

ESA Alert System Evolution

ESCCON 2016

ESTEC, 1st March 2016

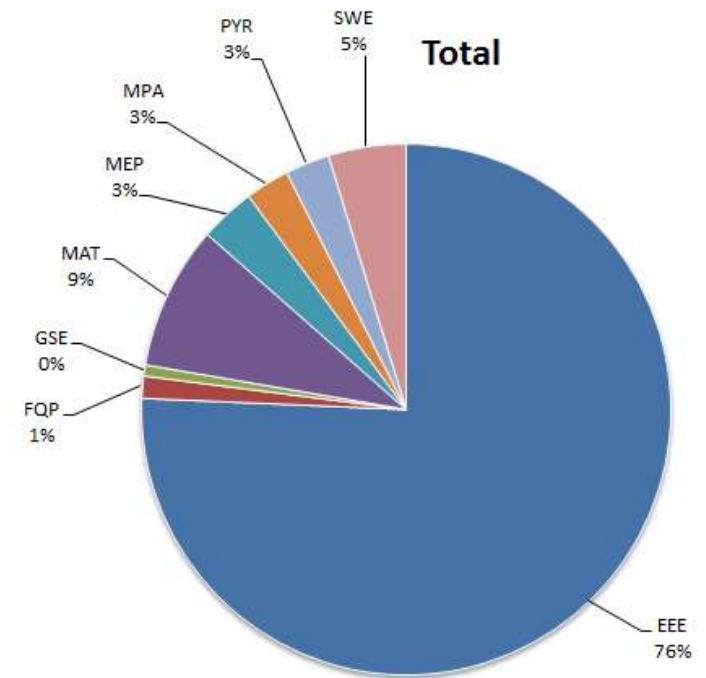
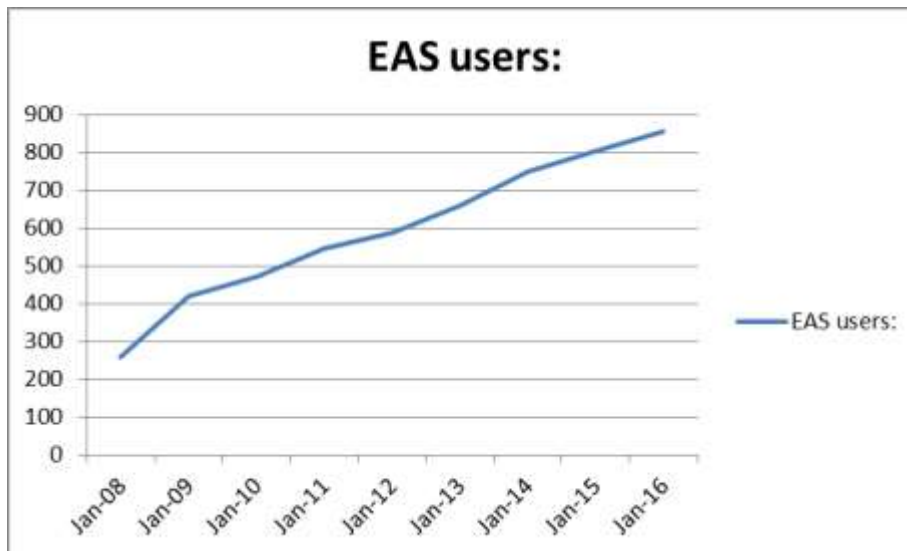
Rafaele Campagnolo, ESA
Ralf de Marino, ESA

- The ESA Alert System is an Advisory System by ESA for ESA projects and permits the inclusion of other participants. ESA retains the right to accept or decline participation requests.
- All basic information including the list of participants is in the public domain and can be found under <https://alerts.esa.int>
- Alert Information is not intended for Public Dissemination but considered to be confidential among EAS participants.
- Participation is possible only for organisations through an Alert Coordinator and not open to individuals.
- Participation is mandatory for ESA projects, internal and external at all contractual levels which does not make it a contractual enforcement tool.
- The application of the alert process and adhesion to criteria for release is strict and the verification of alert information and recommendations are performed with high diligence. Alerts are a serious matter and treated as such.
- It is not their purpose to penalize but to be preventative and constructive.

ESA Alert System Status



- The Alert system is in place since 1996: 20 years of sharing in the EAS community
- Total number of Alerts since 1997: **152** (~8 per year)
- Alerts per Category: **115** alerts only on EEE
- Total number of Users: **857**
(300 ESA + external participants)



European Space Agency

- The Alert Process is certified as per ISO 9001. Audits are performed annually.

Observations made during the last audits:

- KPIs and objectives (% active users, Leadtime for Alert investigation): **measurements done on yearly basis.**
- Data sensitivity: **process updated to include clear sensitivity warning. Tool under upgrade.**
- Quality of Services (Data Accuracy, Timeliness of Alert Generation, Availability of the database) and Non conforming process definition: **procedure updated and currently under review.**
- Involvement of external users in the revision of potential alerts: **clarified with industry in the frame of the Working Group (see next slide).**

Main facts and future proposals 2/3



- The Alert System procedure is updated periodically with input from audits and feedback from projects and users. Last update was in Jan. 2016 and will be released shortly.
- An Open Workshop is organized every ~5 years. Last event in April 2015.
- Alert sharing process improvement : a proposal is under discussion with the main industrial partners. A Working Group was started in November 2015 and meets periodically to define an extended sharing methodology.
- Alert Exchange agreement: A formal Alert Exchange Process agreement has been discussed at the Safety and Mission Assurance Trilateral meetings (JAXA-NASA-ESA) and is still being refined. Legal approval is pending. An agreement on EEE parts alerts is already in place between ESA and JAXA.



- A screening of all alerts is performed on an annual basis.

The last one was completed in Q1 2015 with the following result:

148 alerts reviewed

- 77 to be Closed (no longer of relevance to ESA projects)
 - 58 remain Active
 - 13 are Superseded/Withdrawn
- Next screening is currently under way.
- The goal is to reduce the number of alerts to be assessed by new projects for impact on their design, processes and activities.

- The ESA Internal Problem Notification (IPN) tool is increasingly used by all ESA projects for the early identification of potential alerts. A formal assessment is performed on each IPN by an ESA team of technical experts. The results are used to initiate the preliminary alert information process, if justified.
- Criteria for Alerts generation have been fine tuned, being one of the factors for the drop in alerts generated in the last few years
- While the majority of published alerts originate from ESA project experience all ESA Alert System participants are invited and encouraged to provide relevant input , potentially leading to a new alert or the update of an active alert.
- Feedback on the impact of published alerts are expected from users of the ESA alert system to improve the effectiveness of the alerts, both in terms of perimeter and in terms of corrective actions.

- In Q1 2016 a new upgrade of the web portal /tool will be performed to include:
 - Possible integration of alerts from other agencies (JAXA, NASA, etc..)
 - Clear indication of data sensitivity
 - Updated pdf generation
 - Unique Technical Expert per Alert
 - Alert Status List
- Users are invited to provide further improvement suggestions. They can still be considered for inclusion in the coming upgrade package.

- Until better solutions are identified the ESA Alert System remains a necessary and effective tool to broadcast problems causing potentially high risks and their recommended solutions when those who may have a high interest to know and act accordingly can not be identified otherwise.
- The large number of present participants, the influx of new participation requests and the many existing 'in-house' systems provide evidence for this.
- Taking and receiving is bliss – bi-directional sharing is a different matter.
- QUESTIONS?

Thank you for your attention

More info on
<https://eas.esa.int>