



2014 Annual Report

Netherlands Academy of Technology and Innovation - AcTI
Kloveniersburgwal 29, 1011 JV Amsterdam
P.O. Box 19121 1000 GC Amsterdam
Tel: 020 5510802/5510813
Fax: 020 6204941
Email: info@acti-nl.org
<http://www.acti-nl.org>
Chamber of Commerce no. V40412532

Contents

Introduction

- I. General
- II. Structure of the Netherlands Academy of Technology and Innovation
- III. 2014 programme
- IV. 2014 Annual Statement

Addendums

- 1. 2014 patrons and sponsors
- 2. Structure of working groups, delegations and committees
- 3. Programme of 2014 Innovation Conference
- 4. Membership register as per 31 December 2014

Introduction

The Netherlands Academy of Technology and Innovation is the *Academy of Engineering* for the Netherlands, a unique and independent network of individuals who are authorities in the fields of social, economic and cultural topics surrounding technology and innovation, as well as in the social and economic application of science and technology.

Members

The Academy consists of individuals who all – mainly in management positions – work in the fields of science, technology and innovation at large- and small-scale companies, universities and learning institutes. The currently 85-strong membership covers a wide and diverse range of fields of expertise, varying from traditional engineering fields and the bio, food, pharmaceutical and ICT industries to commercial service provision. Membership is private and by invitation only, while the number of members is being increased to 100. Such membership is only granted to individuals who are active within their working environments. Approximately fifty percent of the members are from the business community. The Academy does not just attract people with research or design backgrounds, it also attracts individuals who have earned their stripes through knowledge-intensive innovation.

Mission

The Academy considers its mission to be the application of a coherent vision in order to influence social and political opinions and actions related to science, technology and innovation. According to the Academy's outlook, science, technology and innovation are essential and interconnected parts of a modern society. The thought processes and actions of the Academy are guided by the major social challenges facing humanity in terms of population growth, food supply, energy supply, the climate, health and resources.

Ambitions

The Netherlands Academy of Technology and Innovation aims to use its authoritative and widely-acknowledged position as an *Academy of Engineering* to contribute to vigorous social debate revolving around science, technology and innovation. Social debate that does justice to the different opinions and interests of the social and political communities, as well as to the available scientific and technical knowledge.

The Academy endeavours to improve the research and innovation climate in the Netherlands by acting as an independent sounding board and representing authorities in the field of technology and innovation. Members of the Academy manage to obtain grassroots support from their companies and learning institutes, even if the viewpoints of the Academy do not (always) represent grassroots interests.

Working method

From its members, the Academy selects short- or long-term committees or working groups that prepare responses or viewpoints related to current topics. The Academy frequently develops its own visions and/or viewpoints in the field of science, technology and innovation. The Academy gladly discusses these with social and political trendsetters or policymakers. The Academy primarily conveys its ideas, opinions and viewpoints via its individual members, gratefully taking advantage of the substantial networks that its members collectively have access to. Once a year, the Academy prominently goes public by organising the AcTI Innovation Conference. In 2013 and 2014, this conference was presented in conjunction with the Ministry of Economic Affairs.

The Innovation Conference is an annual Academy milestone during which standards are determined, progress is gauged and action is taken in a dynamic way by members and invitees. 2014 marked the fourth time that major social challenges formed the focal point of the Innovation Conference. Chapter 2 contains further information about the 2014 Innovation Conference, *Smart Cities*, which was held in the Ridderzaal at the Binnenhof in The Hague.

Cooperation

So that it can achieve its mission, the Academy maintains relations with relevant organisations in the Netherlands, as well as with European and international networks of Academies of Engineering. Thanks to these international umbrella organisations, the Academy members have access to technical sciences and innovation decision-makers in all global developed economies. This has allowed me to proudly announce that, on 2 June 2014, the Netherlands Academy of Technology and Innovation signed a Memorandum of Understanding with the Chinese Academy of Engineering.

Activities

In this annual report, the board of the Netherlands Academy of Technology and Innovation provides an overview of the activities undertaken by the Academy during 2014. For these activities to be successful, we request active input from the members themselves. Academy members are – for the most part – actively involved at companies, universities and learning institutes. In addition to this, they also spend part of their limited time on the work undertaken by the Academy:

1. Bimonthly closed plenary meetings, to which policymakers and representatives of NGO's are in some cases personally invited to participate in well-prepared discussions.
2. Public annual meetings with a number of select invitees, held in the form of Innovation Conferences since 2003.
3. Creating sounding boards for policymakers and social organisations.
4. Putting together ad hoc committees of private experts upon request to provide recommendations in their own capacity.
5. Ad hoc working groups to prepare discussions and opinions.
6. Collaborating with organisations in the field of technological and technical scientific research & education, and with the innovative business community.
7. Collaborating with the KNAW (Royal Netherlands Academy of Arts and Sciences) in providing advice on the technical sciences.

The Netherlands Academy of Technology and Innovation is a financially independent association. It was founded in 1986 and funds its activities by relying on patrons from the business world, learning institutes and government. The financial support provided to the Academy by the aforementioned is considered an acknowledgement by its members and serves to encourage the continuation of its activities.

Bertrand. M. van Ee
President of the Netherlands Academy of Technology and Innovation
May 2015

I General

Legal entity

The Netherlands Academy of Technology and Innovation, AcTI, is an independent association consisting of 83 private members (as per 31 December 2014). The association itself selects its members from companies, from (technical) scientific research & education institutes and from public & private learning institutes.

Objectives

The Netherlands Academy of Technology and Innovation sets itself the objective of making the connection between science, technology and society easier to understand. AcTI acts as a meeting point for knowledge and expertise present in the Netherlands in the fields of technical scientific research & education, technological development and innovation. Recent and expected developments in the knowledge and innovation system and the economic applications of technology and their social and political implications are discussed and assessed. As a result of its diverse composition, AcTI is able to form well-considered and independent viewpoints.

On the basis of thus obtained insight, AcTI uses its network of members to contribute to the forming of ideas in the business community, in government and in learning institutes related to topics such as (technical) scientific research and education policy, technology, superior knowledge infrastructure, a favourable climate for innovative enterprise and research & innovation policy.

On a national and international basis, AcTI promotes interaction between individual members, social and political organisations & factions and government institutions. It also maintains relations with other organisations such as KIVI (Royal Netherlands Institute of Engineers), KNAW (Royal Netherlands Academy of Arts and Sciences), NWO Netherlands Organisation for Scientific Research), TechnoStichting STW (Technology Foundation STW), Stichting Toekomstbeeld der Techniek (Netherlands Study Centre for Technology Trends), TNO (Netherlands Organisation for Applied Scientific Research), VNO-NCW (Confederation of Netherlands Industry and Employers), VSNU (Association of Universities in the Netherlands), technical universities, the HBO-raad (Netherlands Association of Universities of Applied Sciences) & the Adviesraad voor het Wetenschaps-, Technologie- en Innovatiebeleid (AWTI) (Advisory Council for Science, Technology and Innovation) and the Wetenschappelijke Raad voor het Regeringsbeleid (Netherlands Scientific Council for Government Policy).

Affiliation with international organisations

The Netherlands Academy of Technology and Innovation represents the Netherlands as a member of the International Council of Academies of Engineering and Technological Sciences (CAETS). Within a European context, the Academy is the Dutch member of the European Council of Academies of Applied Sciences, Technologies and Engineering (Euro-CASE).

Location

The executive secretariat is based at the Royal Netherlands Academy of Arts and Sciences (KNAW), Kloveniersburgwal 29 in Amsterdam.

II Structure of the Netherlands Academy of Technology and Innovation

General

Membership of the Netherlands Academy of Technology and Innovation is private and by invitation. Only persons who are able to perform their primary functions for at least 5 years are granted membership. Members must stand down within 5 years of termination of their primary functions.

Approximately fifty percent of members are from the business community, while the remaining members come from universities and other learning institutes and research organisations. The structure of AcTI strives towards a balance in representation between business sectors, fields of knowledge and technological competences.

The members of AcTI themselves determine the admittance criteria and decide on whether eligible members are to be granted membership. The board nominates eligible members that have been selected by the New Members Committee.

Amendments to membership register

The following amendments have been made in 2014 to the structure of the association, the Netherlands Academy of Technology and Innovation.

Members admitted:

H.W. te Beest MSc, M.H. Hendrikse BSc, Mrs C. Hilhorst MSc, P.C. Molengraaf BSc and B. Tax MSc.

Members stood down:

F.J. Abbink BSc, D.C. van Beelen PhD, J.J.M. Holthuis PhD, Ms C.M. Hooymans PhD and P.E. Wierenga PhD BSc.

As per 31 December 2014, membership is 83-strong, including a reserved seat for the President of the Koninklijk Instituut Van Ingenieurs (KIVI) (Royal Netherlands Institute of Engineers), M.C.J. van Pernis MSc.

Addendum 4 reflects the structure of the Netherlands Academy of Technology and Innovation as per 31 December 2014. The current membership register can be found on the AcTI website, www.acti-nl.org.

Structure of the board

The structure of the board as per 31 December 2014: B.M. van Ee MSc (president), Prof C.J. van Duijn PhD MSc (vice-president), L.P.J.J. Noldus PhD (vice-president and secretary/treasurer) and Prof C.J.N. Buisman PhD MSc (vice-president).

L.P.J.J. Noldus PhD holds the position of adviser to the board for international relations (foreign secretary), assumed from Prof E.M. Meijer PhD.

Former members

In 2011, former members took the initiative of convening biannual meetings of former AcTI members under the name of VOLAcTI, Convention of senior AcTI Members. In 2014, these former members convened on 16 April and 6 November. Former members are granted access to the Public Annual Meeting and/or the Innovation Conference.

III Annual programme

1. 2014 Innovation Conference

Introduction

This eleventh Innovation Conference, with its motto of *City of the Future*, was held on Thursday 6 November 2014 at the Binnenhof in The Hague. This conference was very well attended by 336 participants, the maximum possible number.



Minister Henk Kamp and AcTI President Bertrand van Ee

This was the fourth time that major social issues topped the agenda of the Innovation Conference presented by the Netherlands Academy of Technology and Innovation (AcTI). The Academy brought this theme to the fore in conjunction with the Ministry of Economic Affairs, which combined its Innovation Lecture with the Innovation Conference in 2013 and 2014.

During the Innovation Conference, the cabinet presented the 2014 National Icons awards in the presence of His Majesty King Willem-Alexander of the Netherlands. The cabinet had gone in search of National Icons, or innovative projects with global influence. These icons ensure future prosperity and contribute to finding solutions to social challenges. Following comments by judging panel chairman Hans Wijers, Minister Kamp announced on behalf of the cabinet which projects could boast the title of 2014 National Icon.

The cabinet will be assisting the Icons in fulfilling their ambitions and will provide them with an international stage. Over a period of at least 3 years, each National Icon will have an ambassador in the form of a minister or state secretary.



HM King Willem-Alexander flanked by the 2014 National Icons, from left to right, Hans Clevers (cultivated stem cells), Minister Henk Kamp, HM the King, Hein Kruyt (hybrid potatoes), Leo Kouwenhoven (Quantum technology), Hans Wijers and Gijsbrecht van de Wijdeven (Bioneedle).

Theme of 2014 Innovation Conference: City of the Future

The Innovation Conference, held on 6 November at the Ridderzaal, zoomed in on the city of the future. In his opening speech, president of the Netherlands Academy of Technology and Innovation, Bertrand van Ee, underlined how important the Academy considers the encouragement of topical debate and the linking of such debate to real action.

Just like previous innovation conferences, the theme revolved around applying technology and innovative enterprise in order to anticipate major social challenges. This conference focused on distributing ambitions throughout the city of the future. An ever-growing number of people live in cities and the issue we face is one of how to market technology and innovation fast enough in order to sustain our cities. AcTI demonstrates the fact that this future has already started and gives successful entrepreneurs – who anticipate the city of the future with their innovations – a voice. European affiliated academies, united as part of Euro-CASE, have also focused on this theme. In 2015, the Academy will host the *2015 Euro-CASE Annual Conference* with its theme of *Engineering the smart cities of the future*.

According to the opening words spoken by Economic Affairs Minister Henk Kamp, the 6 November Innovation Conference offered an opportunity to provide insight into the strength of the Netherlands. He said that the Netherlands is very good at coming up with solutions to social challenges: *Dutch Solutions for Global Challenges*. The upcoming Dutch EU presidency will offer many opportunities to place this in the limelight.

Refreshing innovations give the Netherlands a great amount of clout. This was the crux of the keynote speech presented by Gunter Pauli, an international entrepreneur who argued for new techniques and innovations that we should apply to industry in order to create a circular economy.

Three dialogues about the city of the future

One of the major social challenges involves increased global urbanisation. This also applies to the Netherlands, which is already considered a single huge city by some observers. Urbanisation prompts new questions about matters such as health and welfare, the environment, energy, sustainability and economics. Our cities also form an important part of the necessary growth in productivity. This forces us to set ourselves ambitious targets. Three dialogues about the city of the future handled the major social challenges in the fields of health, nutrition and infrastructure, as well as quality of life and creativity. After all, technology alone does not make or break a smart city. It must also be inhabitable, sustainable and attractive.

Dialogue: health and nutrition

According to Prof Ton van der Steen from Medical Delta, the double-ageing process means that more and more people are requiring care while fewer people are available to provide such care. As a result of this, care costs are set to rise drastically in the upcoming years, with accessibility and quality being threatened at the same time. In order to avoid this, radical innovation within the care process is necessary. The most essential shift is a move from the treatment of illnesses to the promotion of health. People need to take control of their own ageing processes. Illnesses should be detected before they become obvious. Prevention, early diagnosis and prompt treatment can ensure that people do not need hospital treatment and instead remain as active as possible within society. And if treatment really becomes necessary, make it as non-invasive as possible. The body will suffer less damage and patients will therefore spend less time recovering in hospital.

Healthy nutrition can play an important role in prevention. Wouter de Heij from TOP BV says that insight into the health benefits of nutrition is developing rapidly. An objective definition of what is healthy and what is unhealthy would help enormously. But the emergence of such a definition cannot be taken for granted, because health and nutrition are still in their infancy and much time will be required for the knowledge to be widely known. Clinical trials are used to determine what medicines are safe or better. This is done with any eye on the profitability of pharmaceutical companies. When it comes to nutrition, such profitability is found in different areas and whoever should be responsible for facilitating and paying for such trials is not immediately clear.

Paul Bringmann, founder of LaPlace, emphasises the fact that the consumption of healthy nutrition must be implemented in society. People must be enticed into eating healthy foods and encouraged to discard their unhealthy habits. Food must taste good and be pleasing to the eye.

Dialogue: infrastructure

The second theme is infrastructure, the 'engine under the bonnet' of a smart city. It is the generally unseen technology that makes a city smarter, whether this involves lifestyle and careers, goods- and waste flows, information supply, water, nutrition & health, safety, public transport, attractions, trade, industry or service provision. It is precisely this infrastructure that should make it possible to cross existing sector boundaries by, for example, the use of applications in the field of energy & the environment or health & safety.

Evolution towards an intelligent city involves transformation into a 'smart environment'. In theory, the necessary basic technology is available. But the problem is its deployment on a large enough scale to ensure further development. Large-scale deployment is necessary, because only then will its impact be visible. A combination of various sub-technologies and their application in different areas will yield the most value.

Jan Peter Larsen from Sense BV offered his vision for the bundled use of sensor technology and data processing in infrastructure that would make a city smarter in terms of traffic and mobility. Floriaan Tasche demonstrated how Philips would approach street lighting or electric public transport. But the same could apply to water, waste processing or logistics. During discussions, the need for business innovation came to the fore, as did the opportunities for large-scale introduction of new systems within the context of the fragmentation of the Dutch market, in which every community wants to run its own pilot project and every area of application tends to become a reinvention of the wheel.

Dialogue: environment and creativity

The third dialogue on the environment and creativity revolved around the attractiveness of a city. Mary-Ann Schreurs is an innovation and creativity executive in Eindhoven, the smartest city in the world, although not hugely attractive. She emphasised the importance of culture as an essential for encouraging the creative process. People are co-creators – everything revolves around things that people deem valuable. Egbert Fransen, director of Pakhuis de Zwijger in Amsterdam, furthermore adds that innovation is no longer the reserve of the triangle of entrepreneurs, scientists and government. Regular citizens, as inhabitants, have also stepped up to the plate. This social innovation is very important in a smart city – as soon as they become involved in design processes, citizens feel that they are joint owners of those processes.

Conclusions

AcTI keeps a critical eye on the innovation ecosystem in the Netherlands and on the many parties involved. It aims to encourage innovation. This becomes possible by observing problem areas and helping to neutralise them wherever possible. It becomes possible by increasing awareness about innovation. It becomes possible by offering inspiration. And one of the resources that can make it possible is this annual Innovation Conference.

In 2012 at its Innovation Conference, AcTI for the first time emphasised the fact that demand and major social challenges should define innovation policy. As a rule, the main sectors are supply-driven. This was repeated by AcTI during the two subsequent conferences. Partly as a result of this, policy applicable to the main sectors has been amended.

In 2014, urban development has been used as a stepping stone to promote the fact that projects are being initiated to address this specific social challenge. Emphasis has been placed on forms of collaboration that link completely different sectors to one another.

Innovation Conference, objective and previous history

The annual innovation conferences organised by the Netherlands Academy of Technology and Innovation since 2003 are action-oriented and are intended to encourage companies, learning institutes and government to commit to strengthening innovation capacity. In this way, the Academy aims to demonstrate that improvement of the innovation climate in the Netherlands deserves constant attention. Every year, new topics for the benefit of companies, learning institutes and government are placed on the agenda as required, while the progress made in terms of former commitments and agreements is also discussed.

During the previous innovation conferences, AcTI focused on initiatives for e.g. encouraging innovative enterprise, promoting collaboration between companies, learning institutes and government, boosting the onshoring of R&D activities and paying attention to preferred innovations in the field of sustainable energy.

Since the very first Innovation Conference in 2003, the departure point has been the fact that the Netherlands must be and remain an attractive base for new and existing innovative companies throughout the development of an open knowledge-based economy. The Academy wants to facilitate the commitment of the responsible parties. For this purpose, AcTI has transformed its public annual meeting into this action-based gathering, the Innovation Conference.

In order to make this conference a success, the board appointed a preparatory committee in 2014, consisting of AcTI members Prof G.M.A. van Beynum PhD, P.P. 't Hoen BSc and C.A.M. de Koning BSc.

H.P. Dits PhD and Ms E. Koehler from the Ministry of Economic Affairs acted as executive secretary/project managers. Conference management was handled by RVO with support provided by Ms E. Rotteveel from the Ministry of Economic Affairs and Ms A. Henderson from AcTI.

2. Government policy in the fields of innovation & technology, and the sharing of knowledge

During members' meetings, attention was paid to main sector policy in the fields of agriculture & food, energy supply, high-tech systems & materials, water purification and health. Results of these closed idea exchanges were, amongst others, incorporated into preparations for the innovation conference.

3. Collaboration with the KNAW (Royal Netherlands Academy of Arts and Sciences)

In 2013, AcTI and the Technical Sciences division of the KNAW established a joint informal working group consisting of Prof W.P.M. van Swaaij PhD BSc (president), Prof G.B.J. Berkhout PhD BSc, Prof A.C.J.M. Eekhout PhD, Prof M van Loosdrecht PhD BSc and Prof J.J. Heijnen PhD BSc. All are members of the Technical Sciences division of the KNAW and – apart from Prof Heijnen – are also (former) members of AcTI. H.P. Dits PhD acted as secretary.

This working group was tasked with providing the KNAW and AcTI with suggestions for shaping mutual interaction and relations in order to cast more light on the position and role of the technical sciences.

In March 2014, the working group issued a report in the form of a brief recommendation to the boards of the KNAW and AcTI. In this report, titled 'Joint effort for a better global balance', the working group formulated options for intensifying collaboration between AcTI and the KNAW (with the Technical Sciences division as primary focal point) by jointly organising meetings focusing on problems, by freeing up time for discussions and debates and by thus welcoming the younger generation. Here, the working group identified a special opportunity for working in conjunction with the best scientific and innovative business community 'brains' (including alpha and gamma scientists) towards defining and developing long-term perspectives that exceed the immediate interests and abilities of both institutes.

Within this context, the working group also recommended a joint venture by the KNAW (starting with the Technical Sciences division) and AcTI in the field of sustainable global development. The KNAW and AcTI would be able to create a bridge spanning practical science and its social impact on sustainable global development. The ultimate goal is to provide a forum for defining a sustainable future – taking the most significant global developments in this field into account – in order to thereby focus part of our R&D efforts onto the giant leap into the future.

As an initial venture, the KNAW and AcTI organised a mini-conference titled 'Joint effort for a better global balance' on 1 September 2014, chaired by Prof Wim van Swaaij PhD. Speakers here included Mick Eekhout, Margot Weijnen, Jaap Kwadijk, Rudy Rabbinge and Guus Berkhout. A report on this mini-conference was released, edited by Prof Mick Eekhout PhD BSc.

Other KNAW activities

In 2014, Prof Bert Weckhuysen PhD served as a member of the KNAW advisory board for the Technical Sciences, Mathematics & Information Science, Physics, Astronomy and Chemistry (TWINS). Prof Luc Soete PhD served as a member of the Social Sciences Council (SWR).

4. International networks

As the Academy of Engineering of the Netherlands, the Netherlands Academy of Technology and Innovation maintains international relations with other Academies of Engineering. Within a European context, this is facilitated by the *European Council of Academies of Applied Sciences, Technologies and Engineering (Euro-CASE)*. Internationally, it is facilitated by the *Council of Academies of Engineering and Technological Sciences (CAETS)*.

Euro-CASE¹

The Netherlands Academy of Technology and Innovation is the Dutch member of the European Council of Academies of Applied Sciences, Technologies and Engineering (Euro-CASE).

Euro-CASE is chaired by Prof Reinhard Hüttl, who is also president of German affiliate *acatech*. In 2014, AcTI was represented in this European forum of Academies of Engineering by its president Bertrand van Ee and executive secretary Henk Dits.

2015 Euro-CASE Annual Conference in the Netherlands

The Academy has decided to present the 2015 Euro-CASE Annual Conference in the Netherlands. The conference will hand AcTI an ideal opportunity to contribute towards preparing for Dutch European Union presidency in 2016.

This Annual Conference will coincide with the Innovation Conference and will take place on 2 November 2015.

Activities within the context of Euro-CASE

On 9 September, AcTI president Bertrand van Ee attended a Seminar presented by Euro-CASE and the European Commission. European Chief Scientific Advisor, Anne Glover, invited the Euro-CASE academies to contribute to strengthening the *evidence-based policy* of the European Commission. This mainly involved identifying and assessing the options for technological solutions to social challenges.

A second point of interest conveyed by the Chief Scientific Advisor to the scientific and technological community was the fact that communication with citizens must be simpler and clearer. This point of interest is supported by AcTI.

¹ De European Council of Academies of Applied Sciences, Technologies and Engineering (Euro-CASE) is an independent European advisory body consisting of 22 Academies of Engineering or similar organisations (Belgium, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Spain, Sweden, Switzerland and the United Kingdom), www.euro-case.org

It is therefore essential for the Netherlands to have its own point of contact for European *evidence-based* policy advice so that it can support the European Commission in creating a policy based on knowledge and facts that can be applied in order to address major social problems.

2014 Euro-CASE Annual Conference

The 2014 Euro-CASE Annual Conference was held in Brussels on 2 and 3 December 2014. Its theme was 'Energy and Climate Policies beyond 2030 & Innovation'. President Bertrand van Ee and executive secretary Henk Dits attended this conference.

CAETS²

The Netherlands Academy of Technology and Innovation serves as the Dutch member of the International Council of Academies of Engineering and Technological Sciences (CAETS), the deliberative body for the presidents of 26 global Academies of Engineering. AcTI supplies experts for the benefit of international study groups and conferences upon request, and participates in activities organised under the auspices of CAETS.

The 2014 instalment of the annual CAETS meetings took place in Beijing from 1-4 June. This conference was arranged by the Chinese Academy of Engineering (www.cae.cn). AcTI was represented here by L.P.J.J. Noldus PhD in his capacity as vice-president of AcTI. The meeting consisted of three sub-meetings:

- CAETS Board of Directors Meeting
- CAETS Convocation: International Conference on Engineering Science and Technology 2014
- CAETS Council Meeting as part of this international forum for academies of engineering.

International Conference on Engineering Sciences and Technology

The CAETS meetings started with a two-day international conference on engineering sciences and technology (ICEST 2014, www.icest2014.cae.cn), which brought together 1,500 scientists and experts from all corners of the globe. The conference programme featured keynote speeches by high-profile speakers, including Xi Jinping, president of the People's Republic of China, and Irina Bokova, UNESCO director-general.



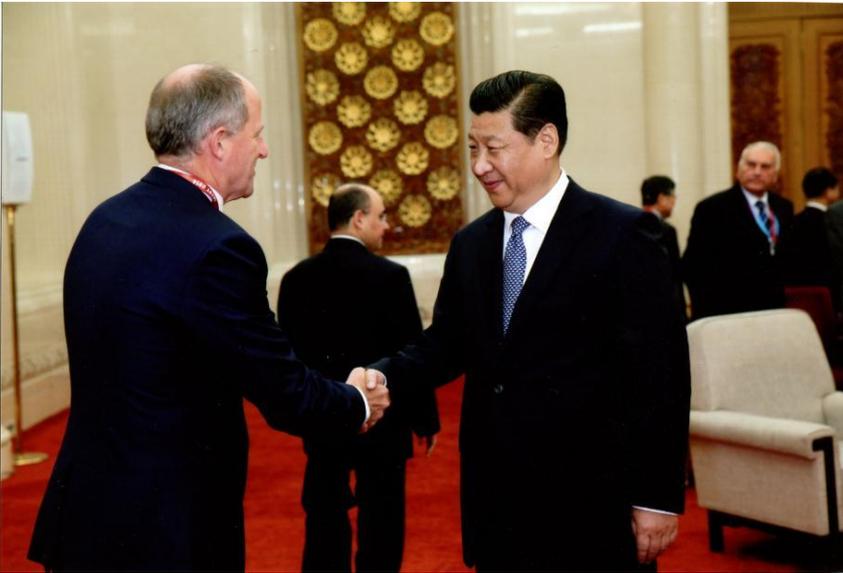
President Xi Jinping addresses the ICEST 2014 conference attendees

President Xi described technology as a force capable of changing the world and helping China achieve fast social and economic progress. He added that promoting science and technology is a strategic choice by humankind, necessary in order to meet major social challenges and realise sustainable development. According to the President, because China has adopted an innovation-driven development strategy as its national strategy, it will promote technological innovation, it will strengthen collaboration in this field between the (semi-)public and private sectors, it will more actively participate in global scientific and technological collaboration projects and it will improve the training of its workforce.

² The International Council of Academies of Engineering and Technological Sciences, Inc. (CAETS) is an international forum for Academies of Engineering with 26 active members (Argentina, Australia, Belgium, Canada, China, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, India, Japan, Mexico, the Netherlands, Norway, Slovakia, Spain, South Africa, South Korea, Sweden, Switzerland, United Kingdom, United States, Uruguay), www.caets.org. Secretaryship is vested with the US National Academy of Engineering.

President Xi emphasised the fact that China has forged collaborative relations with more than 150 countries and regions and has participated in major global projects, including the international Thermonuclear Fusion Experimental Reactor Plan, the Human Genome Project and the Galileo Project.

Prior to his speech, president Xi and Ms Irina Bokova met representatives from CAETS and its affiliated Academies of Engineering, including the Netherlands Academy of Technology and Innovation.



Lucas Noldus, vice-president of AcTI, meets President Xi Jinping

CAETS Council Meeting and the CAETS statement

During the annual meeting of the CAETS Council on 4 June, CAETS members discussed technical topics that are of global importance, such as fracking and high-tech production. As part of the Council meeting, AcTI vice-president Lucas Noldus was elected to the CAETS General Board.

Furthermore, the Council adopted the 2014 CAETS statement. In it, CAETS recommended:

- the promotion by engineers and scientists worldwide of innovation in all areas of engineering, science and technology to achieve a better life for all on the planet;
- working with and in schools and universities to strengthen engineering education and to develop a new generation of talented engineering practitioners;
- strengthening international cooperation, expanding academic networks and learning from each other to address major global challenges facing society;
- working with governments to ensure that resources are available to deploy technologies in support of global economic and social development and environmental sustainability;
- promoting awareness and engaging with the public;
- promoting the value proposition for engineering;
- promoting improved living conditions in the developing world.

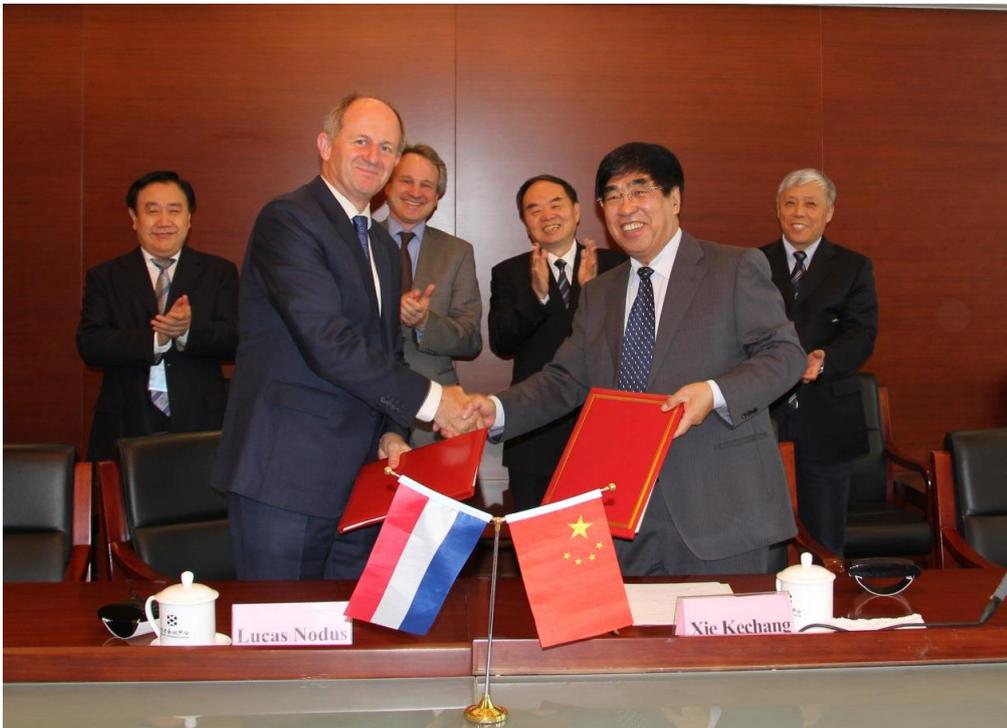
The keynote speech by the Chinese president during the Convocation and the statement by the 26 academies of engineering united as CAETS have brought the Academy to the attention of the prime minister of the Netherlands, Mark Rutte.

Memorandum of Understanding between AcTI and the CAE

In 2012, vice-president Lucas Noldus PhD met with the Chinese Academy of Engineering to discuss closer cooperation between the two academies. Mr Jan Reint Smit, science and technology attaché from the Embassy of the Netherlands in Beijing, was present during these discussions. The procedure related to the signing of a Memorandum of Understanding by AcTI and the CAE was discussed. Following intervention by the Embassy of the Netherlands, the text was amended by AcTI and the CAE.

During his visit to the Chinese Academy of Engineering on 4 December 2013, Mr Noldus discussed the final draft of the Memorandum of Understanding to be signed by both parties. As agreed during previous gatherings, there was consensus on two topics. These were “smart cities and sustainable urbanisation” (sourced from AcTI by Prof Margot Weijnen PhD BSc) and “ICT for brain, body and behaviour” (sourced from AcTI by Lucas Noldus PhD).

The CAE has meanwhile added a third topic: “development of entrepreneurship in science and engineering”. The Chinese Academy would like to place Chinese start-up entrepreneurs in contact with Dutch SME’s so that they can learn from one another.



Signing of the Memorandum of Understanding between the AcTI and the Chinese Academy of Engineering on 2 June 2014. From left to right: Prof Daiming Fan PhD, vice-president of the CAE, Lucas Noldus PhD, vice-president of AcTI, Mr Jan Reint Smit, Counsellor for Science and Technology, Netherlands Embassy, Prof Ji Zhou PhD, president of the CAE, Prof Kechang Xie PhD, vice-president of the CAE and vice-chairman of the Chinese Association of Science and Technology, Mr Jincheng Kang, deputy director-general, Department of International Cooperation, CAE

5. Strategic reorientation ('AcTI 2.0')

In 2013, the board established an internal working group to devise an implementation plan for amending its strategy. This working group released its report in 2014. Within the context of the annual report, it mentions that the Academy aims to reinforce its think-tank function by formulating a topical agenda for think-tank activities. The choice of themes for these activities will take the following into account:

- social context of innovation processes,
- social impact of technological developments,
- positioning of AcTI in relation to other bodies,
- futureproofing and focus on the future,
- promotion of new economic activity within both a European and international context.

The Academy will be adjusting its communication strategy in order to expand its reputation:

- Easy-to-find website with up-to-date information on relevant topics related to technology and innovation. Addition of links from the websites of the KNAW, technical universities, etc. to www.acti-nl.org
- Going public at least once a year as a think-tank. This activity is still limited to the innovation conference
- Frequent reports and plenary discussions during members' meetings
- Making communication run parallel to that of the international bodies to which the AcTI belongs: Euro-CASE, CAETS. And promoting bilateral communication, such as with the Chinese Academy of Engineering.

6. Other activities

NWO (Netherlands Organisation for Scientific Research) Spinoza Prize 2014

Upon request of the NWO and for the nineteenth time, the president of the Netherlands Academy of Technology and Innovation submitted a list of candidates for the Spinoza Prize.

2014 meetings

The board met five times. Apart from the Innovation Conference at the Ridderzaal in The Hague, the board members held five plenary meetings at various locations throughout the Netherlands:

- Venlo 27 February, hosted by Océ
- Enschede 17 April, hosted by Demcon
- Eindhoven 26 June, hosted by Holst Centre, High Tech Campus, Eindhoven
- Wageningen 28 August, hosted by Wageningen University
- Utrecht 11 December, hosted by Nutricia Research, Innovation Centre

7. Executive secretariat

The secretariat of the Netherlands Academy of Technology and Innovation is based in the Trippenhuis, home of the Royal Netherlands Academy of Arts and Sciences.

Part-time staff members are Henk Dits PhD, executive secretary (3.5 days a week), Ms Nellie van Veenendaal-Koevoets, secretariat employee (3 days a week, until 1 June 2014) and Ms Anouk Henderson-de Vlioger, secretariat employee (from august 2014, 1.5 days a week).

