

City-university collaboration in Aachen: Recommendations based on a peer-review

Results of the EUniverCities peer review session

Aachen, 19-21 September 2012

Dr. Willem van Winden, lead expert of EUniverCities

w.van.winden@urbanIQ.nl

urbanIQ



EUniverCities



Table of contents

| | |
|---|-----------|
| 1. Introduction | 3 |
| 2. Aachen: City & Universities | 4 |
| 3. Results of the peer review | 9 |
| Annex 1 Programme of the meeting | 13 |

1. Introduction

Fruitful and effective forms of co-operation between city and university can significantly contribute to a cities' development towards a knowledge economy and a knowledge society. The EUniverCities project unites 10 European cities and their universities that want to learn from each other in this respect. The network addresses the issue how to frame co-operation between city and university, and arrive at smart, "next-generation" forms of city-university collaboration. The core idea behind the network is that more comprehensive types of collaboration and "co-creation" will bring significant benefits for both sides, and will strengthen the position of the city as knowledge-based city.

In the context of the exchange programme, Aachen hosted a peer review session, a method that helps to audit a project using the expertise of project partners from different countries that work in the same field. A delegation of the partner cities paid a 3-day visit to Aachen and made a critical assessment of the city-university relation, including the plans for the new RWTH campus.

The first day of the meeting was meant to inform the partners in more detail on the developments in Aachen, and the current forms of city-university partnerships. A number of local stakeholders presented their views to the audience. During the second day, the audience was split into three working groups, where each group was a mix of foreign and local participants/stakeholders. The groups elaborated their observations and produced a series of recommendations and ideas for the city and its universities.

This report summarizes the outcomes of the peer review session. First, for readers not familiar with Aachen, it sketches some basic features of the city (section 2), and a description of city-university partnerships¹. Next, it summarizes the views, visions, ideas and recommendations that were developed during the peer review session (section 3).

The results are the fruits of a combined effort of all the people who were involved in the group discussions and the presentations. The author is highly indebted to all the participants in these groups, and in particular to the other workshop leaders, Mrs. Anette Klinkert (City2Science), and Mr. Patrick van Geel (City of Delft), who both did an excellent job in moderating the discussions, and members of the local Aachen team, who prepared the meeting so well.

¹ This part is derived from the "baselinestudy" made for EUnierCities, for which the author interviewed a number of stakeholders in Aachen.

2. Aachen: City & Universities

Aachen has about 250,000 inhabitants. It is a relatively young city, and internationally oriented (thanks to its large foreign student and scientists population, and its location near the Belgian and Dutch border). For decades, textile and mining industries were the main sectors in Aachen. These sectors declined since the 1970s, leaving many people unemployed. It is estimated that between 40,000 and 50,000 jobs were lost in the restructuring process. Since, the city has been in a process of searching for a new identity and new economic engines. During the 1990s, science and higher education emerged as new anchor points. Key players in the region realised that the RWTH Aachen University and the University of Applied sciences (UAS) could become sources of economic dynamics, as an attractive partner for technology companies (with its competences, technology and knowledge), and as source for start-ups. From the 1990s on, city and local/regional stakeholders co-operate intensely to realise the potential, and developed all sorts of technology transfer centres and incubation centres to commercialize knowledge. Over the last 25 years, more than 1,400 start-ups were created from RWTH Aachen University, creating about 32,000 jobs. More than 50,000 people study or work at one of Aachen's universities/science institutes. In recent years, the city attracted some renowned private research institutions, including R&D establishments of Microsoft and Ford.

One feature of Aachen is that the city has little –if any- large indigenous technology firms. The modest economic base cannot absorb the universities' outflow of graduates, and many students leave the city after graduation. The South of Germany (Stuttgart, Munich) is a popular destination: this is where many of Germany's high tech companies are located. Typically, they pay higher wages than the SMEs in Aachen, as well as an attractive career perspective.

Universities

Aachen has 4 universities: the RWTH Aachen University is by far the largest one, with 35,800 students. It is the best-known and most dominant university. The second main university is the University of Applied Sciences (UAS), with about 10,500 students. The two remaining universities are rather small. Both RWTH Aachen University and the UAS are focused on technical studies. There is a strong overrepresentation of male students: about 70%.

The *RWTH Aachen University* has about 35,800 students and 7,000 employees. It offers 118 courses of studies. It is recognized as a German and European top-university in the field of technology. In 2004, it was awarded national Excellence status², and in 2012 this recognition was renewed. In a recent survey, German companies choose RWTH Aachen University as best university in Germany. It is an application-oriented university, which is reflected in the amount of third-party funding (€227m, of which 30% from the industry, making it No 1 in Germany in this respect). The university has a focus on engineering, closely co-ordinated with the natural sciences and medicine. Over the years, the RWTH Aachen University has expanded its networks with university partners in Europe (among others, it is member of the Idea League, uniting the top technology universities in Europe), and increasingly also in other parts of the world. Co-operations are directed towards staff/student exchange and joint participation in research projects and programmes. The university has opened offices in New

² The Excellence initiative of the German federal and state governments rewards high-quality universities. RWTH Aachen obtained an impulse of € 180m in the first approval phase.

York and Beijing (and considers to open up in other places as well), among other things to recruit foreign students.

The *University of Applied Sciences* offers a variety of studies³: technical and engineering studies, informatics, but also architecture, business studies, and design. The focus is on technical studies. Research spearheads are energy, mobility, and life sciences, and the university has a strong and long tradition of working with the (local) industry. Compared to RWTH Aachen, it has more links with SMEs.

For both universities, the region is an important source of freshmen. 64% of the UAS students come from the state of North Rhine-Westphalia. At RWTH Aachen, an estimated 80% of the students come from an area within 80Km from the city. In the coming years, due to ageing, the pool of new students from the regions will inevitably decline. Both universities have the ambition to attract more students from other German states and abroad, and they are confident that they will manage, given their solid reputation. The HEIs in Aachen work on a more pro-active alumni policy, to keep the link between alumni and university.

Internationalization is a spearhead in both institutions. RWTH Aachen University counts about 5,000 foreign students, from 120 countries. At UAS, there are about 2,300 (20% of the total) and at both institutions, the percentage is growing. At the UAS, foreign students pay a fee of €15,000 in their first year; the fee covers also housing and transport. After the first year, education is almost free (they pay the €200 per semester, like the Germans). At RWTH Aachen University, foreign students get education for free.

In Germany, the funding of the HEIs (for education) depends on the number of enrolled students. However, universities do not get funded for shifting students who dropped out from another institution. For the UAS, this is a problem: 50 % of the RWTH Aachen university freshmen drop out in their first year, and many of them continue their education at the UAS.

Both RWTH Aachen University and the UAS are focused on technical studies. There is a strong overrepresentation of male students in the city: about 70%.

Most of the buildings of the RWTH Aachen University are located adjacent to the city centre. The campus will be enlarged in the years to come (see box). The UAS campus is located somewhat outside the city centre. Finally, there is an important research campus at Jülich, outside the city.

City-university co-operation: an overview

In Aachen, city and universities have a long and tradition of fruitful co-operation. For long, there has been recognition of mutual dependence, and the key players share the view that an attractive city helps to lure scientists and students, and that a strong university is an economic and cultural engine for the city.

A strong wave of city-university co-operation occurred in the 1990s, when there was a common understanding that science would become a pillar under the cities' restructuring (after the heavy job losses in textile, mining and heavy industries). Jointly, a number of actions were taken to promote technology transfer from university to industry, and to boost start-ups. In 1996, city and university signed an 11 point strategic programme. Central points were collaboration in knowledge transfer and strengthening of competitiveness. The contract

³ 48 Bachelors and 22 Masters, as well as curricula for combined working and studying

was renewed in 2004, and currently another review is taking place. Central elements in the agreement will be: the acquisition of new students (national and foreign); the attraction of knowledge-based companies; urban planning & mobility; the development of the new campus (more on this will follow); and science & society relations. The document will not be a formal contract or an action plan, but rather an expression of intentions.

Since 2001, the city employs a full time employee⁴ for higher education affairs, functioning as central contact and co-ordination point for anything related to the HEIs. This has resulted in a number of activities and projects (some of them listed below).

At the top level, there are annual meetings between the board of the city and the boards of the two main universities in the city; here, strategic issues are discussed. Moreover, there is a plethora of co-operations on lower levels between both organisations.

New university campus

The RWTH has ambitious plans to develop a new campus for high quality research, linked to business. The new campus, campus Melaten, is being built at the western part of the city, close to the Dutch border. The campus plans are the largest campus expansion scheme in Europe, and the RWTH estimated to attract an additional 5,000 knowledge workers and scientists. A Campus GmbH was created, with 95% of the shares in the hand of RWTH Aachen, and the other 5% owned by the city. The campus is being built around the concept of strategic university-business collaboration. It will consist of a number of clusters focussing on particular research themes or technologies. Strong research groups are asked to formulate a strategy for the R&D cluster⁵, and invite relevant companies to become strategic partners. Companies can locate at the campus⁶ when they sign a 10years co-operation agreement, which includes obligations in terms of research co-operation with university groups, as well as teaching. The idea is that companies will be attracted by the world-class research infrastructure, the presence of high quality researchers, and recruitment opportunities to get the best students. For each cluster, there will be a tender inviting private investors to invest in the buildings and structures. The land is owned by the BLB, the building company of the state of NorthRhine-Westphalia; the main role of the city is to build the infrastructure and urban planning. For more information, see the website: http://www.rwth-aachen.de/cms/root/Wirtschaft/Campusprojekt/~elf/RWTH_Aachen_Campus/lidx/1/

This short film highlights the campus philosophy:
<http://www.youtube.com/watch?v=aA381P4ZqTI>

The city-university nexus covers a number of fields. Below is a list of the most important current collaboration activities in a number of domains:

Local/regional economy

⁴ In the department of economic development/European affairs

⁵ The initial 6 clusters include: bio-medical engineering, logistics, integrative production technology, photonics, heavy duty & off highway powertrain, and sustainable energy.

⁶ the law had to be adapted to allow companies to locate at a university campus

- In the 1990s, incubation and technology transfer rose on the agendas of city and universities; currently, there are 13 technology centres (some specialised in particular sectors, some with a focus on start-ups) in the region, and Aachen stands out as an early mover and best practise in this field.

StreetScooter GmbH

A group at RWTH Aachen University developed a low-cost, electrically powered vehicle, the “street scooter”. A new company was created, Streetscooter GmbH, to commercialize the idea. Since, a main client was found: The German Postal Service company ordered 20,000 units.

- To make the connection between students and local/regional companies, every year, city and university organise the “night of the companies”, in Aachen’s technology centre. Companies present themselves to the students in an informal atmosphere; there are bus tours for in-company visits.
- University professors are connected to companies in the TETRA project (funded by Interreg). One action is the “profs on tour” initiative: professors visit SMEs, inform them about their research, and look for collaboration opportunities.

Internationalization

- The city has established a support desk for foreign employees of the HEIs
- The city marketing efforts are bilingual, directed at students, scientists and knowledge workers.
- At the central station, international visitors are welcomed in English with bilingual banners “RWTH Aachen University – Stadt der Wissenschaft” (City of Science).
- In Aachen, city and universities work closely with their counterparts in nearby Leuven (Flanders, Belgium) and Eindhoven (The Netherlands) in the ELAt Triangle (see <http://www.elat.org>). Jointly, they want to promote the wider region as leading European technology hub. Themes are cross-border co-operation in specific knowledge clusters, start-up promotion, and knowledge transfer. A number of projects are running under this network.

Student life

- Student housing is a big issue in the years to come: due to a shortening of pre-university education from 9 to 8 years, there will be a double wave of freshmen in the winter semester of 2012 at UAS. The RWTH Aachen expected 10,000 freshmen in 2012 (normally, the figure would be around 6,000). This wave implies that in the next 4-5 years, additional student housing is required. To address this issue, the “Extra Room” campaign (www.extraraum-aachen.de) was set up, encouraging homeowners to rent space to students. The initiative was taken by the city, in close collaboration with RWTH Aachen University, the UAS, and Studentenwerk.
- The participation of students in the power structures of city and university is limited; some students are active in the political arena of the city, but there is no special voice expressing the interests of Aachen’s students. Moreover, within the university, student participation is declining; at the latest student council elections, the voter turnout was 13%.
- The Culture Department of the city is developing events that fit better with the demands of students and scientists in the city

Attractiveness/marketing

- There is joint marketing effort of city and university, inside and outside Aachen: a common presentation at events, such as expo 2000, EURegionale 2008, etc.
- In 2002, a city marketing agency AachenMarketing was established (by then 2 FTE, and a budget of 80,000). It markets Aachen as science and student city. The efforts were intensified in 2007, when RWTH Aachen University received national excellence status, and its highly ambitious plans for the new campus were revealed. Since then, science and technology are central elements in promoting the city. A survey in 2008 showed that at least the population now considers science city as most important image factor of the city. To realise the ambitions, in 2008, staff was doubled from 2 to 4.
- The Aachen-Emotion campaign (www.aachen-emotion.com) offers views on living, studying and researching in Aachen.
- The city organises a “newcomer day”, welcoming employees, professors and scientists in the city.
- The Rector of RWTH Aachen University has made clear that he wants to take action to make Aachen a more attractive city for student and scientists, together with the city.

Science & society

A number of initiatives are taken in this domain:

- “Science to touch”: Expositions in libraries; public lectures and debates; linking science with culture and arts, or other areas. Examples: “Uni im Rathaus” (Science in Townhall), and KulturLabor, with growing visitor numbers.
- The new “Centre Charlemagne” is intended to develop as a place to disseminate research findings, inventions and events for the HEIs.
- The university created a special unit, RWTHExtern, to link science to the local community and to open up the “black box” that the university is for many citizens. It combines science and culture by organizing public lectures on topical issues (i.e. on healthy food, nuclear energy), and Campus Tours (about 35 per annum), where interested citizens can make a guided tour in a lab or a research group. Also, there is a programme with movies, self-critical cabaret, concerts etc. The budget of the unit is rather limited: €50,000.
- Collaborations in the region to reach different target groups.
- The UAS runs a project on electronic mobility: they are testing electric vehicles in the city.
- The UAS organises a Children’s University: school children from primary schools can attend science classes. The programme is called “experimentation Helicopter”, and it is very popular. For secondary school pupils, the UAS and RWTH Aachen University jointly organise extra math classes for pupils with deficits in this field.

3. Results of the peer review

During the peer review, three groups of 10-15 people each reflected on the issue of city-university collaboration in Aachen, based on information obtained during the first day of the seminar and the baseline study (section 2). Each group consisted of a mix of local people (knowing the local situation well), and project partners from abroad. Each group shared observations (based on presentations on day 1 and the bus tour/guided walk at the Melaten campus), and developed a set of suggestions and recommendations. Below, they are elaborated. First, we describe a number of observations that were made in the groups, concerning Aachen in general and the collaboration between city and university. Next, we present ideas and recommendations.

Observations

Within the groups the participants started with sharing their observations concerning Aachen in general, and the observed cooperation between city, university and other stakeholders. Here is a summary:

Aachen has a number of strong assets. It is a nice and liveable city with excellent universities. It has made great steps in the transition towards a knowledge economy, after the decline of traditional industries, and the universities have become an economic engine. The visitors overall agreed that the campus development is innovative and a promising new step in this respect. Most participants valued the concept in which business and academia are growing more close to each other and benefit from each other's strengths, although there were also critical questions whether economic motives may dominate the research agenda, with potentially negative impacts on "free" and critical types of research.

Aachen does many things well. One strong point –noticed by several participants- is the way students are welcomed in the city. And also, the way city and universities are trying to solve the housing problem is considered innovative.

At the same time, it was widely noted that science –being such an important force- is hardly visible in the (inner) city; visitors may come to Aachen without noticing this core aspect of the city. In several respects, it is as if the city and the university (or the citizens and the academic community) are two worlds apart. This pattern is repeated in the development of the Melaten campus, in relative isolation from the city centre, not well communicated to local citizens, and not (yet) integrated in the cities' identity. Also, it is noticed that students –or the academic community at large- are generally not deeply involved in city planning and strategy building, and hardly mix with the rest of the population. As one participant put it, "the challenge is to convert Aachen from a *city where science takes place* into a real *science city*".

In the city-university relation, there seems to be a tension between global excellence (a goal of RWTH) and local commitment. The impression is that the university has a dominant role, and asks the city government to create the right environment –physical, cultural- for it to flourish, more or less one-directionally. The municipality is a facilitator rather than a partner. This observation holds much less for the other main university, the Fachhochschule. Moreover, there seem to be a lot of –fragmented- initiatives in which universities and city collaborate, but what lacks is a strategic framework that links them all together and provides a future perspective/vision.

In the presentations held the day before, the students' voice was largely absent. What is the role of students in urban decision making? How are they deployed –if at all- in city marketing?

One point noticed was the domination of male students –of course related to the technology profile of the universities. This reduces the stay-rate of students after graduation (because relationships are a key reason to stay) and thus hampers Aachen’s progress as knowledge city to some extent. Some participants suggested to add softer study curricula to the universities’ portfolio (arts, humanities); this would not only help to close the gender gap, but also may offer scope interesting and innovative crossovers between technology, arts and behavioural sciences that make sense from a business perspective.

Overall, the verdict is that there are unexploited opportunities (rather than problems) concerning the city-university nexus.

Suggestions and recommendations: Building bridges

The participants see scope for improvement/interventions in a number of respects. The overarching recommendation is to “build bridges”, and a number of suggestions and recommendations were developed.

Bridging city and campus

City and campus are now developed physically apart from each other. The campus will be an important part of the city, but ordinary citizens will not relate to it without interventions.

Some relatively easy measures could improve the connection:

- Make the Campus Melaten (and West) part of the city life of Aachen, by opening public and attractive amenities for all: restaurants, recreation facilities, etc.
- Introduce “science busses” (in campus colors) that connect the city with the campus, with video messages about science (history) linked to the RWTH Aachen and FH Aachen > ‘Get smart on the bus!’
- Open the campus up to the general public, by organising public lectures, bike tours, open up playgrounds, organise barbeques
- Create a festival on the Campus: e.g. „LlowLab“ (LlowLand Festival). Scientific results could be shown at some sort of science festival.

Linking citizens and the scientific community

In Aachen –like in many other university cities- there seems to be a gap between “ordinary” citizens and the academic community, even though the community at large accepts the idea that science and innovation are the way forward for the city and its economy. Nevertheless, it can make sense to reduce the divide, in order to raise mutual understanding and to increase support for knowledge based investments, to share facilities, and to have a more common identity. The lecture of Dr Klinkert made clear that societal support for science (and trust in it) is fragile. Organizing regular meetings between citizens of all ages and scientists could be an important first step to bridge the gap. Other options are all sorts of festivals and events that link science to society, or to put more effort in opening up the universities’ facilities to the general public at times.

Linking history and present

The cities’ rich history –as a political and religious centre- is highlighted in its marketing efforts, and visible everywhere in the inner city. This is much less true for the cities’ present (and future) identity as a city of technology and innovation. It makes sense to pay more attention to this. Some general suggestions are to use innovative technology in public spaces (using students/research groups as partners to develop this); to confront tourists more with research findings or interesting inventions, and to develop projects on Technology & Tourism in partnership.

Some concrete suggestions:

- Show electric cars in city centre, let citizens try them
- Work with innovative signposting, lighting solutions, etc.
- Give science a more prominent place in tourist brochures
- Showcase innovative prototypes in the city centre, in a “glass box” that everyone can see.

Connecting students and politics/policy making

Students (and researchers) are not much involved in the cities’ decision-making processes, or in urban planning projects. But their ideas, brainpower and energy could be used in several ways to improve the city. As someone put it: “no one thinks outside the box better than students. 45,000 super-smart brains is Aachen’s prime resource”. The challenge will be to match the cities’ needs with the pedagogic and research aims of the universities. Students and researchers should be more addressed as citizens of Aachen who can help improve the city, rather than temporary “bypassing” citizens.

Several actions were proposed (some are already in place in some of the partner cities) to match academic teaching&research with urban issues:

- Creating a “student task force” or “think tank” on current urban issues and problems
- Organize a student competition to find solutions for a problem that has been formulated by the city
- Investigate whether practical assignments related to the city could get a place in the universities’ curricula
- Consider to create “living labs” where students/academics work on urban issues
- Give room for student projects in empty shops

Miscellaneous ideas suggested by the participants:

- Attract more girls. This can be done by adding “softer” faculties to the universities; offer a “Boyfriend Guarantee!” (Germany at its Best..) for girls who come to study in Aachen.
- Improve links between local/regional SMEs and the university, in order to a) increase the stay rate of graduates and b) find business partners for academic research. Some EUniverCities partners have experience in this respect:

Aalborg: Matchmaking between companies and students: students have to write/create project together with companies

Linköping: An Innovation Office –not only in the city but also in smaller municipalities in the region- representing the university as partner for business.

On marketing:

- Find smart ways to reach the parents of students. Seduce them to stay longer as tourists, make them ambassadors of the city and the universities.
- On marketing: “selling” Aachen as a knowledge or science city is not enough (many cities do the same). One has to go deeper and think about how to develop a really distinctive image.
- Think about how to involve international students & alumni in the marketing of the city.

Conclusion

Given the number, breadth and diversity of observations and recommendations, it is hard to draw one general conclusion of what needs to be done in Aachen. It is, of course, up to the main stakeholders to decide what to do with the results presented here. Nevertheless, one more general recommendation is that it could make sense to develop a common future agenda on Aachen as a science city (rather than a city in which science takes place), in a partnership with the universities, the city, the county, businesses, students and other citizens. This process could help to mobilise people and resources, to prioritise actions, to connect things that are now unconnected, and to arrive at a coherent future vision with broad support. The EUniverCities programme could be a source of inspiration –a lot can be learned from other European cities- and the local support group can play a pivotal role in starting up the process in Aachen.

Annex 1 Programme of the meeting

Tuesday 18 September

16 – 20 hours Arrival European partners
20 hours Dinner

Wednesday 19 September

8.45 Gathering at the market square (Markt, 52062 Aachen) in front of the City Hall/Rathaus
9.00 Welcome by Marcel Philipp, Lord Mayor of Aachen
9.10 Opening remarks: City of Aachen + Willem van Winden & Patrick van Geel
9.30 Elke Ariëns, Isabelle Pitre, City of Aachen:
Cooperation between Aachen and the universities
10.00 Dr. Anette Klinkert (key-note speech): City marketing of science cities
10.45 Coffee Break
11.00 Manuela Ehresmann, NRW Invest: International marketing
11.45 Simone Schmitz, Patent Scout, RWTH Aachen: Technology marketing
12.30 Lunch
14.00 RWTH Aachen Campus Tour
14.30 Dr. Brandstetter, RWTH Aachen Campus: Marketing RWTH Aachen Campus
16.00 City tour (optional)
17.30 Back to hotel
19.00 Dinner

Thursday 20 September

8.30 Gathering at the market square (Markt, 52062 Aachen) in front of the City Hall/Rathaus
9.00 Dr. Mandelartz, University of Applied Sciences: Local Marketing & Technology Transfer
9.45 Brief plenary explanation on what the day will bring and what is expected from everybody (Willem van Winden)
10.00 Session 1: Observations (split-up in 3-4 groups)
10.45 Coffee break
11.00 Session 2: Suggestions/recommendations (split-up in 3-4 groups)
12.30 Walking Lunch
14.15 Session 3: Summary of group outcomes (moderators)
14.45 Session 4: Each group discusses and develops more elaborate recommendations for host city Aachen (split-up in 3-4 new groups)
16.15 Coffee break
16.30 Continuation Session 4
17.30 Wrap-up
17.45 Hotel/free time
19.30 Dinner

Friday 21 September

8.45 Gathering at the Market square (Markt, 52062 Aachen) in front of the City Hall/Rathaus
9.00 EUniverCities Network plenary meeting
11.00 Coffee break
11.15 EUniverCities Network plenary meeting (continuation)
12.00 Presentation of group session outcomes: observations, recommendations, tips and tricks

- 13.00 Walking Lunch / Departure Network members
- 14.00 URBACT: Presentation partnership, Local Support Groups, Administration, Financial matters
- 17.00 End of programme: free time / Departure Network members