

- A little background: fusion is different to the other research programmes funded by the Commission
- The two fusion mobility schemes:
 - Secondments under EFDA
 - The Mobility Agreement
- Practical remarks from daily experience

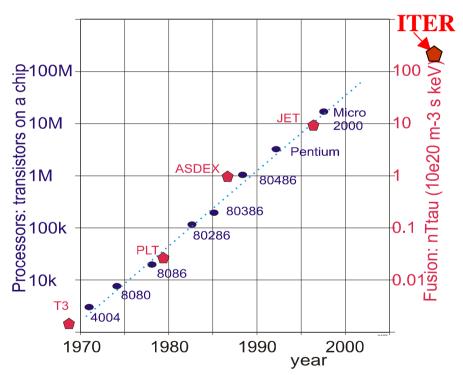




Fusion research – where are we going*?



Moore's Law vs. progress in fusion research



- Number of transistors per chip
- Fusion confinement parameter n T tau

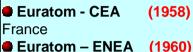
Council Decision on Euratom-FP7

"Developing the knowledge base for, and realising ITER as the major step towards, the creation of prototype reactors for power stations which are safe, sustainable, environmentally responsible, and economically viable"





Distributed R&D: 26 Associations in an Integrated Programme*



Italy (incl. Malta)

■ Euratom - IPP (1961) Germany

Euratom - FOM (1962)

The Netherlands

■ Euratom - FZJ (1962)
Germany

■ Euratom - Belgian State
Belgium (1969)
(incl. Luxembourg)

Euratom - RISØ (1973)
Denmark

■ Euratom – UKAEA (1973) United Kingdom

Euratom - VR (1976)
Sweden

Euratom - Conf. SuisseSwitzerland (1979)

■ Euratom - FZK (1982) Germany

● Euratom –CIEMAT (1986)
Spain

● Euratom – IST (1990) Portugal

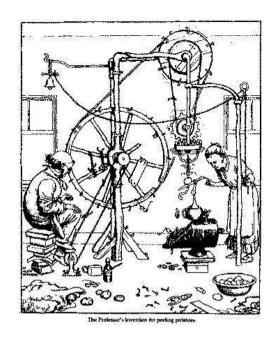


energy research programme", 2nd Parallel Session

Euratom - TEKES (1995) Finland (incl. Estonia) Euratom - DCU (1996)Ireland Euratom - ÖAW (1996)Austria ■ Eur - Hellenic Rep (1999) Greece (incl. Cyprus) Euratom - IPP.CR (1999) Czech Rep. (1999)Euratom - HAS Hungary Euratom – MEdC (1999)Romania Euratom – Univ. Latvia (2002)Euratom - IPPLM (2005)Poland Euratom - MHEST (2005) Slovenia Euratom – CU (2007)Slovakia Euratom – INRNE (2007) Bulgaria Euratom – LEI (2007)Lithuania



EU Fusion research – the fusion Associations*

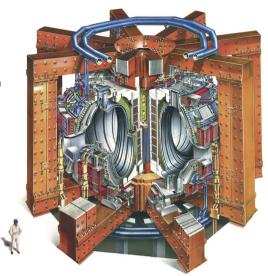


- The Contract of Association is the way that long term continuity of the research is ensured
- The Associations carry out the research
- The Associations are the owners and users of the research facilities
- The Associations are the reservoir of scientific and technical expertise in the programme – about 2500 professionals
- An extensive network of collaborations between the Associations (eg researchers from small Associations participating in the experiments on large devices in another Association)





EU Fusion research – JET*



- The world's largest and highest performance fusion device
- The only fusion experiment presently able to operate with the fusion fuels deuterium and tritium
- Scientific exploitation is a collective effort by all the fusion Associations, coordinated by a small team brought together under the European Fusion Development Agreement (EFDA)
- The operation of JET (typically 120-150 days per year) requires about
 80-100 researchers on site at the same time, from a pool of about 320
- Planning of experiments and later analysis of results involves all these researchers, and more





Provisions for staff mobility in the fusion programme*



The programme has two schemes for financial support to the mobility of **researchers employed in the fusion laboratories:**

Secondments under EFDA** (mostly for JET)	The Mobility Agreement (between labs., and to JET)
individuals proposed/selected to provide necessary skills	each lab. makes an annual plan to cover its collaborations
generally longer stays	generally shorter stays
flexible within limits	flexible with respect to dates and duration of visits
the Commission deals with individuals and their employers	the Commission deals only with the employing institution

^{*}With kind permission by D.Bartlett "Mobility for staff in the European fusion energy research programme", 2nd Parallel Session **The European Fusion Development Agreement





Secondments under EFDA*

- A small core team at JET of about 30 professionals, generally for ≥1 year
- Other individuals with specialised skills bring the total to:
 54 PPY, made up of 94 assignments (2008 data)
- Assignments are generally ≥4 weeks, ≤up to 4 years, recall by home laboratory up to 10 days per year
- Financed from the Euratom fusion research budget (Framework Programme):
 - A secondment allowance paid to the individuals (basic plus an allowance for dependents, removal expenses and home travel)
 - Salary and mission costs for the core team reimbursed to the employer
- An essential tool to support the collective exploitation of JET







The Mobility Agreement*



- Missions are mostly for doing research, but also certain meetings (planning or analysing coordinated activities, international cooperations). Conferences are always excluded!
- Each laboratory prepares an annual mobility plan (labs. to visit, estimate of number of people and duration of visits), which is easily revised
- In 2008: 134 PPY of missions, for a total of 823 researchers
- Financed from the Euratom fusion research budget (Framework Programme):
 - Subsistence paid according to employer rules (up to €150 per day), travel paid for missions >28 days or outside the EU,
 - The Commission reimburses the employer once per year up to a budget ceiling, and takes no employer liabilities
- As **flexible** and as **simple** as possible to administer

 *With kind permission by D.Bartlett "Mobility for staff in the European fusion energy research programme", 2nd Parallel Session

 ERF seminar, PSI Villigen, 19 Oct 2010

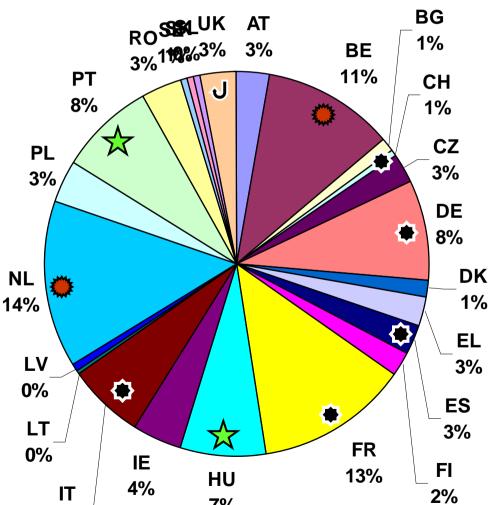
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Use of mobility - by country*

Percentage of the total 134 PPY (2008)



J The UK is host to JET

CH, DE, ES, FR andIT have large experimental facilities

BE and NL are in a "cluster" with the FZJ laboratory (DE) to exploit its facility

HU and PT are small players, but have a policy to do almost all their research within collaborations

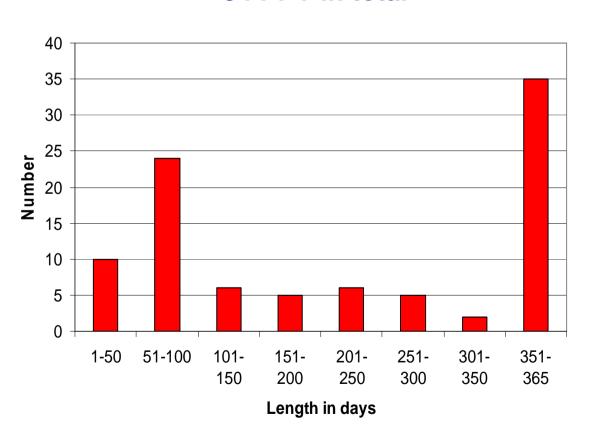
*With kind permission by D.Bartlett Mobility for staff in the European fusion energy research programme", 2nd Parallel Session ERF seminal, ASI Villigen, 19 Oct 2010





Secondments (mainly to JET)*

Duration of secondments (2008) 54 PPY in total



- A total of about 94 secondments signed during the year
- Some are extensions from previous years (ie duration >365 days)
- Shorter secondments usually for a particular JET experimental campaign



Daily experience

- Very useful schemes
 - ✓ Mobility: minimum of burocracy
 - ✓ Secondment: improvements to simplify life
- Indispensable for research
 - √ Facilitating exchanges/collaborations
- Suggestions for possible improvements
 - **✓** Mobility
 - on the funding
 - ✓ Secondment
 - on the practical implementation
 - on the substance

A. Remarks on Mobility

- Very practical scheme, in use without complaints since many years (~40)
- Original intention of the commission about mobility:
 - √ Stimulate exchange of researchers between labs
- BUT :
 - ✓ Mobility funds are reduced in last years.....!
 - ✓ Seems to contradict the spirit of mobility.
- Suggestion: foresee a continuous and steady funding for mobility schemes
 - ✓ To maintain exchange of researchers between the labs
 - ✓ To maintain the coordinating role for the EU Commission
 - √ for the overall benefit of the EU fusion programme.... !!!

B. Remarks on Secondment

On the practical implementation: simplify!

- Unnecessary complex rules for short interruptions of the stay at receiving lab.
 - * Distinction between

"recall": visiting home lab

"leave" : visit 'family'

- * Different rules to follow in both cases
- * Essentially often too limited number days allowed for absence colleagues feel 'emprisoned'
- * Differences

depending on 'family' depending on 'length of stay'

- * Exceptions have first to pass via the EFDA Steering Committee
- Current Solution :
 - Colleagues often spend annual leave to fulfill work duties, conferences, etc...
- Suggestions :
 - One rule to deal with absence : (no difference depending on stay, 'family', recall or leave..)
 - E.g. appropriate reduction in allowance if ≤90% of time in receiving association?
 - Only one paid return every second month without distinction?
 - Would (most likely) eliminate need to ask for extensions to EFDA Steering Committee
 - Otherwise: move the decision making to the management level Jef Ongena, Kristel Crombe et al. 14 of 16 ERF seminar, PSI Villigen, 19 Oct 2010



B. Remarks on Secondment

On the substance: allow a bit more flexibility

- The essential spirit of secondment is 'a limited stay of sufficient lenght' at the receiving association
 - * Currently limited to 4 years
 - * Extensions in some cases highly wished
 - Loss of experience (e.g. diagnostics: many details needed to run it !)
 - New person has to start from scratch
 - A new, appropriate candidate is not always found in time
- Current Solution :
 - Any exceptional extension has to pass the EFDA Steering Committee

•Suggestions :

- Allow more flexible scheme for extensions,
 - maximum extension period of e.g. 2-3 years?
 - Appropriate reduction in the allowance during extension ?
- Move the decision making 'line' for extensions to management level

Conclusions

- In general:
 - Mobility and secondment: very useful and needed
 - Many benefits for research
- Improvements for some practical issues with secondment highly wished
- Keep funding level for mobility
 - Current reductions in mobility start to hurt!

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Article 7 and 8

7.Staff shall be seconded for continuous periods of not less than 4 weeks and, normally, not more than 4 years. By way of exception, to be decided on a case by case basis by the EFDA Steering Committee, the secondment period can be extended beyond 4 years.

8.Notwithstanding the preceding Article, staff participating in S/T Work in Campaign or Enhancements oriented activities under EFDA may be seconded for continuous periods shorter than four weeks (i.e. 20 working days) if:

- i) the EFDA Leader or EFDA Associate Leader responsible for the Campaign /Enhancement as appropriate together with the Task Force Leader/Project Leader decides that there is a sound scientific merit for the short stay;
- ii) the total (cumulative) period of secondment is at least four weeks in the calendar year;
- iii) the Sending Associate agrees to take charge of all the extra travel costs (compared with one round trip);
- iv) no short stay shall be less than 5 working days.

The EFDA Steering Committee may decide in exceptional circumstances, in an individual case for which secondment is sought on proposal of the sending Associate, to allow secondment for a total (cumulative) period of less than four weeks (i.e. 20 working days) in the calendar year.

Article 9

9. For secondments lasting more than three months and in agreement with the manager of the unit to which they have been made available, secondees may be recalled by the sending Associate pro rata to the duration of the secondment up to a maximum of ten working days per year. Where secondees are recalled by the sending Associate in accordance with this Article, the sending Associate shall meet the cost of the travel and subsistence expenses.

Article 10

10. By ways of exception, to be decided on a case by case basis by the Chairman of the EFDA Steering Committee, a secondee may be recalled by the sending Associate for an agreed period in excess of that provided for in paragraph 9; normally such a recall should not lessen the total period of secondment as originally agreed between the sending and receiving Associates. Where secondees are recalled by the sending Associate in accordance with this Article, the secondment allowance shall not be paid for the period of recall and the sending Associate shall meet the cost of the travel and subsistence expenses.