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»The Academy's mission is to promote the engineering and economic sciences and the development of industry for the benefit of society.«

IVA is an independent arena for the exchange of knowledge. By initiating and stimulating contacts between experts from different disciplines and countries, the Academy promotes cross fertilisation between industry, academia, public administration and various interest groups. Bringing people together to take part in lectures, conferences, research exchange and other projects, serves to generate new ideas and knowledge.

The Academy has a longstanding tradition of highlighting the implications of strategic choices that, in various ways, are affected by technology, the economic consequences of new technology, and prerequisites for sustainable development.

The Academy directs its activities into four areas:

- Education and research
- Technology transfer and enterprise
- Technology and society
- Techno-economic foresight.

IVA's network consists of distinguished engineers and economists from business and industry, education and public administration. With close to 1,000 Swedish and foreign members elected to the Academy by their peers and about 200 members in IVA's Business Executives Council, the Academy constitutes a highly competent knowledge bank.

His Majesty King Carl XVI Gustaf is the patron of IVA and takes an active part in Academy activities.

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ADVANTAGE SWEDEN

Sweden has had international interactions for centuries, especially with Asia. Today we are witnessing an increase in the pace and scope of this interaction in the form of globalisation and the enormous structural changes associated with it. Our lives and jobs are changing and our security is being affected. We understand that terror has taken hold around the world as we look back at the horrible events during the year in London and Egypt. Environmental disasters are having a global impact and unfortunately we will remember 2005 as a year of environmental disasters with terrible and unwelcome consequences. The tsunami disaster was a severe blow, and Hurricane Katrina led to aftershocks throughout the global economy.

On the other hand, we have never seen a time when so many people have improved their situation so quickly as over the past 10 years – and they have globalisation to thank for it. With the help of market forces, welfare is spreading much faster than traditional aid. Economies are growing and trade is increasing.

This internationalisation would not have been possible without new technology; the development of cars, boats, aircraft, the Internet and IT, areas in which Sweden has historically been at the forefront. But how should we handle our technology research in the future in order to remain on the front line? This question is close to IVA's heart and the Academy's activities this past year have focused on globalisation and its impact.

I firmly believe that, in order to succeed, we need to create a common vision at the very highest political level. Up to now, Sweden's main recipe for success has been the fact that the Government and the business world have walked hand in hand in many areas. The interplay has been intensified through long-range assignments for our universities and institutes of technology.

But deregulated markets – although a good thing – have resulted in significant government cutbacks and involved changes in forms of cooperation. Who will now guarantee the long-term development of Swedish technology? The Government is allocating a billion Swedish kronor for research within technology-intensive industries and the governmental agency for innovation systems, VINNOVA, has finally gained a hearing and has been reinforced, something that IVA has been working actively to bring about. But these measures far from cover all that has been lost. This is a serious situation, because support is needed, now more than ever.

In the climate of globalisation, we have already seen how some of Sweden's production is disappearing overseas. The service sector is also under threat, particularly in IT. In 2005, several of IVA's projects focused on these issues: "Production for Competitiveness," "Increased Competitiveness for the Swedish Processing Industry" and "Business plan for Sweden". In 2006 we will start a project called "IT without Borders" and another on the new arena for environmental work based on the same theme.

Production for Competitiveness, which was concluded in 2005,

found that the prospects are good for competitive production in Sweden, but that we need to improve our production expertise in industry as well as research and education. If we succeed in advanced product development and with a dynamic integration of development, software content, design and production, we can increase our prospects of keeping production within our borders. The recipe for success is to create more and more customised products.

Over the course of two years, Swedish companies have increased the portion of their research conducted overseas by 10 per cent. Our biggest IT companies are planning to enlist the help of 2,200 new researchers overseas next year. They are moving to India, China and Eastern Europe.

China is the most popular location. China has the expertise and development moves fast there. Foreign companies are competing for space at technology parks at Chinese universities. Every year 400,000 science and technology students graduate and thousands of Chinese engineers, who have received their degree overseas, return to their homeland.

This outflow could be counterbalanced by an inflow; our Swedish researchers are still attractive and we have much to offer. Multinational telecom, automobile and pharmaceutical manufacturers are investing billions in research here. People in India are interested in our biotechnology and IT, and Chinese research operations are being set up here.

If we are to cope with the competition, and make the best possible use of our advantages, we need to pool our resources and work together. This requires cooperation and political support from the highest level. Right now the entire Western World is working hard to beat the competition from the East, particularly within R&D. In many countries, such as the UK, Ireland, Finland, Denmark and France, research councils have been set up directly under the Prime Minister. Now it is time for our Prime Minister to initiate and also Chair a research committee with a real mandate, where new ties between universities, industry research councils and the ministries can be created. This is important because, although we are a knowledge nation, our knowledge base is under threat.

We need handshakes, here at home to guarantee our growth, and internationally to promote democracy and world peace. Alongside Asia's growing prosperity, ours can grow too. IVA will continue to work for this in 2006.



Professor Lena Treschow Torell, President of IVA

PRESENCE IS IMPORTANT ON A GLOBAL MARKET

IVA member Håkan Eriksson has a global workplace. As Chief Technology Officer at Ericsson he works in numerous international contexts because the company currently conducts R&D in 16 countries. Håkan is also Vice Chairman of IVA's Division XI and Chairman of the new IVA project "IT without Borders," the objective of which is to make Sweden more competitive in a globalised IT world.

"This is an important issue for both Ericsson and Sweden. I want to work with IVA because the Academy has a serious and long-term approach to issues that address Sweden's place on the international map and the situation at home in the future. With His Majesty the King as patron, which helps to open doors, IVA is respected globally," says Håkan Eriksson.

The IT without Borders project, through analysis and shaping opinions, will increase awareness of the significance of IT for Sweden's prosperity and will bring about initiatives in research and education.

Håkan Eriksson does not see it as a problem that his company is sharing experiences gathered as a global player with other participants in the IVA project.

"No, these are general experiences that we can all benefit from," he says.

Ericsson has plenty of experience; almost 50 per cent of the company's R&D is conducted overseas. 18,500 employees work in 40 locations in 16 countries including Sweden. Two or three per cent work exclusively with research. They develop their expertise over time through close collaboration with universities and institutes and they form a bridge between external research, the internal R&D network, government agencies and customers.

"There is so much optimism in China, so much enthusiasm, a sense that people both want to and can accomplish things by themselves."

"50 per cent of my job is to make sure that we work as effectively as possible. It is not just about payroll expenses. It is also important for us to work closely together," says Håkan Eriksson, adding that Ericsson, after restructuring, now conducts 60 per cent of its total R&D in Sweden. Previously the figure was 50 per cent, so Sweden has increased its share. One of the explanations is the Swedish model's short decision paths between product management and developers.

Håkan Eriksson also points out that Sweden is not a high-cost nation. Actually, we are somewhere in the middle. Graduate engineers' salaries are not as high as in such countries as the US and Germany.

"There are many factors to consider when companies decide where to conduct their research. The salary aspect is only one fac-

tor. Some countries have significant tax relief associated with research, such as Canada and Brazil. Also, it is important not to have too many R&D facilities and spread yourself too thinly; you need enough people working at each location to achieve a critical mass for the best results. But proximity to customers, and to important markets is key, so it is important not to have too few research facilities either. Having a presence in a country may be necessary to secure a big order. To be really successful, we need to complete the puzzle and to understand what to emphasise," says Håkan Eriksson.

China is the big winner overseas in the competition for Ericsson's R&D, being the only country in which the company has significantly increased its R&D activity.

Håkan Eriksson usually jokes that he would rather travel to Beijing than to Brussels.

"There is so much optimism in China, so much enthusiasm, a sense that people both want to and can accomplish things by themselves. Many Chinese people are returning to the country with great ambitions after graduating with a PhD in the US. You can sense the same optimism in Eastern Europe," says Håkan and continues:

"But the EU is very complex and it is hard to agree on a definitive policy. They are busy with income distribution policies and farming subsidies rather than growth policies."

Håkan believes that the problem of China's attitude towards copyright and patenting issues is exaggerated to some extent, but he stresses that the debate does exist.

"The problem is rather that growth is so uneven in the country; the east coast is growing fast and Shanghai is in competition with Hong Kong and this creates a lot of tension. India is another country on the outsourcing and offshoring map where there is currently considerable activity involving corporations from the West. Eriksson is about to re-launch R&D activity in India which was previously outsourced to the Indian companies Wipro and Tata.

Despite numerous days spent travelling and long working hours, Håkan Eriksson has chosen to get involved as Vice Chairman of Division XI. Growth is an important issue for him:

"IVA's most important task as I see it, is to be an ambassador, a global door-opener, so that we are not limited to the EU's Sixth and Seventh Framework Programmes, but can reach beyond them in research, development and education."



GLOBAL RESEARCH FILLED SEMINAR

The Wallenberg Auditorium was filled to the brim at IVA's Royal Technology Forum which focused on research and development under the growing pressure of globalisation. Guest speakers included EU Commissioner for Science and Research Janez Potocnik; Sweden's Minister for Education, Research and Culture, Leif Pagrotsky; Chairperson of the European Parliament Committee on Industry, Research and Energy, Lena Ek; Magnus Breidne, Scientific Counsellor at the Embassy of Sweden in Beijing; President of the Royal Institute of Technology in Stockholm (KTH), Anders Flodström; Christer Heinegård, Project Manager of IVA's University of the Future project and Håkan Eriksson, General Manager, Research and Development and CTO at Ericsson.

"Globalisation is no longer something that we have the option to choose – it is a reality today. I see it as an opportunity, not a threat," said Janez Potocnik as he began his speech.

He went on to say that although multinational corporations have up to now carried out their research in Europe, the US and Japan, they are expanding their operations into other areas, mainly China, India and Brazil. And it is happening fast. According to Potocnik, in order to survive and generate growth, the EU must be a strong partner in the global arena. It is important to at least reach the three per cent goal for R&D investment set in Lisbon. He held up the Nordic countries – Sweden and Finland in particular – as strong role models, both within the EU and in the international arena, and he hopes that others will be able to learn from us.

"Europe needs to be an interesting job market for researchers and an exciting market in which to conduct research. There needs to be cooperation if we are to succeed," said Potocnik. As a good example of cooperation, he mentioned, ITER, the international fusion reactor to be located in Cadarache in Provence, France, with financial support from the EU's Framework Programme for Research.

Janez Potocnik holds the EU's Framework Programme for R&D up as the most important tool in securing the EU's place in the global research arena. But the next Framework Programme for R&D –



The EU Commissioner on Science and Research expressed his concerns on the EU budget for research when he visited IVA's Royal Technology Forum.



»With the Bologna Model, the universities will be questioned more and more about how they are performing in an international Ivy League «

ANDERS FLODSTRÖM

the seventh – is in the danger zone. The Council of Ministers has tied up a large portion of the money in the long-term budget, set aside primarily for agricultural subsidies and for weak industrial regions in the old member nations.

Sweden's Minister for Research, Education and Culture Leif Pagrotsky agreed with Janez Potocnik:

"I fully support the Seventh Framework Programme initiatives, but clearly they should be financed within the framework of the existing budget and the funds should come from the agricultural budget," he said.

In order for Sweden to really benefit from the gifted young people that are coming here to work on their PhDs, Leif Pagrotsky wants to change the visa regulations for guest researchers so that they can be granted residence and work permits after completing their studies.

"It is important for us to be able to keep these young people here. They represent quality – and we know that talent wants to work with the best," concludes Research Minister Leif Pagrotsky.

Lena Ek, Chairperson of the European Parliament Committee on Industry, Research and Energy expressed her deep concern:

“We need to be in a leading position in key areas; we need to stop the brain drain of educated human capital that is under way,” she says.

She is even more critical of what is happening with the Seventh Framework Programme.

“The EU budget needs to be reformed. It is senseless to be cutting back on research grants. If the Council of Ministers has agreed to lock up large portions of the budget, they must be prepared to invest more money. The future of the Seventh Framework Programme is dependent on the decisions made in December on the EU’s long-term budget,” she says.

Magnus Breidne, Scientific Counsellor at the Embassy of Sweden in Beijing, placed China’s role in R&D globalisation in the spotlight. He agreed with other speakers that China offers both challenges and opportunities and should not be seen as a threat. Breidne pointed out that China has become a player to be reckoned with, and faster than anyone thought. President of the Royal Institute of Technology in Stockholm (KTH), Anders Flodström, stressed in his speech the importance of close cooperation and networking, citing the Royal Institute of Technology in Stockholm, Chalmers Institute of Technology in Gothenburg and Karolinska Institutet’s partnerships in Shanghai as good examples of this.



Swedish politics were represented by the Minister of research and the Center party’s member of the EU parliament Lena Ek at IVA’s Royal Technology Forum.

INTERNATIONAL RESEARCH EXCHANGE IS EXPANDED

For decades now IVA has been helping researchers from Central and Eastern Europe forge personal contacts with colleagues in Sweden. Now this network-building activity will be expanded to include China.

With financial support for the Ministry of Foreign Affairs and the Swedish Institute, IVA has been working for some time on research exchanges with science and technology organisations in the Baltic States, Poland, Rumania, Russia and the Ukraine etc. The new Chinese exchange programme is being funded by SIDA and the purpose is the same as the others: to build long-term, effective networks in the hope of creating joint research projects.

Over the past year, areas have been identified where Swedish and Chinese researchers can learn from each other. Energy, the environment and IT & telecom are the primary areas of interest to Chinese researchers.

IVA’s partner in China is the country’s own academy of engineering sciences and IVA’s role is to create good programmes for researchers visiting Sweden. We expect 15 to 20 researchers a year from each country to visit each other for a period of one to three weeks during the four-year programme.

IVA was already involved in arranging research exchanges with China back in the 1980s, and this now has a fresh start.

THE EU FRAMEWORK PROGRAMME FOR RESEARCH – FP7

Research in the EU is vital for European growth, and EU grants are increasing. We expect excellence from our researchers so that Sweden can participate in the projects and receive funding. In order to influence the content of the framework programme currently being planned (FP7), our research advocates need to increase their interaction with the Commission. This is where we will see results.

IVA’s FP7 project aims to encourage Swedish industries to participate in the EU research programmes and proposes measures to improve the prospects for Swedish co-financing. The project is supported by the Swedish Governmental Agency for Innovative Systems (VINNOVA), the Swedish Foundation for Strategic Research (SSF) and the Confederation of Swedish Enterprise.



IVA IN INDIA UNDER THE ROYAL FLAG

This year the Royal Technology Mission set its sights on India, focusing on Bangalore and New Delhi. The Swedish delegation, including representatives of industry and commerce, universities and public authorities, visited Indian enterprises and institutions.

Today many international companies are establishing parts of their operations in India, and the purpose of the 2005 RTM was to understand what is driving this trend. Another goal was to learn more about the domestic market as a basis for expansion and export.

Particular emphasis was placed on IT, telecom and other advanced services and, in this context, the importance of education, research and support from government agencies.

Industry and infrastructure is an important area where the country's rapid growth offers great opportunities for cooperation with an expanding industry.

The Indian IT companies visited by the delegation included Infosys, Wipro and Dhruva Interactive. The delegates also had the opportunity to visit the Indian Institute of Science and the Indian Space Research Organisation. One of the highlights was a meeting with the Indian President and physicist Dr. Abdul Kalam at his palace.

This was IVA's eighteenth international delegation trip for the purpose of getting to know a country and making new contacts, which in time may lead to more exchanges of ideas and business opportunities.



The Swedish delegation, led by H M the King and the Chairman of IVA Hans Dalborg, was received by the President of India Mr. Aavul Pakkiri Jainulabidin Abdul Kalam. Among the delegates we find Marie Ehrling, Telia Sonera, Michael Treschow, Confederation of Swedish Enterprise and Ericsson, IVA's President Lena Treschow Torell, Claes Dahlbäck, Stora Enso, Sven Hagströmer, Investment AB Öresund, Johan Wall, Enea AB, Tomas Andersson, Bombardier Transportation Sweden AB, Gustaf Douglas, Investment AB Latour, H&M:s Chairman Stefan Persson and University Chancellor Sigbrit Franke.



Sweden was represented by about 40 delegates, among them were Marianne Treschow, National Post and Telecom Agency, here giving a presentation at the Ericsson office in Guargaon (above left), Peggy Bruzelius (centre left), Vice Chairman of IVA and Lars Stugemo CEO of HiQ International AB (below right). The delegation, led by IVA's Chairman Hans Dalborg, visited Bhoganandiswara Temple (centre right), Gundamgiri village outside Bangalore, (below left) and the opening of the Swedish Trade Councils office in Bangalore, where they were entertained by a mixed Indian and Swedish choir (above right).

MORE EXCHANGE BETWEEN ACADEMIA AND INDUSTRY

Jan-Eric Sundgren is leaving after three years as IVA's Vice Chairman. He is also leaving his post as President of the Chalmers University of Technology after eight years for a new position within the Volvo Group. But Jan-Eric's involvement at IVA is not over.

"IVA is a fantastic meeting place, across different disciplines and for both the business world and academia. The fact that IVA is non-political and gets involved in topical issues is very important," says Jan-Eric Sundgren.

"I believe that IVA focuses on exactly the right issues within the framework of its mandate, balancing technology and economics, research and industry through a wide variety of activities. The Academy's actions have a big impact. IVA has succeeded, for example, in highlighting production issues and bringing problems to the attention of politicians, the general public and, not least, to universities.

"IVA has also been successful as a player in the R&D arena. The Technology Foresight project, conducted in cooperation with other players, has had a great impact on government research bills," he says. The initiatives have resulted, among other things, in SEK 2.3 billion for research in six defined areas, such as more support for the Swedish Governmental Agency for Innovation Systems, VINNOVA. Another consequence is that the Government is now investing more in strategic and applied research and breaking with the Swedish tradition of investing most of the state research funds in basic research.

"Mobility in education is important. I am convinced of the benefits of bringing people with different backgrounds and education together."

When it comes to basic research issues and the Bologna Process, which is intended to make education in Europe more competitive and attractive compared to other parts of the world, Jan-Eric Sundgren is a little concerned.

"The supply of engineers will affect the day-to-day lives of all of us over time. It's a shame that the Government is not willing to include engineering programmes in the Bologna Process and to finance the transition from 180 to 200 credits," he says, and also wishes that IVA's previous project, "Engineers of Tomorrow," had had more of an impact on the university bill.

"At Chalmers we are already on our way to creating a Bologna structure within the framework of our existing resources. We are ignoring the Government because we ask ourselves if we can really afford not to be part of the process. After all, it is

strong engineering expertise that is one of the main reasons for Sweden's success thus far," says Jan-Eric Sundgren.

A high-quality engineering programme is necessary for us to be able to attract the best students and researchers from around the world. Under the pressure of globalisation, Chalmers, Karolinska Institutet (KI) and the Royal Academy of Technology in Stockholm (KTH) are collaborating with Beijing and Shanghai etc. In Beijing the partnership involves the life sciences with KI at the helm. In Shanghai an electronics research centre has strong ties with the Chalmers MC2 lab. A partnership is now getting underway between Fudan and the Chinese Ministry of Science and Technology to offer courses and a Chinese degree in China.

"Mobility in education is important. I am convinced of the benefits of bringing people with different backgrounds and education together."

Jan-Eric Sundgren will have been President of Chalmers University of Technology for almost eight years when he leaves to join Volvo in spring 2006. There are many reasons for his move.

"It has been very enjoyable, exciting and stimulating, but if I am going to try something new, this is the time. I am 54 and not getting any younger. So when Volvo asked me what I would do when my work as university president was finished, I asked if they had any suggestions."

Jan-Eric Sundgren will be responsible for the Volvo Group's relations with government agencies, universities, the EU and will also work with emissions, the environment and safety issues.

"Putting a person with my background – I've worked in academia almost my whole career – into the management team shows that Volvo considers R&D issues to be important. Also, there is too little movement between academia and industry in Sweden. This is a step in the right direction."

He feels that university funding and autonomy will be crucial aspects of IVA's work over the next few years.

"And I hope that energy, transportation and environmental issues will be given much consideration because they are vital for both the Swedish and the global economy," he concludes.



EXCELLENCE TO INCREASE COMPETITIVENESS

Under the pressure of globalisation, the Swedish universities and colleges face great challenges. Today international excellence and competitiveness have become buzzwords in the world of research and education. At the same time these institutions must meet the growing need for expertise, society's changing educational requirements and the demand among students for different types of programmes. The expansion of the university system has greatly increased the need for external financing and for the more efficient use of government grants for research and education.

In the project entitled "The University of the Future," IVA and its partners are working to support and strengthen Swedish universities in order to develop into central institutions in the growing, global knowledge society.

What will the role of universities and colleges be like in the future knowledge society? What will their focus be? How will they specialise their offering? How will they finance their activities and what criteria does academic management need to manage, govern and recruit so that their institution can face the tough international competition?

Through a broad and open process, the project aims to create a vision for the University of the Future and suggest

ways to achieve this vision. In the autumn of 2005, three expert panels consisting of 45 prominent individuals from seats of learning, government agencies, institutions and the business world explored the challenges and opportunities of the university system. They worked together to draw up concrete proposals for changes over a 10–20-year timeframe. A university tour with stops in Kalmar, Uppsala, Stockholm, Jönköping, Linköping, Dalarna, Lund, Luleå and Gothenburg was a tool used to gather input from all of the country's seats of learning.

The project was greeted everywhere with great interest and participation. The challenges formulated by the project received widespread support and a number of very valuable and recurring points of view regarding the process were expressed. One area of serious concern was the low level of confidence among politicians in academic institutions, and indications that even the business world's confidence in them is waning. The researchers' poor working environments, lack of job security, lack of long-term funding and time spent on applications that often amount to nothing, was an area that was brought up repeatedly. Another issue was degree qualifications for universities that do not offer



Cecilia Schelin Seidegård has chaired the panel on Organisation and specialisation.



Lars Bertmar was the chairman of the panel on Funding instruments and sources.



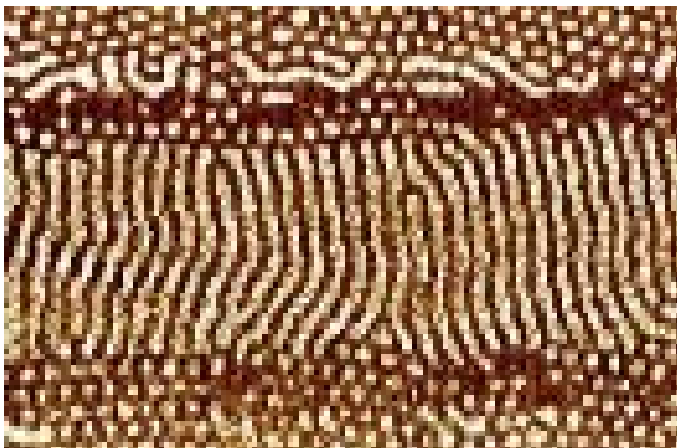
Ingegerd Palmer has chaired the panel on Mobility, qualifications and recruitment.

science programmes and new colleges that would like to be able to offer degrees in certain profile fields.

At the very top of the agenda is the issue of introducing the Bologna model to improve the competitiveness of higher education in Europe and make it more attractive, thereby opening up opportunities for renewal and collaboration.

The major challenges relate to the increased expectations for excellence and enterprise. To achieve this, Swedish universities need a stronger mandate for change. The conclusions drawn by the panels suggest that directives and grants for universities should encourage and reward profiling and specialisation initiatives. This must go hand in hand with strong leadership, more autonomy and less central control. This in turn means that universities need to have greater control over resources – both financial and human – as well as additional development capital.

In spring 2006 another university tour will take place during which the panel's proposals will be discussed and solidified, and input will be gathered in preparation for the project's synthesis report and concluding conference. From this platform, the Swedish universities will be better equipped to face future competition at the global level.



Dan Brändström is one of the delegates of the steering committee for the IVA project "University of the Future". He is also the chairman for the parallel project "University 2010" and can thereby bridge the results of the two projects.

A SWEDISH NANOSTRATEGY IN EUROPE

Nanotechnology is one of the most exciting growth areas internationally and is often mentioned in the Swedish debate on research-based growth. Swedish nanoresearch is of a high class internationally and it is extensive and growing. New applications are emerging, followed by both patents and new business ventures. Active research is in progress at a number of locations around the country. The Nano Consortium at Lund University is one example.

It is natural to propose that Sweden, like other countries, should create a national growth strategy and coordinate activities in this field. IVA's Nano Project gathers Swedish experts and players with an interest in Swedish nanoscience and nanotechnology to formulate a long-term nano-based growth strategy. Part of the strategy could be to support Swedish initiatives within the EU's Framework Programme for Research and Technological Development. The project also aims to shed light on the social and ethical aspects of nano research – an increasingly important international debate.



SCIENCE GENERATION

Our knowledge of genes, the building blocks of life, is increasing dramatically, and this knowledge is a very important driving force in the development of society and industry. Today we can only imagine how this may create opportunities to bring about a sustainable society and a better quality of life.

At the same time, there is scepticism among the general public about certain applications of the technology. The Science Generation project, which was concluded at the end of June 2005 after three successful years, worked to increase awareness among experts, researchers, business leaders and

decision-makers on how people view this development. The project aimed to promote a better dialogue on these issues between different groups in society, and improve the dissemination of knowledge and information, and in particular, to capture the interest of the younger generation, their parents and teachers.

In Skåne, Stockholm/Uppsala and Western Sweden, Science Generation arranged discussion groups with school children, teachers and parents led by journalists and with the support of biotechnology experts. The project was also run in France and Italy. More information is available at the website:

www.science-generation.nu

A MEETING PLACE FOR BUSINESS AND ACADEMIA

IVA's Business Executives Council is a knowledge bank where the broad scope of the members' expertise enables IVA to arrange meetings between people representing a variety of fields; meetings between individuals who perhaps do not exchange ideas on a daily basis; meetings where reflection can open up new, unexpected avenues. In 2005 the Council's theme was globalisation.

This was particularly evident at the Business Executives Council Annual meeting in November where the topic was "China – Market and Competitor," a relevant topic in light of the fact that China is the world's third largest trading nation and will double its GNP before 2010.

"The Communist Party is pragmatic and result-oriented in the same way as a business corporation. The Government wants to stimulate domestic consumption, but the majority of Chinese people still cannot afford to be significant consumers," said Frédéric Cho, Chinese Equities, Hagströmer & Qviberg.

The new chairman of the IF Metall trade union, Stefan Löfven, explained why Swedish trade unions should have contact with their Chinese counterparts, despite the fact that the unions there cannot exactly be called independent.

"The Chinese unions are actually curious to know how things work in Sweden," he said.

China is allocating more resources for research, and the best universities have top class professors and equipment.

"The number of citations for Chinese researchers is increasing steadily. More and more companies want to establish research labs in the country. There is a flow of expertise to China," said IVA's President, Lena Treschow Torell.

WELL-ATTENDED BREAKFASTS

IVA issues from a business perspective are addressed when IVA's Business Executives Council arranges breakfast meetings with guest speakers.

340 MILLION CHINESE PEOPLE HAVE MOBILE PHONES...

...and we learned when Ericsson's CEO Carl-Henric Svanberg, was a guest of the Business Executives Council, that there are five million new mobile users each month. The rapid growth has other benefits in addition to the pure commercial one, according to Carl-Henric Svanberg:

"Over time, the increase in communication options contributes to the process of democratisation."

TECHNOLOGY AND IMAGE FORM A GLOBAL STRATEGY...

...for Electrolux, as we learned when Hans Stråberg, the Company's Managing Director, was a guest of the Business Executives Council. According to Hans Stråberg, companies are

becoming increasingly international and people are coming into contact with more and more brands. This is why it is important to have a marketable global brand. No one is going to pay extra because a refrigerator is made in Sweden. But if we understand the consumer, we can make innovative consumer products profitable, despite competition from low-price products.

"There is also plenty of potential in a 'mature market.' We can charge a high price for innovative products. And our growth will come from new products," said Hans Stråberg.

THE IMPORTANCE OF THE ECONOMY IS DECLINING...

...we learned when Gunnar Brock, Managing Director of Atlas Copco, was a guest of the Business Executives Council. For his company, neither the economic situation nor the dollar exchange rate is of crucial significance. Only 2 per cent of sales take place in Sweden.

"Russia, which is growing rapidly, India and China are important markets," he said.

The difference in salaries plays an important role in both profitability and in deciding in which country to establish new operations. The difference can even be significant within one country, as can buying power, competition and rules and regulations.

AND MANUFACTURING COMPANIES ALSO

HAVE A FUTURE IN SWEDEN...

...according to Lars Östling, Scania's CEO, who also thinks that too much Swedish production has been moved overseas and maintains that there is unutilised capacity in the Swedish production machine.

A niche mentality and a carefully composed mix of components are reasons for Scania's success. Another reason is that people in development, production and service work together, and designers get to build their designs themselves before they go into production. "Compared to our competitors, we can build a multitude of variations with relatively few components," said Östling.

SWEDEN NEEDS A "START BUTTON"...

...to get the response to a national crisis moving more quickly. This was the opinion expressed at a breakfast meeting in February where the guest was Ann-Louise Eksborg, Director-General of the Swedish Emergency Management Agency (SEMA) and Henry



The IVA Business Executive Council has held several frequently visited breakfast meetings during the year. Chairman Mats Ringesten opens every meeting. Among the participants during 2005 we find Anders Narvinger, President of The Association of Swedish Engineering Industries and Therese Kyller, Future Female Leader 2004. Most frequently visited was the meeting led by Ericsson's CEO Carl-Henrik Svanberg on the theme "China – a market and a competitor".

Sténson, Chairman of the Ericsson Group's emergency management council.

"The Swedish Rescue Services Agency should not need to wait for a Government decision before getting started," said Eksborg. "In Sweden there are around 50 agencies responsible for ensuring that emergencies are handled effectively. SEMA should establish methods to ensure that everything runs smoothly in the case of an emergency."

OTHER INFORMATION

At the seminars and debates arranged by the Business Executives Council, the members can forge contacts outside their own industry and learn about the latest trends in technology and economics. Membership also provides access to IVA's entire network. In addition to the Council's activities, member companies participate actively in IVA's programmes and in seminars arranged by the various divisions. Member companies contribute both knowledge and resources to IVA's activities. The Business Executive Council enables IVA to have strong ties to the business community, a prerequisite for the Academy's work.





WITH TRADITION ON OUR SIDE

Hans-Olov Olsson has been Chairman of the Steering Committee for IVA's "Production for Competitiveness" project, a project that has attracted much attention and has a vision for Sweden to regain its position as one of the World's leading production nations.

"The reason why this project has met with such a positive response is that it filled a very significant need. The timing of IVA's important initiative was perfect," says Hans-Olov Olsson.

In the year 2000, manufacturing industry contributed 20 per cent of the total gross national product and in 2002, engineering products accounted for just over half of Sweden's exports. But the outsourcing of production operations to low-wage countries has become a reality and low capacity utilisation at factories and a lack of skilled employees are seen as indications of diminished competitiveness. Despite this, and despite high costs and long transportation routes, there are major benefits in keeping production operations in Sweden.

"The conditions are better here than in most places. In Sweden we have, up to now, much more experience and depth of knowledge than countries such as China, and we have tradition on our side, because production is what we are good at in Sweden. Our strength lies in getting all of the links in the value chain to work well together – from product development, production, logistics and transportation to marketing, sales and understanding customers. We will continue with this because production is also a key factor in our export successes and has built the society we have today," says Hans-Olov Olsson.

It was quite natural for him to get involved in this particular project. Production issues are close to his heart and of interest to Volvo as well.

"When I returned home after twelve years in Belgium, the US and Japan, I saw to my dismay that Sweden had shifted the focus from what used to be our foundation – we had started exporting jobs instead of products. The situation was starting to slip through our fingers. If you let production go, you start losing workmanship skills and then all prospects for product development," says Hans-Olov Olsson.

"The fact that we cannot compete with low wages is not a problem in itself. Sweden has several leading international corporations and our expertise gives us other competitive advantages. We understand transportation and logistics. Our management abilities and flat organisations also give us a competitive edge, as does our expertise in complex production systems and our long tradition of international trade."

He also points out that if Sweden is to regain its position as the world's best production nation and draw attention to the benefits of producing in Sweden, it is necessary for politics, industry, research and education to pull together. The project also succeeded in its goal of influencing decision-makers that control the Swedish production situation and also of leading and actively participating in this debate.

"We attracted a lot of attention in the media; raising points of view and creating meetings between the academic, political and business worlds. Production has become the topic of seminars at many venues, resulting in an increase in both awareness and involvement," says Hans-Olov Olsson. He continues:

"The politicians can make sure that we have the right programmes at both the upper secondary level and in higher education, that we have long-term support for research with close links to industry and an infrastructure that makes us more competitive. Our demand for a national production strategy – something that both the UK and the US have – has prompted the Minister for Industry and Trade to initiate an industry dialogue, and has placed these issues on the agendas of R&D and transportation debates."

He also talked about how the feedback from the ministries of industry, finance, and education as well as from the political opposition indicates that these issues are now high up on their agendas and that they are using the project reports for their internal work.

*"...we have tradition on our side,
because production is what we
are good at in Sweden."*

"Industry also needs to be more committed, improve its analysis and focus on both product and production development. In Sweden we have the potential to improve efficiency by almost 25 per cent merely through everyday rationalisation", Hans-Olov Olsson points out.

He also believes that it is important to focus on small and medium-sized businesses, since they form the framework of the production network. As subcontractors they are experts of the manufacturing industry, with advanced knowledge of processes, materials and components.

"Production for Competitiveness", which was run in cooperation with, among others, Teknikföretagen, the Swedish Metal Workers Union (Metall) and the Swedish Governmental Agency for Innovation Systems (VINNOVA), produced its concluding reports in spring 2005.

INCREASED COMPETITIVENESS IN THE SWEDISH PROCESSING INDUSTRY

The processing industry – paper & pulp, chemicals, steel, pharmaceuticals, provisions and mines – accounts for one third of our exports and makes the biggest contribution to Swedish net exports, thanks to the world-leading products we produce.

The processing industry in Sweden has a strong tradition and employs around 350,000 people, many of whom live outside metropolitan areas, where such factories are often the dominant feature.

The processing industry is therefore of great importance for Sweden's growth. But how is it being affected by the global competition and the political framework?

"Swedish companies cannot compete with prices. At least not in the case of bulk goods. Instead we need to focus on niche products and processing," says Monica Bellgran, Secretary of the IVA project entitled "Increased Competitiveness in the Swedish Processing Industry."

The project is a continuation of the Production for Competitiveness project and is attempting to find out how to best develop the processing

industry in Sweden. The project describes this capital and raw-material intensive Swedish sector and tries to identify which factors are crucial for competitiveness.

According to the project's Chairman, Sverker Martin-Löf (who is also the Chairman of SCA and SSAB), the biggest threat to the industry is political: the energy policy is a short-term one, environmental requirements are holding up new investment and the infrastructure needs to be improved.

"The politicians need to understand that this industry has long-term requirements. Sometimes I find that this is missing," he said.

The energy issue is the single most important one. The availability of a qualified workforce, research, the raw material supply, production increases and international competition are other important factors.

The project presented its preliminary conclusions on 4 October 2005 in Stockholm. More than 400 people were present, which shows that people are interested in industrial issues. Prime Minister Göran Persson was the keynote speaker.



Sweden's Prime Minister Göran Persson visited the seminar where the results of "Increased Competitiveness in the Swedish Processing Industry" were presented.



Sverker Martin-Löf, Chairman of SCA and SSAB, has been Chairman of the steering committee for Increased Competitiveness in the Swedish Processing Industry.



The IVA-project "Production for Competitiveness" got a lot of coverage in Swedish media.

ELKRAFTRINGEN RECEIVED GOVERNMENT SUPPORT

Elkrafringen (The Electric Power Ring), which has come out of the IVA Cooperation for Growth project, has received SEK 1.1 million in development funding from the Swedish Government. The aim is to highlight the growth potential within the Swedish electric power industry.

The importance of electricity to Sweden is well known, but a lesser-known fact is that Swedish electric power engineering is one of Sweden's main industries, employing close to 100,000 people. Sweden holds a world-leading position in electric power engineering in a global market that is constantly growing. Investments globally in electric power will reach one per cent of the world's total GNP over the next 30 years. To highlight the future growth potential in and for Sweden, industry players have formed an association entitled Elkrafringen, which has an office at IVA. The three founders are ABB, Vattenfall and Bombardier. They have joined Svenska Kraftnät, the state utility running the national power grid, to guarantee much of the project's activity up to and including 2007. The Swedish Government has granted funds of SEK 1.1 million to build up the initiative.

Elkrafringen has, among other things, helped to establish the new research centre, High Voltage Valley, in Ludvika. At the end of 2005 the association had 15 active members.

HEALTHY SUCCESSFUL COMPANIES

–A NATIONAL PROGRAMME FOR VALUE-GENERATING PERSONNEL DEVELOPMENT

Healthy Successful Companies, also known as 3F, is a project financed by Alecta, AFA and VINNOVA, which with great success, brings together research expertise and practical experience from Swedish companies that are working methodically, purposefully and insightfully to create stimulating and healthy working conditions.

The fact that employees are a company's most important resource may be a cliché, but it is vital for companies to remember if they want to grow and be profitable, especially in a time of rapid globalisation, structural changes, and when new technologies are being introduced at a fast pace.

Through IVA's Healthy Successful Companies project, yesterday's methods are being replaced by new, modern working methods. During the course of the project, three networks have emerged: 3F West, 3F Mälardalen and 3F South. The network meetings and workshops bring together research expertise and practical experience from Swedish companies that are working

methodically, purposefully and insightfully to create stimulating and healthy working conditions.

At the end of the year the project arranged a much-appreciated seminar on sleep entitled "Sleep – The underestimated productivity factor." When Torbjörn Åkerstedt, a sleep researcher at Karolinska Institutet and Aleksander Perski, head of the stress clinic at the institute were given the opportunity to explain the importance of sleep for an employee's performance, a company's productivity, and also for society in general. Research shows that lack of sleep is the single most important factor influencing the immune system, which may cause the breakdown of the body.



EXPERIENCES THAT COUNT

The prices manufacturers can charge are affected by how consumers experience both brands and products. This is a fact that was confirmed by a study conducted by IVA in cooperation with VINNOVA and the Swedish Industrial Design Foundation on the significance for industry of the experience aspect. The study involved interviews with a number of prominent individuals in the Swedish business world.

In cooperation with VINNOVA (Swedish Agency for Innovation Systems) and the Swedish Industrial Design Foundation, IVA prepared a study on what companies think about how their customers and users experience their companies and the products or services they offer. Not surprisingly, the study shows that the prices manufacturers can charge are affected by how their customers experience both brands and products. But not all companies see themselves as being part of the "experience industry." At the project's concluding seminar, representatives from Electrolux, Scania, IBM and Spotfire Inc. etc. expressed their views on the subject. These are some of their comments:

"At Electrolux we have a long tradition of creating experiences without actually being part of the experience industry. If two pro-

ducts work equally well, but one of them has a stronger brand, this will impact profitability," said Electrolux Martin Hörnqvist, Global Director Consumer Insight, maintaining that the image of the brand affects the value of the product.

"We focus on our customers and their experience while driving our vehicles. That's why all of our designers have a heavy goods vehicle driving licence and must keep up their skills. Minimising the negative experience of traffic accidents, for example, is part of the job," said Hasse Johansson, Group Vice President R&D, Scania.

In the future Hasse Johansson would like to see more of an emphasis on "soft skills" in engineering education to limit the risk of the experience aspect being overlooked.

BUSINESS PLAN FOR SWEDEN

“Increased competitiveness in industry and research is more important than employment and growth. If we are not competitive at the top international level, Swedish industry will be pushed out, sector by sector. Then there will be neither jobs nor growth,” says industrialist Carl Bennet, Chairman of the Steering Committee of the “Business Plan for Sweden” project, who still believes that the business climate in Sweden is good.

But what will Swedish industry be like in the future? Which sectors will be responsible for Sweden’s growth and how can we increase the overall competitiveness of Swedish industry? These are the questions the “Business Plan for Sweden” project is working hard to answer. The project, a collaboration between the Swedish Agency for Economic and Regional Growth (Nutek) and IVA, will run for more than a year. The project will describe current industries and trends around the world and identify the factors that are crucial for competitiveness in various sectors. Strengths, weaknesses, threats and opportunities will be analysed.

“The only way for Swedish industry to survive in the global economy is to be competitive. This in turn will lead to jobs and growth.”

“The project is interesting for a number of reasons, including the fact that it breaches boundaries and there has been no such initiative for the past ten years. This is why we had a very positive response when we contacted people to invite them to serve on the steering committee,” said Carl Bennett, Chairman of the project’s Steering Committee, the members of which are important players in employer and employee organisations and the business and academic worlds. “Business Plan for Sweden” will culminate in proposed measures based on different scenarios. What will the effects of globalisation and the new “service society” be? What is important and what must be done now so that our industries will remain competitive in the future?

“The only way for Swedish industry to survive in the global economy is to be competitive. This in turn will lead to jobs and growth,” says Carl Bennet. One important factor is the funding, focus and quality of research.

“Since we are competing with major nations, our government should invest more in research – perhaps as much as two per cent of our GNP. Research initiatives need to be more focused and strategic. Research alliances may make us stronger in fields where we

are already among the leaders. But we cannot be afraid of prioritising,” said Carl Bennet.

It is clear that products and services in the future will have more knowledge content, and this creates opportunities for small and medium-sized businesses.

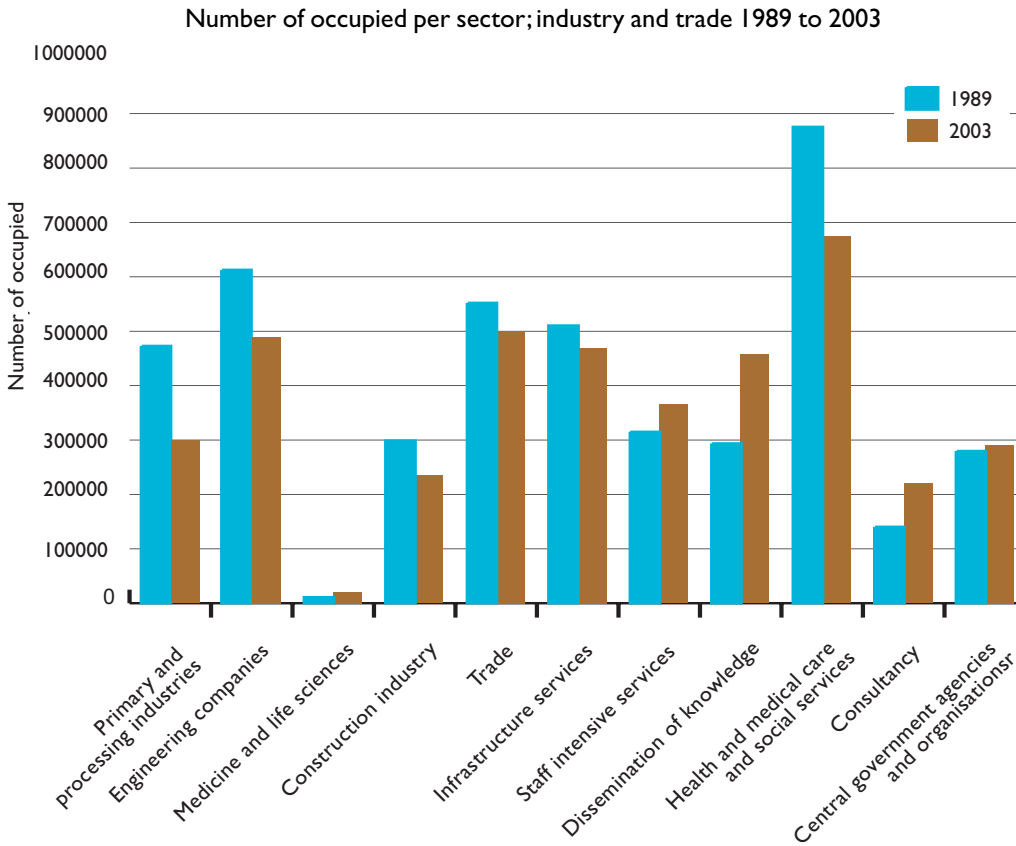
“These businesses must, however, be given the chance to make better use of the new knowledge than they are able to today, in a way that is appropriate for them, like at Gnosjö’s centre for innovation,” says Carl Bennet.

In autumn 2005, young people – the ones who will be living with the decisions being made today – had the chance to express their opinion on the most popular industries of the future in a survey on the youth website called Lunarstorm. 105,000 of them responded to the following question: In which of the following ten industries would you prefer to work? One in three boys responded that they would like to make cars, mobile phones or other electronic products in the future. One in five girls would like to work in the health and care sector, and the same percentage want to work in business, the service industry or education.

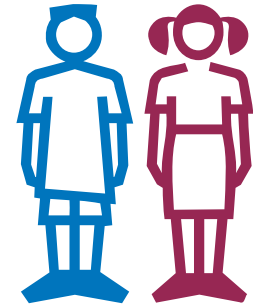
During the course of the project, a book was produced containing concrete facts on the new industries, an anthology that analyses the reasons for the changes, a book in which the leaders of tomorrow describe threats and opportunities, and a “vision book” for Swedish industry. A concluding report will be produced at the end of the project.



Carl Bennet, Chairman of Getinge AB, is leading the steering committee for the IVA project “Business Plan for Sweden”.



The world of industry and commerce in Sweden is constantly changing. These changes are so substantial that there is something similar to an economic crisis happening every year. The mobility of the workforce within and between different sectors is a significant indicator of the structural changes taking place. In several industries the size of the workforce has changed dramatically. Common explanations for this are specialisation and changes in production operations.



Young people's attitudes towards the future industry are investigated by a poll at the Swedish website Lunarstorm. The results are presented at IVA's website www.iva.se.

CREATIVE CHILDREN LOOK TO THE FUTURE

Robot buddies, mirrors that check your health and indicate vitamin requirements, TV wallpaper with climate sensors, all-weather clothes, voice-controlled 3D spectacles with an embedded minicomputer and telephone, individual sports shoes that adjust to different sports. These are some of the ideas that school classes from all over Sweden entered into a competition entitled "The World in 2024."

Class 6b at Råneskolan in Luleå won the national Children Look to the Future competition. They were rewarded with a class trip to the Science Festival in Gothenburg in April where HRH Crown Princess Victoria of Sweden presented them with their award.

Classes in all of Sweden's intermediate level schools took part in the competition. The pupils, aged 10 to 12, were asked to think about everyday situations in the future, in areas such as the home, work, school, food, transportation, communication, energy and the environment. How will we live, eat and be transported etc. 20 years from now? The project is run in cooperation with the Swedish Research Council with support from the Knowledge Foundation, the Marcus and Amalia Wallenberg Memorial Foundation and the Bank of Sweden Tercentenary Foundation.

"We want to encourage children to discuss their own ideas about the future. At the same time, we hope to increase interest among children in science, technology and research. In a broader perspective, there are

democracy aspects as well: What do we want our society to be like 20 years from now? What challenges and opportunities do we have in store?" says Björn Wolrath, Chairman of the project.



The jury explains their decision as follows: "The winning entry is well thought-out with creative descriptions of innovations in the fictional country called Framtida. The ideas show that the pupils have applied their knowledge of today's technology and research to their task of presenting the situation 20 years from now."

A CATALYST FOR ACADEMIC ENTERPRISE

Karin Markides has already had a successful career in research. Today she is Vice Director General at VINNOVA where her role is more that of a research catalyst. Through her work as Vice Chairman of IVA, she has additional opportunities to help develop the research and innovation climate in Sweden.

“It is exciting to be able to affect processes and systems, to work on how to improve the conditions for research. It is also very stimulating to see when people achieve things they never believed possible, and I have ongoing ties with the university, although my role today is more as a coach,” says Karin Markides, who was recruited from the research environment she built up at Uppsala University to work for VINNOVA.

Karin sees IVA as a natural and important partner.

“IVA is a unique platform that involves all players in society. It holds a strong position and has managed to maintain very high quality,” she says.

In the 1980s Karin Markides conducted research for several years at Brigham Young University in Utah, USA. She worked, among other things, with finding forms of interactive teamwork between dynamic research environments and the innovative system’s players.

“In the US there was a very clear vision of how new knowledge should be handled, packaged and managed. Right from the start, people considered how it could be put to use,” says Karin, who also notes that many new companies are started in Sweden, but that they do not always grow according to expectations.

“This has a lot to do with how we handle the intellectual capital of people and knowledge in research and innovation environments. It has partly to do with attitudes, but above all there is no incentive system for cooperation between these environments,” says Karin Markides.

For almost a decade Karin has worked in different ways to strengthen the ties between Sweden and Stanford University in the US, which is one of universities in the world with the most Nobel laureates and is a strong hub for creativity and new ways of thinking and impacting the world. According to Karin, Swedish universities have a good reputation at Stanford.

“Here in Sweden we should be leaders in many fields because we have creative ideas as well as depth, breadth and an ability to collaborate that not every country has. Here the “centres of excellence” we invest in can be of great significance when we attack problems from different angles and create the driving forces for innovative thought”

Karin Markides also believes it is important to handle research infrastructure correctly, because it is often the key to our competitiveness. The vital research infrastructure is everything from Max-lab, cleanrooms, databases to the instrument labs for

the Oden icebreaker. But according to Karin Markides there is often a lack of incentive in the form of reward and merit systems that support optimal coordination and utilisation of these structures and make them attractive. She believes this is just as important as the issue of creating new companies and licensing patents.

“The question is who should take responsibility and what the role of the universities should be. Sometimes we hear that researchers do not have time to learn more about entrepreneurship or involve themselves in this. It is actually more of a question of attitude and discussion at the stage prior to the transfer of knowledge that is lacking,” says Karin Markides and continues:

“Researchers are not meant to be entrepreneurs, instead they must share their knowledge with others who can participate in the innovation process,” she says. She notes that, in many cases, graduates from the same research environments are perfect for the role of entrepreneur.

»Here in Sweden we should be leaders in many fields because we have creative ideas as well as depth, breadth and an ability to collaborate that not every country has.«

“They are an important untapped resource in the periphery of the university and unfortunately they are often unemployed after they graduate.”

Karin Markides believes that the interplay between research and new knowledge is handled well by large Swedish corporations, but that the small and medium-sized businesses (SMEs) have not been able to bring about the same kind of interplay.

“In our global world, the SMEs also need to develop their products with new knowledge and added value in order to be competitive. That’s why it’s exciting that VINNOVA can now allocate funds to enable SMEs to be more attractive by bringing research, and sometimes even researchers, into their environments,” she says, and adds:

“It is becoming increasingly important to work proactively, holistically and to forge ties between researchers and the business world at an early stage. Everyone knows this, but it is easier said than done, and this will be the challenge for Sweden in the future.”

“IVA’s main challenge in the coming year is to use its strong position to bring more attention to these important issues and to reach out to the public more,” says Karin Markides.



MENTOR PROGRAMME LINKS RESEARCH WITH INDUSTRY

In 2005 IVA and Innovation Bridge Stockholm started a mentor programme. The goal is to increase understanding and promote contacts between well-qualified researchers and people with many years of experience in the business world.

The programme candidates included a number of well-qualified research candidates from Karolinska Institutet, Stockholm University, the Royal Institute of Technology in Stockholm and the research institute FOI, among others. In the first round, nine candidates were chosen and assigned a mentor. The programme is planned to continue for one year.

“So far the programme has received a very positive response from both researchers and mentors,” says Project Manager Anders Gezelius.

Getting a good match is an important success factor, as is establishing a clear purpose and goals. It is also very important for the

participants to be prepared to set aside time. In addition to one-on-one contacts, all of the participants will meet about ten times during the year.

“We had a very successful kick-off meeting in October to which we invited Charlotta Wikström, the author of a book on mentorship (Vinnande Mentorskap),” says Rolf Skoglund, Chairman of the Steering Committee.

The researchers will have the opportunity to increase their interface with the business world and gain an insight into business logic. The goal is neither to turn researchers into entrepreneurs nor to create new businesses. The idea is rather to help researchers make an initial evaluation of the commercial potential of their research results – whether or not they can be developed into marketable products or services, the stage before the seed phase in the commercialisation process. In return, the mentors gain an insight into the world of research and an opportunity to expand their networks.

PROFESSOR MATHIAS UHLÉN RECEIVES THE AKZO NOBEL SCIENCE AWARD

The 2005 Akzo Nobel Science Award worth SEK 500,000 went to Professor Mathias Uhlén, of the Royal Institute of Technology in Stockholm where he created the world’s largest protein research project. The project, which has mapped human proteins, is considered one of the most important research projects for the development of new drugs, because 98 per cent of all drugs are created to affect proteins in the body.

Mathias Uhlén won the award both for his unique biotech research and for his ability to act as a bridge-builder between research and industry. The award, which is based on a donation from Akzo Nobel, is presented in Sweden every other year by IVA.



Mathias Uhlén received the Akzo Nobel Science Award in 2005.



Leif Johansson, CEO of Volvo, was one of the speakers at the IVA West meeting on the theme “Industrial growth and entrepreneurship”.

ENTREPRENEURSHIP AND RESEARCH CREATE NEW JOBS

During the autumn, the Business Executives Council and IVA West held a breakfast meeting in Gothenburg with the theme: “Business Growth and Entrepreneurship.” The keynote speaker was Volvo’s CEO Leif Johansson who answered the question “Is it possible to educate researchers to become entrepreneurs?” as follows:

“Actually, I think the solution is a combination of the right people and the right climate. First of all, there is a division between industry and academia in Sweden which I believe is all wrong. Within academia people need to view commercialisation of research results as a positive thing. Secondly, it is important for the rules and regulations to give small businesses a fair chance for success. Running a business should be considered a respectable endeavour!”

CYPAK BEST IN EUROPE AGAIN

Cypak, founded by Jakob and Stina Ehrensvärd, is the only company to ever win the EU's prestigious IST Prize twice. The company won the award, the honour and EUR 200,000 most recently for its PIN-on-card.

The competition was very tough. 430 companies from around thirty countries competed for the tenth European Information Society Technology Prize.

Cypak was formed in 1999 and in its first year, the company won the IST Prize for the first time, then for computerised pharmaceutical packaging that helps patients keep track of their prescription medications. The prize enabled the company to continue to grow.

The competition is arranged by Euro-CASE, the umbrella organisation of the European academies of engineering sciences. IVA is the Swedish coordinator.

HONOUR CONFERRED UPON INTERNATIONAL ENERGY EXPERT

In 2005 IVA honoured energy expert, Robert H Socolow with the Axel Ax:son Johnson commemorative plaque for his research in the area of global carbon management and the hydrogen economy. Robert Socolow is a Professor of Mechanical and Aerospace Engineering at Princeton University, USA and is the former Director of the University's Center for Energy and Environmental Studies.

The endowment was established in 1944 by Consul-General Axel Ax:son Johnson and the award has been presented ten times prior to this. It enables international researchers to come to Sweden to give a lecture within their area of expertise. The recipients receive a silver commemorative plaque. This year HRH Crown Princess Victoria of Sweden presented the award.

SCIENTIFIC MEDIA PRIZE

When it was time to select the winner of the Scientific Media prize for the sixth time, the jury decided on the science magazine *Forskning & Framsteg*. The jury commended the themed issue on the "right" to have children at a time when between 10 and 15 per cent of couples who want to have children are affected by infertility. This subject is at the intersection of medicine, technology, social responsibility and existential issues. In the award-winning feature issue of the magazine, the medical and technological possibilities are examined, as well as the costs and the human and ethical aspects.



THE 2005 WWF CARL MANNERFELT PRIZE GOES TO SCIENCE JOURNALIST

Journalist Anna Schytt, head of the Science Unit at Swedish Television, SVT, was awarded the World Wildlife Fund's Carl Mannerfelt Prize of SEK 100,000 for her work educating the public through the popular science programmes that she has developed for television. With a foundation in scientific facts, her work has involved communicating environmental issues and presenting analytical reports on scientific themes. The jury is made up of members of the WWF, IVA and the Confederation of Swedish Enterprise.

The idea behind the prize is to inspire people to find solutions that combine the sustainable use of natural resources with developments in science, technology and economics. The prize – this year presented for the twelfth time – is based on a donation from Carl Mannerfelt PhD.



HANS WERTHÉN SCHOLARSHIPS FOR YOUNG GRADUATES

In 2005 IVA named eighteen Hans Werthén Scholarship recipients who will share SEK 2.3 million. The scholarships are intended for young university graduates who have successfully started knowledge-intensive activity as doctoral candidates or researchers, or who are employed in their specialist field.

The money is to be used for an extended period of study or work abroad. The most popular country is the US. Other destinations are Australia, the UK, China, Singapore, Spain, France and Germany.

"Our world is becoming increasingly globalised and it is therefore important for young Swedish academics to be given the opportunity to work and develop in international environments. I'm happy that IVA can help to make this happen," says IVA President Lena Treschow Torell.

The recipients are active in the fields of science, technology, economics or law in academia or industry.



2005 års Hans Werthén stipendiatar presenterade i IVA:s föreläsningssal i oktober.

IVA REWARDS EXCELLENCE

IVA presents awards to individuals who have made particularly valuable contributions within the fields in which the Academy is active. This year's medallists received their awards at the Stockholm Concert Hall at IVA's 86th Annual Meeting on 28 October.

The Great Gold Medal was awarded to Dr. Gunnar L Johansson for his contributions to Swedish industry. His life-work has benefited both Volvo and Swedish industry in general.

After graduating from the Royal Institute of Technology in Stockholm, Gunnar L Johansson started working at Volvo's Köping plant in the production technology department. He has remained faithful to Volvo, as a member of the executive management team, as Managing Director of Volvo Flygmotor during one of Sweden's biggest industrial projects, the JAS Gripen, and as CEO of the entire Group. During his tenure, issues such as quality and the environment were given particular emphasis.

For over 20 years he was a member and Vice Chairman of the board of the Association of Swedish Engineering Industries, member of the board of the Swedish Employers' Confederation and board member, Vice Chairman and Chairman of the Federation of Swedish Industries. He has used these positions to make invaluable contributions serving Swedish society and Swedish industry. He was also Vice Chairman of the Chalmers Foundation and was involved in founding the Universeum science centre.

The Rector of Umeå University, Professor Göran Sandberg, was awarded a Gold Medal for his pioneering discoveries relating to the effect of growth hormones on root and wood formation in woody plants. He was also recognised for work on sequencing the genome of the poplar tree, the first tree to have its genetic make-up mapped.

Göran Sandberg became a professor at the Swedish University of Agricultural Sciences in Umeå in 1989. He is a world-class expert in his research field. The most important breakthrough came at the beginning of the 1990s when he developed techniques to measure hormone levels in very small plant specimens. He established and developed molecular biological plant research in Sweden at the Plant Science Centre in Umeå (UPSC). He recruited young scientists from all over the world to work at this "centre of excellence." The Centre has been ranked in "The Scientist" as the best workplace for young post-docs outside the USA and the third best in the world.

His entrepreneurial skills have also resulted in companies like Woodheads and SweTree Genomics.

A Gold Medal was also awarded to Dr. Jan Uddenfeldt for his work leading to both concrete and strategic results of considerable significance for the development of mobile communication and for the position of Swedish industry in this field. Jan Uddenfeldt was instrumental in the development of both second and third generation mobile telephony, GSM and WCDMA. He was involved in initiating the EU research programme and guided Ericsson in its selection of coding technology.

With a unique combination of advanced technical expertise, an understanding of the markets, and perseverance and diplomacy, he has been a key figure in the establishment of a global standard. He has some 20 patents of his own in the field of digital telecommunications. In the mid-1980s he was also an associated professor at the Royal Institute of Technology in Stockholm (KTH).

Jan Uddenfeldt started working at Ericsson in 1978 after graduating from KTH. He has held several senior leadership positions, most recently as global Chief Technology Officer and Senior Vice President of Ericsson. He has been working since 2004 as senior advisor to the Ericsson executive management team.

Another Gold Medal was awarded to husband and wife Ulrica Hydman Vallien and Bertil Vallien for their contributions to the Swedish glass industry over the course of many years. Their life-work has contributed in the highest degree to this industry's artistic and technical development. The Valliens are both associated with the Kosta Boda glassworks and their successful work has had a positive impact of the employment situation in the glass industry. Their art is well known and can be found in museums, galleries and collections around the world.

Bertil Vallien is one of the few artists in the world who has radically renewed glass art. He is particularly well known for his sand-casting technique and his figures. Ulrica Hydman Vallien is one of Sweden's most famous and popular artists. Her figures have adorned Ericsson mobile phones and British Airways aircraft. Her glass designs are among the main reasons for Kosta Boda's success.

The Valliens' work shows how insight into and an understanding of technical development can be combined with distinctive and expressive artistry.



The 2005 IVA medallists: Gunnar L. Johansson, Göran Sandberg, Jan Uddenfeldt, Bertil Vallien and Ulrika Hydman-Vallien.

ACADEMY ACTIVITIES

IVA is a greenhouse for ideas and within the twelve divisions – which are divided by subject area and to which IVA members are assigned – ideas for various projects are hatched. Each division holds four meetings a year at which members discuss topical issues within their respective domain. When the discussions are of general interest, the public and the media are invited. Below is a sample of what came out of IVA's division meetings in 2005:

THE COMPUTER GAME INDUSTRY – SWEDEN'S FUTURE?

When Division XII – Information Technology arranged a seminar on the computer game industry in November, it emerged that computer game companies are keen to rid themselves of the image as “the industry that focuses on kids addicted to computer games.”

The Datorspelinstitutet – DSI (Computer Game Institute) was formed in 2004 by various computer game companies with the aim of improving the image of the industry, but also to increase the distribution of the companies' products to different groups in society to show that the companies are taking parents who are worried about video game addiction among young people seriously.

The SICS research institute is developing computer games that force users to get on the move. In what is called “pervasive gaming,” technology such as mobile phones, laptops, GPS equipment and video technology are being used to fight harmful virtual viruses and render them harmless in the physical environment.

Computer games are not just of interest in the civil arena. The Swedish military is, for example, participating in the development of simulation games to be used in leadership training. These will mainly be used by military personnel involved in peace-keeping activity overseas to train them in peaceful ways to solve conflicts.

INFRASTRUCTURE: THE BENEFITS OF LARGE RAILWAY PROJECTS

Are Norrbotten in Northern Sweden, Citytunneln in Malmö and Citybanan in Stockholm examples of railway projects that will guarantee long-term, sustainable regional growth? Or are these investments totalling an estimated SEK 34 billion mainly a waste of money? These were the questions being asked when IVA's Division III – Building and Construction, arranged a seminar to focus on major infrastructure investments.

According to Roland Andersson, Professor Emeritus of Economics at the Royal Institute of Technology (KTH) in Stockholm, such projects may be fine from a technical point of view, but the costs are frequently underestimated and revenues exaggerated. He maintained that the major projects involving frequent cost increases trump smaller ones that make more sense from a public finances perspective.

Peter Eriksson, spokesperson for Miljöpartiet (the Swedish Green Party), put forward the idea that our ability to calculate the exact cost for society is greatly influenced by what we think will happen in the future, e.g. to the price of petrol. He also believes that initiatives far away from Stockholm are more readily rejected than those closer to the capital. He went on to say that within a few years, Norrbotten will be Sweden's fastest growing region and that better communications will result in the creation of more jobs.

THE EFFECT OF STORMS ON THE FORESTRY INDUSTRY

It is not possible to use forests felled by storms in the same way as those felled in the normal way. It became clear at the September meeting of IVA's Division VIII – Forest Technology that costs for pulp and paper mills increased in the wake of storm called Gudrun.

In pulp production, wood from forests felled by storms is preferably only used if the trees' roots are still in the ground. Old wood makes poor quality pulp which affects the brightness of the paper and increases costs for bleaching agents etc.

In construction, wood from storm-damaged forests is only used where appearance is not a factor.

For the major sawmills the fall in raw material prices means that they may make a profit in the short term, but in the long term, there may be a shortage of sawn timber, greater competition, increased raw material costs and sawmill closures.

VENTURE CAPITALISTS AND THE ECONOMY

We have more venture capitalists today than ever before. They have been accused of focusing on short-term goals with respect to their investments and of not adding any real value. Many Swedish industrialists have, in recent times, indicated that they have missed out on business deals because the venture capitalists are able to pay more than big companies are prepared to. The reason for this is that the venture capitalists are increasingly using borrowed funds to finance their business ventures. This has led to speculation about a loan bubble in the banking system. What is correct and what is myth with respect to the actions of risk capitalists? Is this trend a threat or an opportunity? These questions were discussed at a seminar arranged by IVA's Division IX – Economy.



Swedish astronaut Christer Fuglesang was a guest at IVA's 86th Annual Meeting (above left). Mofang Li, chief engineer at China Mobile Communications Cooperation, and her colleagues Bolin Wang and Ling Lu (below left) were also among the guests. His Majesty the King escorted IVA's President Lena Treschow Torell to the table at the banquet in Stockholm City Hall following the Meeting (above right). Ene Ergma, President of the Estonian Parliament, proposed a toast (centre right). Lise and Gertrud provided part of the evening's entertainment (below right).



FOCUSING ON THE FUTURE

In 2005 IVA members and invited guests came from near and far to attend the 86th Annual Meeting. His Majesty King Carl XVI Gustaf, the Academy's patron, was the guest of honour. On Friday, 28 October at the Stockholm Concert Hall at Hötorget square in Stockholm, 900 people listened to Lena Treschow Torell, President of IVA, give her annual address and interview Swedish astronaut Christer Fuglesang. He offered His Majesty space coffee and biscuits. All those in attendance were entertained by the music and singing of Åsa Jinder and Cajsa Stina Åkerström. The festivities continued later in Stockholm City Hall.

At the banquet following the Annual Meeting: Stockholm County Governor Mats Hellström, pictured here with Elaine Rippoll (above right). Marie Ehrling, Telia Sonera's CEO and Krister Källström, Kami Research Foundation (centre left). Cecilia Schelin Seidegård, Managing Director of Karolinska University Hospital and Thomas Andersson, President of Jönköping University (below left). German Ambassador Busso von Alvensleben and Madeleine Caesar, Managing Director of the Knowledge Foundation (above right). Åsa Jinder provided much appreciated entertainment in Stockholm Concert Hall (centre right).



Swedish astronaut Christer Fuglesang was a guest at IVA's 86th Annual Meeting (above left). Mofang Li, chief engineer at China Mobile Communications Cooperation, and her colleagues Bolin Wang and Ling Lu (below left) were also among the guests. His Majesty the King escorted IVA's President Lena Treschow Torell to the table at the banquet in Stockholm City Hall following the Meeting (above right). Ene Ergma, President of the Estonian Parliament, proposed a toast (centre right). Lise and Gertrud provided part of the evening's entertainment (below right).

THE CENTRE OF ACTIVITIES



Over the past year we have arranged around 1,350 meetings at IVA's Conference Centre, making us one of Stockholm's leading conference facilities. In addition to the Royal Swedish Academy of Engineering Sciences, our customers include many of Sweden's most prominent companies and organisations.

Following several years of upgrading work, our technology and meeting rooms are of a very high standard. We are constantly developing our level of service and our administrative systems, and we are seeing the benefits of this in both customer survey responses and in our results. We are proud and delighted that the percentage of regular customers is steadily increasing.

Facts on IVA's Conference Centre:

- 11 conference rooms, 4 of which are smaller meeting rooms
- 4 banquet halls
- Space for 175 people in the largest room
- Superior technology and support provided by resident technicians
- Food and beverages from Restaurant Grodan
- Staff of 7
- Convenient central location

»Thanks! Of all the many conference centres I've worked with over the years, you are the best in every way. Give yourselves a pat on the back!«

MONICA TAPPER, THE SWEDISH EMERGENCY MANAGEMENT AGENCY

THE EXECUTIVE COMMITTEE OF THE ACADEMY

The Academy's activities are directed by an Executive Committee, which is the governing body of both the Academy itself and the IVA Foundation. The Chairman of the Academy chairs the Academy's assemblies and meetings of the Executive Committee.

The members of the Executive Committee in 2005 were as follows:

Chairman Hans Dalborg (Div IX) 2005–2007, Professor Lena Treschow Torell (Div V) President of the Academy 2001–2007, Managing Director Peggy Bruzelius (Div IX) Vice Chairman 2003–2005, Professor Jan-Eric Sundgren (Div VII) Vice Chairman 2003–2005, Dr. Billy Fredriksson (Div I) Vice Chairman 2004–2006, Vice Director General Karin Markides (Div IV) Vice Chairman 2005–2007, Direktör Mats G Ringesten (NR) Chairman NR 2004–2006

THE ADVISORY COUNCIL

The Academy has an Advisory Council whose task it is, prior to decisions being taken in the Executive Committee, to discuss business and draft recommendations in matters that concern all the Divisions.

The Advisory Council also coordinates, prioritises and makes recommendations in issues concerning the shaping of the Academy's programme activities. The members of the Advisory Council of the Academy in 2005 (excluding alternates) are as follows:

Chairman Hans Dalborg (Div IX) 2005–2007, Professor Lena Treschow Torell (Div V) President of the Academy 2001–2007, CEO Johan Siberg Chairman Div I 2005–2007, Professor Harry Frank Chairman Div II 2004–2006, Civilingenjör Märten Lindström Chairman Div III 2004–2006, CEO Christer Sjölin (Div IV) Chairman Div IV 2005–2007, Professor Eric Forssberg Chairman Div V 2005, Professor Christer Karlsson Chairman Div VI 2004–2006, Licentiate of Technology Lars G Larsson Chairman Div VII 2005–2007, Professor Tom Lindström Chairman Div VIII 2003–2005, CEO Carl Wilhelm Ros Chairman Div IX 2004–2006, Professor Gunnar von Heijne Chairman Div X 2005–2007, Director General Per Eriksson Chairman Div XI 2003–2005, CEO Curt Andersson Chairman Div XII 2005–2007, CEO Mats G Ringesten Chairman of the Business Executive Council 2004–2006, Professor Bengt Lindberg Chairman IFG 2004–2006, Professor Allan T Malm (Div VI) Chairman IVA South 2005–2007, Master of Science in Engineering Ivan Öfverholm (Div II) Chairman IVA West 2004–2006

THE GOVERNING BODY OF THE BUSINESS EXECUTIVES COUNCIL

The Business Executives Council has its own governing body which appoints the Chairman and Vice Chairman. The Chairman is also a member of IVA's governing body, the Executive Committee. In 2005 the members of the Business Executives Council's governing body were as follows:

Chairman: CEO Mats G. Ringesten, Neuman & Nydahl (2002–2006), Vice Chairman: CEO Lars G. Josefsson, Vattenfall AB (2004–2006), CEO Mats Pettersson, Biovitrum AB (2003–2005), CEO Stina Blombäck, Billerud Karlsborg AB (2004–2006), CEO Eva Lindqvist, TeliaSonera International Carrier (2004–2006), CEO Christian Salamon, Industri Kapital AB (2004–2006) CEO Rolf Bjerndell, Skånemejerier ek. förening (2005–2007), CEO Anders Brännström, Volvo Technology Transfer (2005–2007), CEO Lotta Stalin, Kuusakoski AB (2005–2007)

THE EXECUTIVE COMMITTEE

Chairman Hans Dalborg (Div. IX) 2005–2007
 Professor Lena Treschow Torell (Div. V) President 2001–2007
 Director Peggy Bruzelius (Div. IX) Vice President 2003–2005
 Professor Jan-Eric Sundgren (Div. VII) Vice President 2003–2005
 Billy Fredriksson, PhD (Div. I) Vice President 2004–2006
 Vice Director General Karin Markides (Div. IV) Vice President 2005–2007
 Director Mats G Ringesten Chairman of the Business Executives Council
 2004–2006

THE ADVISORY COUNCIL

The Advisory Council includes the Chairman of the Academy, the chairmen or vice chairmen of the Academy's divisions, chairmen of regional sections and the President. The Executive Committee's other members are entitled to be present at the Advisory Council's meetings. The chairmen of IVA's Business Executives Council and committees may also be called to the meetings.

Chairman Hans Dalborg (Div. IX) 2005–2007
 Professor Lena Treschow Torell (Div. V) President 2001–2007
 Director Johan Siberg (Chairman Div. I) Chairman Div. I 2005–2007
 Professor Harry Frank (Chairman Div. II) Chairman Div. II 2004–2006
 Mårten Lindström M.Sc. Eng. (Chairman Div. III) Chairman Div. III 2004–2006
 Director Christer Sjölin (Chairman Div. IV) Chairman Div. IV 2005–2007
 Professor Eric Forsberg (Chairman Div. V) Chairman Div. V 2005
 Professor Christer Karlsson (Chairman Div. VI) Chairman Div. VI 2004–2006
 Lic. Eng. Lars G Larsson (Chairman Div. VII) Chairman Div. VII 2005–2007
 Professor Tom Lindström (Chairman Div. VIII) Chairman Div. VIII 2003–2005
 Director Carl Wilhelm Ros (Chairman Div. IX) Chairman Div. IX 2004–2006
 Professor Gunnar von Heijne (Chairman Div. X) Chairman Div. X 2005–2007
 Director General Per Eriksson (Chairman Div. XI) Chairman Div. XI 2003–2005
 Director Curt Andersson (Chairman Div. XII) v XII 2005–2007
 Director Mats G Ringesten (NR) Chairman Business Executives Council
 2004–2006
 Professor Bengt Lindberg (IFG) Chairman Industrial Research Committee
 2004–2006
 Professor Allan T Malm (Div. VI) Chairman IVA South 2005–2007
 Ivan Öfverholm, MSc Eng (Div. II) Chairman IVA West 2004–2006

MEMBERS

Details about the Academy's members are included in the 2006 IVA register of members. As of 31 December 2005, IVA had 750 Swedish members and 249 foreign members. Membership changes in 2005 are noted below.

The number of Swedish members below the age of 65 is limited to 385, including not more than 42 supernumeraries. There were 355 Swedish members below the age of 65 at the beginning of the year and 349 at the end.

Elected Swedish members

Senior Vice President Hans Folkesson (Div. I)
 Managing Director Leif Östling (Div. I)
 Managing Director Bo Källstrand (Div. II)
 Professor Bengt Nordén (Div. IV)
 Vice President Tord Svedberg (Div. IV)
 Managing Director Anders Brännström (Div. VI)
 Director Staffan Håkanson (Div. VI)
 CEO Lars Westerberg (Div. VI)
 Professor Erland Källén (Div. VII)
 Professor Michael Tandler (Div. VII)
 Director General Marianne Treschow (Div. VII)
 Managing Director Stina Blombäck (Div. VIII)
 Managing Director Ulf Larsson (Div. VIII)

Professor Lars Wägberg (Div. VIII)
 Professor Jonas Frisé (Div. X)
 Vice Chancellor Thomas Andersson (Div. XI)
 Senior Advisor Conny Bogtoft (Div. XI)
 Vice President Charlotte Brogren (Div. XI)
 Professor Magnus Henrekson (Div. XI)
 Executive Vice President Jan Nygren (Div. XI)
 Professor Kristina Höök (Div. XII)

Elected foreign members

Professor Klaus Bock, Denmark
 Bergsråd Stig Gunnar Gustavson, Finland
 Professor Bengt Holmstrom, Finland
 Senior Vice President Alain Honnart, Frankrike
 Honorary President Ki Jun Lee, Sydkorea
 Professor Edward Crawley, USA

Deceased members

Henrik Ager-Hansson (Foreign Member 1985)
 Claës Allander (Div. I 1963)
 Rolf Baehre (Div. III 1976)
 Sten G A Bergman (Div. III 1965)
 Bertram Broberg (Div. VII 1964)
 Hubert Curien (Foreign Member 1974)
 Germund Dahlquist (Div. VII 1965)
 Erik Dahmén (Div. IX 1967)
 Per Fahlström (Div. V 1975)
 Sven Formander (Div. V 1959)
 Paulsson Frenckner (Div. VI 1968)
 Mikael Karlsson (Div. VI 2000)
 Gunnar Kullberg (Div. I 1978)
 Torsten Lindström (Div. II 1967)
 Ivar Löfqvist (Div. VI 1964)
 Robert Major (korresponderande ledamot 1956)
 Rudolf Meidner (Div. VI 1963)
 Curt Mileikowsky (Div. XI 1984)
 Andranik Petrosyants (Foreign Member 1977)
 Dick Ramström (Div. IX 1970, VI 1987)
 Lennart Schotte (Div. VIII 1974)
 Sverker Sjöström (Div. I 1966)
 Sture Svensson (Div. V 1965)
 Olle Thomson (Div. I 1999)

ACADEMY MEETINGS

15 March.

The Protein Factory – Studying the building blocks of life. The Akzo Nobel Science Award Sweden presented to Mathias Uhlén (Div. X), who also talked about his research. The other participants were Chairman of the Jury Anders Blom (Div. I) and Hans Wijers, CEO and Chairman of the Board of Akzo Nobel N.V., the Netherlands.

1 June.

Reshaping the Universities – Prospects, experiences and opportunities. Participants: Hans Dalborg (IVA's Chairman and Div. IX) Chairman of University of the Future; Kerstin Eliasson, Under Secretary of State at the Ministry of Education, Research and Culture; Matti Pursula, Rector of Helsinki University of Technology, Finland; Thomas Andersson (Div. XI). Moderator: Christer Heinegård, Project Manager of the University of the Future project.

27 September.

In Space for Sweden – Field trip to Rymdbolaget (Swedish Space Corporation), in

Solna. Participants: Claes-Göran Borg, President & CEO and Sven Grahn, Senior Vice President, Engineering at Rymdbolaget and Professor Arne Ardeborg from Lund University Department of Astronomy.

1 December:

Strategies for Handling the Greenhouse Effect – How can environmental research be explained in a popular science context? Professor Robert H Socolow, Princeton University, USA, held the 2005 Axel Ax:son Johnson lecture under the heading Global Carbon Management and the Hydrogen Economy and was presented with the commemorative plaque. The WWF Carl Mannerfelt Prize was awarded to Anna Schytt, journalist and head of the science unit at Swedish Television (SVT), who also talked about her work. Moderator: Göran A Persson (Div. IV). Prize presented by: HRH Crown Princess Victoria.

IVA DIVISION ACTIVITIES

Division I, Mechanical Engineering

Chairman: Director Johan Siberg (2005–2007)

Vice Chairman: Professor Bengt Lindberg (2004–2006)

Vice Chairman: Professor Anders Ulfvarsson (2005–2007)

Secretary: Dario Aganovic, IVA, until the end of the April meeting. Anders Johansson, IVA, from the November meeting.

Number of members as of 31 December 2005: 71, of whom 33 below the age of 65.

Meetings

2 February:

IP Telephony – Serious competition (arranged jointly with Div. II and Div. XII)
Opening speaker: Lars-Erik Eriksson (XII), Kjell Westerback, Dotcom, Anders Tammelin, Swedish Maritime Administration, Kennet Rådne, Telia, Andreas Sjölund, Skype.

26 April:

Swedish Production Research within EU Programmes. Opening speaker: Niclas Stenberg, EU/R&D Council, Bengt Lindberg, KTH, Mats Lundin, IVF.

8 September:

Visit to Volvo Personvagnar in Gothenburg.

15 November:

Computer/Video Game Industry – Sweden's future? (arranged jointly with Div. XII)
Opening speaker: Per Strömbäck, Spelplan, Anders Frank, Swedish National Defence College, Tommy Palm, Jadestone, Annika Waern, SICS.

Division II, Electrical Engineering

Chairman: Director of Research Harry Frank (2004–2006)

Vice Chairman: Executive Vice President Lennart Billfalk (2004–2006)

Vice Chairman: Investment Manager Sigrun Hjelmquist (2004–2006)

Secretary: Staffan Eriksson, IVA

Number of members as of 31 December 2005: 44 of whom 24 under the age of 65.

Meetings

2 February:

IP Telephony – Serious competition (arranged jointly with Div. I and Div. XII)
Opening Speaker: Lars-Erik Eriksson (XII), Kjell Westerback, Dotcom, Anders Tammelin, Swedish Maritime Administration, Kennet Rådne, Telia, Andreas Sjölund, Skype.

26 April:

Mobile Broadband (arranged jointly with Div. XII) Opening speaker: Erik Heilborn, TeliaSonera, Shlomo Liran, 3, Marianne Treschow, Swedish National Post and Telecom Agency, Jan Uddenfeldt (II), Ulf Wahlberg, L M Ericsson, Jens Zander (XII).

8 September:

Traffic Control and Congestion Tax (arranged jointly with Div. XII)

Opening speaker: Roland Andersson (III), Birger Höök, Swedish National Road Administration, Henrik Anderberg, IBM, Jan Freese (XII).

Division III, Building and Construction

Chairman: Märten Lindström M.Sc. Eng. (2004–2006)

Vice Chairman: Director Claes Bankvall (2004–2006)

Vice Chairman: Professor Håkan Stille (2005–2007)

Secretary: Thomas Malmer, IVA, until the September meeting. From the November meeting, Bengt A Mölleryd, IVA

Number of members as of 31 December 2005: 67 of whom 29 under the age of 65.

Meetings

26 January:

Shape up Lads! – What happens next? Opening Speaker: Olle Ehrlén, NCC Sverige AB, Gull-Britt Jonasson, Finja betong AB, Lise Langseth, Svensk Teknik och Design, Lars-Olof Nilsson, Faculty of Engineering, Lund University, Sonny Modig, Per-Håkan Westin, AP-fastigheter AB.

18 April:

Developing Residence Projects in Different Countries – What we can learn and teach? Opening speaker: Kurt Psilander, KTH, Göran Sjöborg, JM Construction S.A, Arne Fredlund, Stockholm City, Zdravko Markowski, JM Bostad.

7 September:

Sustainable city of the future in theory and practice – What are the experiences from Bo01 in Malmö? Opening speaker: Eva Dahlman and Christer Larsson, Malmö Stad, Arne Elmroth (III), Annika Kruuse, Bo01, Henrik Aspegren, Malmö VA-verk, Per-Arne Nilsson, Malmö Stad, Lars Birve, MKB, Per Kallstenius, Stockholm City, Tomas Käberger (III), Ilmar Reepalu, Malmö City, Mats Williamsson, Skanska, Gert Wingårdh, Wingårdh Arkitektkontor.

9 November:

Major infrastructure investments. Opening speaker: Kristina Falk, Norrbottenbanan, Bo Björk, Citybanan, Wollmar Hintze, Citytunneln, Roland Andersson, KTH, Peter Eriksson, Miljöpartiet (Green Party), Sven Ove Hansson, KTH.

Division IV, Chemical Engineering

Chairman: Director Christer Sjölin (2005–2007)

Vice Chairman: Director of Research Thomas Berglin (2002–2004)

Vice Chairman: Professor Karin Markides (2004–2006)

Secretary: Position vacant until the September meeting

Starting from the November meeting: Thomas Malmer, IVA

Number of members as of 31 December 2005: 57 of whom 30 under the age of 65.

Meetings

3 February:

Industry wants to Measure, Analyse and Govern On-line (arranged jointly with Div. VIII) Opening speaker: Thomas Berglin (IV), Staffan Folestad (IV), Anders Grönlund (VIII), Otto Lindeberg, M-Real.

18 April:

Innovation Mechanisms in Mature Industries (arranged jointly with Div. VIII)
Opening speaker: Nils-Olof Björk, Alfa Laval, Maria Norell, Eka Chemicals, Bengt Järrehult, SCA, Bengt Ekström.

21 September:

Is there renewal within Swedish chemical companies? Opening speaker: Peter

Wällberg (IV), Owe Fredholm (IV), Ethel Forsberg, Swedish Chemicals Inspectorate.

23 November:

Biorefineries and Bio Combines – Utopia or the reality of the future from a sustainability perspective? (arranged jointly with VIII) Opening speaker: Peter Axegård, STFI, Ola Hildingsson, Domsjö, Stefan Lundmark, Perstorp.

Division V, Mining and Materials

Chairman: Professor Eric Forssberg

Vice Chairman: Professor Jan-Olof Sperle (2003–2005)

Vice Chairman: Chief Technical Officer Göran Carlsson (2005–2007)

Secretary: Per Storm, IVA

Number of members as of 31 December 2005: 55 of which 21 under the age of 65.

Meetings

25 January.

The future structure of research in the field of Swedish material and mineral research. Opening speaker: Lars-Eric Aaro (V), Anders Eriksson, KTH, Thomas Thorvaldsson (V).

20 April.

The ongoing global restructuring process in the steel and metals industry. Opening speaker: Anders Ullberg, SSAB, Jan Johansson, Boliden, Pekka Erkkilä, Outokumpu Stainless.

13 September:

The future structure of research in the field of Swedish material and mineral research. Opening speaker: Åsa Valadi, IVA

16 November:

Non-Iron Metallurgy. Opening speaker: Ingemar Widell, Vargön Alloys, Jaakko Leppinen, Outokumpu Technology, Finland, Larz Ignberg, Outokumpu Copper.

Division VI, Management

Chairman: Professor Christer Karlsson (2004–2006)

Vice Chairman: Director Sven-Christer Nilsson (2004–2006)

Vice Chairman: Professor Gunn Johansson (2004–2006)

Secretary: Henrik Blomgren, IVA

Number of members as of 31 December 2005: 98 of whom 42 under the age of 65.

Meetings

8 February.

Outsourcing – Does it solve all problems? (arranged jointly with Div. IX) Opening speaker: Ola Asplund, Metall, Christian Berggren, Linköping University, Per G Hedström, Electrolux AB, Lars Stanghed, Svenska IBM.

19 April.

Design as Development Force (arranged jointly with Div. IX) Opening speaker: Robin Edman, Svensk IndustriDesign, Fredrik Magnusson, Industriedesignföretaget Propeller.

14 September:

Venture Capitalists in a National Economy (arranged jointly by Div. IX) Opening speaker: Carl Wilhelm Ros (IX), Björn Savén (IX), Clas Bergström (IX), Per Strömberg, Swedish Institute for Financial Research, Sören Gyll (IX).

10 November:

The Older Workforce as a Resource in Industry (arranged jointly by Div. IX) Opening speaker: Bengt Winblad, Kl, Bo Malmberg, Stockholm University.

Division VII Basic and Interdisciplinary Engineering Sciences

Chairman: Director Lars Gunnar Larsson (2005–2007)

Vice Chairman: Professor Anders Martin-Löf (2004–2006)

Vice Chairman: Dr. Andras Gedeon (2005)

Secretary: Johan Schuber, IVA

Number of members as of 31 December 2005: 72 of whom 31 under the age of 65 years.

Meetings

28 April.

About two discoveries in 1842 and their great impact on modern medical diagnostics. Opening speaker: Andras Gedeon (VII), Tomas Jansson, Faculty of Engineering, Lund University, Pekka Merilainen, University of Helsinki, Karin Wårdell, Linköping University

20 September:

The Environmental Issue – How has this progressed in recent years and what is around the corner? Opening speaker: Kerstin Blix, National Rail Administration, Magnus Enell, Lund University, Peter Larsson, Swedish Association of Registered Physiotherapists, Per Kågesson, Claes Sjöberg, Thomas Malmer, IVA.

17 November:

The Role of the University in Society. Ingvar Lindgren (VII), Christer Heinegård, Project Manage, University of the Future, Ulf Pettersson, the Faculty of Medicine, Uppsala, Harry Frank, Mälardalen University, Lars Ekedahl, University College of Trollhättan/Uddevalla.

Division VIII, Forest Technology

Chairman: Professor Tom Lindström (2003–2005)

Vice Chairman: Director Eva Färnstrand (2004–2006)

Vice Chairman: Director of research Lennart Rådström (2005–2007)

Secretary: Teresa Jonek, IVA

Number of members as of 31 December 2005: 47 of whom 22 under the age of 65.

Meetings

3 February.

Industry wants to Measure, Analyse and Govern On-line (arranged jointly with Div. IV) Opening speakers: Thomas Berglin (IV), Staffan Folestad (IV), Anders Grönlund (VIII), Otto Lindeberg, M-Real.

18 April.

Innovation Mechanisms in Mature Industries (arranged jointly with Div. VIII) Opening speaker: Nils-Olof Björk, Alfa Laval, Maria Norell, Eka Chemicals, Bengt Järrehult, SCA, Bengt Ekström.

21 September:

The effect of the storm on the forestry industry. Opening speaker: Magnus Hall, Holmen, Henrik Asplund, Såg i Syd, Tor Lundqvist, Stora Enso Hylte, Eva Färnstrand (VIII), Rickard Nilsson, Enskilda Securities, Stefan Wirtén, Skogsindustrierna.

23 November:

Biorefineries and Bio Combines – Utopia or the reality of the future from a sustainability perspective? (arranged jointly with Div. VIII) Opening speaker: Peter Axegård, STFI, Ola Hildingsson, Domsjö, Stefan Lundmark, Perstorp.

Division IX, Economics

Chairman: Director Carl Wilhelm Ros (2004–2006)

Vice Chairman: Professor Harry Flam (2003–2005)

Vice Chairman: Chairman of the Board Arne Mårtensson (2003–2005)

Secretary: Hampus Lindh, IVA

Number of members as of 31 December 2005: 50 of whom 26 under the age of 65.

Meetings

8 February.

Outsourcing – Does it solve all problems? (arranged jointly with Div.VI) Opening speaker: Ola Asplund, Metall, Christian Berggren, Linköping University, Per G Hedström, Electrolux AB, Lars Stanghed, Svenska IBM.

19 April.

Design as Development Force (arranged jointly with Div. VI) Opening speaker: Robin Edman, Svensk IndustriDesign, Fredrik Magnusson, Industridesignföretaget Propeller.

14 September.

Venture Capitalists in a National Economy (arranged jointly by Div. VI) Opening speaker: Carl Wilhelm Ros (IX), Björn Savén (IX), Clas Bergström (IX), Per Strömberg, Swedish Institute for Financial Research, Sören Gyll (IX).

10 November.

The Older Workforce as a Resource in Industry (arranged jointly by Div. VI) Opening speaker: Bengt Winblad, KI, Bo Malmberg, Stockholm University.

Division X, Biotechnology

Chairman: Professor Gunnar von Heijne (2005–2007)

Vice Chairman: Professor Siv Andersson (2003–2005)

Vice Chairman: Professor Staffan Josephson (2004–2006)

Secretary: Åsa Valadi, IVA, from the April Meeting

Number of members as of 31 December 2005: 50 of whom 26 under the age of 65.

Meetings

25 January.

Obesity – A big problem! Opening speaker: Ragnar Ohlson (X), Terje Kalland, Biovitrum AB, Fredrik Lönnqvist, Biovitrum AB, Nigel Levens, Biovitrum AB, Anders Berkenstam, KaroBio AB, Agneta Yngwe, Novum, Peter Wiberg, Svenska McDonalds AB, Karin Wendin, SIK, Åke Bruce, Swedish National Food Administration.

21 April.

The Changing Biotech Industry – From innovation to product. Opening speaker: Staffan Josephson (X), Mathias Uhlén (X), Charlotte Edenius, Biolipox, Torben Jörgensen, Affibody, Irene Hartman, Swedish Orphan International, Svein Mathisen, Biolinvent.

22 September.

Engineering to Improve the Life Quality of the Elderly. Opening Speaker: Carl-Göran Hedén (X), Lennart Levi, G Hamer, U.Coll., Dublin, M Salkinoja-Salonen, University of Helsinki, Bo Anderberg, Karolinska Hospital, Carina Johansson, Örebro University, Anders Wijkman, Salvatore Grimaldi, Grimaldi Industri AB.

22 November.

The Human Proteome – Visit to AlbaNova.

Division XI, Education and Research Policy

Chairman: Director General Per Eriksson (2003–2005)

Vice Chairman: Director Lennart Lübeck (2004–2006)

Vice Chairman: University rector Ingegerd Palmér (2004–2006)

Secretary: Bengt A Mölleryd, IVA

Number of members as of 31 December 2005: 65 of whom 28 under the age of 65.

Meetings

27 April.

Using the Results of Research Conducted at Universities – The academic exemp-

tion and commercialisation. Opening speaker: Paula Nybergh, Ministry of Trade and Industry and Marianne Levin, Juridicum, Stockholm University.

6 September.

Innovation for Growth – The social dimension in development. Opening speaker: Esko Aho SITRA, Claes de Neergard, Industrifonden, Jan Edling, Flexicurity, Jan Nylander, Innovationsbron AB.

8 November.

Research and Development for Security – The need for new solutions and technology for society and industry. Opening speaker: Madelene Sandström, FOI, Jan Nygren, Saab and Gunnar Eliasson, KTH.

Division XII, Information Technology

Chairman: Director Curt Andersson (2005–2007)

Vice Chairman: Professor Bo Kågström (2003–2005)

Vice Chairman: Director Ingrid Udén-Mogensen (2005–007)

Secretary: Camilla Koebe, IVA

Number of members as of 31 December 2005: 42 of which 23 under the age of 65.

Meetings

2 February.

IP Telephony – Serious competition. (arranged jointly by Div. I and II)

Opening speaker: Lars-Erik Eriksson (XII), Kjell Westerback, Dotcom, Anders Tammelin, Swedish Maritime Administration, Kennet Rådne, Telia, Andreas Sjölund, Skype.

26 April.

Mobile Broadband. (arranged jointly with Div. II) Opening speaker: Erik Heilborn, TeliaSonera, Shlomo Liran, 3, Marianne Treschow, Post- och Telestyrelsen, Jan Uddenfeldt (II), Ulf Wahlberg, L M Ericsson, Jens Zander (XII).

8 September.

Traffic Control and Congestion Tax (arranged jointly with Div. XII) Opening speaker: Roland Andersson (III), Birger Höök, Swedish National Road Administration, Henrik Anderberg, IBM, Jan Freese (XII).

15 November.

Computer/Video Game Industry – Sweden's future? (arranged jointly with Div. XII) Opening speaker: Per Strömbäck, Spelplan, Anders Frank, Swedish National Defence College, Tommy Palm, Jadestone, Annika Waern, SICS.

IVA West

Chairman: M.Sc. Eng. Ivan Öfverholm (Div. II), 2004–2006

Vice Chairman: Professor Kaj Mårtensson (Div. X), 2003–2005

Secretary: Ulla Svantesson BA, IVA

Meetings/Study visits

13 January.

Cassini/Huygens reveal the secrets of Saturn. Informative evening at Saab Ericsson Space. Participants: Bengt Mörtberg, Saab Ericsson Space, Peter Möller, Saab Ericsson Space (NR), Jan-Erik Wahlund, Department of Astronomy and Space Physics, Uppsala and Jan Persson.

17 January.

Technology and Medicine Working Together: Discussion at the Sahlgrenska Academy in cooperation with IVA West and RIFO (Association of members of parliament and researchers). Participants: Pam Fredman, Sahlgrenska Academy, Anders Husmark, Mölnlycke Health Care, Sven Enerbäck, Sahlgrenska Academy, Jan Holmgren Sahlgrenska Academy and Lena Gustavsson, Chalmers University of Technology.

18 January.

Dare to Grow with Capital. A conference arranged by FinansKompetetens-Centrum in cooperation with ALMI Väst, Business Region Gothenburg, Growth 2000, Connect Väst, Företagarna, IVA Väst and Swedish Private Equity & Venture Capital Association. Participants: Lennart Ekdal, moderator; Lennart Olausson, Business Region Göteborg (NR), Olof Stenhammar Chairman of the Board of OMX, Ratos, member of the Board of Ledstjärnan etc., Lars Hjalmarson, Almi Väst, Tom Berggren, Swedish Private Equity & Venture Capital Association, Monica Lindstedt, founder of Metro and Hemfrid, Carl Solberg, Alfa Sensor and Jesper Svensson, Primetec.

23 February.

The New SKF. Study visit to SKF. Host: Tom Johnstone, SKF.

16 February.

The Changing Institute System. Discussion meeting SIK, Institutet för Livsmedel och Bioteknik AB. Participants: Kaj Mårtensson (Div. X), Eva Sjöblom, Ireco and Claes Bankvall (Div. III).

30 March.

Trends in Manufacturing Management and in the Automobile Industry in Japan. Joint arrangement of the Swedish-Japanese research association, School of Business, Economics and Law, Göteborg University and IVA Väst. Participants: Professor Koichi Shimokawa, Totai Gakuen University, Professor Takahiro Fujimoto, Tokyo University and Magnus Hellsten, Volvo Cars Corporation.

28 April.

AB Volvo. Study visit. Host: Leif Johansson (Div. VI)

20 September.

Ericsson Microwave Systems AB. Study visit. Participants: Erik Löwenadler, Martin G. H. Gustavsson, Peter Wallin, Ericsson Microwave Systems AB.

18 October.

Presentation of the Production for Competitiveness project. Arranged jointly by SNS West and IVA West. Participants: Billy Fredriksson (Div. I), Vice Chairman of IVA, Lars Frenning, Project Manager, Production for Competitiveness, Lars-Göran Moberg, Volvo Powertrain.

30 November.

IVA West Annual Meeting.

30 November.

Technology Evening with IVA West. Participants: Lena Treschow Torell, (Div. V), IVA's President.

IVA South

Chairman: Professor Allan T Malm (Div. VI) 2005–2007

Vice Chairman: Professor Bo Jacobson (Div. I) 2003–2005

Vice Chairman: Director Leif Josefsson (Div. II) 2003–2005

Secretary: Ulla Svantesson BA

Meetings/Study visits

1 February.

New Combustion Technology – Research to benefit industry and society. Meeting at the Faculty of Engineering (LTH), Lund University. Participants: Marcus Aldén (Div. VII), Tord Torisson, LTH, Bengt Johansson, LTH and Göran Holmstedt, LTH.

10 March.

Nuclear Power in Sweden and the World. Visit to Sydkraft AB. Participants: Leif Josefsson (Div. II), Lars Högberg, former Director General of the Swedish Nuclear

Power Inspectorate, Claes Thegerström, SKB, Ronald Hagberth, Sydkraft AB and Gert Lyngsjö, Sydkraft AB.

2 May.

Mobile Communication of the Future. Participants: Bengt Lindoff, Ericsson, Peter Karlsson, TeliaSonera, Carl Fredrik Leanderson, Ericsson, Ludvig Linge, TAT, Göran Svennarb, Obigo, Ulf Groth, Spring Mobil and Ulf Körner, LTH.

15 September.

Global Climate Changes and Motor Vehicles – What can we do? Arranged jointly by IVA South, Svenska Mekanisters Riksförening and Skånska Ingenjörsklubben. Participants: Markku Rummukainen, SMHI, Olle Hådel, Swedish National Road Administration, Michael Koucky, Koucky & Partners, Nils Lekeberg, Ford Sweden, Benny Dahlström, Toyota Sweden, Niklas Gustavsson, Volvo Car, Kjell Bergström, Saab Automobile Powertrain, Günter Kleinschek, Scania, Lars Mårtensson, Volvo Lastvagnar, Claes Roxbergh, Parliamentary traffic committee and Per Alvfors, KTH.

24 October.

Can competence development save production and jobs in Sweden? Arranged jointly by IVA Syd and Skånska Ingenjörsklubben. Participants: Gunilla Jönson (Div. VIII), Per Eriksson (Div. XI), Sture Nordh, TCO, Bruno Winborg, IKEA.

5 December.

IVA South Annual Meeting.

5 December.

Technology Evening with IVA South. Participant: Lena Treschow Torell (Div. V), IVA's President.

ACTIVITIES OF THE BUSINESS EXECUTIVES COUNCIL

Governing Body

Mats G Ringesten, Neuman & Nydahl – Chairman (2004–2006)

Lars G Josefsson, Vattenfall AB – Vice Chairman. (2004–2006)

Mats Pettersson, Biovitrum (2003–2005)

Stina Blombäck, Billerud Karlsborg AB (2004–2006)

Eva Lindqvist, TeliaSonera, (2004–2006)

Christian Salamon, Industri Kapital AB (2004–2006)

Rolf Bjerndell, Skånemejerierna AB (2005–2007)

Anders Brännström, Volvo Technology Transfer (2005–2007)

Lotta Stalin, Kuusakoski AB (2005–2007)

Number of members and contact persons

At the end of 2005, the Business Executives Council consisted of around 190 enterprises, national government agencies and other organisations that carry out, utilise or fund technical research and development. These were represented by 190 members, 84 substitutes and 161 contact persons.

Meetings

17 November

China – Market and Competitor. Moderator; Henric Borgström. Speakers: Frédéric Cho, Hagströmer & Qviberg, Elisabeth Söderström, Sweden-China Trade Council, Robert af Johnnycake, Or flame Cosmetics, Stefan Liven, Metall, Lena Treschow Torell, IVA.

Breakfast meetings

11 February.

Crisis Management in Industry and Society. Opening speaker: Ann-Louise Rexburg, Henry Stenson .

18 March.

Succeeding in Global Competition. Opening speaker: Hans Stråberg.

11 May.

China – Market and Competitor. Opening speaker: Carl-Henric Svanberg, Ericsson.

17 June.

Production and Competitiveness. Opening speaker: Leif Östling.

8 September.

"Increased Pressure – Increased Focus in Global Competition." Opening speaker: Gunnar Brock, Atlas Copco.

5 October.

Business Growth and Enterprise. In cooperation with IVA West. Opening speaker: Leif Johansson.

Industrial Research Committee (IFG) 2005

IVA's Industrial Research Committee (IFG) builds networks between young decision-makers in industry and research in the academic world. IFG has fifteen members each with a three-year mandate. The IFG Alumni comprises 130 former members.

In 2005 IFG has held four meetings that were combined with visits to IFG member's companies or organisations. Visits took place on 10 March to NCC AB, 7 September to Eka Chemicals in Bohus, 28 September to Sandvik Materials Technology AB in Sandviken and a concluding meeting was held at IVA on 22 November.

This year's symposium was held at IVA on 22 November on the theme: "New growth markets in fast-growing economies in Central Europe." The purpose was to highlight the business opportunities that exist for Swedish companies in fast-growing economies in Europe. What is the best way for Swedish companies and Swedish growth to benefit from the upswing in these countries? Is advancement in the Central European Countries an opportunity or a threat? This theme was explored in speeches by representatives in manufacturing industry and entrepreneurs to show how it is possible to make use of the latest developments in these growth markets. The evening concluded with the Alumni Dinner at IVA.

The annual overseas trip was to Hungary at the end of November. The purpose of the trip was to spend three days forging contacts with universities, businesses and institutions of interest, and to learn more about the types of expertise and areas of focus in Hungary. The delegation visited universities, research organisations and a number of companies as well as the Hungarian science and engineering academies. The programme was produced in cooperation with the Swedish Trade Council's office in Budapest. The delegation consisted of nine participants.

OTHER IVA ACTIVITIES

24 January.

Information on the University of Illinois. Seminar in cooperation with IVA, KSLA and VINNOVA. Participants: Hans Dalborg (Div. IX), IVA's Chairman and James Weyhenmeyer, Jennifer Quirk, Ilesanmi Adesida and Harris Lewin from the University of Illinois. Moderator: Ragnar Ohlson (Div. X).

3 March.

Swedish Energy Strategy for Global Competitiveness – Combining environmental protection with continued prosperity. A conference organised jointly by IVA, Energy Foresight and the World Energy Council (WEC). Participants: Jun Arima, International Energy Agency (IEA), Magnus Hall, Holmen AB, Bo Källstrand, Swedenergy, Jan Murray, World Energy Council (WEC), Jan Svård, Eka Chemicals, Anders Ullberg, SSAB, Ingegerd Saarinen, Miljöpartiet (Green Party) and Sture Öberg, ITPS. Moderator: Maria Borelius.

14 April.

Concluding conference in the Production for Competitiveness project. Participants: Lena Treschow Torell (Div. V), IVA's President, Hans-Olov Olsson, Volvo PV, Chairman of the Steering Committee, Lars Frenning, Project Manager, Ulf

Jakobsson (Div. IX), panel chairman, Christer Johansson, panel chairman and Lars Bergström, panel chairman. Panel: Per Eriksson (Div. XI), VINNOVA, Leif Johansson (Div. VI), Volvo AB, Göran Johansson, Metall, Kjell-Arne Lindbäck, Lesjöfors AB, Anders Narvinger (Div. II), Teknikföretagen, Hans-Olov Olsson, Volvo PV and Rikard Söderberg, Chalmers University of Technology. Moderator: Ulf Wickbom.

26 May.

Running Out of Oil – Scientific perspectives on fossil fuels. Seminar organised jointly by IVA and KVA. Participants: Lena Treschow Torell (Div. V), IVA's President, Gunnar Öquist, KVA, Kjell Aleklett, Uppsala University, Gunnar Agfors (Div. IV), GA Consultant, Knut Bjørlykke, University of Oslo, David Gee, Uppsala University, Herman Franssen, International Energy Associates Inc., Washington, Karl Göran Mäler, KVA and Leif Magne Meling, Statoil International. Panel: Tommy Nordin, Swedish Petroleum Institute, Christer Sjölin (Div. IV), IVA, Georgia Destouni (Div. IV), KTH and Bert Bolin (Div. VII), Stockholm University. Moderator: Peter Sylwan.

1 June.

The Role of Experience in Industry. With increased international competition, it is no longer sufficient for Swedish companies to show they have good technical functionality. Participants: Lena Treschow Torell (Div. V), IVA's President, Martin Leimdörfer (Div. VI), Spotfire Inc, Martin Hörnqvist, Electrolux AB, Hasse Johansson (Div. I), Scania CV AB and Johan Ekessiö, IBM Svenska AB. Moderator: Joppe Pihlgren.

28 September.

Food, genetics and gene technology. Popular science and interdisciplinary conference organised by the Swedish Gene Technology Advisory Board in cooperation with BioteknikForum, Formas, IVA, Vetenskap & Allmänhet, the Swedish Board of Agriculture, Karita Research, KI, KTH, KVA, Swedish Institute for Food and Agricultural Economics, Swedish Food Federation, National Food Federation, RIFO, Swedish University of Agricultural Science (SLU), Stockholm Environment Institute – SEI, National Veterinary Institute and VINNOVA. Opening speaker: Majléne Westerlund Panke, Chairman of RIFO and Gunnar Björne, Chairman of the Swedish Gene Technology Advisory Board. Participants: Mikael Karlsson, Karlstad University, Maria Magnusson, Uppsala University, Marianne Rasmuson, Umeå University, Martin Sandberg, National Food Administration, Sven-Olof Enfors (Div. X), KTH, Per Bergman, SLU, Leif Andersson, SLU, Sven Lindgren, National Food Administration, Göran Hallmans, Umeå University, Jonas Blomberg, Uppsala University, Christer Andersson, National Food Administration, Zofia Kurowska, National Food Administration, Sofie Lindeström, Göteborg Municipality, Carl-Gustaf Thomström, SLU, Ewa Rabinowicz, Swedish Institute for Food and Agricultural Economics, Sven Ove Hansson, KTH, Bo Ekstrand, SIK – Swedish Institute for Food and Biotechnology, Louise Ekström, Swedish Consumers' Association, Jan Eksvärd, LRF, Svante Svensson (Div. X), Orkla ASA, Kristofer Vamling, Plant Science Sweden, Ivar Virgin, Stockholm Environment Institute – SEI and Stefan Edman. Moderator: Harriet Wallberg-Henriksson, Karolinska Institutet.

13 October.

The effect of genes on the behaviour of humans and animals. Popular science and interdisciplinary conference organised by the Swedish Gene Technology Advisory Board in cooperation with the Centre of excellence in Developmental Biology (CEDB), Swedish Council for Working Life and Social Research, Research Council for Environment, Agricultural Sciences and Spatial Planning, Hjärfonden, IVA, KSLA, KVA, RIFO, Wallenberg Consortium North, Vetenskap & Allmänhet and Swedish Trade Council. Opening speaker: Majléne Westerlund Panke, Chairman of RIFO and Gunnar Björne, Chairman of the Swedish Gene Technology Advisory Board. Participants: Nils Uddenberg, Swedish Gene Technology Advisory Board, Ulf G Pettersson, Uppsala University, Professor Hugo Lagercrantz, Astrid Lindgren's Children's Hospital and Karolinska Institutet, Lars Olson, Karolinska Institutet and Hjärfonden, Per Jensen, Linköping University, Hans Ellegren, Uppsala University, Magnus Enquist, Stockholm University, Robert Erikson, Stockholm University,

Nancy Pedersen, Karolinska Institutet, Paul Lichtenstein, Karolinska Institutet, Juha Kere, Karolinska Institutet and Gunilla Bolinder, Karolinska University Hospital.
Moderator: Bengt Westerberg.

27 October:

IVA's Royal Technology Forum 2005: New Forms of Global R&D Cooperation.
Participants: Lena Treschow Torell (Div.V), IVA's President, Xu Guanhua (foreign member), Minister for Science and Technology, China, Janez Potocnik, European Commissioner for Science & Research, Minister for Education, Research and Culture Leif Pagrotsky, Anders Flodström (Div.VII), KTH, Håkan Eriksson (Div.XI), LM Ericsson AB and Christer Heinegård, IVA.

10 November:

Healthy Successful Companies (3F): The Importance of Sleep for Performance and Health. Seminar on how stress at work and at home has a powerful influence on sleep, which in turn affects the brain's recovery functions. Participants: Torbjörn Åkerstedt, KI and Aleksander Perski, KI.

15 November:

New Technology Energy Seminar: Presentation of the Great Energy Prize.
Participant: Lars Nilsson, Ny Teknik, Bo Källstrand, Swedenergy, Jan Svård, Eka Chemicals, Christian Azar, Chalmers University of Technology, Roger Nilson, navigator at Orange II, Jules Vernes Trophy, Minister for Industry and Trade.

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 Kjell Frank, Bombardier Transportation Sweden
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 Project Manager: Aage Reerslev, IVA

AWARDS AND SCHOLARSHIPS**The Great Gold Medal**

Dr. Gunnar L Johansson (Div.VI) for his significant contribution over a period of many years to Swedish industry. His life-work has benefited both Volvo and Swedish industry in general. Gunnar L Johansson's leadership has been characterized by his respect for the individual and his strong will and ability to help people develop. He has with great energy and the ability to collaborate been able to solve many complex assignments.

Gold Medals

Professor Göran Sandberg (Div.VIII) for his pioneering discoveries relating to the effect of growth hormones on root and wood formation in woody plants. He was also recognised for work on sequencing the genome of the poplar tree, the first tree to have its genetic makeup mapped. Professor Göran Sandberg established and developed molecular biological plant research in Sweden at the Plant Science Centre in Umeå (UPSC). He recruited young scientists from all over the world to work at this "centre of excellence." His entrepreneurial skills have also resulted in companies like Woodheads and SweTree Genomics.

Dr. Jan Uddenfeldt (Div. II) for his work leading to both concrete and strategic results of considerable significance for the development of mobile communication and for the position of Swedish industry in this field.

The married couple Ulrica Hydman Vallien and Bertil Vallien for their contributions to the Swedish glass industry over the course of many years. Their lifework has contributed in the highest degree to this industry's artistic and technical development. The Valliens and their successful work has had a positive impact of the employment situation in the glass industry.

The 2005 Commemorative Booklet

The 2005 commemorative booklet is dedicated to the memory of Johan Theofron Munktel (1805–1887) for his work within Swedish industry. Author: Professor Hans G Forsberg (Div.VI).

The Hans Werthén Scholarship Fund For post-doc studies

Martin Andersson, Lina Burman and Henrik Sandberg for studies in the USA, Ulf Assarsson for studies in France, Emma Dahlstedt for studies in the UK and Johanna Rosén for studies in Australia.

For MBA studies

Marcus Adenfeldt, Khalid Saiduddin and Kirsten Wredström for studies in the USA, Magnus Andersson for studies in Spain and Helena Andreas for studies in France.

For post-graduate studies

Tommy Borglund for studies in the USA, Tobias Boström for studies in Germany, Jeanette Jörnklö for studies in China and Sanna Palmgren for studies in Switzerland.

For other studies

Elena Iliachenko for studies in the UK, Caroline Sandberg for studies in the USA and Charlotta Wallerstedt for studies in Australia.

The Jacob Wallenberg Foundation

The 2005 scholarships of SEK 100,000 each were presented to Professor Peter-Werner Gold, Institut für Maschinenelemente und Maschinengestaltung, Germany, Professor Motohiro Kaneta, Kyushu Institute of Technology, Japan, and Professor Bengt-Göran Rosén, Halmstad University, Sweden.

Stockholm Industry Water Award

Awarded to the American company Procter & Gamble for their development of a low-cost purifier of water. Awarded by the Stockholm Water Foundation in cooperation with IVA and the World Business Council for Sustainable Development.

The Scientific Media Prize

The editorial staff for the science magazine Forskning & Framsteg received SEK 75,000. Awarded by IVA and the Foundation for Science Information.

Carl Mannerfelt Prize

Journalist Anna Schytt received SEK 100,000 for great achievements in the fields of science and environmental journalism. The World Wildlife Fund's Carl Mannerfelt Prize is an annual award given to an individual who has successfully combined nature conservation and environmental control with technical and economical development.

Axel Ax:son Johnson Commemorative Plaque

Awarded to Professor Robert H Socolow, Princeton University, USA, for his prominent research within the field "Global Carbon Management and the Hydrogen Economy".

Akzo Nobel Science Award

Professor Mathias Uhlén, Royal Institute of Technology, received SEK 500,000 for his pioneering work within the field of molecular biotechnology.

OFFICIAL STATEMENTS

IVA's statement on the report Energy declaration of buildings. For more efficient use of energy by the Swedish Ministry of Sustainable Development (SOU 2004:109).

IVA's statement on the report "Enhancing the status of mathematics" by the Swedish Ministry of Education, Research and Culture (SOU 2004:97).

IVA's statement on the Swedish Chemicals Inspectorate report Information about dangerous chemical substances in commodities.

IVA's statement on the FlexMex2 Commission's final report Improve the climate – from introduction to implementation (SOU 2005:10).

IVA's statement on the Commission's report "Competitiveness and Innovation Programme" (Dnr: N2005/4886/NL).

IVA's statement on the European Commission's proposal for the 7th Research Framework Programme (FP7).

IVA's statement on the Ds 2005:20 inquiry Sweden: host country for the ESS.

PUBLICATIONS

IVA-M series

Made in Sweden. Final report from the IVA "Production for Competitiveness" project. IVA-M 349. 39 pp.

The importance of production. Final report from the panel within the IVA "Production for Competitiveness" project. 60 pp. (In Swedish) (Published only in pdf-format)

Future production. Final report from the panel within the IVA "Production for Competitiveness" project. 70 pp. (In Swedish) (Published only in pdf-format)

Education and R&D. Final report from the panel within the IVA "Production for Competitiveness" project. 92 pp. (In Swedish) (Published only in pdf-format)

Challenges for state, business sector and researchers. About knowledge, strategies and growth supporting activities on deregulated markets. Final report from the IVA "Cooperation for Growth" project. IVA-M 350. 91 pp. (In Swedish)

Experiences that count, a study on what companies think about how their customers and users experience their companies and the products or services they offer. IVA-M 351. 48 pp. (In Swedish)

A Tribute to Johan Theofron Munktell. IVA Commemorative Booklet 2005. IVA-M 352. 28 pp.

IVA-R series

Defence and Security. Cooperation for Growth with network based systems and solutions. Final report from the Defence and Security Panel within the IVA

"Cooperation for Growth" project. IVA-R 453. 36 pp. (In Swedish)

Missing: A national strategy for IT and Telecom. Final report from the Telecom Panel within the IVA "Cooperation for Growth" project. IVA-R 454. 20 pp. (In Swedish)

Financial aspects of economic growth. Final report from the Finance Panel within the IVA "Cooperation for Growth" project. IVA-R 455. 15 pp. (In Swedish)

Strategies for "Prime Operators". A study on the strategies of successful companies on deregulated markets. Report from the IVA "Cooperation for Growth" project. IVA-R 456. 80 pp. (In Swedish)

OMBUDSMAN

Justice of the Supreme Administrative Court Bertil Werner, until February 2005, Justice of the Supreme Administrative Marianne Eliason, from March 2005.

AUDITORS

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Professor Lars-Gunnar Mattsson
Authorised Public Accountant Jan Larsson

ALTERNATES

Bertil Edlund, MSc. Econ (Div.VI)
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Swedish Environmental Protection Agency
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Swedish International Development Cooperation Agency (SIDA)
Svenska Kraftnät
The Association of Swedish Engineering Industries
Vattenfall

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NIBLAEUS KERSTIN NICKLASSON MARTIN NICOLIN TOMAS NILSON MARIANNE NILSSON ANN-MARIE NILSSON BJÖRN O NILSSON HANS NILSSON JAN S NILSSON JAN-ERIC NILSSON JÖRGEN NILSSON KJELL NILSSON LARS-GUNNAR NILSSON LARS-OLOF NILSSON LEIF NILSSON NILS NILSSON OLLE NILSSON SVEN-CHRISTER NILSSON TOR NILSSON-EHLE ANNA NORBERG LARS A NORDBERG STEN NORDHAUS WILLIAM D NORDIN BENGT NORDIN MATTIAS NORDLING JAN NORDQVIST STIG NORDSTRAND ANDERS NORDSTRÖM LARS E NORDSTRÖM LARS-ERIK NORDZELL ULF NORELL BERGENDAHL MARGARETA NORIN TORBJÖRN NORMARK STAFFAN NORRBY JONAS NORRSTRÖM HANS NORSTEDT CURT NORTH ALASTAIR NUMMINEN KALEVI NYBERG LARS NYQUIST CARL-ERIK NYQUIST ORVAR NYQUIST PETER NÄSLUND BERTIL NÄSSTRÖM STAFFAN O'BRIEN FERGUS OAKLEY BRIAN OBEL BÖRGE ODÉN AGNETA ODLANDER BJÖRN OHLSON RAGNAR OHLSSON LENNART OLAUSSON LENNART OLLÉN JOAKIM OLLILA JORMA OLLNER JAN OLOFSSON GUNNAR OLOFSSON PER OLSSSON CHRISTER OLSSSON CURT G OLSSSON HANS-OLOV OLSSSON LENNART OLSSSON M INGEMAR OLSSSON OLLE OLSSSON ULF OLSSSON ULF ÖLVING SVEN ONSANDER ROBERT OOM BENGT OREHALL LARS OSCARSSON BO OSCARSSON GÖSTA OTALA MATTI OTTOSSON LARS OTTOSSON PONTUS PALM ANN-LOUISE PALMBERG JAN-OVE PALMÉR BENGT PALMÉR INGEGERD PANNENBORG ANTON PARASNIS DATTATRAY PATON BORIS PAULSSON VALFRID PEKKARI BERTIL PERSSON GÖRAN PERSSON GÖRAN A PERSSON JAN-CRISTER PERSSON MATS PERSSON MATS PERSSON NILS-GÖRAN PERSSON PER-OSKAR PERSSON RUNE PERSSON STEFAN PERSSON TORSTEN PETROSYANTS ANDRANIK PETTERSSON LARS PETTERSSON MATS PHILIPSON LENNART PIATIER HENRI PICCI GIORGIO PILENI MARIE-PAULE PININFARINA SERGIO PIPES BYRON PLATZER SVEN O PLEGAS PANOS PORATH JERKER PORTER MICHAEL POWERS WILLIAM PÅLSSON ANNE-MARIE PÖYRY JAAKKO RADETZKI MARIAN RAMQVIST LARS RAMSTEDT TOM RAMSTRÖM DICK RAMSTRÖM SÖREN RASMUSON ANDERS RASSING JØRGEN RAUSING FINN RAUSING HANS REDELIUS PER REFTMARK SVEN-OLOV REGESTAD SIXTEN REMRÖD JAN RIGLER RUDOLF RINGESTEN MATS G RISBERG ARNE RISBERG PER RISFELT JON ROBERTSON HANS ROGESTAM CHRISTINA ROHDIN ARNE ROLSTADÅS ASBJØRN ROS CARL WILHELM ROSELL SUNE ROSÉN BJÖRN ROSENBERG NATHAN ROSENGREN LARS-GÖRAN ROSSI MASSIMO ROSTRUP-NIELSEN JENS ROWCLIFFE DAVID ROXENDAL JAN ROY RUSTUM RUDBERG EVA RUNNQUIST SVANTE RYDBECK NILS RYDBERG JAN RYDÉN BENGT RYDIN BO RYDNEMALM MICHAEL RYLANDER HÅKAN RYMAN JAN-ERIK RÅDSTRÖM LENNART RÅNGBEY MATTIAS RÖDIN JOAKIM SAARINEN AULIS SABA SHOICHI SAFFO PAUL SAHLBERG KARL-ERIK SAHLIN MAURITZ SAHLIN SVEN SAHLIN SVENERIK SALAMON CHRISTIAN SAMARTIN AVELINO SANDBERG FREDRIK SANDBERG GÖRAN SANDBERG HANS HARALD SANDBLOM JOHN SANDÉN MARTA SANDER ÅKE SANDEWALL ERIK SANDLUND PER-ERIK SANDSTRÖM MADELENE SANDSTRÖM ROLF SAVÉN BJÖRN SCHARP ANDERS SCHINDLER DAVID SCHMITT ROLAND SCHNITTGER JAN SCHOTTE LENNART SCHREWELIUS ARWIDSON MARIE SCHWEITZ JAN-ÅKE SCHÖÖN NILS-HERMAN SEHGAL BAL RAJ SEIFFERT ULRICH SEKINE YASUJI SELIN SIGVARD SELLEY PETER SENNERBY FORSSE LISA SERNING BORIS SETHNA HOMI SHCHUKIN EUGENE SHEMYAKIN EUGENY SHEPHERD JOHN J SIBERG JOHAN SIDÉN LENA-KAJSA SIEGBAHN KAI SIEVERTSSON HANS SIGURD DAG SIGURDSSON JÓN SILVA OZIREZ SIRVELL KERSTIN SIRVELL RUNE SJÖBERG ANDERS SJÖBERG BERNDT SJÖBERG BERTIL SJÖBERG SJÖDÉN JANNE SJÖGREN CATHARINA SJÖLANDER SÖREN SJÖLIN CHRISTER SJÖSTEDT LARS SJÖSTRAND SVEN-ERIK SJÖSTRAND ULF SJÖSTRAND WIKING SJÖSTRÖM OLOF SJÖSTRÖM SVERKER SKOGLUND JOHAN SKOGLUND ROLF SKOGMAN HARALD SKOGÖ INGEMAR SKOOG HANS SKÅR ROLF SKÖLD ANDERS SKÖLD PER SOHLENIUS GUNNAR SOHLMAN MICHAEL SOKOLOWSKI EVELYN SONG JIAN SOZEN METE SPERLE JAN-OLOF SPITZ ERICH SPORRE ERIK SPORRE STEN SPRÅNGARE BJÖRN SPUR GÜNTER SPÄTH LOTHAR STADE YNGVE STALIN LOTTA STARFELT NILS STARR CHAUNCEY STEEN ANITRA STEEN JONAS STEEN SVEN STEENBERG BÖRJE STEMME ERIK STENBERG OLLE STENDAHL STIG STENEROTH ERIK STENHEDE URBAN STENIUS PER STENLUND BENGT STERTE JOHAN STILLE HÅKAN STOICA PETER STORCH MARCUS STRANDBERG KJELL STRÅBERG HANS STRÖMQVIST DAG STYMNE BENGT STÅHL INGEMAR STÅHL JAN-ERIC STÅHL JOHNNY STÅLBERG CARL ERIC SUH NAM SUNDBERG KAJSA SUNDBERG ULF SUNDBLAD LARS SUNDGREN JAN-ERIC SUNDQVIST BO SVANBERG CARL-HENRIC SVANBERG SUNE SVEDBERG BJÖRN SVEDBERG GUNNAR SVEDBERG PER SWEDENBORG BIRGITTA SVENKE ERIK SVENNERSTÅL HÅKAN SVENSSON ASSAR SVENSSON CHRISTER SVENSSON JONAS SVENSSON KJELL SVENSSON LARS SVENSSON STURE SVENSSON SVANTE SVÄRD JAN SÖDAHL LARS SÖDERBERG GUNNAR SÖDERBERG STAFFAN SÖDERSTRÖM HANS TSON SÖRLIN SVERKER SÖRÅS ANDERS TARJANNE PEKKA TEDESTÅL GUNNAR TEGART GREG TENFÅLT CHRISTINA TENGROTH BJÖRN TENGZELIUS JAN TERNRYD CARL-OLOF TÉTÉNYI PÁL THEGERSTRÖM CLAES THIEL THOMAS THOENES DIRK THOMANN HANS THOMSSON OLLE THORELLI HANS THORNGREN BERTIL THORVALDSSON TOMAS THULIN BENGT THUNELL LARS H THUNHOLM LARS-ERIK THURESSON WIGON THYLÉN LARS THYNI THOMAS TIGERSCHIÖLD PATRIK TILLMAN ANNE-MARIE TISELL STEFAN TOMIURA AZUSA TOPSØE HALDOR TORELL LENA TORIN JAN TORLEGÅRD KENNERT TORNINGER HARALD TORVALDS LINUS TREIMANIS ANNIS TRÉSCHOW MICHAEL TROLLE STEN TRUCHARD JAMES TUNHAMMAR GÖRAN TUVSTEDT GÖRAN TVEIT MARTIN TÖRNELL BERTIL TÖRNQVIST MARGARETA TÖRÖK VILMOS UDDENFELDT JAN UDÉN MOGENSEN INGRID UENOHARA MICHYUKI UHLÉN MATHIAS UHRENIUS BJÖRN ULFVARSON ANDERS ULBERG ANDERS ULLENIUS CHRISTINA ULLMAN ANDERS ULLRING SVEN UNGER JONAS UPPMAN RAGNAR E URMI JAAK URSING HANS URSPRUNG HEINRICH UTTERBACK JAMES WACHTMEISTER TOM WAHLBIN CLAS WAHLROOS BJÖRN WAHREN DOUGLAS WALDENOR RAOUL WALL ANDERS WALLANDER JAN WALLENBERG JACOB WALLENBERG MARCUS WALLENBERG PETER WALLGREN SVEN WALLIN AMELIE WALLMARK TORKEL WALSHOK MARY VAN BRUSSEL HENDRIK VAN LEDE CEES VAN MONTAGU MARC VAN REIS DOUGLAS WANG YU-ZHU VANNERBERG NILS-GÖSTA WANNHEDEN CHRISTER WARD MELVYN WARNANDER CLAES VEDIN ANDERS VEDIN BENGT-ARNE WEGDELL THOMAS WEHTJE URBAN WEICHBRODT BJÖRN WEISS PETER WEJDLING SVEN VELIKHOV EVGENY VENDEL MARTIN WENNERSTRÖM HÅKAN WERBIN DAN WERME ANDERS VESSMAN JÖRGEN WESSMAN GUNNAR WESTBERG ULF WESTER MARGARETA WESTERHOLM BARBRO WESTIN PER-HÅKAN WESTLING HÅKAN WESTLUND CARL-AXEL WESTLUND PER WESTWOOD ALBERT WEYERHAEUSER GEORGE WEYERHAEUSER JR GEORGE H WEYRICH CLAUD WIDMARK HENRIKWIDMARK ROLAND WIGREN EVA WIGZELL HANS WIHLBERG CLAS WIJK OLLE WIKANDER STEN WIKFORSS ÖRJAN WIKING GÖSTA WIKLUND MARTIN WIKSTRÖM SOLVEIG WIKSTRÖM ÅKE VIKTORSSON CHRISTER VILEMAS JURGIS WILHELMSEN ANNE MARIE WILHELMSSON CLAES WILHELMSSON HANS WILLIAMSON MATS WIMAN CHRISTEL WIMMERSTEDT ROLAND WINGÅRDH GERT WIRD SVEN WISTRÖM JONAS WITT SVEN WITTLÖV ARNE WITTMAYER HENNING WOHLIN HANS WOHLIN LARS WOLD SVANTE WOLRATH BJÖRN VON HEIJNE GUNNAR VON HERTZEN GUSTAV VON SYDOW ERIK VON SYDOW KRISTIAN VON UTHMANN HANS WONG EUGENE WÅLLBERG PETER WÄNNSTRÖM TORGNY WÄRNBERG KARL XU GUANHUA XU KUANGDI XU RONGLIE YAMASHINA HAJIME YATES IVAN YODA NAOYA YOSHIKAWA HIROYUKI ZACHRISSON SVEN-ERIK ZAGAINOV GERMAN ZANDER JENS ZARE RICHARD NEIL ZETTERBERG CHRISTER ZETTERBERG HANS ZETTERBERG LARS H ZILLING STAFFAN ZOLLINGER HEINRICH ÅBERG CARL JOHAN ÅGREN INGEGERD ÅGRUP SVEN ÅHNBERG ANNIKA ÅKESSON BENGT ÅSLING NILS G ÅSLUND CHRISTER ÅSLUND NILS ÅSTRAND IRMA ÅSTRAND LARS ÅSTRÖM HANS ÅSTRÖM JAN ÅSTRÖM KARL JOHAN ÖBERG ÅKE ØDEGAARD HALLVAD ØFVERHOLM IVAN ÖHRN INGEMAR ÖHRVIK SVEN-OLOF ÖJEFORS LARS ÖRTENDAHL PER ANDERS ÖSTBERG GUSTAF ÖSTER JERRY ÖSTLUND LARS ÖSTMAN LARS



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