



De l'Espace pour la Terre



# THE TECHNICAL COMPETENCE COMMUNITIES: FROM INNOVATION TO KNOWLEDGE MANAGEMENT



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**The CNES “Technical Policy” mission is to insure the availability of knowledge, expertise, technical and human means allowing France to implement its “Space Policy”.**

**It applies to:**

**👉 Preparation of the future**

- ◆ **Development activities**
- ◆ **Operations**
- ◆ **Safety and exploitation**

**70 % of CNES staff is involved in technical activities, among which 75 % are engineers**

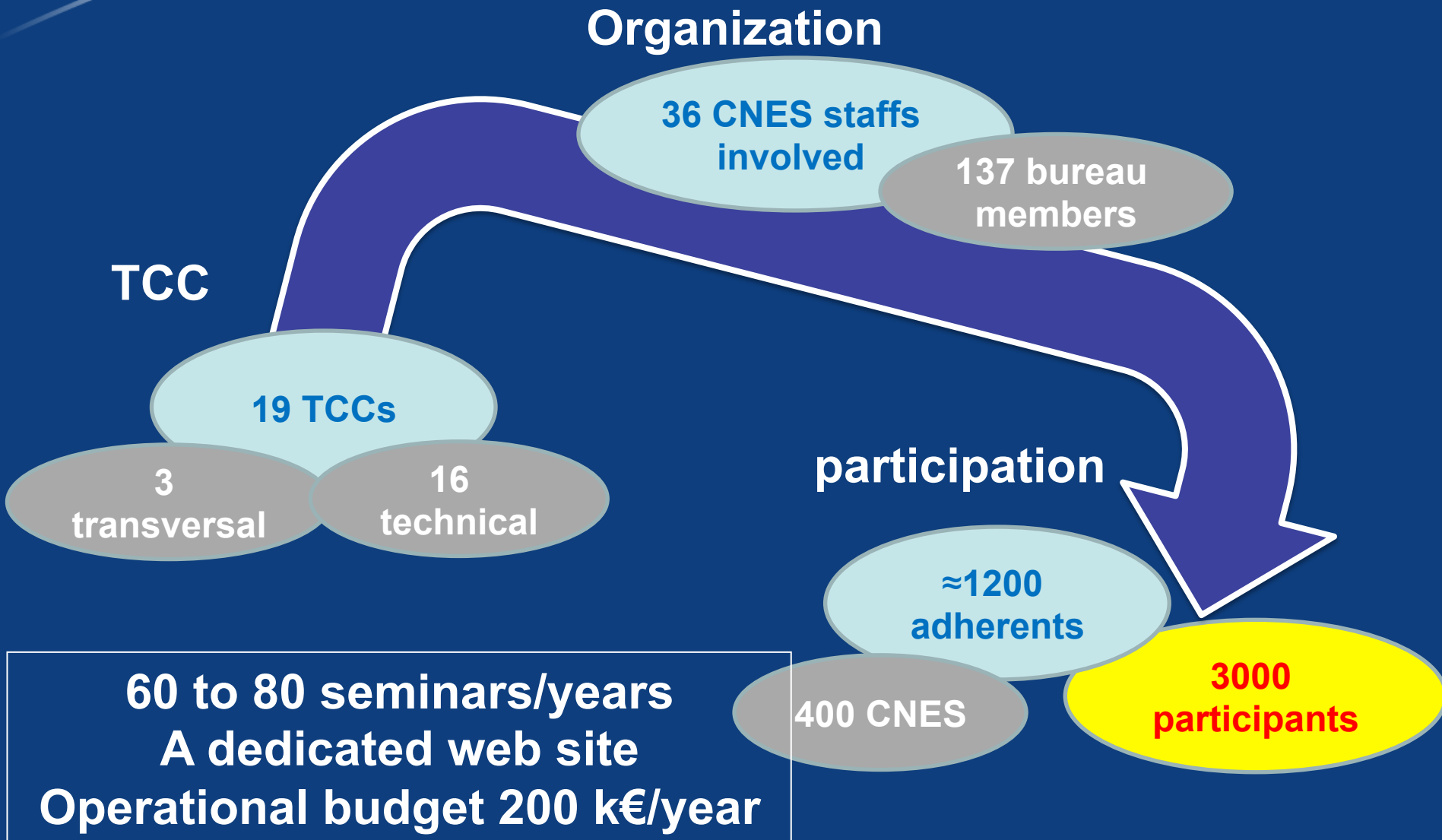
- **CNES set up TCC in 1998.**
- **Initial aim : To bring together experts focusing on the main scientific and technical disciplines used in Space.**
- **Now communities also share processes and methodologies**
- **Opened for benchmarking to non space sectors**
- **Each TCC is managed by a coordinator expert of the domain, with the support of a “Bureau”.**
- **TCC evaluation every two years by a board, at director level.**

## ■ The different activities :

- ◆ seminars, workshops, symposia (allowing enough time for discussions and round tables)
- ◆ distribution of technical information
- ◆ publications

## ■ Participation to the TCCs is totally free of charge, including the participation to workshops

*Note that people may occasionally come to a TCC event, even if they are not member of the Community.*



# Technical Competence Communities Scope

*Assembly, Integration & Tests*  
*Atmospheric and space environment*  
*Data processing system architecture and software engineering*  
*Education, Science & Society*  
*Electromagnetism and microwave components*  
*Flight mechanics*  
*Guidance, automatic control filtering*  
*Materials*  
*Methods and tools for use and operations*  
*Microsystems and Electronic Components*  
*On Board Data Handling*  
*On-Board Electric power*  
*Optics and optoelectronics*  
*Project & Management*  
*Satellite Positioning and Dating*  
*Signal and image processing*  
*Space based Applications*  
*Structure*  
*System*

## ■ Industry from the space sector

- ◆ Primes : Thales Alenia Space , Airbus Defence and Space,
- ◆ Small and Medium Enterprises (SME) :  
*very open exchanges, beyond the frame of usual contractual constraints*

## ■ Scientific communities

## ■ Non space industrials actors (e.g. aeronautics, automotive engineering,...) and in particular SMEs.

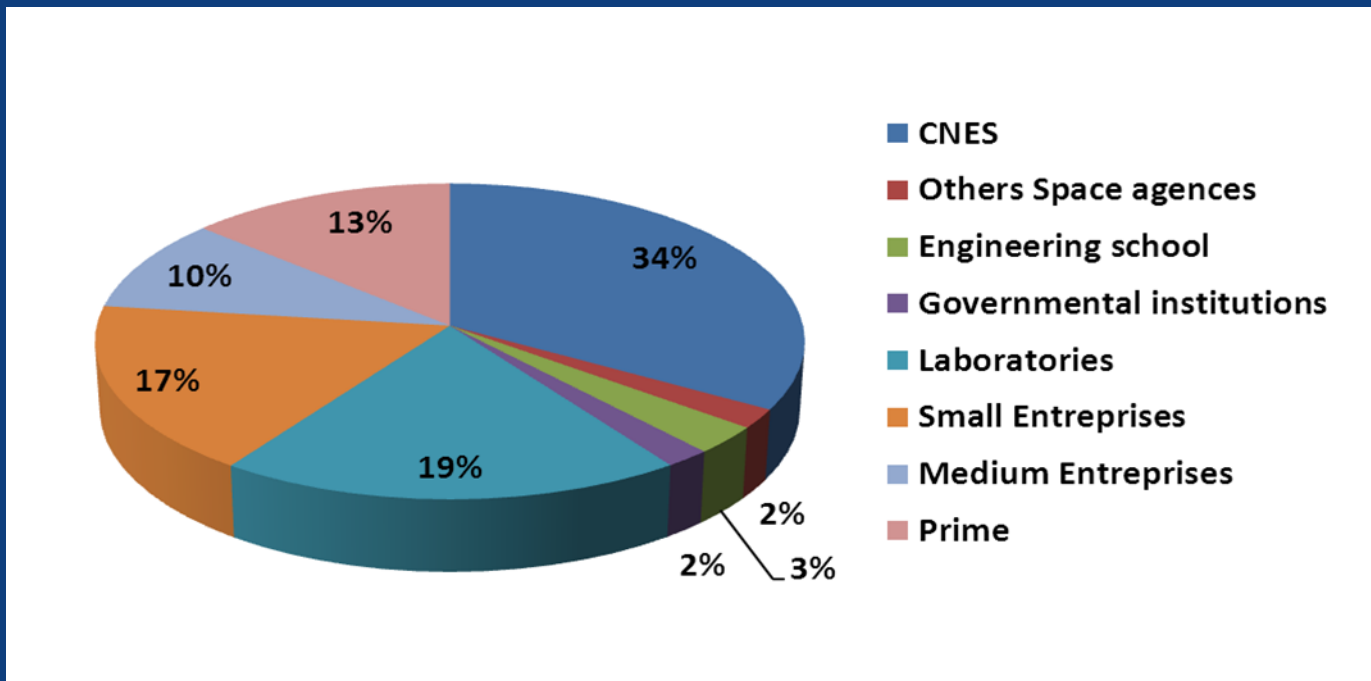
Cross-fertilization by exchange of ideas, concepts and initiatives

## ■ Space agencies

- ◆ CNES 34% - **ESA- DLR- ASI less than 1%**

*Internal know how sharing and improvement – Spin in/Spin Off – creativity incubator – training for new employees and trainees*

Typology  
of  
TCC  
members  
employers





### Zoom...

... la maquette du sismomètre d'Insight



### Les CCT et vous

Pour adapter vos relations avec les CCT à vos souhaits, vous pouvez choisir entre :

- rester **visiteur**,
- devenir **abonné** (procédure la plus simple pour recevoir par mail les informations des CCT qui vous intéressent),
- devenir **adhérent** (pour les personnes souhaitant participer à la vie de la CCT).

### Evènements & Inscription

« Juin »

L	M	M	J	V	S	D
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

### Liens



For  
Subscription  
to become  
CCT members

For  
Subscription  
to  
CCT events

### Actualités des CCT

- Traitement du Signal et des Images  
**Animations de la CCT**  
 Prévion d'animations La liste ci-dessous est constituée de toutes les animations mentionnées lors de la dernière...
- Mécanique Orbitale  
**CCT ORB : Le bureau**  
 Le rôle du bureau est de préparer le programme

## ■ 3 status

- ◆ Members : involved in the community : **full access to website**
- ◆ Subscriber : interest by the community
- ◆ Participant : occasional

**Limited access  
to website**

## ■ Free registration to most of seminars

## ■ Access to the slides limited to members

- ◆ **With generic Non-disclosure commitment**

## ■ Dedicated restricted workshops for sensitive topics

- ◆ **Selected participation and dedicated Non-disclosure commitment**

## **A VERY ACTIVE NETWORK**

- **Around 60 to 80 events per year:**
  - ◆ **attended by more than 3000 experts,**
  - ◆ **among which 70% are not belonging to CNES.**
- **Gathering a community of 1200 members,**  
**incl. 800 not belonging to CNES staff.**
- **Unique networking opportunity between experts, in a very open (and free) environment.**
- **Proposing subjects for R&T actions, PhD and post-doctoral studies,**
- **Hosting Trainees and post-doctoral students.**

- **CNES TCC ≡ ESA Workshops**
- **TCC website : Mainly in French presently but English version may be available soon**
- **TCC workshops : From 100% French to 100% English according to the concerned topic & attendees**

*Most of the time : Presentations in English and discussions in French ...*

- **Web conference use is possible**



*Communautés de Compétences Techniques*

# Thank you for your attention



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<http://cct.cnes.fr/>