

## **French-Swedish co-operation in research and technology**

*The role of L'Association franco-suédoise pour la Recherche (AFSR)*

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Contacts between France and Sweden in the area of higher education and research have a long tradition. Paris was the preferred foreign university of the young Swedes during the Middle Ages and it was there that the Jacob Ulfsson obtained his Master Degree. He later became archbishop and founded Uppsala University in 1477, the oldest in Scandinavia. After a temporary decline of interest in higher education after the reformation, the university was given generous support from the turn of the century 1600 and this stimulated international contacts not least with French scientists. The most well-known example is the visit by Descartes in Stockholm in the 1650's where the early hours demanded by the young queen Kristina in combination with a cold climate had a fatal effect on his health. In the 18<sup>th</sup> century Swedish science had developed to international standards with Carl von Linné as a renowned representative (whose 300<sup>th</sup> anniversary will be celebrated 2007) and French scientists began to come to Sweden. An early example of French-Swedish scientific collaboration is the Maupertuis expedition in Northern Sweden 1737-38. The Royal Swedish Academy of Sciences (KVA) founded in 1739 and even more the Swedish Academy founded in 1786 were very much inspired by the corresponding French institutions.

As demonstrated by the rich archives at KVA's and the Nobel Institutes, French colleagues had a prominent place among the many international contacts that Swedish scientists established during the dynamic expansion of science in the 19<sup>th</sup> century. Of particular interest is the correspondence in conjunction with the early Nobel Prizes of which many were awarded to French scientists, Marie and Pierre Curie being the most famous ones.

### ***The creation of AFSR***

After the turmoil in the wake of the World Wars, Swedish science was almost exclusively directed towards the United States and Great Britain. As Europe recovered it was felt urgent to reinvigorate the old European research contacts and notably those with France. To this end "L'Association franco-suédoise pour la Recherche" was founded in 1967 at the initiative of the Director of the Swedish Academy of Engineering Sciences (IVA), Sven Brohult. It is financed by governmental ministries or agencies and by private companies which in 1977 created a special foundation with the aim to support AFSR.

### ***Organisation and budget***

The Board of AFSR, which meets at least once a year, has a Swedish and a French section; the President of the Association chairs the Swedish section, the Vice-president the French section. The members of the Board represent the French ministries and the Swedish state agencies which give financial support to AFSR. The members of the Board of the Industrial Foundation are selected among the donor companies. (See Appendix 1).

In spite of its modest budget (about 100 000 euros per year) mainly for financing the secretariat with 1,5 persons, AFSR has played an essential role in catalysing bilateral co-operation in both basic and industrial research and has been particularly important for overcoming administrative and linguistic obstacles during the first years.

### ***The achievements of AFSR***

Before coming to the question of on-going activities and of the role of bilateral contacts in the future and in particular the role for an association like AFSR it is appropriate to give a few examples of the 180 events that AFSR exclusively or partly has organised since 1967 (Appendix 2). As shown by the table a variety of themes have been treated. There have been conferences on more general themes such as national research policies, on French and Swedish actions for preserving the environment, on university-company collaboration in research and innovation as well as on themes within special scientific disciplines, e.g. space research and materials research.

AFSR has also been active in collecting and disseminating information on everything related to research in the two countries in particular through the weekly bulletins S&T Suède and S&T France. It has stimulated and organised numerous mutual visits by specialists from the two countries and been an invaluable help for persons and organisations looking for the appropriate correspondents in the other country. In a report from 2001 with emphasis on the exchange of post-docs (*AFSR's Report no. 124*), there is useful information on organisations (28 agencies and foundations in Sweden in addition to the 9 major universities) engaged in French-Swedish research collaborations and a list on the many on-going co-operative projects, of which many were part of European projects finance by EU. Many of the nearly 100 projects enumerated in this report have their roots in early contacts during events supported by AFSR.

### ***Recent and on-going activities***

In accordance with its objectives AFSR continues to stimulate and assist in organising specialists' visits, meetings, seminars on subjects of mutual interest.

As examples of recent and planned activities the following can be mentioned:

- Information technology in Sweden. A visit by Mr N. Jacquet, Délégué général de la DATAR, which is a follow-up of a visit by a delegation from ADIMAC in 2003.
- Visit of a French delegation for studying e-learning in Sweden.
- Exchange of professors in collaboration with the Wenner-Gren Foundations.
- Seminar of the Nordic Group of the Conférence des Grandes Ecoles and the corresponding Swedish organisation, SKUF.
- Seminar on "Recent advances in industrial metallic materials and components with prof. Ericsson of the University of Linköping and prof Pineau and Bienvenu from Ecole des Mines as coordinators.
- A seminar on the pension systems or on "the conditions of life of elderly people" in the two countries has been discussed at the initiative of the president of the AFSR's industrial foundation
- A visit on the management of radioactive nuclear waste in France as a continuation of a visit by a French delegation in Sweden in 2003.
- Continued collaboration between Uppsala University and the laboratory of CNRS/Thales on magnetic materials in the form of seminars, exchange of research students etc.
- Bilateral discussions of research policies are planned after contacts between the president of AFSR and the Swedish secretary of State for Education and Research.
- There are also discussions of contacts in the areas of biodiversity (the French Agency INRA and the Swedish FORMAS), Electrical Vehicles (follow-up of earlier symposia), Unmanned aerial Vehicle, Science and television inspired by the symposium "The Nobel Prize in the service of life", innovation policies and sustainable development.

### ***The question of languages***

Although English is now irrevocably the dominating language of science (and most other international activities), a good knowledge of the languages of the other great civilisations is also necessary not least for the increasing collaboration within the European Union, where only a minority of the citizens has English as their mother tongue. AFSR has not been directly engaged in promoting the learning of French among Swedish students and scientists, but through its activity it

has certainly motivated many Swedes to improve their knowledge of French and thus being able to make much better use of their stay in France. Also in the area of science progress depends to a large extent on talks in cafés and restaurants. It has been a tradition to conduct the meetings of AFSR in French, but in order not to discourage new Swedish participants, English is also sometimes used. In the corresponding German-Swedish Research Association, German is the predominant language (more easily understood by the Swedes).

Whatever policy is adopted by AFSR, its activities will result in more Swedes learning French to the benefit of their participation in European research projects.

### ***Evaluation of AFSR***

The “Direction générale de la coopération internationale et du développement” of the French foreign ministry had given Mr Claude Trink the task of evaluating of the French support to the association and he reported his findings in a detailed report in May 2004 (*Evaluation rétrospective de l'appui de la France à l'AFSR*). He expressed his appreciation of the competence and efficiency of AFSR but put forward some recommendations for continued French subventions. He emphasised that a certain minimum budget is necessary for an association like AFSR to exist, but that an expansion of the projects that are financed by special contributions (which already are a substantial part of AFSR's income) should be prioritised. In his view the French representation in the Board could be strengthened and the good collaboration between AFSR and the French embassy further developed. More specifically he suggests that AFSR could participate in a deepened French-Swedish collaboration in the area of innovation where the Swedish Agency responsible for this activity, VINNOVA, has a representative on the Board of AFSR. He also mentioned that the French contacts with the dynamic Northern Europe (including the Baltic States and North-west Russia) could motivate future changes also in the area of research collaboration.

### ***Present and future role of AFSR***

This brings us to the crucial question of the role of a bilateral research association today, when individual researchers present their results on a web page thus making them immediately available to colleagues all over the world. This has largely replaced activities previously performed by bilateral or multilateral organisations and informal networks. A few decades ago linguistic and bureaucratic barriers (e.g. in contacts with Japan or the Soviet Union) made it difficult to communicate with colleagues without the help of (officially acknowledged) bilateral organisations. Also in the beginning of AFSR its help was often necessary for arranging visits and stages at laboratories in the other country. In a world where everybody has access to the Web this is no longer the case. So, what would be the use of a bilateral association like AFSR today and in the future?

One of the problems of the present information society is that persons are overwhelmed with information and it is not straightforward to find the best interlocutor or to correctly appreciate the different ways of acting and communicating that exists also within the European Union. An association as AFSR with its expert knowledge could do much to alleviate this situation and make it much easier to find the right contacts and reduce difficulties due to linguistic and ‘cultural’ differences. This applies both to the increasingly important negotiations on the future EU policy in the area of research and to more specific national questions where an exchange of experience may be to mutual benefits.

The research policies (with all its effects on the society at large) will have a central place in all European nations and will to an increasing extent be influenced by joint European actions in this area. What will be the volume and priorities in the future European ‘Framework’ R&D programmes? To which extent should they be harmonised with a policy for strengthening European industry or indeed be a part of the actions to attain the goals set at the famous Lisbon meeting in 2000 that is to make Europe the most competitive knowledge-based society in the world – a goal

that up to now has produced more words than deeds? How will the IT-society influence the publishing and storage of scientific results? How should a policy for encouraging innovations – so important for economic growth - be balanced against one for curiosity driven research? What is the role of research in the future European policies in the areas of climate change and the protection of the environment? What can research contribute to elucidating the problems of a multicultural society? Or of a society with a rapidly growing population of elderly people? Is a joint EU research council a good idea for organising basic research (of potential importance for finding answers to many of these questions) and thus for meeting the competition in particular from the US, where NIH and NSF play important roles for attracting the best researches to America?

A more concrete task for the individual nations is to harmonise national programmes with those financed by EU. What should the ratio be between national and European R&D? How should one find the right balance between support to research of highest international standard and R&D more directed to regional development?

There are good arguments for strengthening of bilateral French-Swedish contacts in the continued national and European discussion of these vast questions. As shown by the list of events AFSR has been helpful and even initiated meeting on subjects related to European research policies, e.g. the place of national R&D in the European context, French-Swedish collaboration in the European Space Agency (ESA), university-industry co-operation in research etc. and could continue to play a role in arranging similar meetings in the future. In his evaluation report, Mr Trink has particularly emphasised the importance of contacts in the area of innovation (which could include measures for better protecting immaterial rights).

A topic of burning actuality is the place of higher education and research in a policy for developing regions which have suffered in the recent industrial restructuring and which are likely to be particularly hit by the on-going delocalization. There are many French-Swedish contacts for the exchange of mutual problems in this area – an example is the collaboration between Lorraine and the Northern province of Sweden for instance within the European higher school for higher education and R&D on materials, which has its head-quarter at Nancy.

In view of the central importance of the questions mentioned above they engage a number of ministries, state agencies, state-owned and private companies. The role for AFSR with its very limited resources would be to offer a forum where, when appropriate, some of these actors could meet for exchange of views and perhaps take the first steps for a more extensive collaboration. Experience shows that the association can be very effective in stimulating and organising visits by individuals and delegations and a variety of meeting with French and Swedish participants. One may sometimes regret that there is no long-range plan for this type of activities which are often the results of ad hoc initiatives, but on the other hand it is one of the advantages of AFSR that it can act very quickly to meet demands on short notice.

In order to be effective in this kind of activity it is, as pointed out in the reports by Mr Trink, that there is a sufficient budget for financing a secretariat that in addition to continuously disseminating relevant information to French and Swedish organisations has the capacity to mobilise resources also for more 'impromptu-type' activities.

## **APPENDIX 1**

Le Comité Directeur de l'AFSR est composé de membres à titre personnel dont le Président, M. Erik SANDEWALL (Professeur, Université de Linköping) et le Vice-Président, M. Jacques LÉVY (ex-Directeur de l'ENS des Mines de Paris), ainsi que de membres à titre représentant les organismes suivants :

### **- SUEDE**

le Conseil de recherche sur l'environnement et les sciences agronomiques (FORMAS),  
l'Agence des systèmes de l'innovation (VINNOVA),  
l'Académie royale des sciences de l'ingénieur (IVA),  
l'Académie royale des sciences (KVA)  
l'Administration du matériel de la défense (FMV)

### **- FRANCE**

le Ministère des Affaires Etrangères (MAE)  
le Ministère de l'Industrie (MINEFI)  
le Ministère de la Recherche (MENR)  
le Centre National de la Recherche Scientifique (CNRS)  
l'Institut National de la Recherche Agronomique (INRA)  
l'Institut National de la Santé et de la Recherche Médicale (INSERM)  
l'Institut National de Recherche en Informatique et en Automatique (INRIA)  
le Centre National d'Etudes Spatiales (CNES)  
l'Agence de l'Environnement et de la Maîtrise de l'Energie (ADEME)

Le Conseil de la Fondation Industrielle de l'AFSR est composé de représentants des sociétés membres.  
Le Président est M. Olof C SJÖSTRÖM et le Vice-Président, M. Gilbert SCHORSCH

## **APPENDIX 2**

Depuis 1967, l'AFSR a participé à l'organisation de plus de 180 manifestations.

Citons à titre d'exemples :

- 1984 "Science, Technologie, Industrie An 2000", colloque organisé à Stockholm à l'occasion de la visite du Président F. Mitterrand
- 1987 "Journée High Tech" organisée à Lyon en présence de S.E. l'Ambassadeur de Suède et de M. Peter Wallenberg, Président de la Fondation industrielle de l'AFSR
- 1990 "Société, Industrie et Environnement", symposium organisé par l'académie IVA et le CADAS, en présence de S.M. le Roi Carl XVI Gustaf de Suède et de M. H. Curien, Ministre de la Recherche
- 1994 "Infrastructure, Société et Environnement", symposium IVA – CADAS organisé à l'Académie des Sciences à Paris et inauguré par S.M. le Roi Carl XVI Gustaf de Suède
- 1996 "The French-Swedish Approach to Space", séminaire organisé en coopération avec le CNES et l'agence spatiale suédoise SNSB
- 1997 "National R&D Policies in Tomorrow's Europe", séminaire organisé à l'occasion du 30ème anniversaire de l'AFSR
- 1998 "The New Guidelines for the French Research Policy" avec la participation de M. V. Courtillot, Conseiller Spécial auprès du Ministre, M. C. Allègre
- 1999 & 2000 Participation à "IT-Visions", deux colloques organisés à l'initiative de S.E. l'Ambassadeur de Suède, ayant généré une quinzaine de voyages d'étude dans le domaine des TIC en Suède
- 2000 Forum Nordique, organisé à Stockholm à l'occasion de la visite du Président J. Chirac
- 2001 "Research and Sustainable Mobility", séminaire organisé en coopération avec l'agence VINNOVA et la DRAST (ministère des Transports)
- 2002 "Multifunctional Forest", séminaire organisé par l'INRA et le conseil de recherche FORMAS
- 2003 "Le Prix Nobel au service de la vie", colloque organisé à l'initiative de S.E. l'Ambassadeur de Suède en présence de S.A.R. la Princesse Victoria de Suède
- 2004 "The Governance of Higher Education Establishments", 7<sup>ème</sup> rencontre dans le cadre de la coopération entre le Groupe Pays nordiques de la CGE et le comité suédois de liaison SKUF
- 2004 "Recent Advances in Industrial Metallic Materials and Components", 6<sup>ème</sup> séminaire d'une série démarrée en 1969.