

# La Cyber-sécurité dans les opérations de systèmes spatiaux

**FFT – 19 Septembre 2019**





### Expert Communities (Comets)

Today, 20 active communities for fostering excellence bring together a large number of experts from the academic, industrial and institutional worlds.

**The missions of the Expert Communities are to:**

❖ **Drive expertise and contribute to innovation by:**

- sharing knowledge, know-how and feedback.
- encouraging inter-disciplinary collaboration between networks.
- developing innovative ideas.

❖ **Promote discussions and cooperation between the space sector and other sectors of activity.**

The experts work together in various ways through:

- focus groups, workshops, symposia, visits, good practice guide, exchanges of experts.



Facilitate access to  
space services for  
other sectors

Contribute to  
expertise and  
innovation



Foster  
cooperation

Produce and share  
knowledge

2132  
members

3674  
subscribers

50 à 8 to  
conferences/year



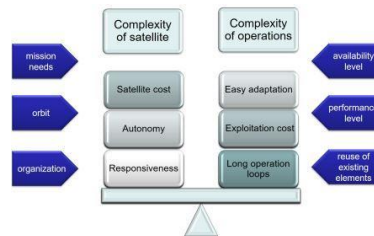
[www.comet-cnes.fr/en](http://www.comet-cnes.fr/en)

# LA COMET OPS EN 6 THEMES

## OPERATIONS & EXPLOITATIONS DE SYSTEMES SPATIAUX



Projets / Programmes



Architectures des Systèmes Spatiaux

Outils / Procédés Opérationnels



Services Opérationnels  
(Stations, Collision, Réseaux ...)

Facteur Humain



Contexte Opérationnel  
(LOS, Sécurité, CYB, etc)

# COMET-CYB – the problem at hand

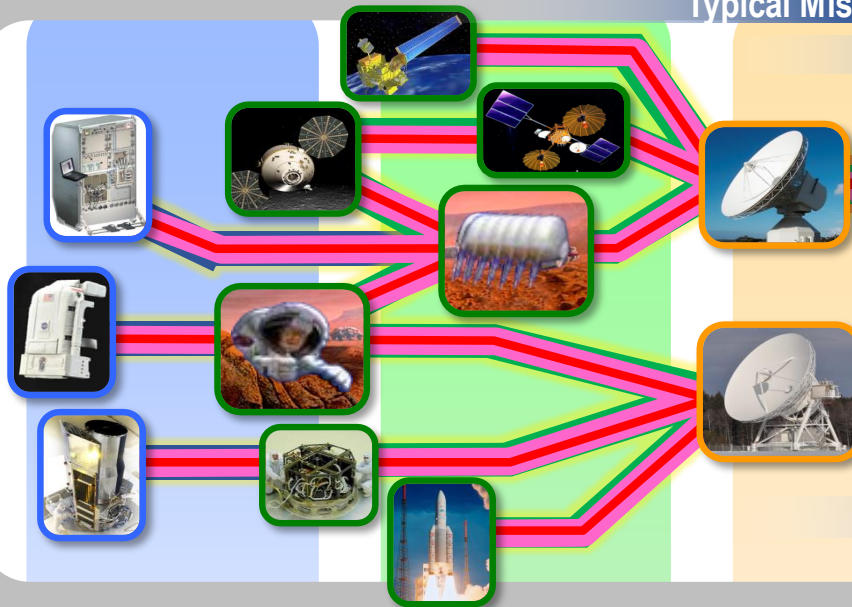
Systems Engineering

## Typical Mission Profile

One Organization's Assets



Another Organization's Assets



### Spacecraft Onboard Interface Services

- ◆ Onboard Wireless WG
- ◆ Application S (incl. Plug-n-F

### Space Link Services

- ◆ RF & Modulation
- ◆ Space Link Coding & S

### Cross Support Services

- ◆ CS Service Management

### Space Internetworking Services

- ◆ Motion Imagery & Apps

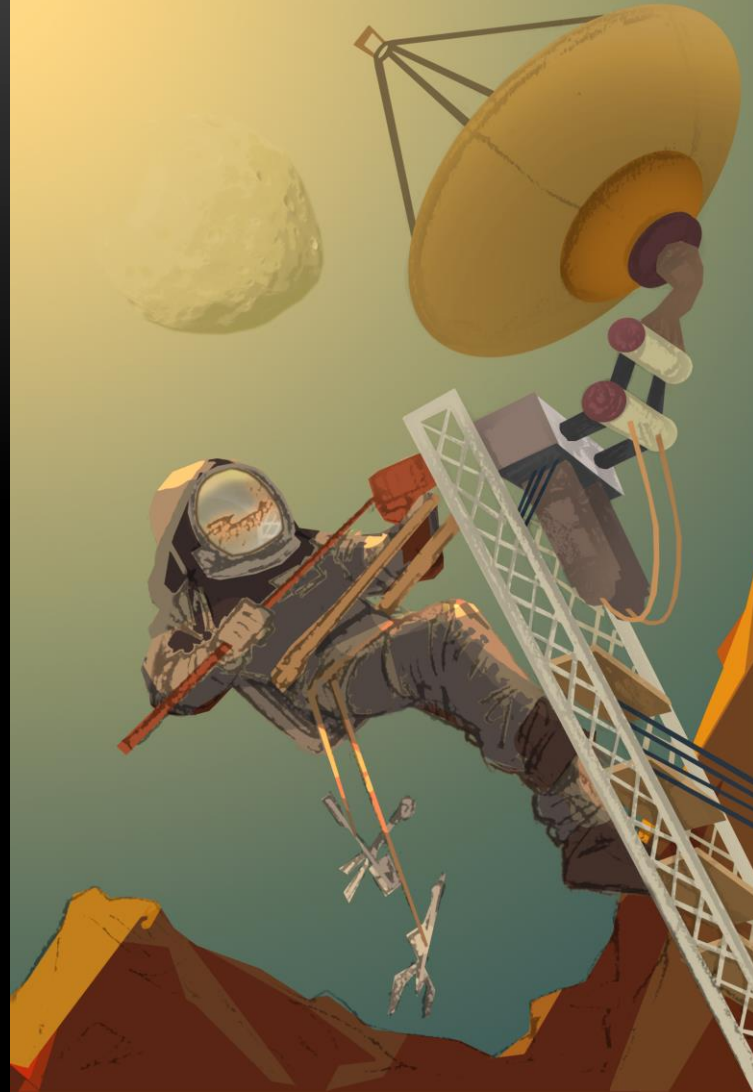
### Mission Ops & Info Mgt Services

- ◆ Data Archive Ingestion

Monitor &  
visitory  
cation  
s



# TECHNICIANS WANTED





## **Prochains événements**

**21/11/2019 Industrial Control Systems and  
Operational Technologies Security Ed. 3 -  
Toulouse**

**2020 TBD : Operations and Cybersecurity - Centre  
Spatial Guyanais**



## Event program (Morning)

9:00 **Introduction**  
*CNES*

9:10 **Day introduction**  
*CNES – Pierre Lods*

9:25 ***GALILEO RLSP* Lessons learned**  
*CNES – Maxime Fontanier*

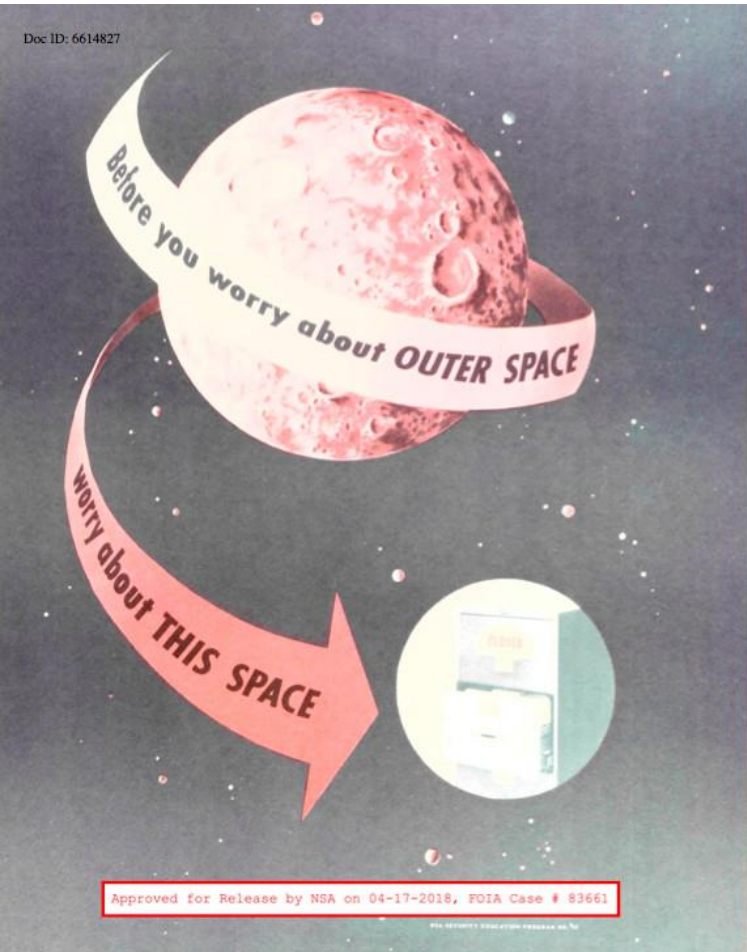
9:55 **Cybersecurity from OPS point of view**  
*CNES – Gérard Galet*

10:30 Coffee Break

11:00 **Rapprochement entre le “cyber-espace” et le “cyber-spatial”**  
*SCASSI – Fabrice Crasnier*

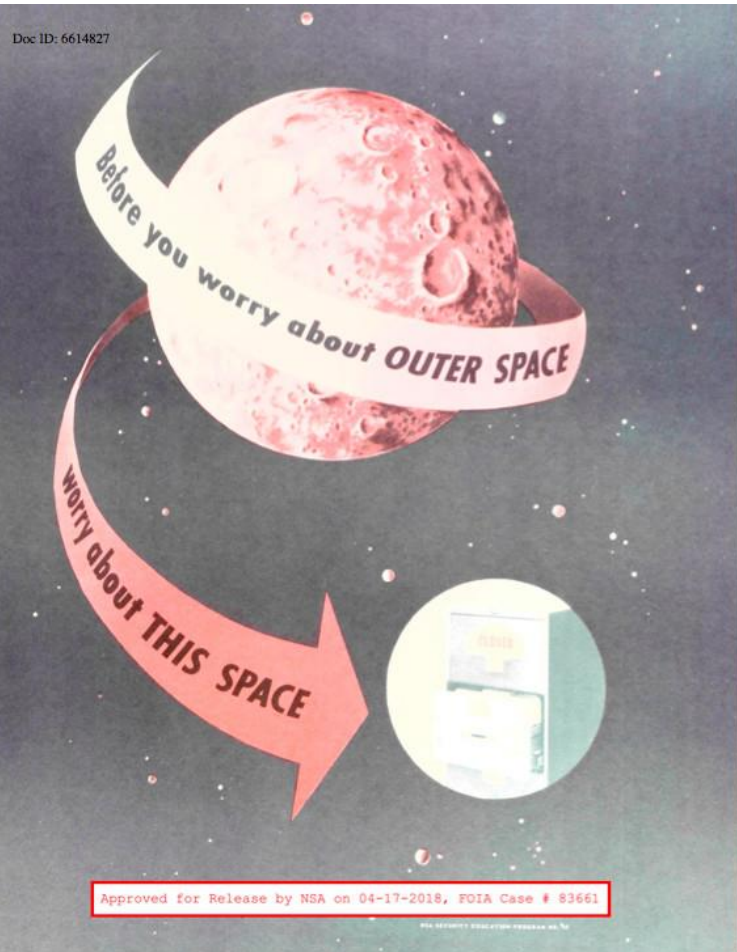
11:30 **Ariane 6 lessons learned in embedding security constraints in operations**  
*ArianeGroup – Sylvain Barbeau*

12:00 Lunch





## Event Program (Afternoon)



13:30	<b>Bénéfices et limitations de la certification ISO 27001 pour une activité de contrôle des satellites</b> <i>Eutelsat – Marc Boulinguez</i> <i>Prosica – Christophe Jolivet</i>
14:15	<b>Apport des plateformes de SIRP dans la gestion des incidents</b> <i>Sogeti – Vincent Mammeri et Grégory Beauverger</i>
14:45	<b>Coffee Break</b>
15:05	<b>ENAC</b> <i>ENAC - Jean-Christophe Deneuille</i>
15:35	<b>Sécurisation des infrastructures et des transmissions spatiales avec le Machine learning</b> <i>Itrust - Jean-Nicolas Piotrowski</i>
16:05	<b>Discussions - Conclusion</b> <i>CNES</i>