

TO: ADVISORY COUNCIL FOR SCIENCE & TECHNOLOGY POLICY (AWT)

VISION CHINA ON SINO-DUTCH KNOWLEDGE COOPERATION

*A STUDY ON THE VISION OF CHINESE PARTIES ON KNOWLEDGE COOPERATION
WITH THE NETHERLANDS*

International Top Talent
September 2011



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FOR INFORMATION

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A study on the vision of Chinese parties on knowledge cooperation with the Netherlands

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27 September 2011

International Top Talent (ITT) is an international HR consultancy focused on strengthening the exchange of knowledge between China and the Netherlands. Besides the recruitment and selection of Chinese knowledge workers and researchers for Dutch companies and knowledge institutions, ITT runs the project management of initiatives that arise at the intersection of China and the Netherlands. ITT has an extensive network in both countries and has extensive contacts within industry and universities. Precisely these networks give ITT optimal insight into interesting and innovative cooperation opportunities between China and the Netherlands. ITT is present in Amsterdam and Shanghai.

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EXECUTIVE SUMMARY

This report describes the findings of our study on the vision of Chinese knowledge institutes and individual researchers on partnerships and cooperation with the Netherlands in the field of knowledge and innovation. The study is executed on the request of the Advisory Council for Science and Technology Policy (AWT).

For this study, we have undertaken the following steps: i) completed questionnaires with 13 Chinese institutions and government agencies and 28 Chinese professionals and researchers, ii) conducted in-depth personal interviews with 7 Chinese institutions and government agencies and with 8 Chinese professionals and researchers, iii) conducted internet and desk research.

The most important conclusions from this study are the following:

Image research and innovation in the Netherlands

- The majority of the Chinese institutes feel that the Netherlands has a good image when it comes to research and innovation
- High excellence in specific research areas, informal way of working and open cultural environment are positive key differentiators of the Netherlands compared to other European countries
- Dutch institutes have an image to go for short-term and low-profile cooperations in China, without too much government involvement, negatively impacting the cooperation
- The main goal for Chinese professionals and researchers to go abroad is to create more opportunities for their career development. The UK is the most attractive European country for a career abroad, because of English language and high number of immigrants living in the UK. North western European countries are ranked at a second position (including the Netherlands), with a developed, stable and safe environment and strong universities
- In addition, the Netherlands is valued for its work-life balance, open culture and international attitude. Chinese researchers also value the relatively low language barrier of the Netherlands compared to other European countries

Policy measures in China

- The policy measures in the 12th Five-Year Plan (2010 – 2015) underline China's ambition to move up the value chain to a more knowledge based economy
- China focuses on seven priority sectors and will seek more international knowledge cooperation with experts in these fields
- China places more and more emphasis on talent and talent development as indicated in its Talent Development Plan (2010 – 2020) both by giving Chinese researchers the chance to work and learn abroad and offer incentives to Chinese overseas talent to return to China

Vision on (future) Sino-Dutch cooperations

- The large majority of the Chinese institutes highly value their Sino-Dutch cooperation and want to continue and increase their knowledge cooperation with partners in the Netherlands because of excellent scientific knowledge in specific areas, ability to translate scientific outcomes into applications and its strong education system
- The majority of the Chinese institutes say that dealing with IP rights is most difficult in current and future cooperations



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- Both Chinese institutes and researchers point out that the Netherlands and its research opportunities are not well known in China, hence the Netherlands may fail in attracting Chinese top talent
- Personal contacts or experiences with a country is by far the most important reason for Chinese institutes to start a partnership, followed by access to (financial) resources and the support of the foreign country's national or local government. It is shown that almost 40% of the respondents perceive a moderate to low added value of the Dutch government in their Dutch partnership and 80% consider the accessibility to financial resources moderate to low
- In the top three of activities in partnerships with European partners are joint research, exchange of researchers and exchange of professors. Specifically in Sino-Dutch cooperations also PhD training, intercultural training and joint application for funding are added
- For most Chinese researchers career path is the most important factor to determine their destination for a career abroad
- Most of the professionals and researchers who have been to the Netherlands indicate that they had a specific reason to go there. The most important factors determining their choice were description of job/research project, ranking of university or research group, and professor or research group

Recommendations

Based on this study - which includes the outcomes of questionnaires and in-depth interviews with both Chinese institutes and government agencies and Chinese professionals and researchers – International Top Talent identifies a number of recommendations to put forward to the Dutch government on how to increase the country's attractiveness as a knowledge partner and how to enhance current and future Sino-Dutch cooperations.

- 1) Start active promotion in China of famous Dutch scientific areas and (research) opportunities to enhance joint research and increase the attraction of highly qualified researchers
- 2) Focus on knowledge cooperation in the seven priority sectors of China to ensure high-profile and long-term partnerships in areas that China is now rapidly developing
- 3) Invest in strong relations with the Chinese government to ensure high-level and long term deals for Dutch universities, institutes and companies
- 4) Further suggestion: Increase level of services for Chinese researchers and professors to retain top talent in the Netherlands and increase the competitive advantage against other European countries like UK and Germany

We refer to Chapter 4 for the detailed description on the recommendations.



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1. IMAGE RESEARCH AND INNOVATION IN THE NETHERLANDS

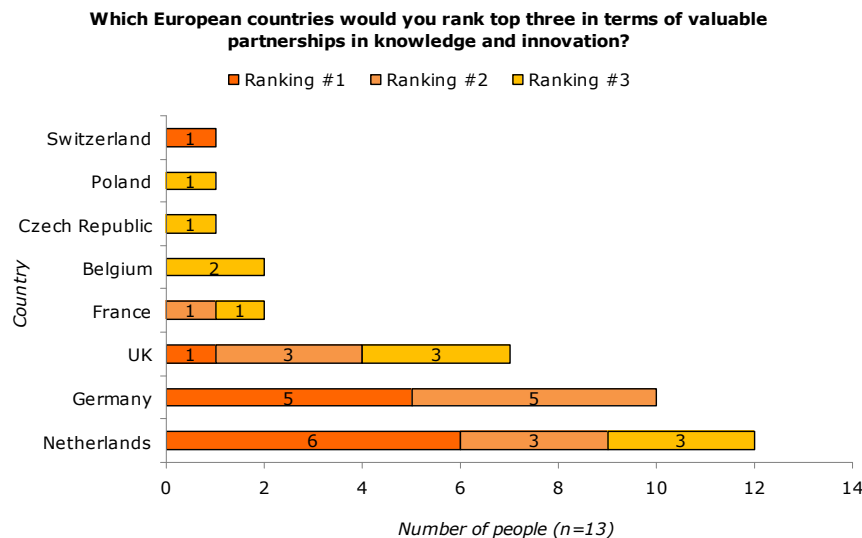
As a starting point in our research we want to understand the image Chinese institutions, government agencies and professionals/researchers have of the research and innovation level in the Netherlands. Is the Netherlands an attractive knowledge country and how does the country perform compared to other European countries? We also ask Chinese professionals and researchers on their reasons to choose or not to choose for the Netherlands as their research destination. What makes the Netherlands an attractive knowledge destination?

1.1. Image Chinese knowledge institutes and government agencies

Chinese knowledge institutes and government agencies¹ share their image on the level of knowledge, research and innovation in the Netherlands. The majority of the respondents feel that the Netherlands has a good image when it comes to research and innovation.

'The research quality and innovation capacity of Dutch companies and research institutes is very good. In my point of view, the Netherlands is strong in hydraulic agriculture compared to other European countries.'

Some interviewees highlight specific research areas that the Netherlands is in their view famous for, like agriculture, water management and the high tech industry. In general, most respondents say that Dutch universities are still less known than those in the UK and Germany. The informal and personal way of working is mentioned as an important Dutch differentiator. However, the Chinese institutes point out that this also has a disadvantage: Dutch institutions seem not to strive for long-term cooperation in formal ways, like the Germans. The latter first sign formal contracts (between high-level parties, such as government agencies) after which they start their cooperation.



¹ For this study we conducted a questionnaire among 13 Chinese institutions and government agencies, of which 85% have cooperation with the Netherlands. See also annex 1.



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When asking the Chinese institutes – of which most cooperate with the Netherlands² – how they rank *European* countries in a top three of most valuable partnerships, we see that the Netherlands makes a top ranking. 75% of the respondents mentions the Netherlands in the top three (almost half of the respondents rank the Netherlands as number 1). Also Germany and the UK are valuable partners for Chinese institutes. 75% of the respondents score Germany in the top 3 and over 50% the UK. The respondents clarify their ranking with different images they have from these countries. The respondents feel that the Netherlands has an image of an open cultural environment to work with Chinese and other foreigners. The image of Germany is that the country is mainly strong in the research and innovation facilities it offers and the excellent reputation of the research groups. The UK has a long standing image of having well-known universities, international influence and strong technology focus.

Table 1: Perceived image of top three EU countries in knowledge cooperation with China

Country	Perceived image in knowledge cooperation with top three EU countries
The Netherlands	High standard of publications, strong focus on research outcome instead of process, like to take initiative and go for opportunistic cooperation, strong flexibility, do not easily share research results, low entrance requirements to start working/study in the Netherlands, low pressure (good work/life balance)
Germany	Strong focus on the research process instead of outcome, first seek formal cooperation than start working, less flexible, take time to start cooperation and go for long-term partnerships, open to share information and results, high entrance requirements to start working/study in Germany (strict selection process), high pressure in doing research/work
UK	Easy for communication, high level of basic education with international influence, strong professional promotion of UK in China, long-term history of research cooperation between UK and China, high entrance requirements to start working/study in UK, high pressure in doing research/work

The personal in-depth interviews show that the majority of the partnerships started by researchers that have previous experiences in the Netherlands, mostly as a PhD or Post-Doc researcher. These former researchers are now professors at top universities in China and keep in close contact with colleagues in the Netherlands. Based on these personal relationships they start joint research projects with the university professors they visited in the Netherlands.

² Due to respondents selection, the outcomes of this study may be biased towards preferences for the Netherlands



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'My Dutch research partner used to be my director and mentor during my post doc research in the Netherlands. Now I sent my own students to his lab to continue our work.'

Although these personal networks are the starting point for close cooperation, the Chinese institutes say that their partnerships with Dutch institutes are mainly low-scaled and low-profile. They have the image that Dutch institutes go for opportunistic and short term cooperations, without too much government involvement. In the personal interviews Chinese professors say that this harms the stability of cooperation and harms the outcomes of joint research. Institutes feel that if cooperations are short, they need to invest start-up costs in all new cooperations which is a loss of time and efforts. Chinese institutes believe that the next step for the Dutch should be to intensify the level of cooperation by high-scaled, long term and high-level projects. The Chinese institutes see an active role for the Dutch government to facilitate this and refer to Germany as a best practice.

'I believe that the set-up of a successful Sino-Dutch cooperation takes a lot effort from both sides. You need to be patient and invest time to get to know your partner and to get results. Do not think you can achieve this in one year. It takes much longer!'

'In order to increase the attractiveness of the Netherlands for Chinese potential partners in the field of knowledge and innovation, I suggest that there should be a relevant academy or department that is responsible for signing formal contracts, e.g. for exchanging students. The Max Planck Institute in Germany, for example, has a formal contract with the Chinese Academy of Sciences to every year select 100 students to go to Germany with both Chinese and German financial support.'

1.2. Image Chinese professionals and researchers

The main goal for Chinese researchers³ to go abroad is to create more opportunities for their career development after graduation, either in the country abroad or in China. Not only this goal is often met, the respondents also indicate that they improve their personal and soft skills (especially English and intercultural communication skills). They have learnt considerably by not only learning the theory but also learning practice through case studies.

In particular, with regards to the research environment, Europe is considered to have an excellent academic atmosphere and high level research and advanced technologies. In the chart below, it is shown that the respondents consider the UK the most attractive *European* country for a career abroad. The main reason for its popularity is the English language, which makes living and working easier. Besides, it is considered more international, thus easier to integrate, given the high number of immigrants living in the UK.

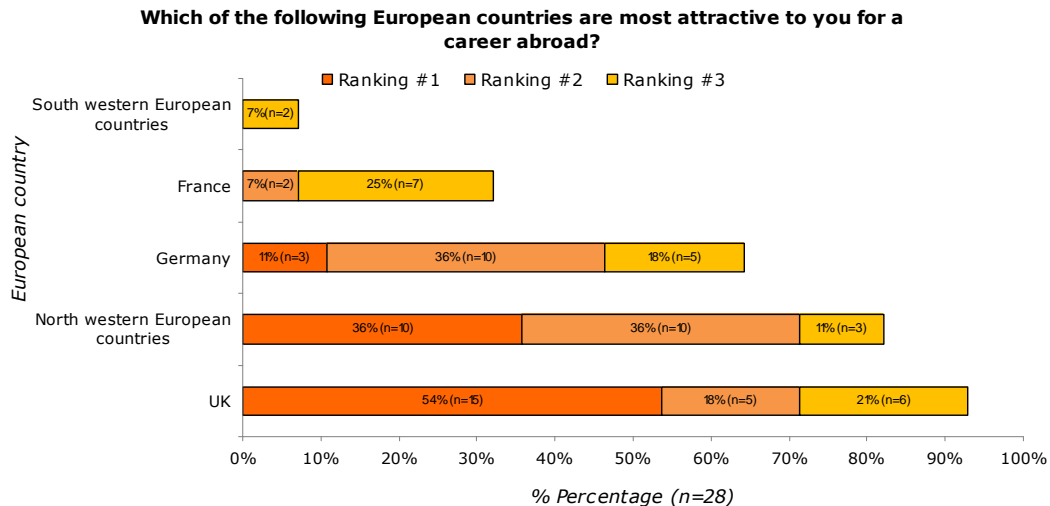
North western European countries are ranked the most attractive at a second position (indicated by one out of three respondents), with a developed, stable and safe environment and strong universities. The Netherlands is a popular destination within this group. Also, Germany is attractive to Chinese

³ For this study we conducted a questionnaire among 28 professionals and researchers, of whom 27 have been to Europe for either study or career. See also annex 1.



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students and researchers, in particular given its high level of engineering technology. The language barrier in France is considered high and therefore reduces the country's attractiveness.



With regards to the image of the Netherlands, in general the following can be noted. The language barrier in the Netherlands is considered much lower than in other European countries and the working atmosphere is considered to be more relaxed than e.g. in the UK (attractive work life balance). Also the Netherlands is very attractive because of its open culture and international attitude. Ninety percent of the respondents perceive the Netherlands for their career path attractive (80%) and very attractive (10%) and only 10% of the professionals and researchers perceive the Netherlands average for career path.

'I have lived in France and Germany before I came to the Netherlands. I like the Netherlands more because of the tolerance of the country. Also the quality of the education is high, many universities are ranked in the top of the world.'

'I am satisfied living in the Netherlands. The balance between work and life is better compared to the USA and China.'

Most Chinese professionals and researchers think the research quality and innovation capacity of Dutch companies and research institutes is good (40%) or very good (50%). Ten percent of them think it is average. Dutch companies are well known among the study's participants. Philips is mentioned as an example by most of the interviewees. Also ASML and DSM are mentioned as being in the front line of the newest technologies. The good connection with universities is also highly valued. In the view of the Chinese professionals and researchers, the quality of research in the Netherlands is generally better than other European countries. 80% of them think it is better and 10% of them think it is much better. Ten percent (10%) of them think it is average.



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1.3. In sum

Our study shows that:

- The majority of the Chinese institutes feel that the Netherlands has a good image when it comes to research and innovation
- High excellence in specific research areas, informal way of working and open cultural environment are positive key differentiators of the Netherlands compared to other European countries
- Dutch institutes have an image to go for short-term and low-profile cooperations in China, without too much government involvement negatively impacting the cooperation
- The main goal for Chinese professionals and researchers to go abroad is to create more opportunities for their career development. The UK is the most attractive European country for a career abroad, because of English language and high number of immigrants living in the UK. North western European countries are ranked at a second position (including the Netherlands), with a developed, stable and safe environment and strong universities
- In addition, the Netherlands is valued for its work-life balance, open culture and international attitude. Chinese researchers also value the relatively low language barrier of the Netherlands compared to other European countries



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2. POLICY MEASURES IN CHINA ON TALENT, RESEARCH AND INNOVATION

In recent years, China's economic and social development has entered a brand new stage and in the near future, the nation's focus is moving to a knowledge based economy. In order to achieve this target, the Chinese government has initiated and will implement new policies. In this chapter we will discuss the policy goals of the Chinese government and the implementation plans related to these.

2.1. China's 12th Five-Year plan: focus on knowledge economy

The Chinese government's 12th Five-Year Plan which is launched by the government in 2010 indicates the most important policy goals for China for the coming five years. China's emphasis on economic growth has turned into 'higher quality growth' to make growth more sustainable and address problems caused by amongst others pollution, intensive energy use and resource depletion. In addition, the plan also focuses on the importance to solve the issue of increasing wealth disparity. The most important goals of the plan are to:

- Improve environment protection and energy efficiency
- Continue transitioning to an economy driven by domestic consumption instead of exports
- Increase the Gross Domestic Product with 7% per year
- Develop *seven priority industries* (see below), with the aim of increasing their GDP contributions from 2% of GDP to 8% by 2015
- Become one of the top 5 knowledge based economies by 2020
- R&D expenditure will be set at 2.5% of GDP and reliance on foreign technology will fall below 30% by 2020
- The number of Chinese generated patents and Chinese citations in international research journals will be on the world top 5 list every year
- Decrease the unemployment rate to 5%

Like the Netherlands, also China focuses on specific sectors to enhance sustainable growth. The seven priority industries that are indicated by the Chinese government are new energy, energy conservation and environmental protection, biotechnology, new materials, new IT, high-end equipment manufacturing and clean energy vehicles. The first three deal specifically with the sustainability goal, the other four are consistent with China's ambition to move up the value chain to a more knowledge based economy, such as already indicated in the 15-year Medium to Long-Term plan for the Development of Science and Technology (2006 – 2020) to transform China into a more innovative and creative country by 2020.

China will implement the policies of the 12th Five-Year plan through investing money in specific projects in these seven priority industries, like RMB 5 trillion in New Energy for the next ten years. Furthermore, China will seek more international cooperation in research and development, with a focus on these seven priority industries. Large parts of investments from the Central and regional governments will be made in basic scientific research (2% of GDP) and in education (3% of GDP).

More than 200 Chinese universities and institutes will be involved in the implementation of the plans. Top universities such as Tsinghua University, Zhejiang University and Shanghai Jiaotong University and institutions such as Chinese Academy of Sciences (CAS) have initiated projects for the plans. Most



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important players in the assignment of funding are the Ministry of Science and Technology of China, National Natural Science Foundation of China and the Chinese Academy of Sciences (CAS).

From our interviews, we learn that the Chinese institutes and government agencies welcome the focus on innovation and knowledge. In addition they indicate the need for more efforts on the application of research in practice and increased public private partnerships, and changes in the organization of the educational research system, e.g. more money to limited projects and more result oriented career development.

2.2. China's Talent Development Plan

In order for China to climb the ladder of technology, elevate its value chain and produce some well-known brands with reputations for quality, innovation and service, China places more and more emphasis on talent and talent development. China has to transform itself from being labor-rich to talent-intensive, all being part of the launched China's National Medium and Long-Term Talent Development Plan (2010 – 2020). China aims to narrow the gap between foreign and Chinese researchers. Therefore, China will focus on giving Chinese researchers a chance to gain foothold in the international scientific area and offer incentives to Chinese professionals now working abroad to return to China.

China implements the Talent Development Plan through several policies, of which important ones are:

- To attract Chinese talents who were sent abroad back to China, such as "The Hundred Talents Plan" and "The Thousand Talents Plan". The Chinese government offers talents higher salary than abroad and a good future development platform with the right equipments, laboratory and team. At the moment the return rate is 25% of Chinese professionals that went abroad. To attract more talents, this is one of the most important missions for the Chinese government
- To send students and scientists abroad for a large part of their studies/research, where they also need to do work for Chinese institutions or make use of a scholarship of for example the Chinese Scholarship Council (CSC)

2.3. In sum

Our study shows that:

- The policy measures in the 12th Five-Year Plan (2010 – 2015) underline China's ambition to move up the value chain to a more knowledge based economy
- China focuses on seven priority sectors and will seek more international knowledge cooperation with experts in these fields
- China places more and more emphasis on talent and talent development as indicated in its Talent Development Plan (2010 – 2020) both by giving Chinese researchers the chance to work and learn abroad and offer incentives to Chinese overseas talent to return to China



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3. VISION CHINA ON (FUTURE) KNOWLEDGE COOPERATION WITH THE NETHERLANDS

In order to support the Dutch government to enhance future cooperation with Chinese institutes on knowledge and innovation, we can best learn from the current experiences China has in cooperation with the Netherlands. How do Chinese institutes value the existing cooperation? What are their considerations to start a Sino-Dutch partnership? And, why do Chinese researchers go specifically to the Netherlands? In this chapter we will share the vision of China on Sino-Dutch (future) cooperations.

3.1. Vision Chinese knowledge institutes and government agencies

The large majority of the Chinese institutes (12 out of 13) highly value their Sino-Dutch cooperation (6 indicate high, 6 indicate very high value) and want to continue and increase its knowledge cooperation with the Netherlands in the future. Only one institute says it's moderately satisfied with its cooperation with his partner in the Netherlands, as his Dutch partner seems not really involved and open to share information. The reasons for the high value score are three folded; first, the Dutch have some specific scientific areas that they excel in on a global level (i.e. small electrical equipment, hydraulic engineering, agriculture, high tech industry and water management). Second, the Dutch are good in translating research outcomes into applications. Third, the Dutch universities have a strong education system that focuses on a structured approach, from which exchange students benefited after returning to China.

'I value the cooperation with our Dutch partner very much, because we successfully published scientific articles together. Also the cooperation is efficient. We combine both the strength we have in China with the qualities from the Dutch side.'

The majority of the Chinese institutes say that dealing with IP rights is most difficult in current and future cooperations. Chinese respondents feel that the Dutch partners want to keep the large part of research outcomes for themselves. The reason why Dutch do not want to share in Chinese researchers' view is that they are afraid of Chinese copying the technology and using it for other purpose.

'I feel that my German partners are more willing to share all research information and are more open during the research process than my Dutch partners. I guess this has to do with the fact that Germans want to be as efficient as possible and obtain research results in a short time. The Dutch seem to care more about the commercial benefits afterwards and are careful on sharing. This harms the efficiency and overall result.'

Some openly question how to deal with and set-up win-win cooperations with Dutch research institutes, for example as PhD and Post Doc candidates are in an increasing number send abroad and paid for by the Chinese government. The question then comes up: 'who is the owner of the results'.

'In our cooperation, the Dutch side did not want to risk sharing their software, so we could not accelerate our research. It seems that Dutch researchers always want to keep the results to themselves.'

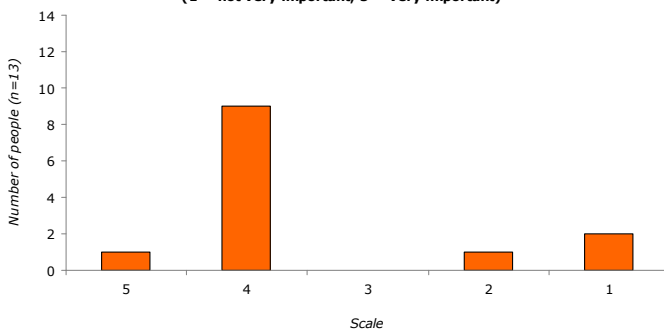


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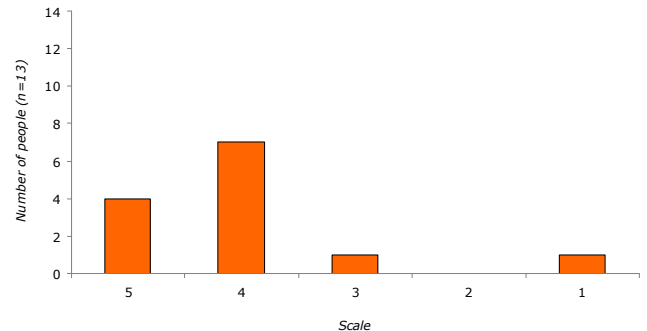
Personal contacts or experiences with a country are by far the most important consideration to start a partnership or cooperation. Almost all the respondents indicate it is important to very important. Access to (financial) resources and the support of the foreign country's national or local government are ranked number 2 (11 out of 13 respondents) and 3 (10 out of 13).

'We already work together for 15 years. We started our partnership because my colleague studied in Wageningen University in the Netherlands.'

How important (on a scale from 1 to 5) is support of the foreign country's national or local government to start a partnership or cooperation with a foreign country?
(1 = not very important; 5 = very important)



How important (on a scale from 1 to 5) is access to (financial) resources to start a partnership or cooperation with a foreign country?
(1 = not very important; 5 = very important)



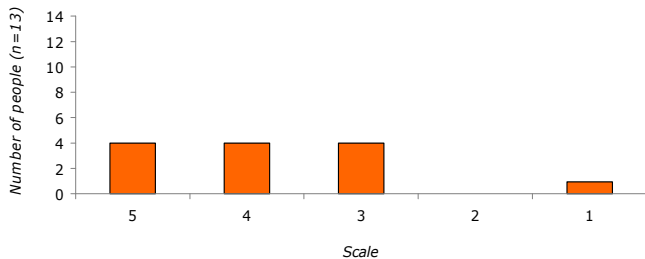
Apart from four Chinese institutes that consider the level of innovative power of industry moderate, all other Chinese respondents consider it important and very important for setting partnerships. The ranking of universities on global indicators is least important to the Chinese institutes in their considerations to start a partnership abroad. Almost half of the respondents say it is moderate to not important.

When asking the respondents to score the added value of the Dutch government in their knowledge cooperation with Dutch partner(s), five respondents perceive the added value as moderate to very low. In the personal interviews Chinese institutes say that the Dutch government could increase its involvement to ensure and enhance longer term, high-profile partnerships. Also, ten of the Chinese institutes say that the accessibility in the Netherlands to (financial) resources for the joint-research project, when working with Dutch partners, is moderate to very low (of which two respondents indicate a very low score).

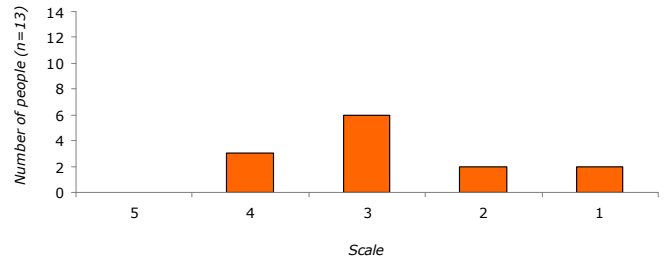


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How do you perceive the added value of the Dutch government in your knowledge or innovation cooperation with Dutch partner(s)?
(1 = very low; 5 = very high)



How do you assess the accessibility to (financial) resources in the Netherlands, when working with Dutch partner(s)?
(1 = very low; 5 = very high)



'It would be good if there are more opportunities for financial support from the Netherlands. We were to establish a partnership with a Dutch research institute, but then understood that there could only be one project funded at the same time.'

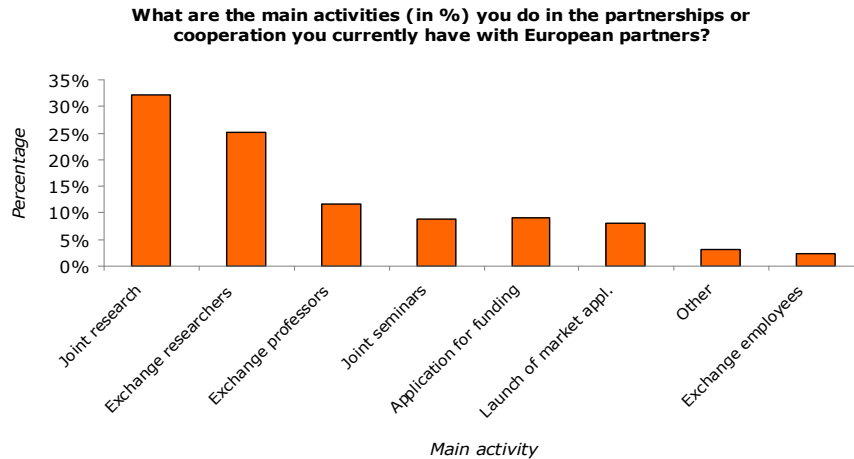
'In five years time, I expect there to be more financial funding from the Chinese side than from the Dutch side, given China's focus on innovation, so China may take the lead. There will be more Dutch universities that want to cooperate with the Chinese, but financial resources from the Dutch side are decreasing. This may result in a power shift from the Netherlands to China.'

Although the ranking of universities and institutes on global quality indicators turned out not to be a great influencer in choosing cooperation partners abroad, the Chinese institutes say in personal interviews that good scientific research in specialized areas is important. The majority of the respondents (11 out of 13) consider the quality of Dutch research institutes and universities good to very good. Only two of the respondents say that the quality is moderate. These respondents point out that they experienced a better quality from universities in the UK and Germany.

The Chinese institutes execute different activities in their partnerships or cooperation with European partners. In the top three are joint research/research cooperation (#1), exchange of students, PhD and/or Post Doc researchers (#2) and exchange of professors (#3).



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We also asked in an open question what three main activities the Chinese institutes do in partnership with their *Dutch* partners. It is shown that there are some additions to the top 3 as mentioned above, including PhD training and intercultural communication training between the Sino-Dutch partners. Also data exchange, seminars, joint effort to apply for funding are mentioned.

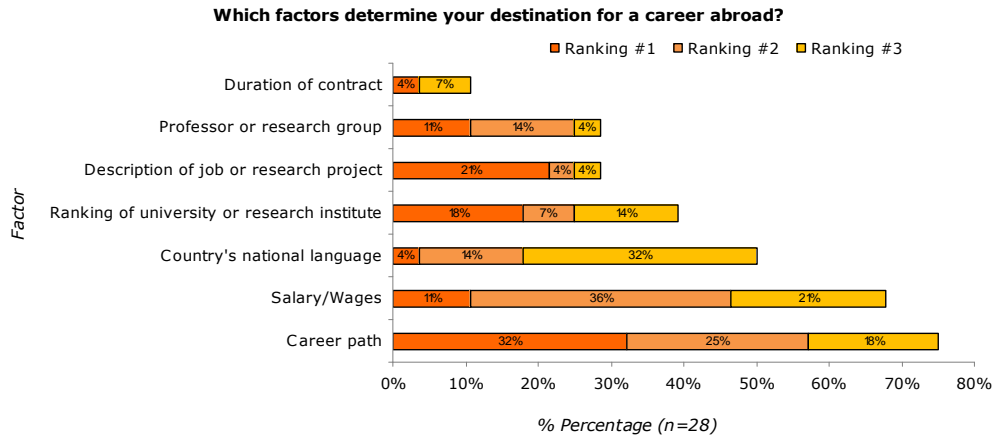
'I am involved in joint research, PhD supervising and staff training in the cooperation with the Netherlands. I conduct joint research in environmental economics which resulted in a number of publications. The cooperation is interesting because the exchange of knowledge and materials.'

3.2. Vision Chinese professionals and researchers

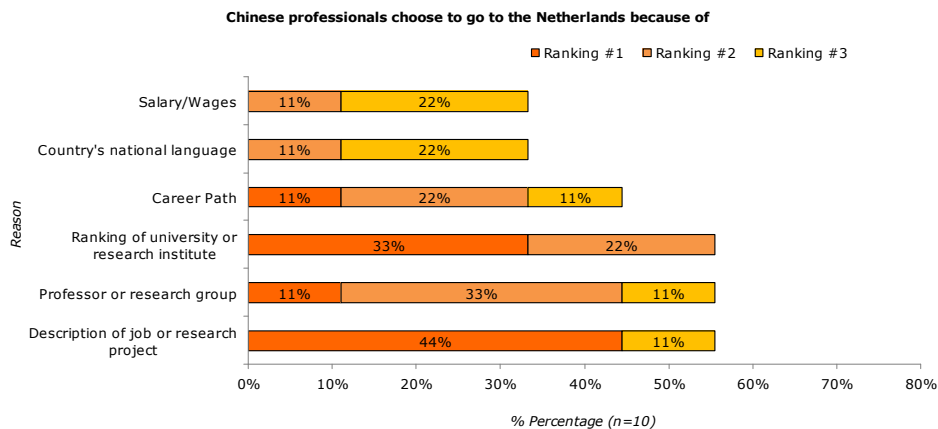
For most professionals and researchers (one third of the respondents), career path is the most important factor to determine their destination for a career abroad. For 75% of the respondents, career path is in their top 3 rankings. In a second place, researchers look at the description of job or research project as key factor (ca 20%) to choose their destination, although there are only a small fraction of the respondents who consider this as second or third factor of importance. Salary/wages is an important overall factor (19 out of 28 respondents include this in their top 3), with three of the respondents indicating this as the main factor. Country's national language and ranking of university or research institute are also the considerations of professionals and researchers when they are going to decide the destination for a career abroad. The duration of contract is the least relevant out of all listed factors which was considered by only a small part of the professionals.



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When we specifically ask the professionals and researchers who have been to the Netherlands, we see that most of the professionals and researchers who have gone to the Netherlands had a specific reason to go there. The most important factors determining their choice were: description of job or research project, ranking of university or research group, and professor or research group.



Other factors that were mentioned as important factors to go to the Netherlands were amongst others: clear and simple application; international, so easy to adapt; less Chinese people in the Netherlands (compared to e.g. UK or USA), so easier to get involved in local community; no other options; scholarship or financial aid available; worked for Dutch company, so familiar with the Netherlands.

Most of the respondents stress the fact that the Netherlands and its (research) opportunities are not well known in China, hence the Netherlands may fail in attracting Chinese top talent. Many Chinese students and researchers are interested in working or doing research in the Netherlands, but they do not have much relevant information, nor know where to find it.



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Overall, the Chinese researchers are very positive about their experiences in the Netherlands. In particular, they feel welcome and like the open-minded spirit of the Dutch. Also the work-life balance is valued a lot; including the fact the Netherlands provides a complete social security system, health insurance and education for children.

Important factors that are noted once the professionals are in the Netherlands are: difficulty in continuation career path by language barrier (not equal to the Dutch professionals on the labor market); only few (government organized) opportunities to meet other foreigners to socialize; difficulties to learn the local language; (fear for) cuts in research funding.

3.3. In sum

Our study shows that:

- The large majority of the Chinese institutes highly value their Sino-Dutch cooperation and want to continue and increase their knowledge cooperation with partners in the Netherlands because of excellent scientific knowledge in specific areas, ability to translate scientific outcomes into applications and its strong education system
- The majority of the Chinese institutes say that dealing with IP rights is most difficult in current and future cooperations
- Both Chinese institutes and researchers point out that the Netherlands and its research opportunities are not well known in China, hence the Netherlands may fail in attracting Chinese top talent
- Personal contacts or experiences with a country is by far the most important reason for Chinese institutes to start a partnership, followed by access to (financial) resources and the support of the foreign country's national or local government. It is shown that almost 40% of the respondents perceive a moderate to low added value of the Dutch government in their Dutch partnership and 80% consider the accessibility to financial resources moderate to low
- In the top three of activities in partnerships with European partners are joint research, exchange of researchers and exchange of professors. Specifically in Sino-Dutch cooperations also PhD training, intercultural training and joint application for funding are added
- For most Chinese researchers career path is the most important factor to determine their destination for a career abroad
- Most of the professionals and researchers who have been to the Netherlands indicate that they had a specific reason to go there. The most important factors determining their choice were description of job / research project, ranking of university or research group, and professor or research group



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4. RECOMMENDATIONS

Based on this study - which includes the outcomes of questionnaires and in-depth interviews with both Chinese institutes and government agencies and Chinese professionals and researchers – International Top Talent identifies a number of recommendations to put forward to the Dutch government on how to increase the country's attractiveness as a knowledge partner and how to enhance current and future Sino-Dutch cooperations.

Recommendation 1: Start active promotion of Dutch research areas and opportunities

Goal: to enhance joint research and increase the attraction of highly qualified researchers

- Promote Dutch famous scientific areas and research opportunities at Chinese knowledge institutes. Many Chinese students look for overseas opportunities to advance their career and would be interested in knowing more about the Netherlands
- Implement one contact point of an unofficial and independent society/institute that supports Chinese institutes and researchers with access to Dutch innovation and research programs, job opportunities and to bridge intercultural differences
- Ensure one joint approach (based on top sectors) for the Netherlands. Now it seems that Dutch MNC's, SME's and universities are individually setting up cooperations, deteriorating the chance to attract the best researchers and innovation cooperation with China and cause diffuse promotion
- Activate an alumni network of Chinese professionals and researchers that have lived in the Netherlands. The Netherlands can benefit from this large group of ambassadors that now hold important positions in the Chinese research world, industry or government

Recommendation 2: Focus on cooperations in the seven priority sectors of China

Goal: to ensure high-profile and long-term partnerships in areas that China is now rapidly developing

- Analyze in depth how the Netherlands can add value to China's long term goals in the top seven priority sectors
- Take action now to make sure that the Netherlands is one of China's future knowledge partners. China is rapidly changing from being the factory of the world into a knowledge based innovation economy. With the new policies, China will start taking the lead in the set-up of international cooperations and will focus on finding the right innovation partners. If the Netherlands wants to grasp from this growth, it should take action now to connect to these opportunities
- Increase the understanding about the Chinese knowledge and innovation eco-system. As China intends to transfer in a leading innovation country in the next years, Dutch partners need to understand better what knowledge China is looking for. This can be done to intensify communication with Chinese institutes, students and government agencies, i.e. by organizing knowledge seminars/round tables and increase the number of research or professor exchanges to the Netherlands

Recommendation 3: Invest in strong relations with the Chinese government

Goal: to ensure high-level and long term deals for Dutch universities, institutes and companies

- Invest time to build up strong relations with Chinese government in the areas where the Netherlands can add value to China. Be aware that it may take long, but pays off the investment in the long run



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- Increase cultural understanding of Chinese partners and the developments China is going through. This can be done by increasing the exchange of Dutch researchers and professors to Chinese institutes
- Share ideas with the Chinese government on specific policy changes that may support the outcomes of joint research programs, such as extending the stay of professors sent to the Netherlands to execute research (now max 2 months allowed)

Furthermore, International Top Talent would like to suggest the following based on the output of the and questionnaires and in-depth interviews with the Chinese parties:

Suggestion 1: Increase level of services for Chinese researchers and professors

Goal: to retain top talent in the Netherlands and increase the competitive advantage against other European countries like UK and Germany

- Offer more support in the visa application process (IND). Chinese respondents feel that its easier to get a visa in Germany and Belgium than in the Netherlands
- Increase the attractiveness of the Netherlands for a professional's or researcher's career path. This can be done by making sure that foreigners have equal opportunities in the local job market. To Chinese researchers, it seems that Dutch companies think that the social and communication skills of Chinese are less developed than those of Dutch, deteriorating the chance of (management) positions. The Dutch government can support by offering intercultural training programs and language courses
- Pay more attention to the international community. The Dutch government can for example facilitate meetings and events for all foreigners, including locals, to have a better integration in the region. There seems to be a big demand for these events
- Lower the relatively high tuition fees for foreign students for Master studies in the Netherlands
- Increase number of scholarships. Chinese institutes feel that compared to the USA the Dutch have cut the number of scholarships, which has a negative impact on the attractiveness to choose for the Netherlands



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ANNEX 1: PARTICIPATING INSTITUTES, GOVERNMENT AGENCIES AND INDIVIDUALS

Group 1: Chinese institutes and government agencies

For this study we conducted a questionnaire among 13 Chinese institutions and government agencies active in different sectors, and had additional in-depth interviews with 8 of them.

All institutes have international knowledge cooperations: 85% of them with the Netherlands, respectively 54% with Germany, 46% with the UK, 31% with France, 23% with Eastern European countries, 23% with (other) northern European countries, 8% with (other) south-west European countries and 46% with countries outside Europe.

The following institutes and government agencies participated in the study:

CAS Center for Chinese Agricultural Policy
CAS Institute of Genetics and Developmental Biology
CAS Shanghai Institute of Ceramics, Crysral Research Center
CAS Shanghai Institute of Ceramics, Key laboratory of transparent Opto-Functional Inorganic Materials
CAS Vegetables and Flowers Institute
Chinese Scholarship Council
CM Solutions (Shanghai) Ltd.
Jiangsu LanTian Aerospace Industries Park
Nanjing Agricultural University, College of Land Management
Shanghai University, Management science and engineering
Shanghai University, Mathematics department
Tsinghua University, Dept hydraulic engineering
Zhejiang University, Neurobiology

Group 2: Chinese professionals and researchers

For this study, we also completed questionnaires with 28 Chinese professionals and researchers and conducted additional in-depth personal interviews with 8 of them.

Of these 28 professionals and researchers, 27 have been to Europe for either study or career. All have a technical background and are mostly active in industries in the list of Dutch top sectors. The respondents have been to the UK (63%), the Netherlands (26%) and other countries (4%).