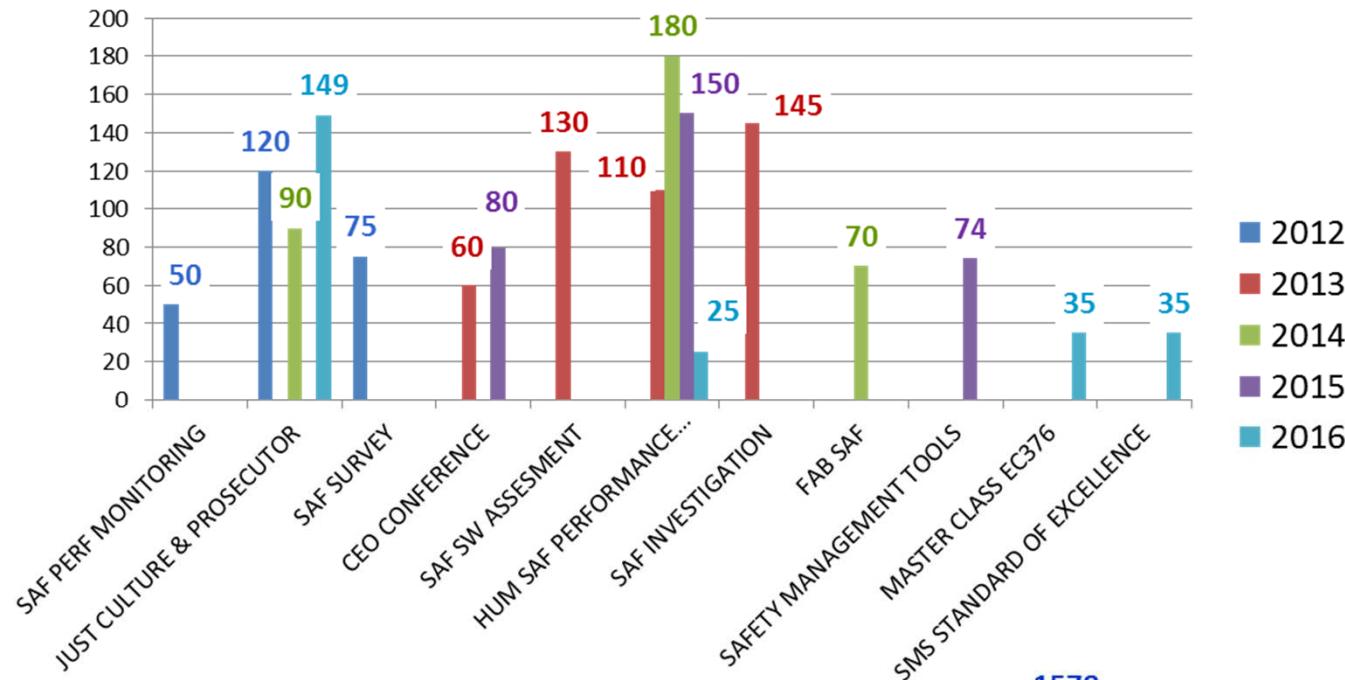
Sid Lawrence
Secretary ST and CSST PM
EUROCONTROL Network Manager



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Attendance Workshops & CEO Conference



Total Attendance





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ES² Programme 2017



THEMES	CONTENT	TARGET AUDIENCE	DATES	LOCATION
<i>CEO Conference</i> <i>Strategic Safety</i>	<i>"Managing complexity in a fast-changing world"</i>	<i>CEO, Directors General, Safety Directors and Managers, Ops & Tech,</i>	<i>09-11 May</i>	<i>Frankfurt, Germany</i> <i>DFS</i>
<i>WS 1-17</i> <i>Safety Reporting & Investigations</i>	<i>Best Practices in Safety Tools</i> <i>State of the art Safety Management Tools</i>	<i>Human Factors & Safety experts, Projects Managers, Safety Managers, Investigators</i> <i>On the invitation only basis</i>	<i>25-27 April</i>	<i>Bucharest Romania</i> <i>ROMATSA</i>
<i>WS 2-17</i> <i>HF and Systemic Safety</i>	<i>Human Factors and System Safety Thinking</i> <i>Bi-annual Conference*</i>	<i>Human Factors and Safety experts, Projects Managers, Safety Managers, OPS experts and OPS managers</i>	<i>27-29 Sept</i>	<i>Brussels</i> <i>Belgocontrol</i>
<i>WS 3-17</i> <i>Prosecutor Expert Refresher</i>	<i>Just culture and Judiciary System</i> <i>A follow-up of the 2016 Lisbon workshop</i>	<i>Safety and OPS Managers, Prosecutors, ATCOs, Safety Experts, Investigators, NAA/NSAs</i>	<i>21-22 Nov (TBC)</i>	<i>Rome</i> <i>Italy</i> <i>ENAV</i>



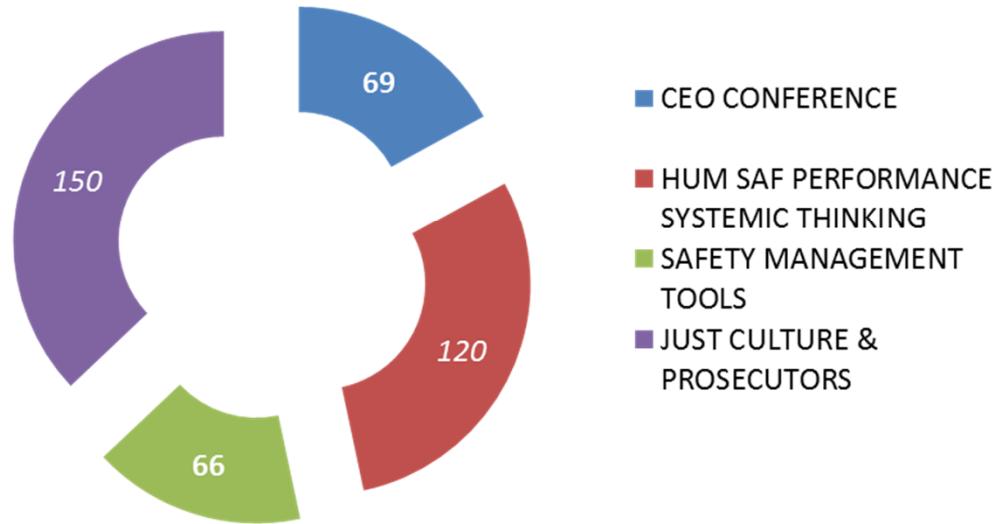


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Estimated Attendance Workshops & CEO Conference

2017



- CEO CONFERENCE
- HUM SAF PERFORMANCE SYSTEMIC THINKING
- SAFETY MANAGEMENT TOOLS
- JUST CULTURE & PROSECUTORS





ES2 activities and way forward 2017-2019

Main Themes

- Supporting ANSPs to meet RP2 targets and be prepared for RP3;
 - SMS Standard of Excellence;
- Systemic Thinking and Human Performance;
 - Complexity, Safe Design, Trade offs, Law of Unintended consequences;
- Cost and Return of Investment in Safety;
 - Throughput, Automation, Virtualisation,
- Safety Tools, Dashboards, Safety Intelligence, Safety Wisdom
 - Supported by Safety Culture & Just Culture.

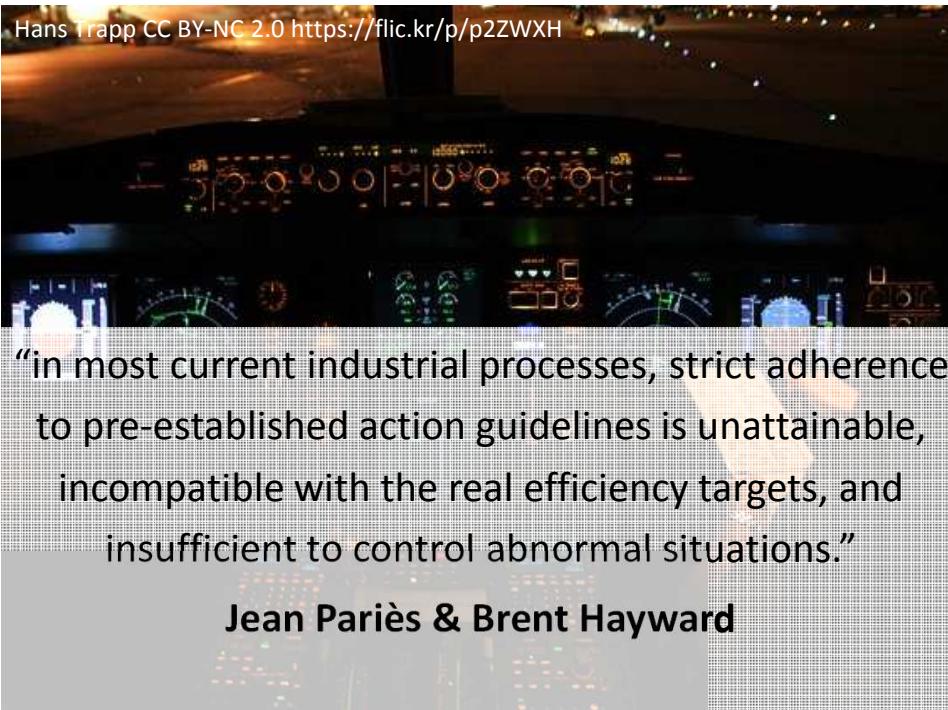


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To conclude





“in most current industrial processes, strict adherence to pre-established action guidelines is unattainable, incompatible with the real efficiency targets, and insufficient to control abnormal situations.”

Jean Pariès & Brent Hayward



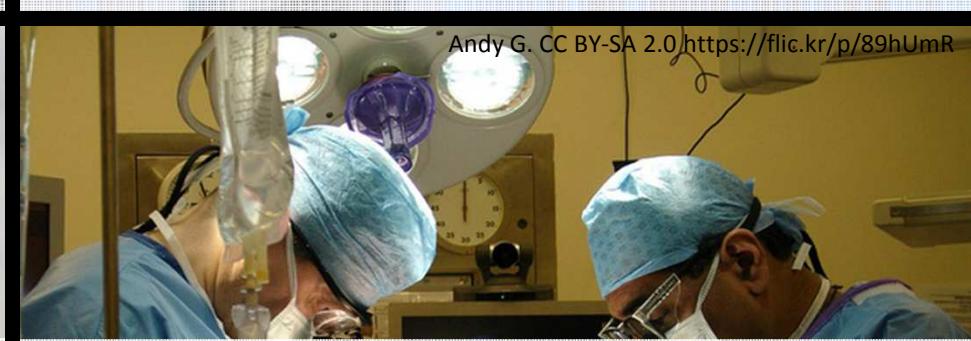
“no singular overarching regulatory, standards, or policy-making body for these services.”

John Allspaw



“People choose what they want to say to regulators ... The regulator can start to believe that ‘work-as-imagined’ should always match ‘work-as-done’. The right position lies somewhere in-between..”

John Wilkinson



“As clinicians the world over have reviewed my late wife's case, many have stated that “I wouldn't have done what they did...in a simulated scenario with the same real-world disorder...most actually do.”

Martin Bromiley

Phalinn Ooi CC BY 2.0 <https://flic.kr/p/dnc4Tz>



“there is a difference between policy and practice ...
administrators may not be aware of the latter.”

Ken Catchpole & Shelly Jeffcott

Ed Schipul CC BY-SA 2.0 <https://flic.kr/p/7YvH2b>



“...contractors may not receive direct feedback on the success of, or problems with, their previous designs in the field, and most engineers designing the asset will not have worked on or even visited an operating installation.”

Rob Miles & Ian Randle

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“many well-intended shortcuts and deficient workplace practices are routinely not detected during audits ... major system failures may be associated with this gap.”

Ben Cook & Ryan Cooper



Tell me about...

The Rule Book

“...can be a practical necessity or a mark of expertise ... [but] sometimes the motivations for the way that the work is actually done are not laudable.”

Ben O'Flanagan & Graham Seeley



May I see your human factors/safety assessment for this task?





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Thank you

