



| CESAER Task Force Human Resources |

Final Report of the First Phase of the CESAER HR Task Force

**CESAER**

conference of european schools  
for advanced engineering education  
and research



## Executive Summary

The aim of the HR task force, established in 2012, is to exchange best practices and identify common challenges with regard to HR for engineering departments and technical universities. The first two years have been an exploratory phase, in which it was important to build and foster the network between member universities and to define the next phase of this task force.

The task force has been very active and has made considerable progress, especially with respect to the CESAER ERA commitments addressing the ERA priority “Researchers and Research Careers”. Over the past two years it has carried out studies and produced reports which explore the main issues and best practices in the following six key HR areas: Attraction, Recruitment, Selection; Career Development; Leadership Development; Performance Management; Gender Equality; Human Resources Strategies for Researchers at European universities of science and technology. The commitment to ERA has been a helpful incentive to push forward and complete the objectives ahead of time.

Based on the findings of these reports, several bi-lateral visits were organised. These visits have resulted in the transfer of the best practices whereby HR policies, systems and tools have always been adapted to the specific legal and institutional contexts of each individual university. We view it as a significant result that **all** members of the HR task force have altered or added some of their policies thanks to the inspiration of peer-institutions in this task force.

A milestone for the HR task force was the conference ‘HR in Academia’ organised in Delft in 2014. The conference was open to all members of CESAER and it was attended by 63 people, both academic staff and HR professionals. As well as presentations by key speakers, the intermediate results of the working groups of the six topics

listed above were presented to a broader audience of all CESAER members of in a series of workshops. The discussions that took place during these conference workshops helped the task force to decide what to focus on in the next phase.

In autumn 2014, the task force voted unanimously to continue the collaboration and build further on the insights and results already achieved. Following on from the exploratory phase with a few key-members, we will now deepen the knowledge gained and institutionalize the best practices. This will be achieved by a broadening of the task force membership, a shift in thematic emphasis and also by adopting a different way of working.

- Members: broaden the circle of participants to CESAER members that have been less visible within the CESAER network
- Topics: enable exchange of support staff; enable the implementation of policies and infrastructures that increase the mobility of researchers in the European Research Area; develop policies for postdocs and PhDs and their career paths.
- Working method: invest in the formulation of proposals in order to obtain grants that enable bilateral visits (e.g. exchange of support staff) and implementation of policies and infrastructure that enhance the mobility of young researchers

The members in the HR taskforce have been very active in generating, exchanging and analysing information and identifying new best practices. Individuals and organisations have put a lot of time and effort into this network, with rewarding results. The most important conclusion for all members is that the more they invested, the more they got out of the task force. In short: it pays off to put resources into this network.

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## Introduction: Why task force Human Resources?

How to recruit, select and retain the very best people in the world?

This has always been a major challenge for any organisation, but now, for universities especially, it is (or should be) the number one issue, for at least three reasons.

First of all, the increased internationalisation of universities has opened up new opportunities for the academic workforce. Good academics can choose their workplace on any continent, as language and cultural barriers are being slowly eroded. In this globalised world, a determining factor for scientists when choosing a university as their workplace is whether they are surrounded by other excellent researchers. Excellence attracts excellence. The quality of a university's staff is paramount - as a magnet for attracting other high quality staff, the very best students and also funding from industry, in the fields of education, research as well as in valorisation. The key factor in improving the quality of the university is to improve the quality of the staff, making, the Human Resource component the determining factor in university strategies.

Secondly, we are facing societal problems that cannot be neglected: food shortage, provision of healthcare to elderly people, energy supply and the depletion of fossil fuels- to list only a few. These issues are especially relevant for engineering universities that are, by definition, aimed at designing a solution for a problem. In order to solve these problems, an interdisciplinary approach is essential. After all, a technical solution such as robots in healthcare can only be successfully implemented when both nurses, medical doctors, engineers and policy makers work together. This kind of interdisciplinary work asks for a different kind of academic staff and calls for scientists that, alongside their scientific and

technical expertise also have the ability to coach, lead and organise staff from varying backgrounds in broad-based research programmes. HR can play an important role in identifying and further developing these essential non-technical competences. Thirdly, there is a re-evaluation taking place of the role that engineering departments and technical universities as institutions fulfil in society. Traditionally research was at the core of the university strategy. Now, there is an increasing focus on education and, to a degree, valorisation. Changes in the way universities are funded have led to different demands on the academic staff. They have more roles to fulfil and this asks for a different type of leadership. A scientist must not only be top scorer when it comes to publications, but must also excel in education, valorisation and organisation. Again, HR can play an important role in balancing the various demands and further developing the skills in all these areas.

It is for all these reasons that the Conference of European Schools for Advanced Engineering Education and Research (CESAER) chose to establish a task force on Human Resources. CESAER is a non-profit international association of leading European universities of science and technology and engineering schools/faculties at comprehensive universities and university colleges. The network comprises over 50 members from 25 European countries. It was founded in 1990 with the aim of establishing special academic ties and exchanging best practice, to enhance the development of European education and research policies. Nowadays, CESAER stands for scientific excellence in engineering education and research and the promotion of innovation through close cooperation with the private and the public sector in order to ensure the application of cutting-edge knowledge in industry and society. In general, apart from providing a

discussion platform to foster a constructive dialogue and establish multilateral contacts between the universities, CESAER is dedicated to developing joint research, educational and other projects and to playing a major part in decision-making processes in Europe, be it in the area of HR development or elsewhere.

Towards the end of 2012, a CESAER Task Force on Human Resources was established in order to identify key operational and

strategic issues of common interest, and share best practice in HR. In this task force HR professionals share international challenges of human resource management in higher education, such as competition for talent, recruitment and aging workforce, employability, equality and diversity, learning and development.

## Six themes of the Task force Human Resources

Engineering departments and technical universities have some challenges in common with comprehensive universities, but in some respects CESAER members face quite different and specific challenges. The task force has elected six topics that are a top priority for any engineering department or technical university and that address topics prioritized by ERA

- **Attraction, Recruitment, Selection**  
The goal here was to list the challenges faced by CESAER members in attracting and recruiting high quality staff, with particular focus on mobility, diversity, internationalization and providing attractive career paths for young scientists.
- **Career Development**  
The objective of the CESAER HR working group "Career development" was to exchange nationally established career structures, promotion mechanisms and personnel development programs in order to inspire and learn from each other.
- **Leadership and Leadership development**  
The main activity of this working group was a survey amongst the members of the HR task force into the current status of leadership and leadership development at their universities.

- **Performance Management**  
The aim of this working group was to make an inventory of good practices with regard to performance management and appraisal systems among the members of the HR task force, the ultimate goal being to inspire member universities to broaden the repertoire of methods and tools used and to improve the performance management and appraisal systems where appropriate.
- **Gender Equality**  
This working group aimed to carry out a gender equality survey among CESAER member institutions, to examine structures and measures that support gender equality, to analyse the gender equality plans in place at member institutions and to list examples of dedicated measures and best practices that promote gender equality.
- **Human Resources Strategies for Researchers at European universities of science and technology (HRS4R).**  
The HR task force aims to promote HRS4R excellence logo among CESAER members and to increase the number of universities working towards the Logo.

## Method and way of working of the task force

The task force defined six working groups. In each of the working groups, different member universities fulfilled the role as project leader. Each of the working groups gave frequent updates in the meetings that were organized twice a year.

Moreover, all working groups gave a workshop at the first conference “Human Resources in Academia” organized by the Task Force HR On May 21-22 at Delft University of Technology. The conference was open for all members of CESAER and it was visited by 63 people, both academic staff and HR professionals. In the workshops the intermediate results of the working groups -of the six topics listed above- were presented to a broader audience of all members of CESAER. In this

way, the results were disseminated beyond the member institutions of the task force to all the members of CESAER.

HR professionals were encouraged to broaden their experience and enhance their skills. The conference facilitated contacts with peers from different countries, cultures and experiences. Participants gained insights into the HR culture in other countries, and acquired a better understanding of the needs and experience of international research staff who come to work at their own university. It was and is CESAER’s ambition to bring together all those with a stake in HR at universities of science and technology, to connect and reflect and to strengthen their knowledge.

## Outline of this report

The six consecutive chapters summarize the output of the six working groups within the HR taskforce: Attraction, Recruitment, Selection ; Career Development; Leadership Development; Performance Management; Gender Equality and Human Resources Strategies for Researchers at European universities of science and technology. Each chapter describes the background of the topic, the focus, the results and future outlook and policy recommendations.

The findings of the six thematic projects are concluded with a summary of most urgent challenges that technical universities face with regard to Human Resources, including policy recommendations.

# Adapting Hiring Procedures to the Challenges of the Future



## Introduction

In the form of the 'ERA – European Research Area', the European Union's Horizon 2020 initiative includes a strong call for a unified European research space and in consequence for a common researchers' job market. Cutting-edge research and academic education of highest international standards largely depend on the willingness of researchers and academics to be mobile – at least in the earlier stages of their careers, which may include a substantial number of years before they will find a permanent position in an academic or research institution at a mid-career stage. Ever since the outbreak of the last economic crisis and its negative effects on many academic and research institutions in numerous European countries (such as budget cuts for personnel, but also reduction of resources for competitively awarded research funding), more and more highly talented young researchers are being driven to try and pursue their research careers elsewhere in better financed academic environments since the possibilities in their home country as well as within their academic and research institutions are becoming increasingly limited.

Therefore, aspects of mobility, fair and transparent, but also effective hiring procedures and easy availability of all information relevant to mobile researchers have gained in importance over the last years – just as the competition of academic and research institutions<sup>1</sup> for the most talented young people has become more competitive. In this context, it may also be noted that the financial situation in the US higher education and research system has opened a window of opportunity for European higher education and research institutions to either win back European researchers who started an academic career in the US or even attract US American citizens to Europe.

Therefore, the focus of this chapter will be on the strive for the balance between the interests and goals of research institutions such as the CESAER members to become leading players in academia on the one hand, while at the same time respect and support the call of researchers and academics for interesting and satisfying career perspectives as well as fair procedures and measures to ease the mobility of researchers on the other hand.

The main goals of this chapter are to list the challenges research institutions face today regarding the hiring of researchers and research leaders and to cite a number of best practice examples.

These opening remarks lead us immediately to a list of challenges research institutions face today to reach the above-mentioned balance.<sup>2</sup>

- restrictions on truly merit-based hiring procedures due to legal and institutional constraints
- language: English as research's lingua franca versus teaching in national languages
- low number of applicants, specifically internationally, and the required quality level
- limitations to or even exclusions of active search for talents
- true and open selection processes vs. rather formal procedures
- composition of hiring committees (external/international members, independent chair)
- lack of efficiency of hiring procedures (web-based tools)

(1) Since this is a CESAER report, the term 'research institution' is used in the sense of research universities with both academic training as well as high quality research on their agenda in contrast to pure educational institutions or research institutions strictu sensu such as the German Fraunhofer-Gesellschaft or the French CNRS.

(2) The following list is based on a simple questionnaire, which was filled in by roughly 35 institutions and persons and numerous exchanges of experience with a variety of colleagues over the last 10 to 15 years.

- lack adequate tools to assess the quality of applications, including teaching competence and leadership skills as well as the applicants' personal skills
- low level of internationalization and diversity
- gender balance: low number of female researchers beyond the PhD level (leaky pipeline)
- too little focus on employer branding and attraction
- inadequate salary level or startup packages
- inadequate number of good PhD candidates
- missing career perspectives after initial position → retaining highly qualified researchers
- lack of tenure track specifically for junior faculty
- culture: making feel applicants and new hires welcome
- welcome packages for all mobile researchers not always in place
- lack of dual career opportunities
- lack of (also linguistically) qualified support staff who professionally organize and coordinate hiring procedures

## Charter & Code

The European Union and the European Commission have addressed many of the above-listed aspects over the last years, foremost in the constitutive 'The European Charter for Researchers – The Code of Conduct for the Recruitment of Researchers' (in the following cited as Charter & Code) of 2005 which defines basic rules for procedures as well as fundamental rights and expectations of the individual researcher. More recently, they have emphasized on the issue in the 2013 Expert Group Report 'Recommendations on the Implementation of the ERA Communication'<sup>3</sup>. In order to render research and academic institutions fit for the goals of the Charter & Code, the Commission launched the 'Human Resources Strategy for Researchers' (HRS4R), which offers European institutions support to evaluate their own HR strategies and – while recognizing the different environments and needs of institutions - to

adapt them to Charter & Code, awarding them the 'HR Excellence in Research' logo if they meet the basic requirements. It is good news that six CESAER members have so far successfully met these requirements<sup>4</sup>. Nonetheless, one of the major recommendations of CESAER's HR Task Force is to invite all remaining member institutions to go through the evaluation procedure before long.

Very often, the time and effort for this evaluation procedure is rather exaggerated and it would be completely wrong to look at HRS4R solely from this point of view. The benefits by far exceed the investment since two of the basic requirements of the evaluation are a self-assessment and the formulation of a HR strategy and action plan – which any leading research institution should have available at any given time anyway.

(3) For CESAER's comments on the report of the expert group v. [http://www.cesaer.org/content/assets/docs/Documents\\_2014/CESAER\\_Comments\\_Open\\_Recruitment\\_July2014.pdf](http://www.cesaer.org/content/assets/docs/Documents_2014/CESAER_Comments_Open_Recruitment_July2014.pdf)

(4) These are: Université Catholique de Louvain, Ecole Polytechnique (Belgium); Aalto University (Finland); University College Dublin (Ireland); Technion, Israel Institute of Technology (Israel, associate member); Politecnico di Torino (Italy)

The adoption of Charter & Code and meeting the requirements of HRS4R actually constitutes the first best practice that the present chapter recommends. Support and information in this respect may be provided by both the secretariat of CESAER as well as those member institutions that have already

successfully completed the process. In this context, it was good to learn through the questionnaire that at least one institution explicitly mentioned having received and wishing to maintain the HRS4R logo as one of this institution's best practice.

## Open and Merit-Based Recruitment

In many European countries, national legislation and regulations strongly inhibit the institutions' possibilities to advertise open positions in a way that they can effectively reach and attract an international pool of potential candidates and then select the best according to procedures that befit the specifics of the academic world. In view of the limited influence of academic institutions to change this inhibiting legal framework they should nevertheless try and present themselves as attractive working environments, e.g. by advertising the positions in English by all means. The above-mentioned legal and regulatory requirements may be limited in their full extent to the advertisement in the national arena (where this practice will be considered 'normal') whereas in the English text they could be included only by referring to them as available on the institution's web-based information. By no means should an advertisement come in the form of a legal text: no better way to put off potentially interested researchers from abroad. It is also crucial that all information on working conditions such as work contract, salaries, social security and career perspectives as well as the selection procedure and its timeline are available in English. The selection procedure should be transparent and fair and candidates should be given information on the status of their application either automatically or at least on request at any stage of the

procedure. Above all, candidates should be informed as soon as possible if they are no longer pursued so they can look for other opportunities. The procedure should be coordinated by professional staff who are familiar with the procedures, guarantee the standards, professionally communicate with the candidates (and members of hiring committees) and are also able to adapt the procedures to the changes and new challenges of the academic job market. Most of these aspects are central elements of the principles outlined in the Charter & Code. At the Central European Institute of Technology (CEITEC) in Brno, Czech Republic, using EURAXESS Jobs as a standard for the publication of job openings is considered best practice.

In the end, academia is a small world and news travel fast and far. Therefore, it has to be noted that an institution's reputation can be easily and very quickly damaged if its job openings can be detected without effort as targeted at a specific person, preferably from inside this institution. Such openings by right will not result in a high quality, let alone international application list. However, there may be situations when a targeted opening is called for. If regulations require an advertisement, the call for applications should be kept low profile or, even better, the targeted nature of the call should be openly stated in the text. This transparency will be highly appreciated.

Electronic application tools help to structure hiring procedures in many ways: applications have to be filled in in a standardized way, which makes it much easier to compare the information provided by the candidates. The dossiers are readily accessible to those involved in the hiring procedure regardless their geographical location, which in turn makes it easier to have external, international members on hiring committees. In addition, having external, preferably international experts on hiring committees should be a must at least for top level positions such as professors. A pre-selection helps to exclude those applications that do not meet the requirements very easily and at a very early stage so they can be given notice without further delay. Thus, the hiring committees can concentrate on their most important task that is the evaluation of the top candidates and the final and most crucial stage of the selection process. Many CESAER members use such tools to a varying degree and to various levels of academic staff. The Politecnico di Torino has gained vast experience over the years and lists its tools among the examples of best practice, citing as advantages for instance saving time to collect all documents online, stepping towards a dematerialization of

documents and saving time and money for the members of selection committees who do not need to travel and are therefore more often willing to accept participating in these committees.

As mentioned before, such tools will make it easier to include external, international experts (or in engineering possibly from industry) in hiring committees at least for top academic positions. At many institutions, having international experts on hiring committees is considered an excellent idea in order to broaden the perspective of these committees and add to the transparency and quality control of hiring procedures. Including international experts will help with another matter critical for technical universities with their notorious low number of top female researchers: an adequate representation of women in hiring committees. Instead of overburdening the few female professors and group leaders in-house and calling them to work in yet another committee, external female experts may be invited to join hiring committees, thus complementing the regular old boys' network so well represented in these committees with old girls' networks.

## Active Search for Candidates

A central aspect where legal restrictions often prevent academic institutions to play a more active role in attracting excellent researchers is the possibility to consider candidates beyond those who spontaneously applied, but can be brought into the hiring procedure through direct approach. RWTH Aachen University does so in general, but specifically with a clear focus on female academics for professorial positions. This direct approach is a crucial element of the RWTH's gender strategy and the goal is to raise the number of women in top academic positions. Also at ETH Zurich, with its faculty consisting of two thirds with a foreign background, the faculty's extensive

international network is systematically used to generate additional candidacies of high standing. Over the last 15 years, around 50% of the new faculty with tenure did not apply to ETH Zurich themselves, but were approached by the departments and hiring committees at various stages of the hiring procedure.

This direct approach of top academics as used at RWTH Aachen University or ETH Zurich among others is a response to a challenge which was mentioned in many questionnaires: how to attract researchers of the desired quality level. Many institutions very often face a situation where the quality

of a list of candidates does not meet the institution's expectations and it is quite common that this lack of quality coincides with a very low number of applications from abroad.

How can research institutions present themselves as attractive employers with a truly international outlook offering an excellent working environment for a global academic work force? The key word cited in many questionnaire is employer branding. It seems obvious that this aspect in the academic world goes far beyond a simple marketing strategy, but asks for a large variety of answers and actions. The international standing of a research institution plays an important role in this respect, be it through the diversity and internationality of its faculty and research workforce, be it through the quality of its education and in consequence of the students. However, it is not easy to manipulate the various rankings, and not everybody has the means or is ready to establish offshore enterprises in low-wage areas of the world where the financial input per publication can be drastically reduced and thus optimized.

Again, Charter & Code offer a solid and easy first answer to this: advertising open positions internationally raises an institutions visibility over time. At ETH

Zurich, open professorial positions are usually advertised in clusters twice a year. Hits on the webpage of the office which coordinates the hiring procedures for new professors are noticeably higher around the time of these cluster advertisements. The office also places ads in leading international scientific journals or important European weekly newspapers without referring to specific open faculty positions, but describing ETH Zurich as an attractive working environment, specifically for female researchers. Once more, a raise in the number of hits on the office's website where all the relevant information on becoming and being a professor at ETH Zurich is readily detectable. However, there is no need for a possibly costly campaign: placing open positions on EURAXESS Jobs has the same effect over time, especially if not just the 'dry' job description or at most the excellent lab facilities are mentioned in the advertisement, but if the institution demonstrates gender awareness or tries to offer its workforce an adequate work-life balance in two or three sentences. There is no doubt that placing information on such aspects as gender strategy or family-friendly working conditions on an institution's website in a manner that researchers hitting the site will stumble across them almost automatically will add to the institution's attractive image.

## Assistant Professors with Tenure Track

Especially to younger researchers, an institution can become very attractive if it has a job category to offer at a rather early stage of career when at other institutions they would simply be too young or would be considered lacking certain regulatory requirements, such as the *Habilitation* in Germany or Austria. While it is very common in the US university system that an academic career will lead you from your PhD right into a professorial position as an assistant professor (usually with tenure track) at a very early age, this instrument is

not yet widely used in Europe. This has to be deplored since it is a wonderful instrument for both the individual researcher and the institution for a variety of reasons.

This was most impressively shown in the 'Recruitment' workshop at the CESAER's HR Conference in the spring 2014 in Delft. Two speakers from Aalto University in Finland and the Ecole polytechnique fédérale de Lausanne (Swiss Federal Institute of Technology in Lausanne, EPFL) in Switzerland presented their tenure track

system, the reasons those systems were introduced and the experience that could be gathered in the two versions. First of all, it has to be stressed that in our understanding assistant professor positions are truly professorial positions with a limited work contract (as a rule 6 to 8 years) which offer the possibility of a promotion to a tenured full professor position - and not some kind of second rank professorship - through a fair and transparent evaluation procedure with clearly defined quality standards. Assistant professors are independent academic units – which are not attached to some more senior professor – with freedom in teaching and research and resources of their own to pursue their research goals. Assistant professors as a rule are hired in their early to mid-thirties (at least in science and technology, other academic fields may have other guidelines) and they may expect a tenure decision, that is a promotion to a full professor position at the age of give or take 40 years. While they do some teaching, which will be evaluated as well in the tenure procedure, but hardly no administration at all, the focus clearly is on research output and career development. At Aalto University, there is an explicit recommendation that assistant professors should divide their time in a ratio of 65% research to 30% teaching, with a very low 5% in administration, primarily in view of an excellent integration in the daily life of their department. While it is true that hiring young researchers involves a certain risk since there is just a limited track record to judge from (but it is the main feature of the tenure track process that their abilities can be tested), it is an excellent chance to hire talents not only in their most productive phase of the academic career, but also at a stage when they as well as their partners and families are still quite mobile and will also easily adapt to the culture of the new institution. Further, by filling a certain portion of professorial positions on the assistant professor level with tenure track, you have good chances to directly compete even with leading US universities since you

will offer attractive job opportunities for young European researchers who are willing to move back to Europe after performing first steps of their academic career overseas – or, in view also of the present condition of the US university system or the waning resources available to granting agencies – possibly even American citizens themselves. Thus, assistant professor positions offer a good opportunity to internationalize an institution's faculty, even if primarily in a European context – which would fulfil one of the goals of ERA. Further, the medium hiring age of assistant professors in the early to mid-thirties will help to lower the average age of an institution's faculty, not a bad feature in the sense of role models as technical universities are badly in need of students who do not wander off to industry, but decide to pursue an academic career. Again, also compared to the US system where according to most recent figures, the average age of tenured faculty is alarmingly close to 60. And finally, and in some sense most importantly: in view of the existing pyramid of female researchers, assistant professorships provide an excellent opportunity to attract young female researchers and offer them valid job perspectives if they perform well.<sup>5</sup>

EPFL was one of the first, if not the first university in Continental Europe to introduce this system just before the Millennium. Ever since the introduction of assistant professors with tenure track at EPFL, around 130 persons were appointed, 47 of whom successfully went through the tenure procedure, while many more are still in the procedure. From the experience gained over the years, the system has been adapted continuously, and without doubt there is much to be learned from the EPFL example. Some of the most important features are the clearly defined and communicated evaluation criteria or the regular interaction of the deans with the assistant professors. One of the major changes was made regarding a clear distinction between mentoring

(5) At ETH Zurich, almost 30% of the assistant professors are female – opposed to just a bit over 10% on the full professor level. At EPFL, of the roughly 130 assistant professors hired over the last years, 21% are female. At Aalto University, finally, 26% of the new hires are female, compared to 20% on the associate and a low 14% on the full professor level.



and academic feedback. While deans and mentors, usually senior professors, are mainly responsible for a smooth integration of the assistant professor's activities within EPFL, the assistant professor's performance is judged in a mid-term review by a group of external experts, which helps the assistant professors to self-assess their status and career perspectives. This distinction clearly resulted in more objectivity and transparency.

In contrast, assistant professors with tenure track were introduced at Aalto University four years ago. While for obvious reasons it is too early to draw final conclusions after this period, the Aalto example shows some other characteristic features and effects of the system. Aalto University is the result of a merger of three universities located in and around Helsinki in 2010. Instead of just managing the merger with the academic personnel available at the three former independent institutions, Aalto decided to inject some dynamics into the new institution right from the start and introduced the tenure track system as one of the central 'glues' for the merger. This opened the opportunity to fill a higher number of professorial positions (compared to just replacing retiring faculty) and thus implement the strategy of the new institution at a higher pace. At Aalto, it can also be shown that not only the number of applications, but also the quality of the applications could be successfully raised. Thus, assistant professor positions with tenure track clearly heightened the appeal of Aalto University as an attractive workplace on an international scale and thus also the number of non-Finnish researchers applying: since 2011 around 30% of the new hires are foreigners, which eventually will help to make the faculty of Aalto University more international and more visible in the global arena. Even without the complex and challenging merger situation Aalto had to face, assistant professor positions can constitute an instrument of dynamics, for instance if a department faces a collective

retiring of a high number of full professors at more or less the same time several years down the road. Hiring a few assistant professors as soon as possible will ease the strain in the system and smoothen the generation transition.

In this context, attention should also be drawn to the *Technische Universität München* (TUM), Germany, where it was possible to overcome the regulatory obstacles inherent in the German W-system and establish TUM Faculty Tenure Track most recently.<sup>6</sup>

In sum: if well designed and properly managed, assistant professor positions with tenure track will add to the diversity of academic institutions both in terms of nationality/internationalization as well as gender. Further, it will help to lower the average age among the institution's faculty, thus providing – and not only in terms of the female assistant professors – positive role models for students deliberating whether to go for an academic career or not.

In the context of attracting more female researchers for technical universities as well as internationalization of its academic workforce, the *Technische Universität Berlin* (TU Berlin), Germany, has adopted a very promising program called International Post-Doc Initiative (IPODI)<sup>7</sup>, which offers two year fellowships for female researchers from abroad. Within ERA and Horizon 2020, the inter-sectorial mobility between academia and industry is one of the focus areas within the HR Strategy. TU Berlin most recently established another program to attract female researchers above all in the area of engineering. In a similar mode, however without the international scope, female researchers are actively targeted within the German TU9 Network, the network of German technical universities.

(6) For details see <http://www.tum.de/en/about-tum/working-at-tum/faculty-recruiting/tum-faculty-tenure-track/>

(7) See <http://www.ipodi.tu-berlin.de/>

## Dual Career and Integration Services

ERA and EURAXESS are a lot about mobility and lowering the obstacles to mobility. Despite all developments in communication devices and skills, geographical mobility still constitutes a major aspect of an individual's career development in academia even though the classical postdoc period of several years preferably overseas may have become somewhat outdated. In contrast, research institutions depend on mobile researchers, and not only for the sake of diversity and internationalization. This is especially true for technical universities in smaller countries where the talent pool is by nature rather limited so even in the best of all times, hiring from abroad is a pure necessity. In comparison, large countries can much more rely on their own pool - whether this is to their advantage in the long run would have to be debated in detail.

It is a truth generally acknowledged that with age the willingness to be mobile will be decreasing since the best are well established and overall quite happy where they are. What is more, their private and family situation will turn the move to another institution, maybe even in another country, into a major undertaking where the researcher no longer can decide on his or her own, but just has a share in the family corporation, but most likely not the majority. So if the hire is on the level of well-established researchers, it is not just the researcher, but also a partner and possibly children and their needs and professional or academic aspirations one has to take into account when negotiating. Offering relevant services to new faculty members has become quite common at many European research institutions. Again, TUM was a pioneer and in its wake and in the context of the German *Exzellenzinitiative* (for instance RWTH Aachen University, where services

will vary according to the seniority of the position to be filled) many such services were established at German universities, generally known as Dual Career Services or – if there is a stress also on sustainability of the effects of such services – Dual Career and Integration Services (DCIS). In the same line, the Politecnico di Torino, Italy, – with particular reference to gender issues and balancing family and work – offer a variety of schemes available to both scientific and administrative staff, among them flexible working hours, child care, babysitting services, but also support services for elderly family members or counselling for staff in temporary difficult situations. Some of these services are also available to students. For its pioneering work in the area of equal opportunities and work-life balance, the Politecnico has received wide recognition and some awards. Very broad practical support in a large variety of personal aspects are offered to international visitors and staff by the Politecnico's Foreign Citizens Office (FCS).

A major debate in this context is the level of support offered to partners of new researchers regarding their own professional career. This support may range potentially from providing information on the job market and the specific ways the local job market is functioning (writing a good cv) to networking and actively establishing contacts with potential employers to finally even creating jobs within the institution, at least on a temporary basis which will help the partner to put a foot in the door and then pursue a career elsewhere, as it is done for instance at TU Delft or ETH Zurich. This is a very delicate subject and a complex matter with legal, financial and cultural implications.



However, also younger researchers, starting from the PhD and up to pre-faculty level, for instance Marie Skłodowska-Curie Fellows or ERC Starting Grants Awardees who went through highly competitive evaluation processes and are great potentials and thus future professors, may expect some support and to a growing extent it is their right to do so. Within the EURAXESS Initiative, grants are competitively awarded to projects which analyse the challenges and border conditions of mobility in Europe and within ERA and come up with strategies and actions to meet these challenges. Coordinated by ETH Zurich, a consortium of five partner institutions from Greece, Slovakia, Estonia, Denmark and Switzerland called TANDEM (Talent and Extended Mobility in the European Innovation Union)<sup>8</sup> analysed the conditions of present-day mobility of researchers in Europe and came up with a modular tool kit which will help research institution to establish Dual and Integrations Services according to the specific needs, but also the resources available. Again, this project worked very closely along the line drawn by Charter & Code: no need to reinvent the wheel again since many services are already offered by most institutions; however, they have to become systematized and relevant information, e.g. regarding housing, schools, child care, health and other insurance, way of life, etc., has to be made easily accessible for mobile researchers. Overall, once established, DCIS will be considered a definite plus for research institutions, and even globally top institutions can no longer just rely on their 'natural charm' to be sufficiently attractive for the best in today's competitive academic job market.

A major aspect of well-functioning Dual Career and Integration Services is clever expectation management. While institutions are willing to offer certain services, it is vital that they leave no

doubt as to what these services include and where they stop. Unquestionably, learning Estonian or Basque is a demanding endeavour (which can be eased by offering language courses right from the start), and in many countries dealing with public administration can be difficult and time-consuming (and frustrating). Changing from a school system in one country to one in another is a challenge for the children, but maybe they will succeed much more easily than their parents. Apartments and houses in most European metropolitan areas are expensive and difficult to find, but there may be apartments owned by the research institution, which can be used for an initial period, or, once familiar with the workings of the market, it is not that difficult in the end. Many more aspects could be cited, but if they are addressed in a transparent way and if in addition some support can be offered, all these obstacles will not deter the researcher from joining another research institution.

With this in view, the Technical University of Denmark (DTU) combines the actual job interview with a comprehensive program established by the International Faculty Services (IFS) where such questions are addressed to make sure that the potential new researchers know what to expect at DTU as a workplace, but also what they and their partner and children should expect from local and Danish society. These meetings provide an opportunity for both DTU and the candidates for postdoctoral and higher positions to focus the decision-making process on both work-related and private aspects involved in a possible move from abroad to DTU and Denmark.

(8) [V. http://www.euraxess-tandem.eu/](http://www.euraxess-tandem.eu/)

## Assessing Skills

In contrast, research institutions too have certain requirements they want the new researcher or professor to meet. In order to secure this, all institutions have their procedures which have evolved over time, most likely varying to the nature of the position to be filled. When a long-term investment is involved as with a full professor position, this procedure will be more refined and including well-established quality measures. It is no secret that with most positions (apart from the real administrative jobs) it is the research aspect and the track record in research which will be primarily considered for the decision in the end. With research, citations and number as well as quality of research projects, hiring committees usually feel quite confident; some things can even be measured and expressed in tangible numbers.

However, all institutions struggle alike when it comes to evaluating the teaching competence of a candidate, let alone their leadership or soft skills. In this respect, again Scandinavian institutions seem to lead the way. At Chalmers University of Technology, Sweden, the teaching competence of future academic teachers will be evaluated by external experts. Over the years, Chalmers has built up a pool of potential pedagogical assessors, from other Swedish universities with either a strong background in pedagogy or in other fields in science and engineering, knowledgeable in pedagogical and educational development in academia in general and their own organization. The scientific track record of candidates is evaluated by external scientific assessors, thus providing the hiring committee with independent assessment reports from the pedagogical as well as the scientific perspective as a good basis for the committee's decision-making.

At the Swedish Lund University and the Norwegian University of Science and Technology just as at Chalmers, experts from the institutions' own HR office are an integral part of hiring committees and will voice their opinion on the leadership skill of the candidates invited. As the comments in the questionnaire suggest, including true HR perspectives beyond the mere administrative in hiring procedures seems to be a major challenge for very many institutions.

At Lund University, the term 'suitability' is explicitly used and refers to Lund's aim to hire people who meet the HR standards formulated by the university or in more general terms the leadership culture of Lund University. When interviewing candidates, the HR office uses so-called 'competence-based interviews' to evaluate the candidates' skills such as ability to cooperate, leadership skills, independence, creativity and more in order to assess the candidate's previous behaviour regarding these skills. A member of the Appointments Board will always be present in these interviews for faculty positions. HR will then report the results of this assessment to the Appointments Board, thus the assessment constitutes an integral part of the final decision apart from scientific and pedagogical skills.

Since assessment, but also the development of skills beyond the merely scientific competencies is also a very important aspect at later steps in a researcher's career, for instance when moving from a temporary to a permanent/tenured position or when being promoted, this aspect will additionally be dealt with in other chapters of the Task Force's report.

## Conclusion

With regard to recruitment, there are no easy answers, let alone simple truths - academia and the academic job market are just too complex. What works in one context, may not be effective at all or at least on a much lower level in another. Many questions are raised, and when looking at the CESAER members all of these questions are addressed at various times, to various degrees and with regard to various types or levels of research positions. Not all of them can be tackled at the same time and with immediate results, this would surpass the possibilities and resources of any institution. However, it is good news that to most questions one or several CESAER member institutions have found convincing answers and, despite differences in systems and border conditions, with some ingenuity

they are transferable and can be adapted to another institution's specific needs. Some of these answers were considered most promising and worthwhile to share by the HR Task Force and were therefore highlighted in this chapter. And, a final remark: over regular universities, the technical universities as represented in CESAER have one advantage: that of focus. Also in the area of HR in general and recruitment in particular, technical universities are dealing with a clearly defined clientele, engineers and scientists, but they do not have to bridge the enormous cultural differences of fields so wide apart such as theology and philosophy on the one side and medicine and business administration on the other. This makes the quest for talent on an international scale at least slightly easier.

# Career Development

## Objectives of the working group and the way of working

The objective of the CESAER HR working group “Career development” was to exchange nationally established career structures, promotion mechanisms and personnel development programs in order to inspire and learn from each other. The results of the working group are summarized in the present report. It contains ideas from the fruitful meetings of the HR Taskforce and was inspired by discussions during the CESAER HR Conference in Delft in May 2014, and in particular by a workshop organized by the authors of this report on “Career Development in Academia” with participants representing HR and faculty members from several European engineering universities. Furthermore, it is based in part on responses to a questionnaire on career development in academia answered by nine of the participating universities in October 2013 (Aalto University, Chalmers University of Technology, Delft University of Technology, ETH Zurich, FEUP Porto, INSA Lyon, KU Leuven, RWTH Aachen University and TU Wien) and will also refer to other relevant publications.

The purpose of the present report is three-fold:

First, we provide an overview of current issues of career development in academia. We will address academic career paths and their relevance against the background of increasing international and intersectoral mobility. Moreover, criteria that are set for career advancement will be considered and the ways universities handle and support the career planning and development of their scientists will be presented.

Second, we want to communicate best practices with respect to career paths, career advancement and career support in European engineering universities.

Finally, based on our results and insights we discuss implications for policy-makers, university leaders and funding organizations.

## Results of the working group

In the following, we will present and discuss various academic career paths as well as the required skill sets. The advantages and challenges of implementing intersectoral mobility programmes will also be taken into account. Another topic will be career support structures and schemes, their effectiveness, and the responsibility and role of supervisors and organisations.

### Career paths

In a traditional sense, career was conceptualized as advancing through professional and organizational hierarchies within an organization or profession. Today, a career is considered to be a sequence of employment-related positions, roles, activities and experiences during the course of one's lifetime (Arnold, 1997). Accordingly, for a long time, career in academia meant becoming a professor by passing through a doctoral and postdoctoral stage. Nowadays, academic careers have become more flexible and individualized and careers in addition to the traditional track have emerged.

#### *Traditional academic career path*

Across Europe, universities have a traditional academic career track which distinguishes three stages:

- Doctoral stage: limited research and teaching responsibility beyond doctoral work
- Postdoctoral stage: increasing personnel responsibility as well as with respect to research and teaching tasks
- Professorship: different grades of seniority and responsibility; in contrast to the previous stages, professorships are usually characterized by full tenure (sometimes only after completing a tenure procedure)

Please note that for the present purpose we have chosen this simplified illustration of career stages. The European Commission proposes to differentiate between four stages R1 (first stage researcher) to R4 (leading researcher) (for more information see European Commission, 2011) – a distinction which we regard as very helpful against the background of increasing international mobility.

Although there is most concordance with respect to this track, appointment procedures for professors, and in particular tenure track are handled rather diversely and universities are still in the process of finding their best individual way. Tenure track initiatives are regarded as an important source of international competitive advantage by offering attractive career prospects to talented young scientists. However, in contrast to the United States, Europe lacks a common tenure track career system. According to a survey of tenure practices in 2014 at 21 LERU universities, France, Spain and the UK do not have a tenure model, whereas Belgium, Finland, Germany, Italy, The Netherlands, Sweden and Switzerland have started to establish tenure track procedures (see Schiewer, Jehle, & Maes, 2014). Experience and evaluations with regards to the various systems are still missing.

#### *Alternative academic career paths*

Competing with profit-oriented organisations and other research institutions in the war for talent, universities are facing significant challenges in terms of redesigning career paths and providing attractive development opportunities in addition to the traditional academic track. Although the need for alternative academic career paths is widely acknowledged, only few universities have developed and implemented alternative career path models so far. For example, within the

universities participating in the CESAER HR Taskforce the position of “senior scientist” was identified. However, their tasks as well as the career perspectives are often not clearly defined and lack transparency. The positions which are often permanent usually require a doctoral degree as well as special expertise of research work connected essentially to e.g. the use and development of large-scale research infrastructures and complex research equipment. For others, the main task is teaching and other assignments associated with education, the professional maintenance of research infrastructures and respective research services or the assistance of professors in the management of finances and personnel.

In contrast, an example for a well-designed and transparent alternative career path is the path of a lecturer career as established at Chalmers University of Technology. However, the lecturer career path is also discussed controversially as research and education are mostly seen as intertwined with their combination being essential for ensuring excellent, high quality teaching. In addition to teaching and responsibilities in the development of curricula and pedagogical leadership, universities therefore intend to enable lecturers to still conduct their own research to a certain extent.

Across the map the necessity of opening up further academic career paths besides lecturer careers is recognized and in particular a non-scientific career path exclusively focusing on science management is regarded as an added value. These developments do not only require adaptations in structures but also imply a change in mind-sets. Most importantly, the significance and status of alternative career paths in e.g. science management need to be enhanced. Leaving the traditional track and pursuing another track inside but also outside academia may not be seen as a failure.

When establishing new career paths the following aspects, which should also hold for traditional academic career paths must be taken into account. Academic career paths should ...

- ... consider all competencies needed to perform research, education and valorization
- ... systematically encourage and reward preferred achievements and behaviors
- ... attract potential as well as existing employees
- ... be non-discriminative with regards to gender
- ... be based on transparent and comprehensible assessment criteria
- ... be internationally comparable.

Given increasing international mobility of academics at different stages in their career, transparency in the existing academic career systems is required. However, integrated and coherent academic career systems which are displayed in clearly structured figures to communicate them to staff and potential candidates are still the exception. Careers like “senior scientists” require more transparency in particular with respect to tasks, requirements, criteria for performance assessment, and promotion opportunities. This is essential for making such paths also attractive to researchers and applicants from abroad, who are not familiar with the national systems. Furthermore, of course, this clarity is also necessary for the job owners themselves who should know the career options associated with certain positions.

**Best practice example**

Aalto University, Chalmers University of Technology, ETH Zurich as well as TU Wien have developed a transparent structure for different career paths that are clearly displayed and communicated.

In the examples below we have displayed development opportunities for scientists at Aalto University and Chalmers University of Technology.

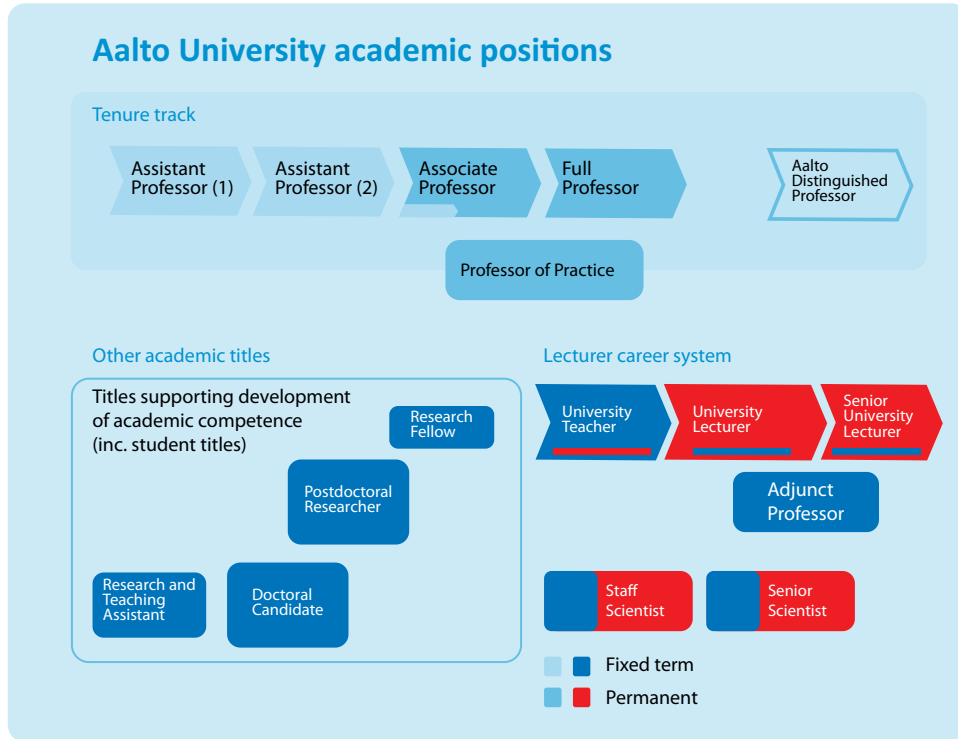


Figure 1. Aalto University academic positions

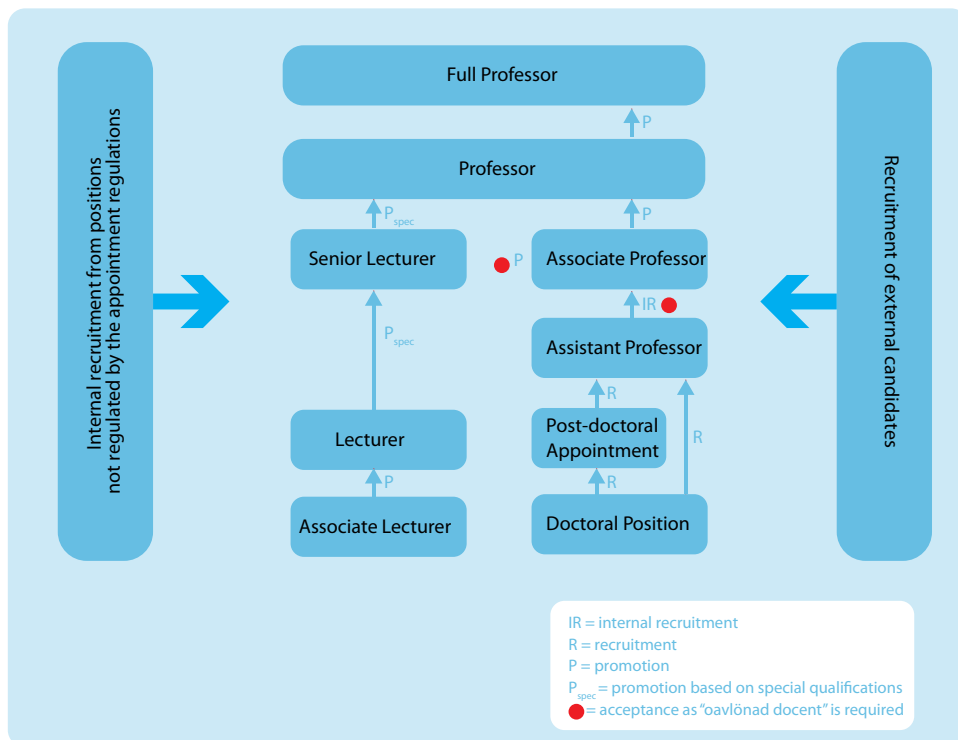


Figure 2. Chalmers University of Technology career system



### *Intersectoral mobility*

Intersectoral mobility is defined as “being mobile to a sector outside academia, in the researcher’s own country or abroad. This not only relates to private industry but also to the private not-for-profit sector as well as the public and government sectors” (IDEA Consult, 2013, p.22).

According to the DOC-CAREERS project (see Borrell-Damian, 2009), more than 50% of all doctorate holders pursue a career outside the academic sector. Given that many researchers will work in jobs outside academia after completion of their PhD, the promotion of university/business cooperation is considered very positive and beneficial both during the doctoral phase and in later career stages. Promoting intersectoral mobility, e.g. in the form of joint doctorates may help researchers gain insight into non-academic organisations and broaden their employability perspectives. Among the added values of collaborative doctoral research are the acquisition of skills that are required in industry e.g. leadership, teamwork, entrepreneurship, and becoming familiar with issues like budget restrictions or legal frameworks like intellectual property rights. Furthermore, from a rather political perspective intersectoral mobility may be a method to overcome Europe’s incapability to turn research results into globally competitive products (see European Commission, 2006).

The MORE-2 project investigated mobility patterns and career paths of researchers in a European sample of more than 10.000 researchers (IDEA Consult, 2013). 23% of researchers were mobile across sectors during their doctorate (> 3 months), and 30% during postdoctoral career stages from which 13% work in a dual position between academia and non-academia.

The following recommendations are the results of a workshop of Science Europe on intersectoral mobility with experts from the field of research careers (Kohl, 2013).

- Recognise the importance of intersectoral mobility to broaden career opportunities for researchers.
- Support periods of short-term stays (3-6 months) of researchers in an industrial or non-academic context by making it an option in each research project (including doctoral programmes) rather than an obligation.
- Prepare researchers for a labour market outside academia with in-depth technical knowhow and broader transferable skills.
- Raise awareness of opportunities for PhDs and postdocs to interact with companies setting up innovative projects that require specialised skills unavailable elsewhere.
- Include options for arts and humanities’ disciplines and broaden mobility opportunities to the non-academic government or non-government sectors.
- Contribute to the development of regional clusters around academy-industry collaborations in strategically relevant domains, using the strengths of the region and of the actors.
- Compose selection committees carefully in order to be able to assess quality on both sides.
- Ensure scientific quality control in order to avoid funding technology transfer instead of research, to account for tax payers’ money.
- Support data collection on the career paths of PhD holders so as to gain a better understanding of intersectoral mobility on careers.

### *Career advancement*

For both applicants and position holders, transparency with respect to promotion processes is of utmost importance. In most universities the requirements for professors (in particular - if existent - for tenure track positions) are formally and clearly defined. Usually, evaluation criteria include research and teaching skills as well as merits in the academic community with scientific merits being by far the most crucial aspect clearly outweighing other criteria. Taking into account management and leadership skills or achievements in third stream activities is still rather the exception.

To guarantee international competitiveness recruitment processes should be open, transparent and merit-based (for more information see also CESAER, 2014). For example, across universities the appointment of a candidate who has not left the university after completion of his or her PhD is not desired and usually not allowed. The majority of universities report that they are autonomous in the formation

of appointment committees and the selection of their professors. Yet, there are still universities that are bound to national regulations when appointing professors.

In contrast to the appointment of professors, there is less consistency with respect to staffing doctoral and postdoctoral positions or positions outside of the traditional track. However, the demand for transparent recruitment (and promotion) processes is not restricted to the appointment of professors but also applies to all other vacancies. The minority of universities report using a requirement profile with criteria for all positions prior to promotion or advertising the position. In addition to requirement profiles that clarify all components of the recruitment process and serve as a tool for evaluation and follow-up, posting vacancies on international job databases (e.g. Euraxess job portal which is used by more than 90% of CESAER member institutions) is another good step in the right direction.

**Best practice example**

ETH Zurich and Chalmers University of Technology have defined clear criteria for all of their positions. Below you find a description of tasks for doctoral students and postdocs at ETH Zurich.

<b>Doctoral student /postdoc</b>	
<b>Description</b>	<b>Requirements/preconditions</b>
<p><b>Doctoral student</b></p> <ul style="list-style-type: none"> <li>▪ Scientist aiming for a doctorate</li> <li>▪ Non-permanent contract</li> </ul>	<p><i>University graduate without professional experience</i></p> <ul style="list-style-type: none"> <li>▪ Working on own thesis and the research project on which it is based</li> <li>▪ Participation in educational activities, namely exercises, colloquia, practicals and seminars</li> <li>▪ Supporting students</li> <li>▪ Carrying out infrastructural and administrative tasks</li> </ul>
<p><b>Postdoc</b></p> <ul style="list-style-type: none"> <li>▪ Scientist following thesis</li> <li>▪ Preferable external appointments</li> <li>▪ Remains approx. 2-3 years</li> <li>▪ Non-permanent contract</li> </ul>	<p><i>University graduate with doctorate</i> in addition to “Doctoral Student”</p> <ul style="list-style-type: none"> <li>▪ responsible for minor research projects</li> <li>▪ Preparing and organizing exercises and practicals</li> <li>▪ Developing methods and apparatus</li> <li>▪ Introducing new Assistants or Scientific Assistants</li> </ul>

Figure 3. Description of requirements of doctoral students and postdocs at ETH Zurich

#### Qualifications of a Full Professor

- The scientific qualifications of a Full Professor must be very highly rated by the external assessors. They should be among the best internationally in the specific scientific field.
- The pedagogical expertise required in undergraduate and graduate education should be of good quality and well documented.
- Courses completed in pedagogy for higher education (15 ECTS points, ECTS = European Credit Transfer System, equivalent to 10 Swedish credit points in the previous credit system), or other equivalent courses, or proven equivalent pedagogical expertise.
- Proven ability as a successful supervisor. An applicant will normally have been the principal supervisor for at least three PhD students who have completed doctoral degrees.
- The Chalmers course in research supervision, or an equivalent course, should be part of the background.
- Good leadership qualities and the ability to lead high quality teaching and research should have been demonstrated.
- First-rate abilities in networking and cooperation at both national and international levels should be demonstrated.
- A good record of obtaining external funding for research projects should be demonstrated.

#### Duties of a Full Professor

- Actively lead and develop teaching and research at both the departmental and research group levels.
- Teach courses at all levels.
- Act as the principal supervisor for doctoral students and also be prepared to act as examiner.
- Actively conduct and lead research, either as a member of a large group or as the leader of one's own research group.
- Effectively seek external research funding from multiple sources.
- Participation in and promotion of exchange of knowledge with the international professional community.
- Act as a mentor and provide younger faculty members with support and feedback in teaching, research, research funding and outreach activities.
- Participation in the leadership of the department and of Chalmers, including beneficial innovation, as well as internal and external committee work.
- Active participation in the scientific community by acting as a peer reviewer, assessor or, for example, examiner at doctoral defences.
- Advance interdisciplinary cooperation, both internally and outside Chalmers.

Figure 4. Qualifications and duties of a Full Professor (holding a chair) at Chalmers University of Technology

## Career support

Besides providing attractive academic career paths, universities have to make sure that appropriate career support mechanisms are in place.

Supporting individuals in their career should always take into account subjective as well as objective career success criteria. Subjective success is an individual's evaluation of his or her career relative to personal goals or a reference person/group, whereas example criteria for objective, verifiable success are income and its growth, promotions, hierarchical position or number of employees (Abele & Wiese, 2008). In addition, in academia indicators for the latter are publications, patents or third-party funding.

### *Career planning and management*

Along with the above mentioned change in the conception of career, a shift in focus has taken place: In contrast to regarding the organization as responsible for one's career, nowadays an individual is regarded to be able to guide and manage one's career him- or herself (see Hall, 2004). Accordingly, academic staff is expected to be proactive in managing their careers. Career self-management skills involve reflections about one's own career aspirations but also comprise specific actions such as gathering information about career opportunities, asking for feedback about one's achievements, and creating career opportunities through networking or other actions aimed at enhancing one's visibility (see De Vos & Soens, 2008).

However, individuals' career self-exploration process may be facilitated by mechanisms that assist in finding the right career and support the further development of role-specific skills. In addition to recruitment and placement as well as promotion processes that aim to match individuals with the most appropriate roles, organizations may support employees in acquiring the required skills to become aware of and realize their career goals. Besides specific career

workshops or counseling opportunities, the majority of universities conduct annual performance reviews, which can be also used as a career management tool. These usually annual talks between employee and direct manager are used to give feedback, to set milestones and agree targets. Furthermore, they are used as an instrument for career planning and to discuss career development. For example, at the Delft University of Technology the appraisal form contains a section dedicated to one's personal development plan. In some universities the annual reviews are not obligatory, depend on the department or faculty and are often not connected with the HR department or are restricted to administrative staff. Only a minority of universities have individual evaluation talks for professors themselves.

### *Training formats*

Many universities offer a wide variety of seminars and workshops (e.g. project management, intellectual property rights, self-management, leadership, teaching methods, or language courses) to support their employees as they advance in their career. Some of them also provide courses that aim at improving "transferable" skills which are helpful for careers outside academia (see also paragraph about inter-sectoral mobility).

Participation is usually optional. In a few universities participating in training programs is part of the curriculum for doctoral students. In general, training programs tend to address these early-stage researchers (doctoral students and postdocs). Few universities provide coaching and training formats that take the needs of senior academics and professors into account. However, there are some universities that have established training programs or special events for newly appointed professors. Moreover, individual career coaching for professors is becoming recognized as a method to support them in their leadership role.

Mentoring has become another method to promote the personal and professional growth of the protégé through a one-to-one mentorship with a more senior individual, most of the times a professor (sometimes an emeritus) within the organization or from another university. This is often seen as an instrument to specifically support the careers of female scientists.

There are several issues which universities and in particular the HR department should address: The range of seminars sometimes seems arbitrary and not always embedded in a broader strategic HR-development program. Furthermore, the trainings are not always tailored to a specific target group like professors or doctoral students and address contents that is not necessarily relevant for the current (and future) positions (e.g. a leadership seminar for an employee without leadership responsibility may not be the optimal course). Sometimes external providers of

career services are selected who have little knowledge and experience in academic organizations (although, of course, in some cases insights from other branches can be useful, too). Instead of engaging external training advisers, employee initiatives resulting in peer-to-peer training formats should be better supported. The effectiveness of training formats and methods that are used is often lacking and a quality management that reaches further than feedback questionnaires filled out by participants right after the training is still the exception.

Despite these issues, there are also positive developments in this field. For example, some universities have started to put together personalized training packages that are targeted to an individual's needs: KU Leuven has set up a "career center" in which various forms of career guidance are developed and offered to the researchers.

### Best practice example

RWTH Aachen University offers three target group-specific training programs (for doctoral students, postdocs and professors). What follows is the development programs for postdocs: On the left side the strategic

fields of action for human resource development are displayed and on the right side the according training contents are aligned.



[www.rwth-aachen.de/proacad](http://www.rwth-aachen.de/proacad)

Figure 5. Development program for postdocs at RWTH Aachen University

## Policy recommendations

Why is career development in academia a relevant topic for public policy and also for university strategies? The benefits evolving from individuals choosing careers where they can use their skills to their full potential are of utmost value to a nation but also to Europe as a whole. Furthermore, well-designed career paths with attractive development opportunities are an important source of international competitive advantage and may help to recruit high potentials from inside but also from outside Europe as well as to retain skilled employees in academia.

To attract international scientists and also to increase mobility among scientists, transparency in national career trajectories is an indispensable condition. Promoting the differentiation of R1 to R4 researchers will help researchers from non-European

countries to orientate themselves in the European academic systems. To guarantee open, transparent and merit-based selection and promotion processes, universities should be autonomous in this process and not bound to any legal barriers.

Fostering mobility for scientists on all career levels through additional funding is regarded as very beneficial. However, whereas mobility and diversity among scientists is increasing, support staff is still mainly from the home country. Therefore, increasing mobility of support and administrative staff by initiatives like Erasmus + STT and also the Marie Skłodowska-Curie IRSES scheme is very welcomed and should be enhanced.

## Summary and future outlook

First of all, well-structured career paths indicate avenues for advancement in- and outside academia. Their establishment aims at a greater and more transparent mobility between universities, research institutes and industry, nationally as well as internationally. The responsibilities and objectives of each position must be set out clearly to provide a firm foundation for the next career step. Besides a transparent promotion process, these criteria are important for the recruitment of professionals as they might serve as attractors as well as define requirements for certain positions. Whereas HR has lately invested much energy in career development and offers broad training and seminar programs, structures to promote systematic support for career planning have been rather neglected.

To summarize, universities are starting to recognize that to create an attractive work environment they have to offer well-defined posts, well-structured career

perspectives as well as advice and support for career development as part of their employer branding work.

These developments not only require adaptations in structures but also imply a change in mindsets. Most importantly, the significance and status of alternative career paths in e.g. science management needs to be enhanced. Universities and also funding and ranking organisations could support this mindset change by taking merits and skills like teaching or leadership qualities into account instead of solely focusing on scientific output. Finally, the current developments should not be perceived as a threat but rather as an opportunity to increase attractiveness for high potentials.



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# Leadership and Leadership Development in Academia

## Foreword

This report is a compilation of the responses from 8 universities in CESAER task force HR that replied to a questionnaire on current status of leadership and leadership development at their universities in the autumn of 2013: RWTH Aachen, Aalto University, Chalmers, TU Delft, INSA Lyon, TU Porto, TU Wien and ETH Zürich.

Added to those responses are the outcomes of a workshop with participants representing both HR and faculty in 16 European universities of science and technology from 11 countries during the CESAER HR Conference in May 2014. The workshop was an attempt to gather the collective competence in the group around the topic “Where do we want to be regarding leadership in academia in 10 years from now”.

## On leadership

Leadership in academia is defined very similar to the definition of leadership in business settings: inspiring others, being a role model, being self-aware and self-reflective as well as being decisive, visionary, planning ahead and handling the finances. In summary leadership is described as the ability “to enable the success of other people”.

Additionally, some universities mention the need to lead people acting in very many different roles; teaching, supervising, performing research, innovating and disseminating ideas within a tight framework and competitive setting.

There are varying views on the differences between management and leadership. In general we see a shift in focus from management, as in dealing with administration and decisions, structures and processes, to leadership where dealing with people and relationships is more important, notably coaching employees, giving feedback, and building teams. There is a need for both perspectives, and the ability to act in both is vital also in academia.

The notion of academic leadership is discussed at the universities, with an expressed need to define it clearer. In order to define where we want to be regarding leadership in academia in the future, we need to start by defining a strategy for where we want the universities to be from a larger perspective, i.e. the role of the universities in society. Only then can we define the leadership required to get us there.

It is clear that there is not one common starting point as we face great national differences regarding preconditions for leadership, such as the degree of autonomy of the universities and level of leadership maturity of leaders. Nevertheless, it is a common perception that universities need to invest in leadership and leadership development. Many challenges are shared between universities, see the headings below for further details.

Sharing experiences and best-practices is needed and appreciated by HR practitioners as well as faculty. Some examples of best practices shared are included in this report.



### Existing best practice example 1:

*Aalto University's leadership principles.*

## Leadership challenges in academia

Leadership in academia is sometimes a matter of leading independent researchers who do not want to be lead. There is scepticism towards leadership as a competency and why money is being spent on leadership development rather than on research.

Leadership roles are sometimes perceived as a burden which needs to be carried by someone, and can be perceived as a threat of ruining a research career if too much of the individual's time is spent on leadership rather than on research.

Combining the roles of subject matter expert and leader in one person, and finding the balance between these roles seems to be a challenge for many leaders in academia. Some leaders express fear of showing their weaknesses. This may hamper the ability and willingness to develop leadership skills.

Expectations on leaders today are increasing throughout society. In academia, students and employees expect more active forms of leadership such as coaching and mentoring.

This requires a different type of leadership that is less hierarchical and more team oriented than traditional leadership. Still the leader should be the subject expert and role model. These challenges are expressed by many universities and especially so by ETH.

A question raised is whether there are dissimilar requirements for leading academic staff and support staff. Furthermore the perception of status difference between faculty and support staff is a challenge, where faculty have higher status than support staff; can a good leader bridge that difference?

There are also challenges described in the survey results related to achieving the "right" values and behaviours, like creating an environment of trust, collaboration and creating common goals.

### 4 rooms of leadership

#### Leading a formal organisation:

Being the employer, manager, and the person responsible for staff, finance, premises, work environment, etc.

#### Interdisciplinary and network leadership

To be in charge of conceptual coherence, create identity and lead with the focus on a bigger idea than one's own subject.

#### Leading an area of knowledge

To maintain and develop competence and deploy one's discoveries in the scientific field, participate in knowledge creation and conveyance, build your own, independent research environment

#### Leading in an education environment

To carry and represent the program's idea, to create meaning, identity and culture around the subject and around young people's professional role and career dreams.

#### Existing best practice example 2:

*Chalmers University of Technology's leadership model. Read more at Chalmers intranet.*

## Appointing leaders in academia

There is a common perception that a period as department head or dean is like doing compulsory military service, someone has to do it and senior members of the faculty should take turns. This attitude may have negative consequences regarding the ability to take necessary but unpopular decisions. On the other hand it is also perceived as an entitlement to have the opportunity of a higher leadership position for a limited period of time. This construction tends to conserve the existing system, hindering long term development of leaders, and the recruitment of leaders from outside academia.

Traditionally leaders, such as department heads and deans, are appointed mainly on academic merits, whereas leadership capabilities are less considered. However, there seems to be a slight change in mind-set towards taking leadership skills into account to a higher degree and that managers may also come from leadership backgrounds outside academia. This phenomenon might mean that leadership positions need to be on a more permanent basis than a three to six year appointment as traditional.

Gender and diversity aspects are generally not taken into account explicitly when appointing leaders. There seems to be a common awareness of avoiding evaluation criteria that might discriminate one sex, although there are also universities that dedicate a number of positions exclusively to women.

A majority of universities announce their leadership positions publicly. Some differentiate in the way that higher leadership positions are announced externally, whereas lower positions are announced only internally. There are also examples where leaders are elected or just picked among the faculty members.

Evaluation criteria are generally defined and set out beforehand and communicated in the announcements. Typically, there are criteria on research and educational merits,

and gradually to an increasing extent on managerial and organizational skills. Some universities use external recruitment firms to support to identify the right candidates in the search process for leadership appointments.

HR functions are not always involved in the recruitment process, although we see a need for HR expertise, especially if personal and interpersonal competencies are to be evaluated as part of the criteria for a position.

### Existing best practice example 3:

*To identify future leaders at TU Delft, HR and Rector Magnificus monitor how people operate, ask them to be a member of an important committee, invite them to give a presentation in faculty meetings, and see how they present themselves. In addition HR and Rector Magnificus talk about what they expect from academic leaders and compare with the performance of the academics.*

### Existing best practice example 4:

*At Chalmers, a leadership portfolio is currently being developed to be used in the recruitment of leaders at all levels. The portfolio outlines the university's leadership criteria and expectations on leaders and is intended to bring a stronger focus on leadership aspects when evaluating candidates for a leadership position.*

The challenge to combine part time management with excellence in research, in addition to the perception that first line management in academia is sometimes not considered a strong merit, implies that promising candidates might not be interested in becoming leaders and the "second best" person gets the position.

Some universities mention the need to cater for real career prospects for leaders, as a way of making leadership competency more valued, and attract leadership potential.

## Developing and monitoring leadership in academia

Most universities offer some form of structured leadership and management training run in-house. The most common set-up is to have a set of basic management trainings, for instance conflict management, recruiting, goal setting and conducting performance reviews.

### Existing best practice example 5:

*RWTH University Aachen has defined eight fields of action:*

- Strengthen leadership skills
- Enhance teaching competency
- Promote capacity for innovation and research
- Build a sense of community and “We-Feeling”
- Promote commitment to performance
- Promote personal development
- Strengthen equality and diversity
- Promote internationalization

There is consensus on the need to begin leadership development efforts at an early stage of the academic career, i.e. at post-doc or assistant professor level. Although they may not be in a formal management position, most faculty members are leaders in one aspect or another. The role of supervisor is often the first type of leadership the young researcher meets.

We could make use of and recognise existing expertise in leadership, letting experienced leaders mentor younger leaders in the organisation. Especially for young researchers participating in networks with leaders within and outside of academia would give a good platform for understanding leadership.

Worth mentioning is the need for self-awareness and ability to lead oneself. Personal and leadership development needs to be ongoing, at all levels of leadership. Even the top management team will benefit from coaching, feed-back and similar initiatives.

A smaller number of universities describe longer programmes (8-10 days) for newly appointed managers/leaders and some have programmes tailored per target group, for instance first line managers, assistant professors, full professors, etc. Some also offer individual support such as coaching and mentoring, as well as process based development, i.e. interventions/mediations in leadership teams and other teams, working on their daily issues focusing on learning, collaboration and

Development trainings and programmes are in themselves not a guarantee for good leadership, there must also be a willingness to understand, change of behaviours, and improved self-awareness among the leaders. The level of leadership proficiency in the organisation cannot be monitored based only on the number of programmes attended, but rather through measuring the actual behaviours.

There are various ways to monitor leadership behaviours, including work climate analysis, employee surveys, 360° tools and performance reviews. At the responding universities appraisal dialogues and employee surveys seem to be the most common ways of collecting information, in addition to the everyday, continuous dialogue between the leader and subordinates. A few universities offer their leaders the opportunity to receive feedback through a 360° tool, either as part of a specific development programme or on demand. The 360° tool is then used to support individual development rather than for monitoring leadership performance.

A few universities do not yet have a structured process for monitoring leadership. Some of them express that they wish to develop in that area in the future. Some say that the academic community would hardly accept HR tools at all.

Some universities have defined criteria for good leadership, for instance Chalmers. At Chalmers leaders should have a high level of self-awareness and the ability to:

- create visions, strategies and goals
- recognise and utilise diversity
- ensure that the main stakeholders in the operation collaborate in order to achieve stated goals
- develop employees' competencies and build competent and highly effective teams
- delegate
- make decisions and handle conflicts
- be courageous, take risks and break patterns
- listen actively, be responsive and create beneficial dialogues
- encourage reflection and learning
- provide feedback

The leadership criteria should be used while appointing leaders, as a topic for evaluation and dialogue during the performance appraisal and as a basis for 360° feedback.



## Developing academic leadership

ORGANISATIONAL LEVEL

Networking



Dialogue



INDIVIDUAL LEVEL

New approaches  
and  
experiences



Reflection

### Existing best practice example 6:

*The most extensive development programme for leaders is shared by Aalto University, both when it comes to the model for learning on an individual level and an organizational level, and how they combine.*

## Leadership Development Framework

Support to everyday leadership & development of new competences

### Strategic Leadership

Recommended external programs

Executive coaching and mentoring

Strategic Leader programme

Management Team development support

Aalto Leader's dialogue

### Academic Leadership

Tenure Track support

Support to pedagogical  
leadership

Future Research Leader's  
programme

### Service Leadership

Service Leader programme

Aalto Service Leader's  
Dialogue

### Project Leadership

Research funding and  
project management practices

Leading international Research Projects  
programme

Project management and  
leadership programme

### Leading people and teams

Team development support

Aalto people processes and tools: resources, development, rewarding, well-being and change

Mentoring

Coaching

360° Assessment and Individual Development Planning

Aalto Leadership Development programme & group coaching

### Existing best practice example 7:

*Aalto's offering of development activities to their leaders.*

## Moving in and out of leadership roles

Leaders who have left a purely academic role to take up leadership positions sometimes find it challenging to return back to their academic role. After having spent a couple of years with most of their time on leadership tasks, they might no longer be up to date with the developments in their own research area. For that reason, some universities offer academic leaders an opportunity for a paid sabbatical period.

### Example 8:

*At TU Wien ex-leaders sometimes get a “free” semester when they do not teach in order to focus on their research.*

Other universities have observed a certain internal rotation between senior leadership roles, such as executive board, board, or head of department. The university may then benefit from a leader’s gained experience in one role by appointing her/him to another leadership role.

Others again have no process in place for helping ex-leaders to return to an academic role.

There is also an outspoken wish from both universities and industry for increased inter-sector mobility, i.e. faculty being mobile to a sector outside academia. This might increase the leadership maturity of the academic leaders, returning from sectors and contexts where they have been inspired by different practices.

Experience from other sectors is not encouraged actively at many universities; non-academic work such as industrial experiences and leadership merits are not highly valued towards higher positions in academia.

## Conclusions and recommendations

On behalf of the CESAER universities, the Taskforce HR recommends the management teams/executive boards at all European universities to strive towards providing good conditions and support for management and leadership in academia. In practice this involves areas such as allocating time for leadership, limiting the number of team members reporting to the manager, clearly defining roles of and expectations on leaders, and utilising HR competence and tools as a strategic resource in this work.

To have a role model and ambassador for leadership in academia in the high level management of the university may enhance the speed of leadership development within the university and academic world. There needs to be a clear expectance of good leadership, while role-modelling that leadership. Academia is a competitive environment, and a good leader may for instance facilitate change from a culture dominated by a cult of personality towards a culture where team success is rewarded.

There is an outspoken wish for increased inter-sector mobility, which needs to be encouraged in a more structured manner,

for instance in career systems.

We recommend striving for a situation where leaders are appointed after a regular application and selection process, based on academic, pedagogical and leadership skills as well as personal traits, where HR expertise is utilised in the process.

Defining and investing in leadership may be a key for releasing creativity, innovativeness and efficiency at the universities. We believe that good leaders who make sure that resources are used in an optimal way, delegate, motivate, translate visions into action, who gain pride, trust and feelings of well-being, will increase the performance of the university.

There are many good practices ongoing in the area of supporting management and leadership that may inspire other universities. The general willingness to share experiences and knowledge within the university community is high (as opposed to commercial companies). This is a resource we should make use of!

# Performance Management and Appraisal Systems

## Objectives of the working group and working method

The objectives of the working group are to make an inventory of good practices with regard to performance management and appraisal systems among the members of the HR task force in order to inspire the member universities, to broaden the repertoire of methods used and to improve the performance management and appraisal systems where appropriate.

In order to achieve these goals, we set up several activities:

- Round table discussion on performance management and appraisal systems during a CESAER task force meeting, including a presentation of performance management and appraisal systems of all members of the HR task force (Valencia, February 2013)
- Bilateral visits between members of the task force on the topic of performance management and appraisal systems (January 2014: TU Delft- Chalmers University of Technology; March 2014 ETH Zurich- TU Delft)
- Workshop on performance management and appraisal systems during the HR conference at TU Delft (Delft, May 2014)
- Structured qualitative inventory of best practices by telephone interviews (July – August 2014)

Six members of the task force participated in this survey :

- ETH Zurich
- TU Delft
- Vienna University of Technology, TU Wien
- Aalto University
- RWTH Aachen University
- Chalmers University of Technology

## Results/findings of the past period of the working group

### *Appraisal talks*

Appraisal talks play an important part in an organisation's performance management programme and all universities engage in some kind of appraisal talks with their employees. The form and degree of formalization varies, as does the frequency of these talks as well as the staff involved (scientific / support staff). These talks generally constitute a core element of the performance management programme.

Most universities use a one year time span, but for professors it is often not annually, but once every two or three years. For tenure trackers in all systems a period of one year is used. In a minority of the universities, the appraisal talks are held in a systematic way and the process is well established; there is a standard appraisal form and appraisal talks are held with both academic staff (including full professors) and support staff. In some cases full professors are exempted from appraisal talks for legal reasons- either on the basis of privacy issues or special status. In many cases, the support staff is not included in the cycle. Where the support staff is included, the appraisal forms only differ slightly from the forms used for the academic staff.

The goals of the appraisal system may vary from institution to institution. In some universities these talks are not employed for appraisal purposes, but to discuss the development of individual staff members. There are no qualifications or scores involved. This is considered to be very motivating by the universities that follow this approach.<sup>1</sup> There are no legal

implications to these development talks nor consequences for the salaries. The degree of formalization is rather low in these instances: varying from 'semi-structured interviews' to 'informal talks'. Other universities adopt a formalised approach where either salary or legal consequences are part of the appraisal system. Here the appraisal forms tend to be more complex and regulated.<sup>2</sup>

The criteria used to assess the performance of the academic staff were surprisingly similar among all members. The criteria are: research, education and 'service to the community'; sometimes called 'good citizenship'. In addition, some universities have separate dimensions such as leadership, organization or valorisation. A minority of the universities indicate competences explicitly and attach a score to different competences but even where separate competences are not mentioned explicitly, they all contribute to the overall qualification of the individual employee. All universities have some system for counting publications and grants. The performance with regard to education is not as explicitly monitored as with regard to H-index/ publications, although some universities use student evaluations as input. These figures are taken into account in the appraisal system for the individual employee, but they are never the only indicator. 'Good citizenship', 'service to the community', valorisation and leadership are always part of the evaluation.

(1) See example Aalto University, Appendix 1

(2) See example Delft University of Technology, Appendix 2

### **Best practices**

Delft University of Technology was cited by other universities as source of best practices.

Main features of Delft's appraisal system include:

- A complete result and development cycle centred around the annual appraisal talk. This includes preview and review meetings in which managers discuss performance criteria and reflect on the outcome of the appraisal talks in their department/ faculty.<sup>3</sup>
- Appraisal talks with scientific staff and support staff, using the same form for both employee groups
- A section in the appraisal form dedicated to a personal development plan (from 2016 there will be greater emphasis placed in the form on mobility and development).
- Two supervisory levels are present at the appraisal meeting (direct manager and manager above)
- A tool for 360 degree feedback. The appraisal form also prompts the staff member to give feedback to his manager/ supervisor.
- Attention paid to explicit job related competences.
- Annual evaluation of the result and development cycle leading to further innovation of the appraisal system.

Among the suggestions each university put forward as its best element in the appraisal system, the answers were:

- Very simple form (no more than 1 page)
- Similar process for all employees; no exceptions
- Supervisor has to record the rating in the centralized rating overview. Trends/ deviations in these ratings are discussed at department level and used in the feedback on the supervisor
- There are implications for salary (e.g. next salary step depends on satisfactory appraisal; appraisal talks are used as input for performance related measures such as promotion or bonuses). This connection to the salary system means that every employee has an incentive to conduct this interview.
- All is dependent on the quality of the supervisor; training, training, training! Organize specific training for supervisors on how to conduct good appraisal talks (how to motivate staff, address and tackle difficult issues, discuss development).

(3) See example Delft University of Technology, Appendix 3

### Performance management

Strategy/ direction: A majority of the universities makes sure the direction that a School/ Department/ Faculty is developing is linked to the strategy of the university by holding yearly strategic talks between the executive board and the management teams of the School/ Department/ Faculty. This is a fairly structured exercise in which the department has to show the explicit links between department activities and university-wide goals.

In some cases, the executive board can distribute (part of the) university budget

along the lines of the strategic fit. In another case, the executive board could award start-up money/ seed funds. Only research topics that fit the university policy and strategy are eligible. It is not only a boost for young researchers, but also a means to steer on gender specific goals (in that case).

The performance of departments and faculties with respect to research output (publications) and acquisition (grants and funding) can also be a determining factor when allocating internal research budgets.

### Summary of variations in performance management systems among universities

Features	Informal or less developed performance management	Formalised or advanced system for performance management
Frequency of appraisal talks	Irregular cycle	Fixed (mainly annual) assessment period
Process for appraisal talks	No standard procedure for executing and monitoring the appraisal process	Well established and well regulated assessment cycle
Assessment form	Simple form or no standard form	Standardised, complex form for all staff
Staff appraised	Scientific staff only (professors excluded)	Scientific staff (including professors) and support staff
Legal status of appraisal	No legal status or consequences for salary	Legal implications and consequences for salary
Goal of assessment talk	Informal talk about progress and career path	Formal performance appraisal, personal development plan, performance agreements
Participants in appraisal talk	Staff member and direct supervisor (2 participants)	Staff member, direct supervisor, manager of supervisor (3 participants)
Management Information	No central registration of appraisal results	Central registration of appraisal results, evaluation of appraisal cycle
Link between individual appraisals and university strategy	Weak	Strong (example Chalmers University)
Decisions regarding promotion and performance related bonuses	Manager has authority to promote staff/award bonuses	Proposals regarding promotion and bonus payments are discussed and decided at department level in, for example, review meetings



### **Policy recommendations**

*Appraisals:* The working group is of the opinion that the quality of the performance of both the academic staff and support staff will benefit from regularly feedback- regardless of the degree to which this is formalised.

- ▶ We advise members of the task force to introduce a yearly appraisal system, both for academic staff and support staff.

*Performance management:* more reflection on the contribution of an individual to the wider organization, including the strategic fit, is encouraged.

### **Future outlook**

Suggestions for new ways of working with regard to performance management are:

- ▶ Widen the exchange of knowledge and improve the quality of HR tools and strategy by extending the scope of bi-lateral visits to include CEASAER members currently outside the HR task force.

### **More information**

Information on the TU Delft Result and Development cycle:

<https://intranet.tudelft.nl/en/career-and-development/result-and-development-cycle-2014/rd-documents/>

Result and development cycle:

<https://intranet.tudelft.nl/en/career-and-development/result-and-development-cycle-2014/short-summary-r-and-d-cycle/>

Example of Performance criteria:

<https://intranet.tudelft.nl/en/career-and-development/career-development/performance-criteria/>

Information on annual report

<https://intranet.tudelft.nl/en/career-and-development/result-and-development-cycle-2014/annual-report/>

Information on R&D meeting

<https://intranet.tudelft.nl/en/career-and-development/result-and-development-cycle-2014/rd-meeting/>

Information on feedback and finalisation

<https://intranet.tudelft.nl/en/career-and-development/result-and-development-cycle-2014/feedback-and-finalisation/>

Links to Aalto University's performance management:

*Careers in general:*

<http://www.aalto.fi/en/about/careers/>

*Tenure track criteria:*

[http://www.aalto.fi/en/about/careers/tenure\\_track/evaluation/](http://www.aalto.fi/en/about/careers/tenure_track/evaluation/)



### *Appendices*

1. Development Discussion form, Aalto University
2. Result and Development form, Delft University of Technology
3. Result and Development cycle, Delft University of Technology

Please fill in the form using the role-specific guide. Focus on a good discussion, clear agreements and documentation; so that the development discussion works as a practical tool for yourself, helping to define what is essential in your daily work.

BASIC INFORMATION	Employee	
	Supervisor	
	Date	
	Current position in Aalto career system	
REVIEW: Key results from past 12 months? Feedback?	Research/artistic work	
	Teaching	
	Service to the community	
PLAN: Key objectives for next 12 months?	Research/artistic work	
	Teaching	
	Service to the community	
SUPPORT: What support is needed e.g. through competence development or from supervisor & colleagues?		
LONG-TERM OBJECTIVES AND PLANS, e.g. for career and development?		
OTHER ISSUES: Any other issues related to, e.g., work community, environment or well-being at work?		
Signatures	Supervisor	Employee

**Summary**

Name of staff member	xx	Position, profile, level, #fte	
Employee number		Scale/step	
Department		R&D period	
		Date of R&D interview	

Name of assessor		ETV-level (English Language Skills)	
Name of co-assessor			
Name colleagues / stakeholders for input		BKO-level (University Teaching Qualification)	

<b>R&amp;D form seen<sup>1</sup>/ annual agreements accepted</b>	<b>Agreed:</b>	<b>Agreed:</b>	<b>Agreed:</b>
Staff member	Assessor	Co-assessor	Assessing authority
date:	date:	date:	date:

**Total score**

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
	<b>Below expected level of performance</b>	<b>At basic level of performance</b>	<b>At expected level of performance</b>	<b>Exceeds expected level of performance</b>
<b>Total score</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**The agenda for the interview**

- |   |   |
|---|---|
| 1. Assessment   | 4. Career prospects and long term employability |
| 2. Annual agreements last period, results & reflection on performance last period | 5. Feedback on supervisor                       |
| 3. New annual agreements  | 6. Any other points                             |

**Annexes**

**To be added by the staff member**

- |   |  |
|---|--|
| <input type="checkbox"/> Annual teaching report       | - Compulsory for all academic staff who teach <sup>2</sup> |
| <input type="checkbox"/> Annual research report       | - Optional   |
| <input type="checkbox"/> Any other relevant documents | - Optional   |

PS-nr. « <b>Personeelsnummer</b> »	SSC-HR
BE «BeheersEenheid»	
Tab <b>R&amp;O</b>	

<sup>1</sup> If a staff member does not agree with the content of their assessment, they may submit a request to have it reviewed to the assessing authority, no later than two weeks after signing the report. If the staff member does not agree with the decision of the assessing authority, he/she may submit an objection in writing, no later than six weeks after being informed of the decision. For more information, see [A-Z index Objections and Appeals](#).

<sup>2</sup> If teaching is a key component of your function, then you can use the Teaching Annual Report. See [A-Z index R&D Cycle](#).

<b>1. Assessment</b>	<b>To be completed by the supervisor</b>
----------------------	--

The key components are determined by the UFO profile, but can be adjusted if these are not in line with the agreed tasks and agreed annual agreements. Any changes should be made in consultation with the supervisor.

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
	<b>Below expected level of performance</b>	<b>At basic level of performance</b>	<b>At expected level of performance</b>	<b>Exceeds expected level of performance</b>
<b>Total score</b>	<b>See first page</b>			
Key component 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Key component 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p><b>Explanatory notes by supervisor</b> Start text</p>
--

<b>2. Annual agreements for the last period: results and reflection on performance</b>	<b>To be completed by staff member (beforehand) and supervisor (afterwards)</b>
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The supervisor and the staff member reflect on the performance of the staff member, the way in which the set targets have been achieved and how this is evident (what went well, what could be improved?).

If annual agreements for the last period have not been realised, the staff member says why this is the case and what is needed in order to realise the agreement(s). There is also an opportunity here to state the extent to which the staff member contributes to the goals of the group/department/faculty/field/TU Delft.

<b>Results last period</b>	
<b>Staff member</b> Start text	
<b>Results last period per key component (you may add an attachment)</b>	
<b>Staff member</b> Start text	
<b>Reflection on performance and results: what went well, what can be improved?</b>	
<b>Staff member</b> Start text	<b>Supervisor</b> Start text

<b>3. New annual agreements</b>	<b>To be completed by supervisor and staff member</b>
---------------------------------	---

<b>Annual agreements for performance and output (per key component) and personal development</b>	
Start text	

**4. Career prospects and long-term employability | To be completed by supervisor and staff member**

How does the staff member view his/her career prospects and personal development? This could relate to a difference balance in his/her tasks and responsibilities; an adjustment in roles; a change of job (horizontal or vertical mobility, either inside or outside TU Delft) or perhaps developing the competencies or behaviour needed for the next career move (take a look [here](#) at your UFO profile and the corresponding competencies). Consider also the how the desired profile fits in the current and future context of the department/faculty/staff division.

	<b>Completed by staff member</b>
Short-term perspective	Start text
Long-term perspective (3-5 years)	Start text
Personal development	Start text
<b>Reflection on above by the supervisor (if any agreements are made with regard to career and/ or personal development in the context of the annual agreements, please fill these in under 3).</b> Start text.	

**5. Feedback on supervisor | To be completed by staff member**

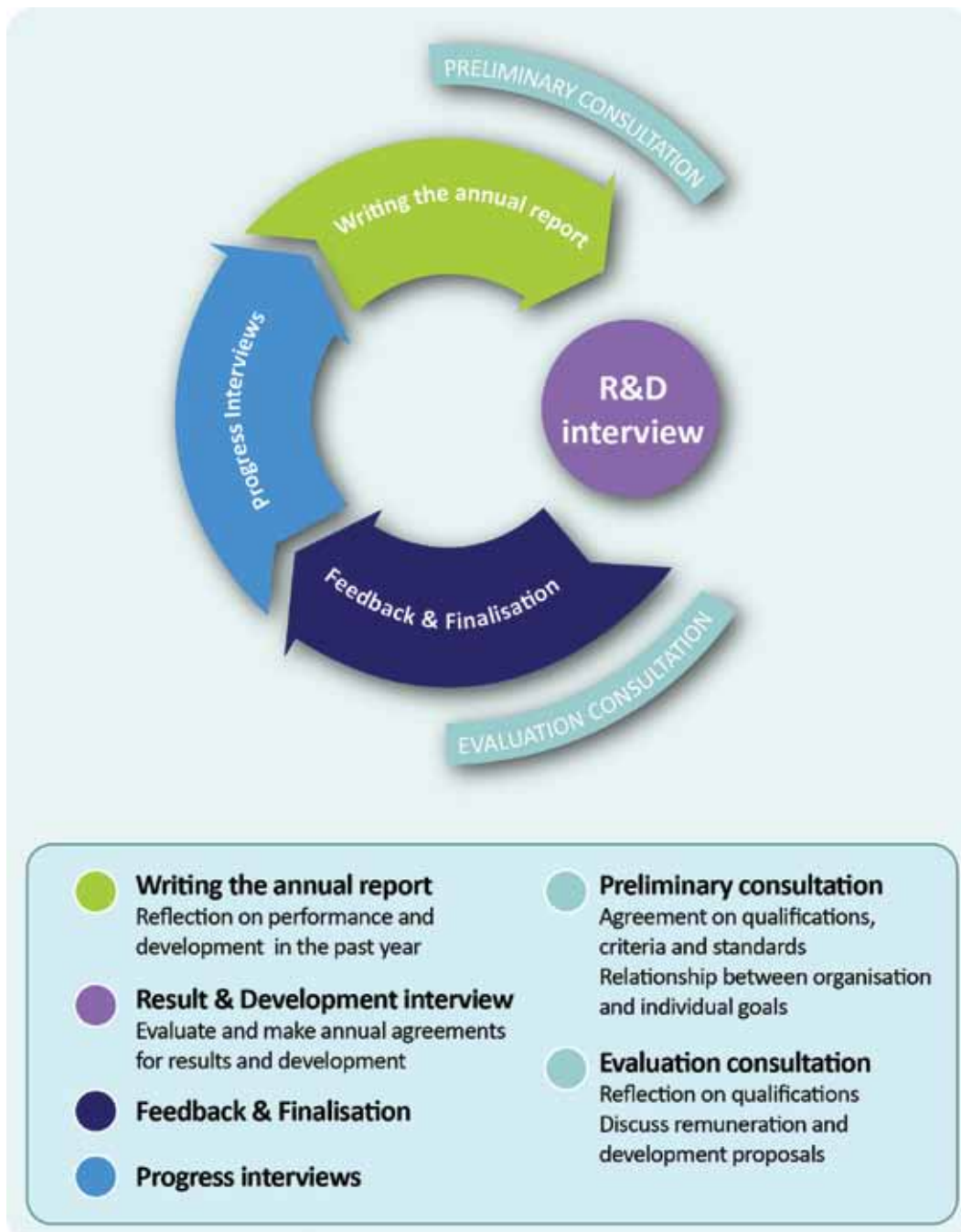
What would the staff member appreciate the supervisor doing more of, or less of, or doing differently?

Start text.

**6. Any other points | To be completed by staff member**

Start text

Do you want to learn more about the R&D cycle? Look at [www.tudelft.nl/ROpilot](http://www.tudelft.nl/ROpilot)







# Gender Equality at Universities of Science and Technology

Results of the CESAER Gender Equality Survey 2014  
Final Report 2015\*

\* This is a short version of the CESAER Gender Equality Report. The full version of the CESAER Report "Gender Equality at European Universities of Science and Technology" will be published separately.

## 1. The CESAER Gender Equality Survey 2013/2014

In July 2013, CESAER joined the ERA Stakeholder Platform that was established by the European Commission in the follow-up of the ERA Communication of July 2012<sup>1</sup>. The CESAER Gender Equality Survey is part of the activities started in the course of the implementation of the CESAER Unilateral Statement on the European Research Area<sup>2</sup> presented to the European Commission in June 2013 and accepted by Commissioner Máire Geoghegan Quinn on 17 July 2013.

In the Unilateral Statement, CESAER's commitment regarding gender equality is defined as "Develop and start, or continue and share implementation experiences with institutional gender strategies and Gender Equality Plans encompassing e.g. commitments from the CESAER member institutions' leadership, promoting the appropriate mix of gender-specific career development measures, or by ensuring monitoring of the implementation of Gender Equality Plans through the appropriate internal procedures."

In the follow-up of the Statement, the preparations for the CESAER Gender Equality Survey started in autumn 2013. The goal of the survey is to get an overview about the state of play of gender equality and its management at CESAER member institutions. In a first step, the contact persons for gender related activities at the CESAER member institutions were identified in order to start forming a community of gender equality practitioners within the association.

The questionnaire was prepared in an iterative way based on a draft prepared by the team that was commented and amended by the members of the CESAER Task Force Human Resources<sup>3</sup> and experts from the Gender Sector, Directorate Research and Innovation, European Commission<sup>4</sup>. The structure of the questionnaire was as follows:

- Three questions for identification of the respondent person and institution, and
- Ten detailed questions addressing
  - The organisational structure for GE
  - Gender Equality Plan, implementation and monitoring
  - Initiatives and measures supporting Gender Equality
  - Barriers
- Statistics: top management, academic staff, students, FP7
- Examples of best practice, institutional change, next steps

In January 2014, the questionnaire was distributed to the gender equality contact persons at CESAER member institutions and, by April, forty-eight responses were received, which is a 100% response rate.

The results of the survey and a draft report were discussed in a workshop organised at

- (1) European Commission: A Reinforced European Research Area Partnership for Excellence and Growth. COM(2012) 392 final, 17.7.2012. Members of the Stakeholder Platform are: CESAER, EARTO, EUA, LERU, Science Europe, NordForsk. See: [http://ec.europa.eu/research/era/partnership\\_en.htm](http://ec.europa.eu/research/era/partnership_en.htm)
- (2) [http://www.cesaer.org/content/assets/docs/CESAER\\_Statement\\_on\\_the\\_European\\_Research\\_Area\\_June\\_2013.pdf](http://www.cesaer.org/content/assets/docs/CESAER_Statement_on_the_European_Research_Area_June_2013.pdf)
- (3) <http://www.cesaer.org/en/projects/human-resources/>
- (4) The continuous support of Viviane Willis-Mazzichi and Maria Allegrini during the preparation of the survey and the report is particularly acknowledged.

Vienna University of Technology<sup>5</sup> on 27-28 November 2014. In addition, the author presented and discussed the draft report at workshops of the Gender Configuration of the ERA Doers Network (Brussels, 10 March 2015), the COST Network “Engendering STEM<sup>6</sup> disciplines. Structural Change in academia: Recruitment, Retention, Promotion and Leadership of Women” (University of Lisbon, 30 March 2015), and a workshop of Austrian funding agencies and policy research institutes (Vienna, 14 April 2015). Results of the discussion in the frame of these events were considered in the final report and integrated in the summary, conclusions and recommendations at the end of the present report.

The report is supposed to present first information for the CESAER member universities and to provide a factual basis for future opportunities of mutual learning and possible joint initiatives. The survey was the first one on gender equality carried out among CESAER member institutions. All parts of the report provide a spotlight picture of the present

state of gender equality at the targeted universities of science and technology. The outcomes prove already interesting and relevant for benchmarking and as basis for institutional policy decisions. However, repetition of such a survey should be considered: it would enable universities to monitor and assess their gender related developments over time and would permit an assessment of efficiency, effectiveness and impact of specific measures; in general, regular monitoring would enable to follow institutional change with regard to different aspects of the gender dimension. In addition, a coordination with the regular ERA Surveys’ launched by the European Commission as well as with the monitoring of the implementation of the ERA Roadmaps by member states and the related ERA indicators should be envisaged in order to minimise the burden of institutions with surveys and the collection of different indicators.

- (5) <http://www.cesaer.org/en/news-items/news/presentations-from-the-cesaer-gender-workshop-at-tu-wien/>
- (6) STEM – Acronym that stands for Science, Technology, Engineering and Mathematics.

## 2. The state of play regarding Gender Equality at CESAER member institutions – Statistics for the academic year 2012/2013<sup>7</sup>

### 2.1 Introductory note

The questions related to statistical data addressed university leadership, academic staff, and new student entries, Bachelor graduates (degrees), Master graduates, PhD graduates, as well as FP7 participations in different categories of participation modes. The data characterise the situation in the academic year 2012/13 covering autumn and winter 2012/2013 and summer 2013.

The questions were formulated in a “soft” way which was probably the reason why not all respondents provided statistical data. In addition, the survey results indicated that at some institutions the requested gender specific data may not be available. That is a major issue and a challenge for future similar exercises because without having reliable data it is difficult for the university management to assess the situation at an institution and to design targeted measures.

The draft report including the tables with the detailed data was sent to the CESAER gender contact persons for comments of the text and possible review of the data. Feedback and corrected data were received till end of June which contributed to a further consolidation of the findings and the data.

At several institutions<sup>8</sup>, only the faculty of engineering is member of CESAER. Since the specific statistical data at faculty level were not available data for these five member institutions were not taken into account. Thus, for the statistical data related to persons, the total sample was forty-three

universities. Of course, the responses and information regarding the open questions of all forty-eight responding member institutions were taken into account.

CESAER member institutions are universities of science and technology which does not mean that they comprise only STEM fields (Science, Technology, Engineering and Technology) but they may host also faculties or schools in other fields such as architecture, social sciences, economics and humanities, or even medicine. As a consequence, the results of the present survey divert from surveys and studies that are strictly focussing on STEM fields. It would, of course, be interesting to analyse in detail the gender distribution in the different parts of CESAER member institutions because there are certainly big differences between different fields of science and technology. This would certainly be an interesting task for future analyses.

For the present survey, four levels were defined for the academic staff based on steps in the academic career and the related “academic seniority”:

- Full professors or equivalent as the highest post at which research is normally conducted<sup>9</sup>,
- Associated professors or equivalent,
- Assistant professors or equivalent, and
- Other scientific staff.

(7) Tables with the full sets of data for the participating institutions are presented in the full report that will be available from the CESAER website: <http://www.cesaer.org/en/publications/>

(8) KU LEUVEN, UC LOUVAIN, AALBORG UNIVERSITY, UNIVERSITY OF PORTO, and LUND UNIVERSITY

(9) See also the four level grading used in: European Commission, *She Figures 2012, Gender in Research and Innovation, Statistics and Indicators. 2013*; p. 87 (updated version announced for October 2015)

The segregation of the academic staff in four levels seems justified by the fact that in the vast majority of Member States four levels of academic staff are defined<sup>10</sup>, even when different titles are used. In some countries, though, there is a wider spectrum of academic positions. In the case of Spain, the grouping into the four categories was performed with the help of colleagues from the member universities. Between thirty-three and thirty-four institutions responded in accordance with their staff structures so that the resulting data provide a valid presentation of the situation at CESAER member institutions.

For the student and doctoral levels, four categories were defined for the academic year 2012/2013:

- New entrants or first year students,
- Bachelor graduates (diplomas awarded in the course of the academic year),

- Master graduates (diplomas awarded),
- PhD/doctoral graduates (diplomas awarded).

Between thirty-one and thirty-four member institutions provided valid data for the bachelor, masters and doctoral graduate population.

Summing up, in all categories a majority of CESAER member institutions provided statistical information so that it was possible to draw highly representative if still indicative conclusions. For future surveys, it will be possible to draw lessons from the present experiences leading to even better and more complete results possibly covering all CESAER member institutions.

## 2.2 Academic and non-academic management at universities

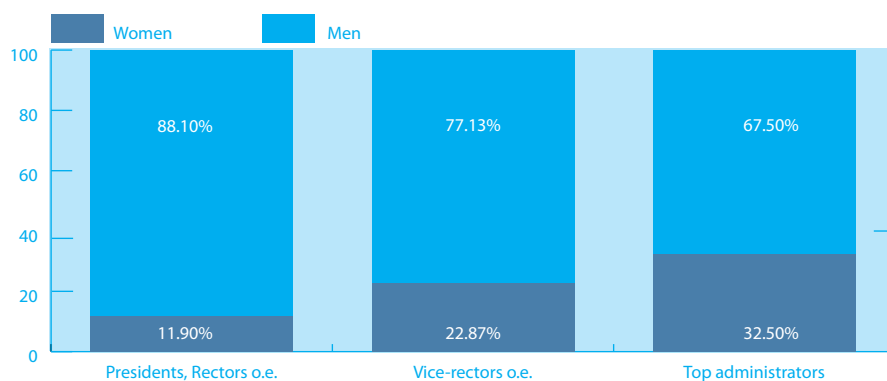
Detailed numbers were provided by the responding universities for the top academic and non-academic management. For other levels of university management, only the percentages of women were requested and reported.

five of the forty-three universities - that is 11,90% - included in the analysis are led by female rectors or presidents: TU Wien, Grenoble Institute of Technology, Aalto University, UP Bucharest, and Chalmers University of Technology.

The **top academic management** is clearly dominated by men. During the period of the survey from January to April 2014, only

The top academic and non-academic leadership situation is summarised in the following table.

Diagram: The percentages of women at different levels of top academic and non-academic management



(10) See She Figures 2012, op. cit., pp. 139-145

From a total number of 188 vice-rectors (or equivalent) at thirty-six universities forty-three are women which makes 22,87%.

When assessing the situation, it is important to consider that in some countries target numbers for women in management positions are set at between 30% and 40%.

The diagram below provides an overview regarding the proportion of women at the level of vice-rectors. Thirty-eight universities provided data. At ten universities (26,32% of the total), only men are occupying the positions of vice-rectors. At five university (13,16%), the percentage of female vice-rectors is between 10% and 20%. At ten universities, the quota of female vice-rectors lays between 21% and 30,00% including eight universities where one quarter of the vice-rectors are women. At eight universities, the percentage of women at the second level of top university management is between 31% and 40%: Tallinn University of Technology (33,33%), TU Braunschweig (33,33%), RWTH Aachen University (33,33%), TU Munich (37,50%), Brno University of Technology (40,00%). At five universities, women hold 50% of the vice-rector positions: Grenoble Institute of Technology, Aristotle University of Thessaloniki, Politecnico di Milano, TU Delft and the Norwegian University of Science and Technology.

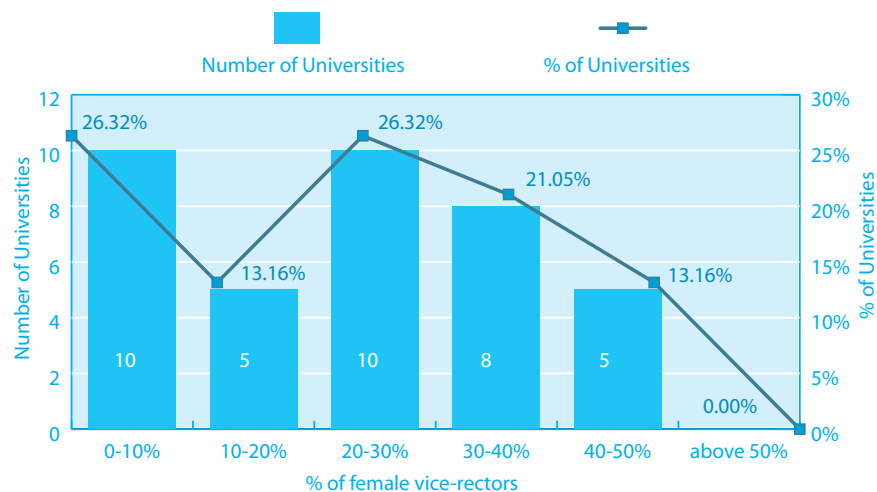
The situation is different in the area of **non-academic management**. At forty institutions, there are thirteen female heads of administration (top non-academic management) out of a total of forty position which is 32,50%%.

How is the situation at the **other levels of university management?**

For deans, heads of departments and the second level of administrative management only percentage numbers were requested in the survey.

Thirty-nine universities reported about the percentages of female deans in their institution. The diagram below shows the numbers and percentages of the universities in the different ranges of percentages of women in dean's positions. At eight universities or 20,51%% of the analysed universities, there are no women in the lead of faculties or schools or equivalent university structures. It is also remarkable that at twenty universities or 51% of the universities the percentage of female deans is 20% or below 20% - actually only at two universities it is 20%, namely at TU Ilmenau and Politecnico di Milano.

Diagram: Percentages of female vice-rectors (or equivalent) at CESAER member institutions



(9) In the full report that will be published separately all detailed data will be presented.

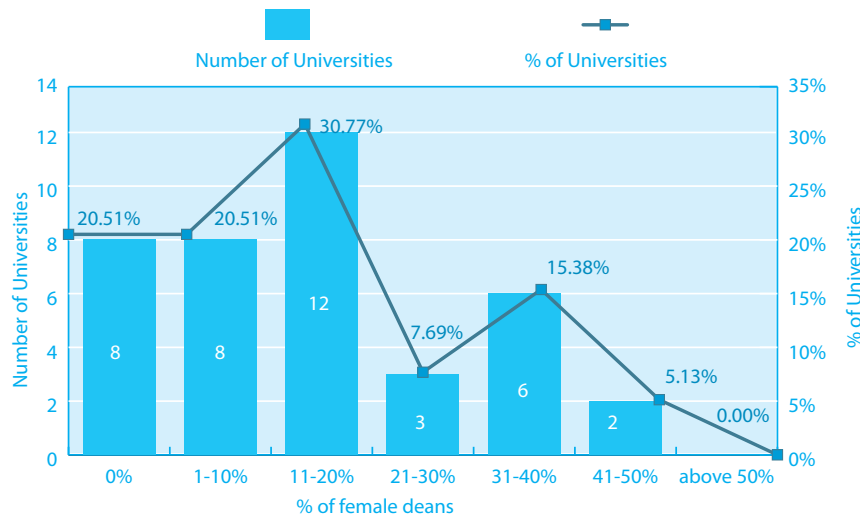


Diagram: Percentages of women in the positions of deans (or equivalent) at universities

At three universities, the percentage of female deans is between 21% and 30%. Six universities are in the range between 31% and 40%, with EPF Lausanne and Politecnico di Torino at 40%. The universities with the highest numbers of female deans are the Norwegian University of Science and Technology (43%), and Aalto University (50%). At no university, there are more than 50% female deans.

In about 70% of the reporting universities, less or equal than 20% of the departments are lead by women. At five universities, the percentage of women in these positions is between 20% and 30%. Four universities have between 31% and 40% female heads of departments or equivalent: UP Valencia (32%), Norwegian University of Technology (33%), Kaunas University of Technology (35%), and Aalto University (35%). Only at Tomsk Polytechnic University there are more than 40% women as heads of departments, namely 42%. Summing up, at only five universities (15,63%), the quota is between 30% and 40% (and beyond) the percentage that frequently is envisaged to be achieved as proportion of women in management positions.

Thirty-two universities contributed percentage numbers for women at the level of heads of academic departments or equivalent. In the diagram below, the data describing the gender related situation at that level of academic university management is shown.

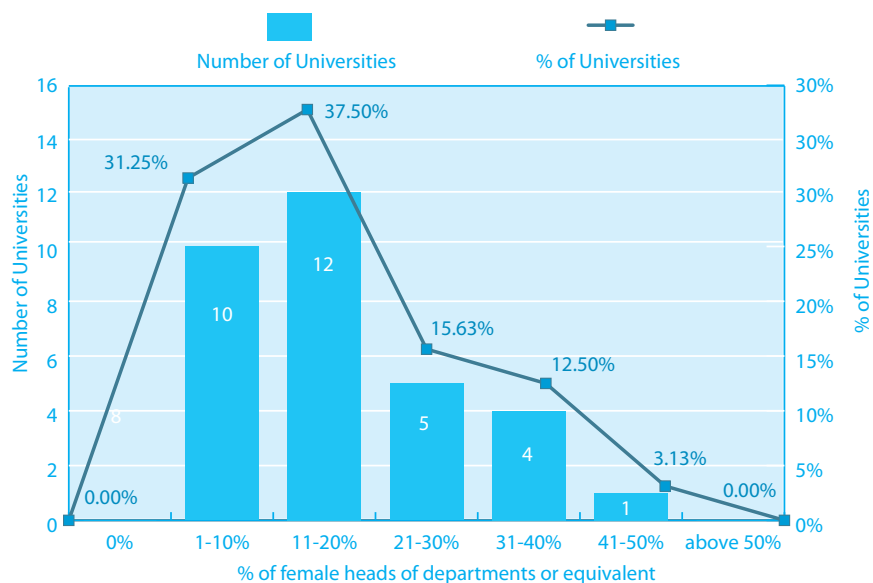


Diagram: Percentages of women in the positions of heads of academic departments or equivalent



Finally, also data about the second level of administrative management at thirty-six responding universities were analysed.

The situation in that part of university management is quite different from the higher levels discussed before. Twenty universities have a women's quota between 31% and close to 60%, while at eight universities the percentage of women in those management positions is even higher: EPF Lausanne (60%), Tallinn University of Technology (62%), Istanbul University of Technology (67%), Leibniz University Hannover (67%), TU Braunschweig (70%), KTH Royal Institute of Technology (80%), Instituto Superior Técnico Lisboa (82%), and UP Madrid even 100%.

Overall, the data show, that the under-representation of women in academic

and also non-academic leadership is remarkable. As responses to the survey in the open text comments indicate, the visibility of women at the top-level of university management influences the situation of gender equality in the academic parts of the institutions. That means that involving women at the different levels of academic university management is an important strategy towards achieving institutional change in that area. It is also interesting to note, that also at the top level of the administrative management at universities, women are only in about 30% of the institutions in those positions. The situation at level 2 of the management positions in the university administration is substantially different. In seventy-eight percent of the institutions the proportion of women is above 30% at that level.

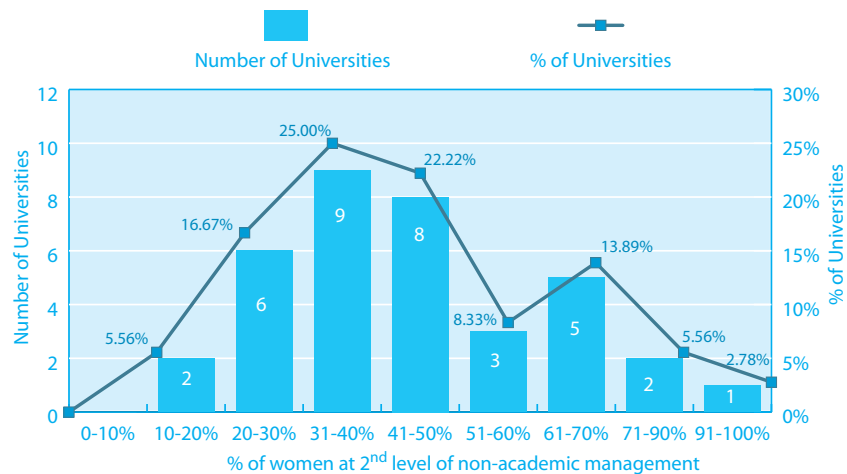


Diagram: Percentages of women in level 2 administrative management positions

### 2.3 Academic Staff

For the **academic staff**, a steady decrease of the number and percentage of women can be seen from the level of Assistant Professors (or equivalent) towards the higher ranks in the academic hierarchy equivalent to Associated Professors and Full Professors.

The numbers and percentages show the dominant role of men in the academic community and the decreasing proportion of women from the level of Assistant Professor to the positions of Full Professor.

At first sight, it may, however, look like an interesting result that the proportion of women among full professors at the CESAER member universities is higher than the 11% reported for the year 2010 for Grade A positions in the area of science and engineering in the SHE Figures 2012<sup>11</sup>. However, a word of caution is in place here. As indicated above already, the reason for the difference is certainly related to the fact that in the present survey the data for the full member institutions were taken and not only the data for the science

and engineering or STEM parts of the universities. In many CESAER universities, there are also non-STEM departments, faculties or schools, such as architecture, and social and economic sciences, humanities, and medicine. There is anecdotal evidence from some universities such as Aalto University that considering just the STEM parts of the institution leads to numbers that are in line with the SHE results. That fact will have to be taken into

account in future examinations. That said, it will, however, have to be considered that a more diversified and detailed survey will impose substantially higher effort on respondents. In addition, the question remains if such detailed data are available at the universities at all. That is an aspect that has to be taken into account also when organising the monitoring of the implementation of plans and measures promoting gender equality.

Category of academic staff	Universities that contributed valid data (out of total 48)		Academic staff				
	Number	%	Total #	Women		Men	
				Number	%	Number	%
Other scientific staff	32	66,67%	42.594	12.718	29,86%	29.876	70,14%
Assistant Professors o.e.	34	70,83%	9.784	3.156	32,26%	6.628	67,74%
Associate Professors o.e.	33	68,75%	11.025	2.941	26,68%	8.084	73,32%
Full Professors o.e.	38	79,17%	9.308	1.408	15,12%	7.900	84,88%

Table: Gender diversity of academic staff

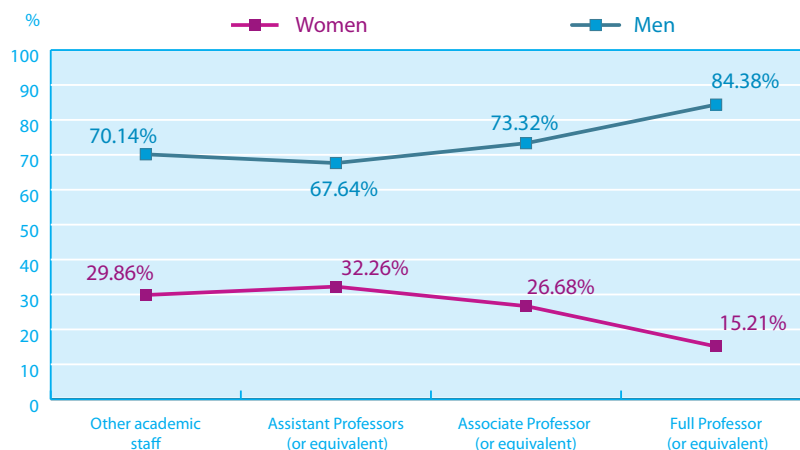


Diagram: the percentages of women at different levels of the academic career

(11) European Commission. She Figures 2012. Gender in Research and Innovation. Statistics and Indicators. Brussels, 2013. pp. 88-89

## 2.4 Students and PhDs (or equivalent)

For the **student population**, the proportion of women decreases from 35,57% at the entry to the university to 34,00% at the level of bachelors' degrees; it increases towards almost 36% at masters' level and decreases to 32,69% of women among PhD graduates. The detailed data of individual universities presented in the full report show that there are substantial differences between universities which is an area for future deeper investigations.

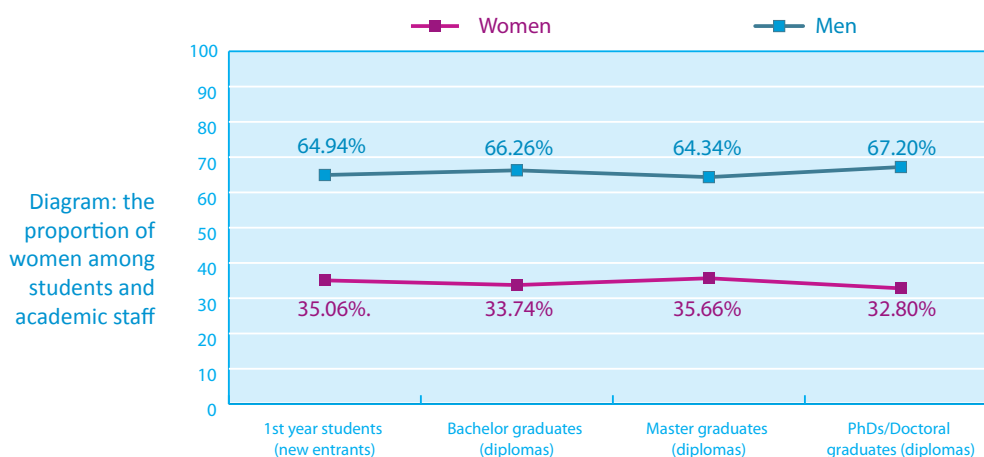
It is interesting to put the above data into the broader context, For the PhD level some comparative data were available from the She Figures 2012<sup>12</sup>. In 2010, on average in the EU-27, 46% of all PhD graduates were women<sup>13</sup>. However, in science, mathematics and computing, women constitute 40% of PhD graduates and in engineering, manufacturing and construction their share drops to 26%<sup>14</sup>. The average data

of CESAER member universities of science and engineering reflect the fact that they encompass also disciplinary areas beyond engineering. Depending on the profile of the institutions, the situation between CESAER universities differs substantially and lay in a range between 15% of female PhDs at Grenoble Institute of Technology and 53,28% at University College Dublin.

In general, it will be interesting for future investigations taking a more detailed look at different universities with percentages of women substantially above the average numbers in order to eventually learn from them. Reasons may be quite manifold ranging from the economic setting of the region to specific study programmes and to targeted measures to attract women and provide a favourable study and working conditions and others.

Category	Universities that contributed valid data (out of total 48)		Students and PhDs				
	Number	%	Total number	Women		Men	
				Number	%	Number	%
<b>First year students</b> (new entrants)	32	66,67%	168.028	58.913	35,06%	109.115	64,94%
<b>Bachelor graduates</b> (diplomas)	31	64,58%	73.105	24.663	33,74%	48.442	66,26%
<b>Master graduates</b> (diplomas)	31	64,58%	44.066	15.716	35,66%	28.350	64,34%
<b>PhDs/Doctoral graduates</b> (diplomas)	34	70,83%	12.414	4.072	32,80%	8.342	67,20%

Table: Women in the student population at different levels: numbers and percentages



(12) European Commission: She Figures 2012. Gender in Research and Innovation. Statistics and Indicators. Brussels 2013.

(13) Op. cit., p. 50

(14) Op. cit., p. 53

## 2.5 Intermediary conclusions

Putting the above results together, the following table shows that the proportion of female students and “other scientists” up to the level of Assistant Professor (or equivalent) is in the range around one third. Beyond those levels, there is a significant decline of percentages of women in the academic hierarchy on the path towards the level of full professor positions. That situation is clearly shown in the next diagram combining results for students, PhDs and academic staff.

It must be noted that the above table provides evidence for the general trend of the dominant role of men towards the higher ranks in academia at universities of science and technology. This cannot, however, be interpreted as a “leaking pipeline” because there is no linear relation or “pipeline” between newly entering students on the left side of the table and full professors at the right side. The table summarizes spotlights of the specific situation at the different levels of academic studies and academic careers.

There is an important aspect to be taken into account for more detailed analyses: The data for the different levels of student and staff careers are the results of different trajectories and time lines where, in addition, there is an inflow of bachelors from other universities for master studies as well as outflow of bachelors leaving after the diploma would have to be considered. Similar issues of influx and outflow would have to be considered for each level. In that connection, it would be interesting to investigate the gender distributions of graduates leaving or joining the universities at the different levels.

However, the table provides a “spotlight” overview of representative data from all levels of students and academic staff from the responding CESAER member institutions for the academic year 2012/2013. In any case, there is a general trend of a 20% decrease of the percentages of women and a 20% increase of men along academic career paths.

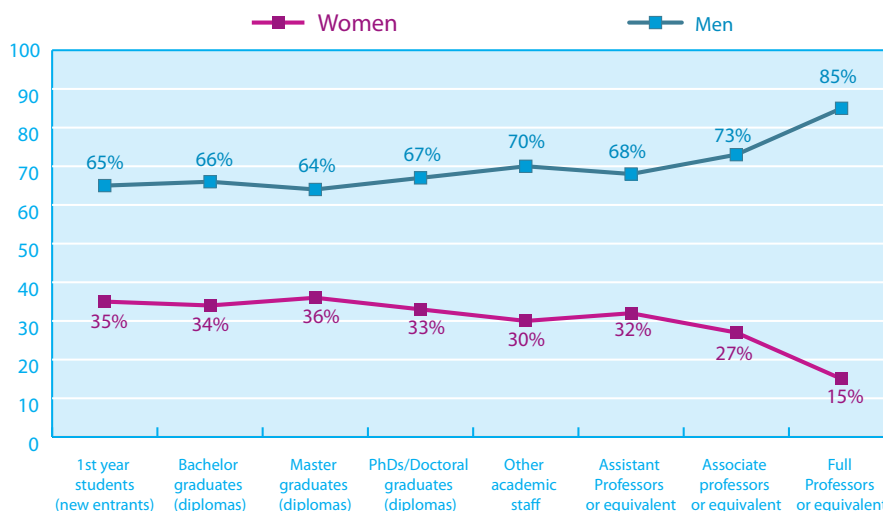


Diagram: The proportion of women among students and academic staff

## 2.6 Women in FP7 participations of CESAER member institutions

In the course of the survey, also data were collected regarding the involvement of women in different actions of the 7<sup>th</sup> EU Research Framework Programme based on data available during the period of the survey between January and April 2014. The significance of the result of the survey is influenced by the fact that some big and very successful universities did not provide data or provided incomplete data, e.g. only percentages of women researchers and not the total numbers. Therefore, their data could not be considered in the synthesis of the data. These are aspects that have to be considered in a future survey.

Despite some limitations of the data collection, the table shows that also in the frame of the participations in FP7 women are substantially under-represented and men play a dominant role. It must be noted, that the numbers for the involvement of women in FP7 participation are even dramatically lower than the percentages of women at PhD level and at the different levels of academic staff. The deficits of women's participation become particularly evident from the data for the European Research Council (ERC) which is one of the most important funding instruments for a scientific career in Europe.

FP7 Activity	Universities that contributed valid data		Number total	Women	
	Number	%		Number	%
ERC Starting Grants	29	60,42%	184	32	17,48%
ERC Consolidator Grants	25	52,08%	30	3	10,00%
ERC Advanced Grants	26	54,17%	136	14	10,40%
Marie Curie Incoming Fellows	25	52,08%	121	27	22,19%
Marie Curie Outgoing Fellows	24	50,00%	343	72	21,06%
FP7 Coordinators	29	60,42%	463	94	20,38%

Table: Women in FP7 activities – numbers and percentages

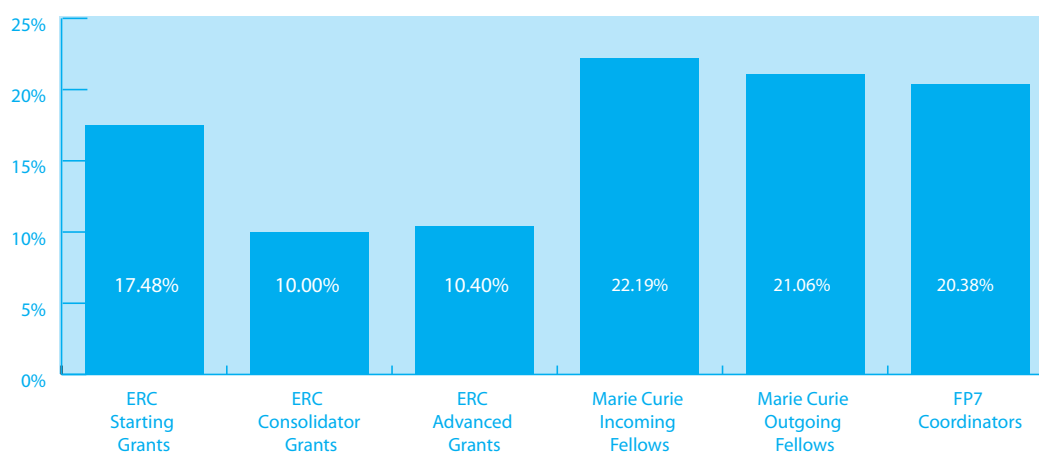


Diagram: Percentages of women in FP7 activities

It is important to develop such evidence of the situation of female researchers in European activities in research, technological development and innovation. Considering the specific gender actions and requirements of several past Framework Programmes the results of the survey show that the situation is still very disappointing; however, to some extent it is a logic consequence of the general under-representation of women at the universities addressed in the survey.

The detailed overview of the FP7 data for the responding CESAER member institutions is provided in the full report. The data present the cumulative numbers at the time of the survey – January to April 2014 – as they were reported by the responding universities based on the available information about the participation in FP7 from 2007 till that time.

### 3. Institutional strategies and plans<sup>15</sup>

#### 3.1 Gender Equality Plans and other measures

Out of the forty-eight responding CESAER member institutions twenty-six (54,17%) have a Gender Equality Plan (GEP). Eighteen universities (37,50%) have currently no GEP. At two institutions (4,17%) that do not have a GEP, gender equality is mentioned in

the overall institutional strategy. Two universities did not provide respective information.

The following diagram provides an overview of the situation at the CESAER member institutions.

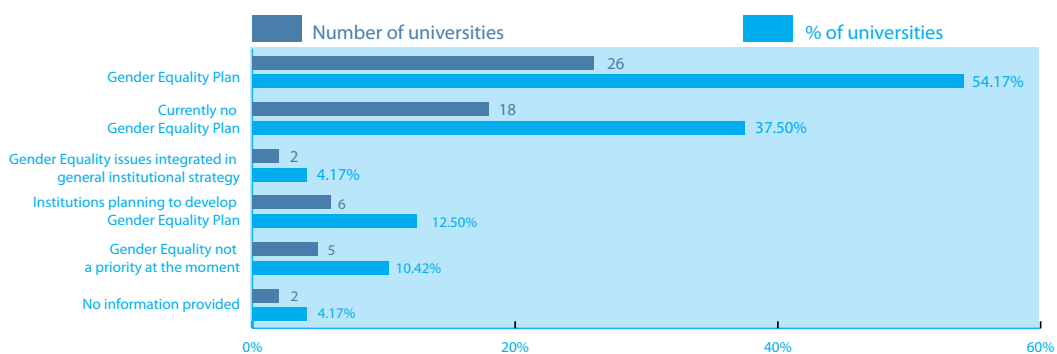


Diagram: Institutional Gender Equality Plans and activities

(15) This chapter summarises the responses to Question 6: Does your organisation have a “Gender Equality Plan” (or equivalent)?

The table below shows the twenty-six CESAER member institutions that work based on a Gender Equality Plan.

▪ AT: TU Wien	▪ DK: Aalborg University
▪ BE: Ghent University	▪ ES: UP Catalonia
▪ BE: KU Leuven	▪ FI: Aalto University
▪ CH: ETH Zurich	▪ HU: Budapest University of Technology and Economics
▪ CH: EPF Lausanne	▪ IL: Technion – Israel Institute of Technology
▪ DE: RWTH Aachen University	▪ IT: Politecnico di Torino
▪ DE: TU Berlin	▪ NL: TU Delft
▪ DE: TU Braunschweig	▪ NL: University of Twente
▪ DE: TU Darmstadt	▪ NO: NTNU – Norwegian University of Science and Technology
▪ DE: TU Dresden	▪ SE: Chalmers University of Technology
▪ DE: TU Ilmenau	▪ SE: Lund University
▪ DE: KIT Karlsruhe Institute of Technology	▪ SE: KTH Royal Institute of Technology
▪ DE: Leibniz University Hannover	
▪ DE: TU Munich	

CESAER member institutions that have a Gender Equality Plan

For the available Gender Equality Plans and other documents provided by respondents, see Annex 1. From the eighteen CESAER universities that did not have a Gender Equality Plan at the moment of the survey, ten institutions (14,58%) reported their intentions towards developing a GEP in the future: UC Louvain, EPF Lausanne, TU Darmstadt, Technical University of Denmark, INSA Lyon, UP Madrid, UP Valencia, UC Dublin, Bucharest Polytechnic University, and Istanbul Technical University.

For six universities, gender equality is not a priority now: Tallinn UT, Grenoble Institute of Technology, Poznan UT, Warsaw UT, Faculty of Engineering of University of Porto, and Tomsk Polytechnic University. That does not necessarily mean that the gender issue is not considered as

the following statement shows: “We are progressing in the increase of the number of female students and staff members which in both cases increased by few percents in recent years. However, the gender issues are treated as equally important with any other social problems and so far we see no need to create a separate organization at the university dealing specifically with gender issues.”<sup>16</sup>.

Because of the importance that universities are putting on Gender Equality Plans and their implementation, it is considered to prepare a separate report<sup>17</sup> analysing the available institutional Gender Equality Plans which, in the future, may present useful information for other institutions preparing such a plan.

(16) Warsaw University of Technology

(17) The report is in preparation building on preparatory work by Nina Hein-Saygili who worked under a contract from Vienna University of Technology.

### 3.2 Monitoring and other measures following-up on the implementation of strategies and plans<sup>18</sup>

Twenty-eight universities reported approaches for monitoring, evaluating and benchmarking gender equality initiatives or other follow-up measures regarding the implementation of their Gender Equality Plans respectively other gender equality measures.

Universities apply different approaches for monitoring and evaluating the implementation of the Gender Equality Plans as well as for benchmarking with other institutions. They use a broad spectrum of measures for preparing internal reports that are discussed in different arrangements of committees or boards in regular terms (mostly on an annual basis). Some universities use also external expertise for evaluating their gender equality measures. There are also examples where universities report to regional authorities on the implementation of regional programmes. In Germany, the German Research Foundation (DFG) plays a

special role through the “Research-oriented Standards on Gender Equality”<sup>19</sup> that institutions must implement as an eligibility criterion for research funding applications. Consequently, German universities report to DFG on the implementation of gender equality measures. Of similar importance is the requirement that in the German Excellence Initiative<sup>20</sup> e.g. the proposals for clusters of excellence must include promotion activities for gender equality in research.

Some universities gave also examples of supporting measures such as gender budgeting, internal communication as well as gender equality related training or guidance material for different target groups.

The following diagram presents the spectrum and frequency of activities reported.

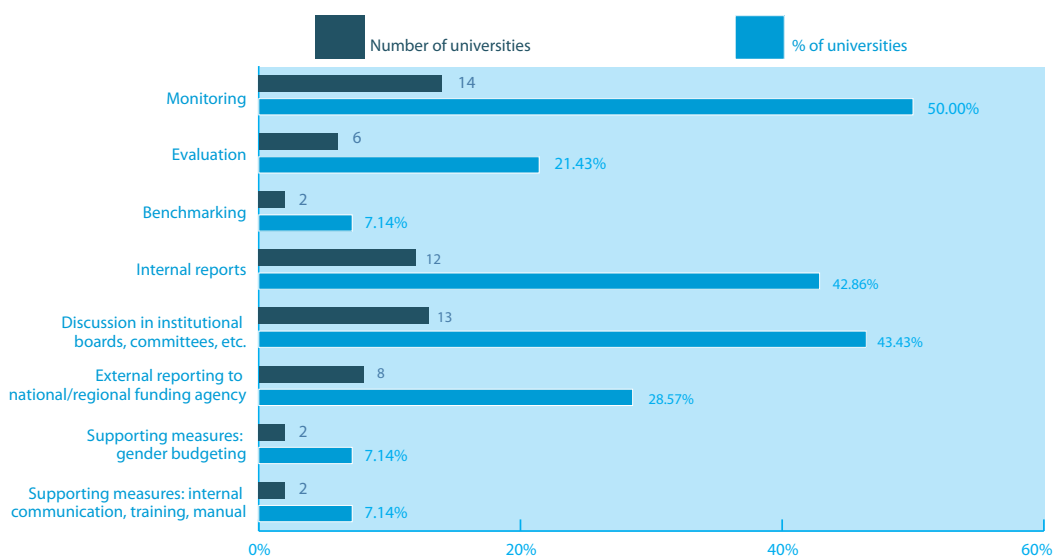


Diagram: Monitoring and follow-up of the implementation of strategies and plans

(18) This sub-chapter summarises the responses to Question 6: Does your organisation assess the implementation of the Gender Equality Plan or Strategy?

(19) [http://www.dfg.de/en/research\\_funding/principles\\_dfg\\_funding/equal\\_opportunities/research\\_oriented/](http://www.dfg.de/en/research_funding/principles_dfg_funding/equal_opportunities/research_oriented/)

(20) [http://www.dfg.de/en/research\\_funding/programmes/excellence\\_initiative/](http://www.dfg.de/en/research_funding/programmes/excellence_initiative/)



The universities below apply monitoring, evaluation and benchmarking measures:

- Fourteen universities reported different ways of monitoring the implementation of their GEPs: TU Wien, KU Leuven, EPF Lausanne, TU Berlin, Karlsruhe Institute of Technology, Aalborg University, UP Valencia, Aalto University, Budapest University of Technology and Economics, Technion Israel Institute of Technology, TU Delft, TU Eindhoven, Chalmers University of Technology, KTH Royal Institute of Technology.
- Six universities reported evaluation measures: KU Leuven, TU Berlin, TU Braunschweig, TU Dresden, TU Ilmenau, Karlsruhe Institute of Technology.
- Leibniz University Hannover and Karlsruhe Institute of Technology apply benchmarking with other institutions.

The results of the above gender equality measures are followed-up in different ways:

- Thirteen universities discuss the implementation of the gender equality measures in their institutional boards, academic senate, special committees, etc.: Czech Technical University in Prague, RWTH Aachen University, Karlsruhe Institute of Technology,

TU Munich, Aalborg University, UP Catalunya, Budapest University of Technology, Technion Israel Institute of Technology, Politecnico di Torino, TU Delft, TU Eindhoven, University of Twente, NTNU Norwegian University of Science and Technology.

- Twelve universities provided information about internal reports that are prepared regularly on an annual or multi-annual basis: Ghent University, KU Leuven, ETH Zurich, Aalborg University, TU Berlin, Leibniz University Hannover, Karlsruhe Institute of Technology, TU Munich, UP Catalunya, Budapest University of Technology and Economics, Lund University, KTH Royal Institute of Technology.
- External reporting to regional government and/or funding agency: All eight German CESAER member universities.

Universities apply also different accompanying measures supporting the implementation of the Gender Equality Plans:

- Gender budgeting: EPF Lausanne and TU Berlin.
- Training and internal communication: UP Valencia and Aalto University.

In the Annex to the full report detailed descriptions of the activities of the individual universities are given.

## 4. Organisational structures and other specific provisions supporting Gender Equality<sup>21</sup>

### 4.1 Organisational structures supporting Gender Equality

All forty-eight participating universities reported about how Gender Equality is reflected in terms of their institutional structures. An overview is given in the diagram on the next page.

- Fifteen universities (31,25%) have a special organisational unit focussing on gender equality: TU Wien, ETH Zurich, EPF Lausanne, RWTH Aachen University, TU Berlin, TU Darmstadt, TU Dresden, Leibniz University Hannover, Karlsruhe Institute of Technology, UP Madrid, UP Valencia, Aristotle University of Thessaloniki, Politecnico di Milano, Lund University, Istanbul Technical University;
- “Gender Equality” is dealt with among other issues in a unit with broader responsibilities at sixteen universities or one third of the universities,: Ghent University, UC Louvain, KU Leuven, TU Braunschweig, TU Ilmenau, TU Munich, Denmark Technical University, Tallinn University of Technology, UP Catalunya, Aalto University, École Centrale Paris, University College Dublin, Politecnico di Torino, University Twente, NTNU Norwegian University of Science and Technology, Chalmers University of Technology;
- At four universities, there is no special organisational unit but a single person is dealing supporting with gender equality only: 8,33%
- At one university, there is no special organisational unit but a single person is dealing with gender equality among other responsibilities: 2,08%
- At seven universities, there is no special department or person responsible for this topic: 24,5%
- Four universities without a special unit or person being responsible for Gender Equality reported that they use other forms of organisation: 8,9%

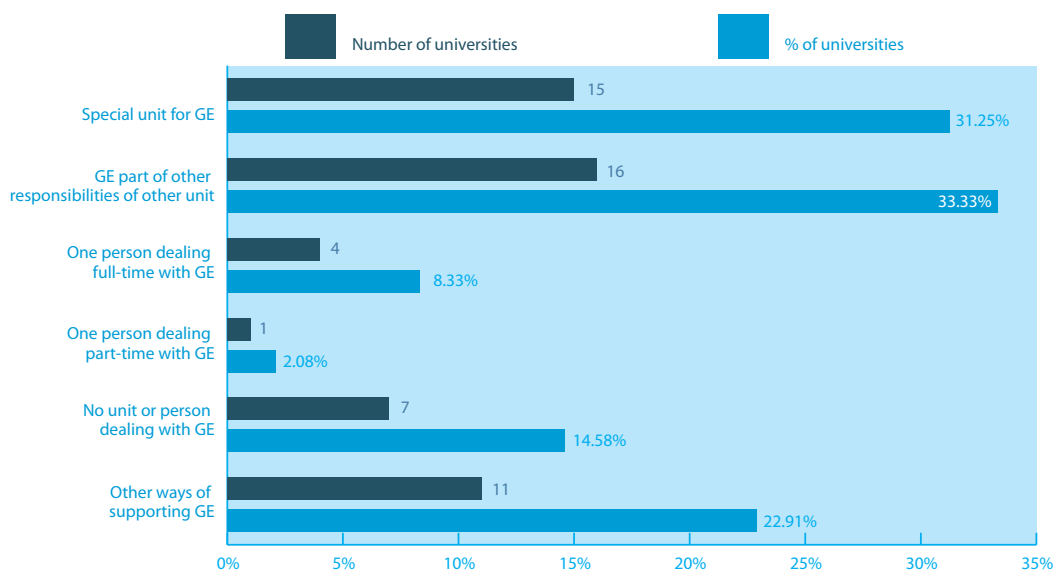


Table: Organisational structures and approaches promoting Gender Equality

(21) This chapter summarises the results of the responses received for Question 4: How is the topic “Gender Equality” embedded in the organisation of your university?

The results show that thirty-one CESAER member institutions (64,58%) foresee structural provisions for implementing gender equality measures by assigning either a special unit with dealing with gender equality or including gender equality in the responsibilities of another unit, e.g. the organisational unit dealing with human resources. It is a topic for

further discussions to identify advantages or disadvantages of the two different approaches. An interesting question is also how division of labour, cooperation, coordination and communication between special units for gender equality and other university units for human resources or personnel management and administration and organised and functioning.

## 4.2 Specific provisions promoting Gender Equality: Appropriate arrangements in and for appointment committees

There is general agreement that the composition and procedures of committees – especially appointment committees – plays an important role for developing gender equality. Forty-two universities responded to the question about requirements or regulations with regard to gender diversity in appointment committees. At twenty-seven universities (62,79%) there is such a requirement, sixteen universities do not have such a requirement.

Twenty-one universities provided specific information regarding regulations for gender diversity in appointment committees:

- A minimum number of two female members is required at six universities,
- At one university, the minimum composition of a committee is one woman and one man,

- A quota of one third women is applied at five universities,
- A quota of 40% women is required at eight universities, and
- At one university, the required quota is 50%.

For the future, it would be interesting to gain information whether these regulations reflect national policies or laws which would indicate how national legislation can influence institutional policies and strategies.

From the forty-two universities that responded to the question if gender competence is provided supporting appointment committees, twenty-nine institutions (69,05%) reported that competent personnel is made available for advising appointment committees on gender equality issues.

## 5. Implementing strategies and plans: The spectrum of activities addressing Gender Equality<sup>22</sup> and developing gender competence at universities

### 5.1 Activities addressing gender equality

All forty-eight universities reported on activities addressing gender equality by responding to the predefined categories of activities. The diagram below provides a general overview regarding the frequency of the reported different categories of activities.

More than 70% of the responding universities – i.e. thirty five institutions - are implementing measures supporting work-life balance which indicates that institutions see such measures as highly important for supporting gender equality.

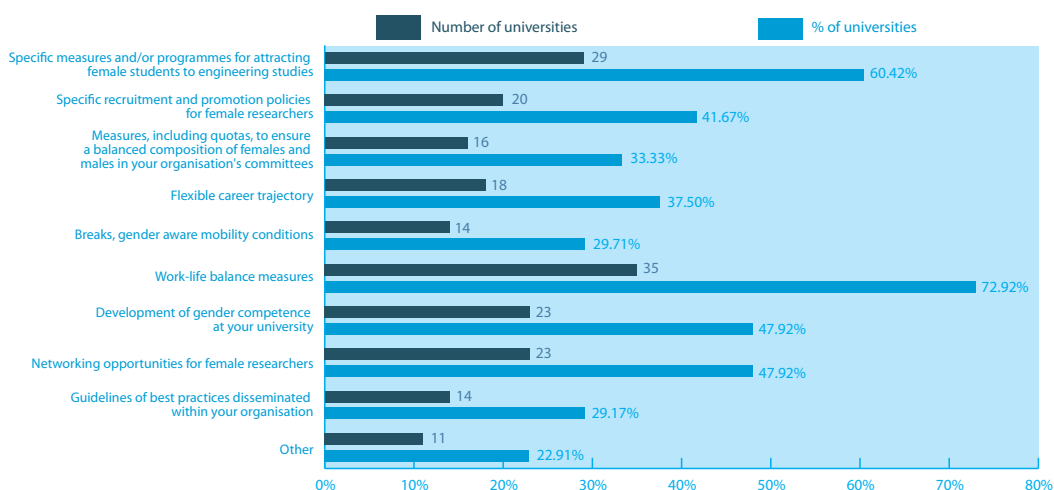
Three out of five universities are implementing specific measures and/or programmes for attracting female students to engineering studies pointing to the fact that the problem of unequal distribution between women and men in science and technology starts already before the entrance to university studies in these areas or – more explicitly - in the education system well before university

entry. That aspect is also taken account of by substantive activities implemented by universities addressing schools or organised jointly between universities and schools. In that context, teacher education and training – especially in STEM areas – would deserve closer consideration. However, that problem area was not covered in the frame of the present survey and is left for future investigations and possible initiatives<sup>23</sup>.

Around 50% of the universities are supporting networking activities for female researchers and are taking active measures to develop the gender competence at their institutions. Two out of five universities or around 40% apply specific recruitment and promotion policies for female researchers.

More than a third of the universities agree that providing flexible career trajectories for women is important.

Diagram: Activities implemented in connection with gender equality issues



(22) This chapter summarises the results of the responses to Question 7: There is an array of activities, which may be implemented in connection with gender equality issues. Which of the following activities were implemented at your university in 2012 and 2013? (Multiple answers possible)

(23) Actually, CESAER is preparing an inventory of universities' initiatives for attracting students to STEM studies where also targeted measures addressing young women are considered in particular.

A third of the responding institutions implement specific measures in order to ensure gender balance in committees – see also the details presented in the previous chapter already.

competence at the universities as a basic activity. Therefore, universities were invited to provide specific information in free text format about their provisions regarding that issue.

The survey put a special focus on the specific issue of developing gender

## 5.2 Development of gender competence at universities and other activities

Twenty-seven respondents reported in free text format on a broad spectrum of specific activities for developing gender competence as well as for promoting gender equality that can be grouped in categories presented in the diagram below.

University Twente offers dedicated tenure track positions for women.

The diagram below summarizes the reported activities with regard to their frequency.

Twelve universities reported about training measures for university leadership and middle management: TU Wien, KU Leuven, Czech Technical University in Prague, TU Berlin, Leibniz University Hannover, TU Ilmenau, Karlsruhe Institute of Technology, Politecnico di Torino, Chalmers University of Technology, KTH Royal Institute of Technology, University of Twente, and Istanbul Technical University.

At University Twente a special committee is charged with advising the Executive Board on gender equality issues.

Specific information regarding gender aspects in appointments, appraisal, and payment was provided by six universities provided: Leibniz University Hannover, Karlsruhe Institute of Technology, Aalto University, Budapest University of Technology and Economics, and UP Madrid.

Training for other academic staff, students and also for target groups outside the university was reported by seven universities: TU Wien, TU Munich, UP Madrid, Chalmers University of technology, Lund University, KTH Royal Institute of Technology, University Twente.

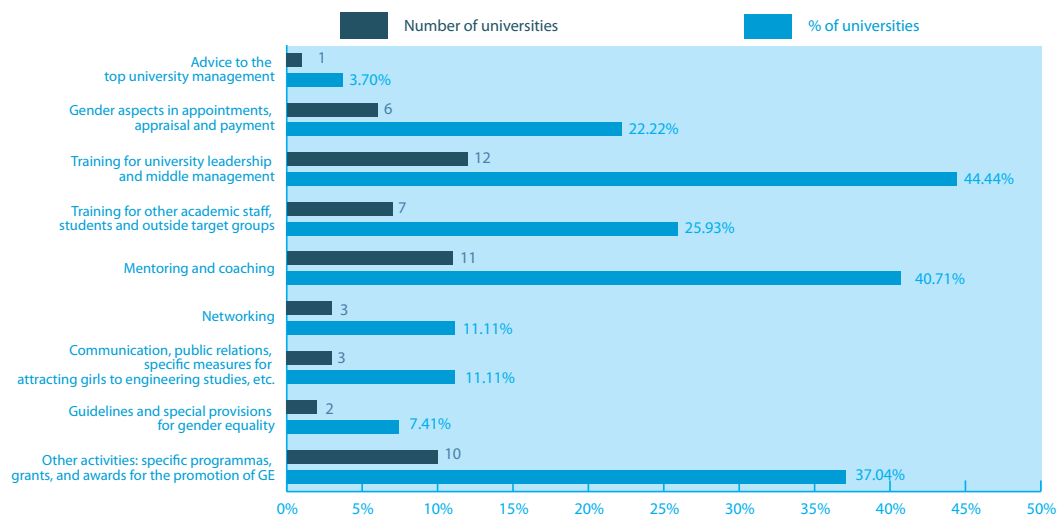


Diagram: Activities towards developing gender competence at universities

Eleven universities highlighted their mentoring and coaching activities: Ghent University, EPF Lausanne, Czech Technical University in Prague, TU Dresden, Leibniz University Hannover, Karlsruhe Institute of Technology, UP Catalunya, Technion Israel Institute of Technology, Politecnico di Torino, TU Eindhoven, and University Twente.

Support for networking between female researchers is provided by Czech Technical University in Prague, Politecnico di Torino, and by the University Twente.

Communication, Public Relations, specific measures for attracting girls to engineering studies, etc. were reported by Ghent University, UP Madrid, and EPF Lausanne.

At UP Madrid, guidelines and special provisions for gender equality are available addressing sexual harassment issues.

Ten universities reported also other

activities such as specific programmes as well as grants, and awards for the promotion of gender equality are reported by ten universities: RWTH Aachen University, TU Berlin, TU Braunschweig, TU Darmstadt, Karlsruhe Institute of Technology, Technical University of Denmark, Budapest University of Technology, University of Twente, UP Madrid, Istanbul Technical University.

The above results are based on the responses provided by the universities in free text format indicating the importance attributed by the respondents to the activities. These results may form a basis for the design of future surveys.

Universities provided also information in free text format on other activities not pre-defined in the questionnaire: Specific programmes, grants, and awards for the promotion of gender equality

## 6. Barriers against gender equality measures<sup>24</sup>

Eighteen universities reported that they face barriers when implementing gender equality measures. Twenty-four institutions do not face any barriers and six universities did not respond to that question.

The following table provides clear evidence that internal resistance is a major barrier. Also lack of resources is representing a similarly important barrier.

The above result indicates that institutional policies and management of change are the starting-points as well as allocating resources for addressing the gender equality issue. For European or national policies that means that incentives could support change and funding for the

implementation of Gender Equality Plans including the definition of concrete targets should be considered. Respective calls for proposals under Horizon 2020 are steps in that direction.

It is interesting to note that also regulations or policies are mentioned as barriers. For three universities these frameworks present important barriers: TU Berlin, Aristotle University in Thessaloniki, and UP Catalunya. Five universities find that regulations or policies at national or regional level are not specifically supportive or to a certain extent not supportive: KU Leuven, TU Munich, Aalborg University, UP Madrid, and TU Delft.

(24) This chapter summarises the results of Questions 8. and 8.1: Does your organisation face barriers when setting up activities in connection with gender issues? If your organisation is facing barriers how important are the following barriers to setting up activities in connection with gender issues? (Please rate accordingly.)

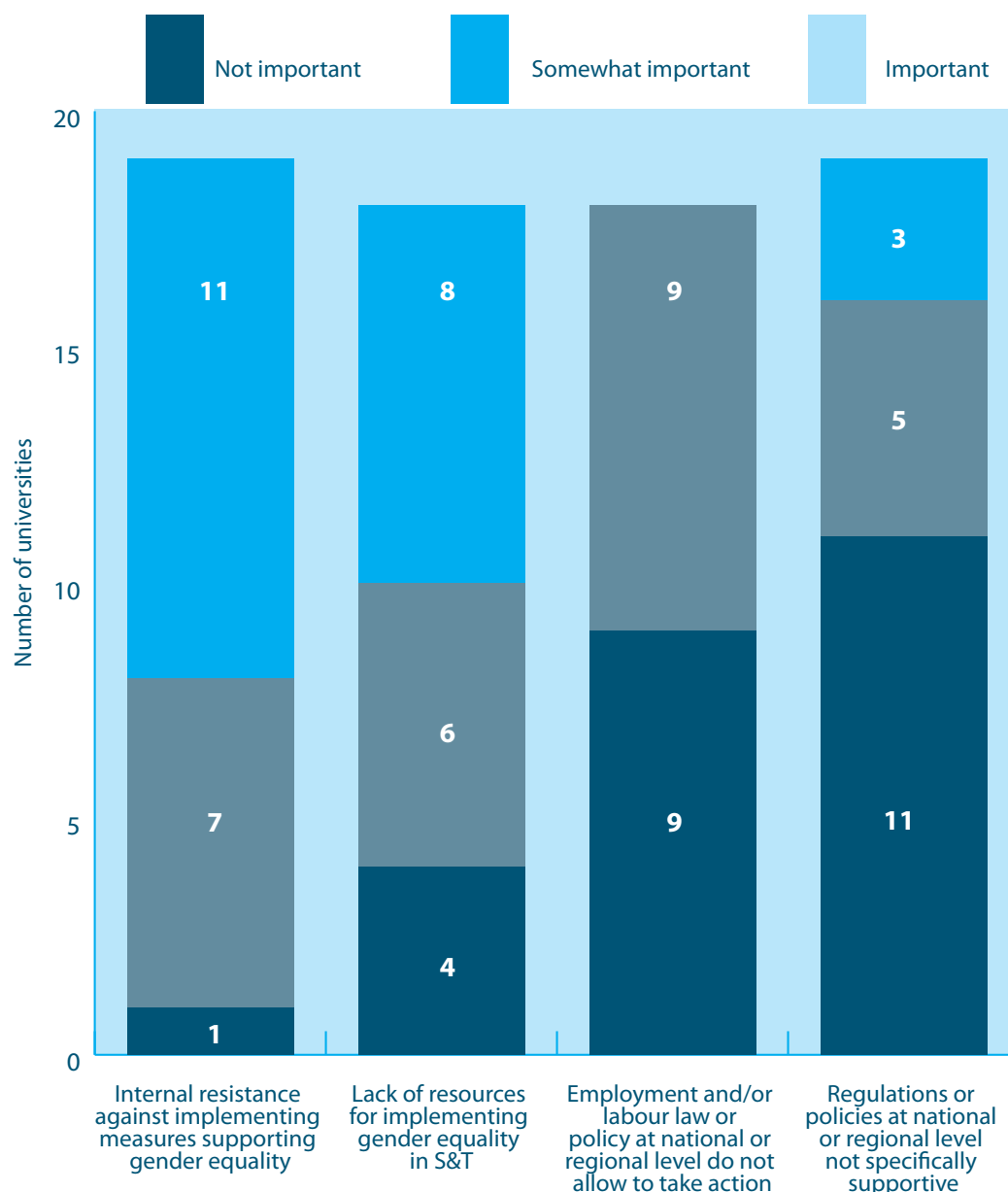


Diagram: Barriers against gender equality measures

Nine universities report that employment and/or labour law or policies at national or regional level are somewhat important barriers for taking action: KU Leuven, TU Berlin, TU Braunschweig, TU Munich, Aalborg University, UP Madrid, TU Delft, University Twente, and KTH Royal Institute of Technology.

In future analyses, it will be interesting to identify details of the existing barriers and develop ideas to overcome them. In that context, it would be good to investigate the role of the implementation of the EC Directive 2006<sup>25</sup>. Furthermore, the relation or correlations between the above results and gender equality policies in public research should be investigated in detail<sup>26</sup>.

(25) DIRECTIVE 2006/54/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 July 2006 on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation (recast). Official Journal of the European Communities, No L 204/23-36, 20.7.2006

(26) See: A. Lipinski: Gender Equality Policies in Public Research. Based on a survey among Members of the Helsinki Group on Gender in Research and Innovation, 2013. European Commission. Directorate-General for Research and Innovation. Directorate B – Innovation Union and European Research Area. Unit b.7 – Science with and for Society. Brussels 2014

## 7. Examples of best practice as defined by the universities<sup>27</sup>

Universities were asked which three specific activities of their gender equality initiatives they would define as examples of best practice. Thirty-two universities reported activities that can be grouped in nine categories as shown in the diagram below with the frequency of reported activities. It must be pointed out that the information does not provide a comprehensive overview of the universities' all activities regarding gender equality but shows initiatives and measures that universities rank top in their self-assessment indicating that the universities see these activities as most successful in their experiences.

In the following, the measures are presented in the order of the frequency they were reported by the responding universities.

Thirteen institutions defined support for maternity leave and return to work as well as family friendly services as most important measures: KU Leuven, UC Louvain, EPF Lausanne, Czech Technical

University in Prague, RWTH Aachen University, TU Braunschweig, Leibniz University Hannover, TU Ilmenau, Karlsruhe University of Technology, Budapest University of Technology and Economics, Technion Israel Institute of Technology, Politecnico di Milano, and Politecnico di Torino.

Nine universities saw their programmes supporting female PhDs and young researchers as examples of best practice: TU Wien, Ghent University, TU Berlin, TU Dresden, Leibniz University Hannover, Aalto University, Politecnico di Milano, TU Delft, and TU Eindhoven.

Institutional strategies, goals and structures for the support of gender equality are among their three favourite activities for nine institutions: KU Leuven, TU Munich, Aalborg University, TU Delft, TU Eindhoven, University Twente, UP Bucharest, Chalmers University of Technology, KTH Royal Institute of Technology.

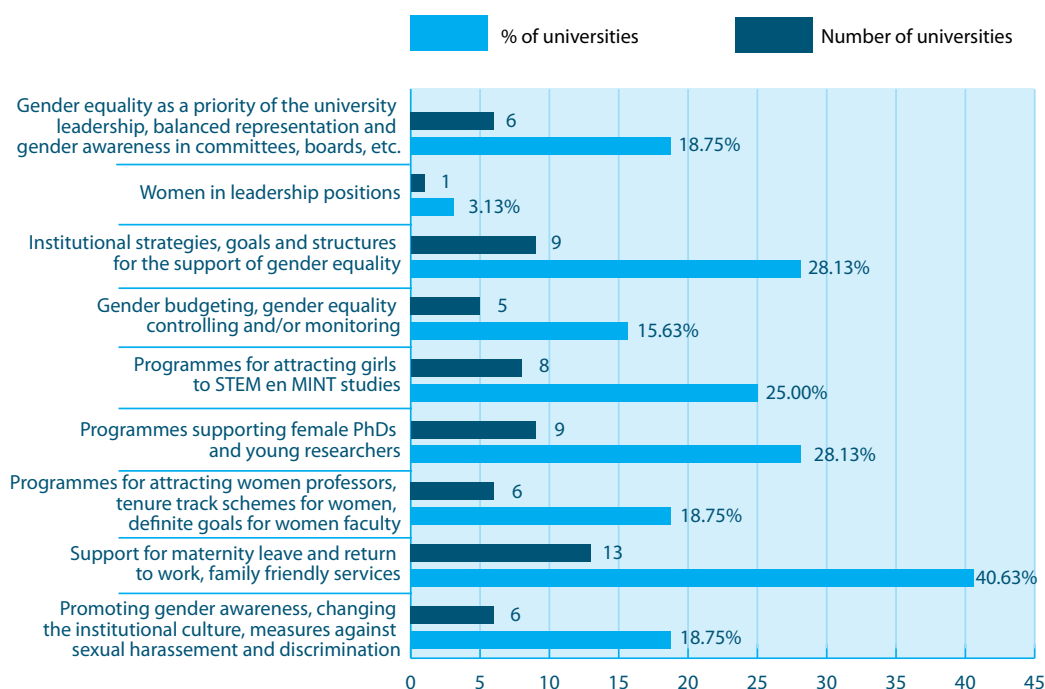


Diagram: Examples of best practice as defined by the universities

(27) This chapter summarizes the results of Questions 10. and 10.1: Which three specific “Gender Equality” initiatives of your university would you define of examples of best practice? Why do you remember them, what was special about them?



Programmes for attracting girls to STEM and MINT studies were reported by eight universities: TU Wien, EPF Lausanne, Czech Technical University in Prague, TU Braunschweig, Karlsruhe Institute of Technology, Budapest University of Technology and Economics, Warsaw University of Technology, and UP Bucharest.

Programmes for attracting female professors, tenure track schemes for women, and definite goals for women faculty were chosen as best practice by six institutions: EPF Lausanne, RWTH Aachen University, TU Darmstadt, Karlsruhe Institute of Technology, TU Munich, and University of Twente. RWTH Aachen has set the target of reaching a level of 20% female professors by 2020.

Six universities selected as best practice having defined gender equality as a priority of the university leadership and ensuring a balanced representation of women as well as gender awareness in committees, boards, etc.: Ghent University, KU Leuven, RWTH Aachen University, Aalto University, Budapest University of Technology and Economics, Technion Israel Institute of Technology. It is certainly interesting to highlight that RWTH Aachen University underpins its priority setting by aiming at a 30% share of women of all staff.

Measures regarding promoting gender awareness, changing the institutional culture, and against sexual harassment and discrimination are assessed as best practice by six universities: TU Ilmenau, UP Catalunya, UP Madrid, UP Valencia, Politecnico di Torino, and Istanbul University of Technology.

Gender budgeting, gender equality controlling and monitoring is defined as their best practices by five universities: TU Berlin, Leibniz University Hannover, Karlsruhe Institute of Technology, Aalborg University, and Politecnico di Milano.

Czech Technical University in Prague reported the re-election of a woman as dean of the faculty for civil engineering as one of their success stories and underlined the importance of women in leadership positions. It should be mentioned that this is the first female dean in the history of more than 300 years of the university.

The results clearly show which measures are easier to implement compared to others – supporting work-life balance is obviously much easier than getting women in leadership positions.

## 8. Impact of strategies, plans and activities: different forms of change<sup>28</sup>

The present report provides ample evidence about strategies, plans and measures towards promoting and improving gender equality prepared and implemented by CESAER member universities of science and technology. However, it is important to critically review activities regarding their impacts towards contributing to change.

The positive developments and changes that thirty-two universities reported can be summarised as follows: Universities identified substantial changes regarding the focus and awareness of the institutional leadership on gender equality issues. Women are getting more visibility in top positions and in decision taking bodies at universities. Universities develop appropriate institutional structures for dealing with gender equality and their work is recognised. Gender equality induces also cultural changes at universities and women bring new perspectives about how an institution is run and contribute to better results in all university activities. Universities take care of improving the working environment and they focus on family-friendly institutional frameworks.

It is encouraging that results of the survey show that there are not only changes a in qualitative terms but also in numbers: universities report about positive quantitative developments and numbers of women are increasing in many institutions because of continuous efforts towards supporting gender equality. Universities see the success of specific measures they implemented and they develop approaches for monitoring and assessment

of their activities. Some institutions use also external competences to evaluate and benchmark their activities. Gender equality can also play a role in university rankings<sup>29</sup>.

In the following diagram, information that is more specific is given on aspects of positive changes as reported by twenty-nine responding universities under the categories presented with their respective reporting frequency. It is remarkable that almost 40% of responding institutions report also quantitative changes.

The top institutional level taking responsibility for gender equality is a significant factor for achieving impact at five universities: RWTH Aachen University, TU Darmstadt, TU Dresden, Aalto University, and University of Twente.

More women at all levels of the institution and, thus, women becoming more visible is seen as major change by five universities: Ghent University, RWTH Aachen University, Leibniz University Hannover, Technion Israel Institute of Technology, TU Delft, and TU Eindhoven.

For seven universities, the importance attributed to gender equality is also shown by the fact that dedicated institutional structures for taking care of gender equality are established and their work is more and more recognised: TU Dresden, UP Madrid, University College Dublin, and TU Munich.

Eight universities see as major changes that gender awareness is growing and gender and diversity are seen as a topical issues and cross-sectional dimensions: Aalborg

(28) This chapter summarised the results of Questions 11: If your university has a Gender Equality Strategy: Please mention some positive changes since your university focuses on "Gender Equality"?

(29) Löther, Andrea ; GESIS - Leibniz-Institut für Sozialwissenschaften Kompetenzzentrum Frauen in Wissenschaft und Forschung (CEWS) (Ed.): Hochschulranking nach Gleichstellungsaspekten 2013. Köln, 2013 (cews.publik 17). URL: <http://nbn-resolving.de/urn:nbn:de:0168-ssoar-402335>

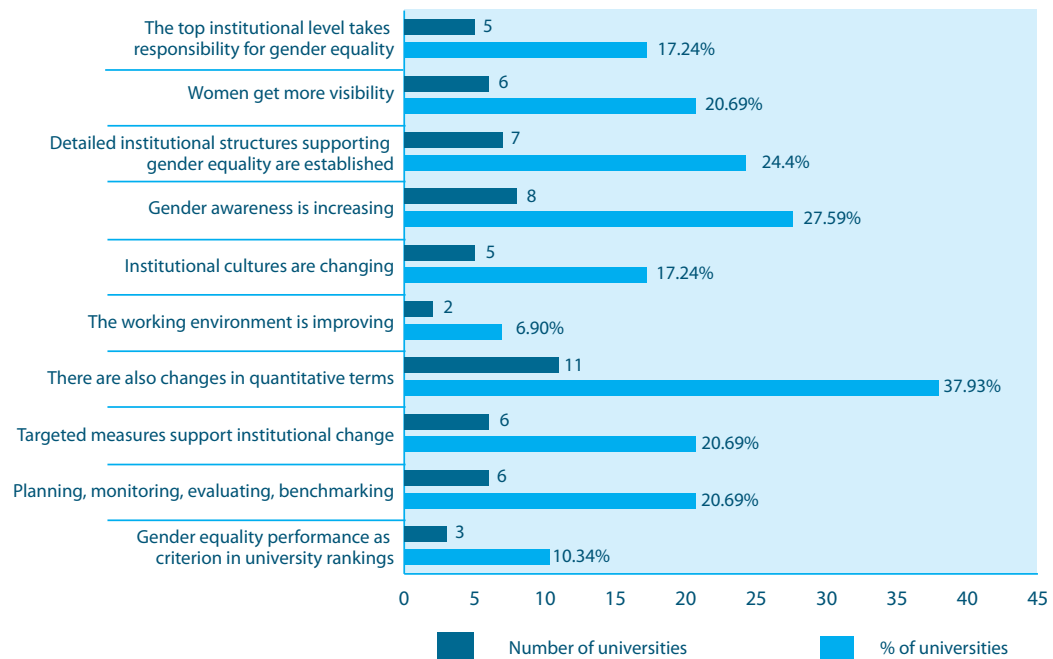


Diagram: Impacts of strategies, plans and activities

University, TU Darmstadt, TU Ilmenau, UP Catalunya, UP Valencia, Budapest University of Technology and Economics, TU Eindhoven, and KTH Royal Institute of Technology.

A major aspect is the institutional culture change as emphasised by five universities: ETH Zurich, RWTH Aachen University, Leibniz University Hannover, Aalto University, and University of Twente.

Two universities, Leibniz University Hannover and Chalmers University of Technology see improvements of the working environment as major change.

It is worthwhile noting that eleven institutions report also quantitative changes by increases in the number of women: ETH Zurich, EPF Lausanne, TU Berlin, TU Braunschweig, TU Darmstadt, TU Ilmenau, Technion Israel Institute of Technology, TU Eindhoven, University Twente, and KTH Royal Institute of Technology.

Six universities confirmed that targeted measures support institutional change: TU Wien, TU Darmstadt, TU Dresden, Karlsruhe Institute of Technology, Aalborg University, and Technion Israel Institute of Technology.

Six universities see the successful planning, implementation and monitoring of gender equality measures as crucial for achieving and documenting impact: KU Leuven, Leibniz University Hannover, Karlsruhe Institute of Technology, Aalborg University, Aalto University, and Lund University

In Germany, the Centre of Excellence Women and Science (CEWS) publishes a ranking of higher education institutions with regard to gender equality<sup>30</sup>. According to the 2013 ranking, TU Berlin is the most successful German university implementing gender equality closely followed by two other CESAER members, namely RWTH Aachen University and TU Munich as well as two institutions not related to CESAER<sup>31</sup>.

(30) L other, Andrea ; GESIS - Leibniz-Institut f r Sozialwissenschaften Kompetenzzentrum Frauen in Wissenschaft und Forschung (CEWS) (Ed.): Hochschulranking nach Gleichstellungsaspekten 2013. K ln, 2013 (cews.publik 17). URL: <http://nbn-resolving.de/urn:nbn:de:0168-ss0ar-402335>

(31) Op. cit. p. 34

## 9. Universities' plans for the future: Next steps<sup>32</sup>

The CESAER survey showed that there are dynamic developments under way in the area of promoting gender equality at CESAER member universities of science and technology. They are working on the basis of broad portfolios of strategies, plans, programmes and activities. Thirty universities reported specific next steps supporting the development of gender equality at their institutions. In the following as well as in the diagram below, the related activities planned by the universities are grouped in seven different categories.

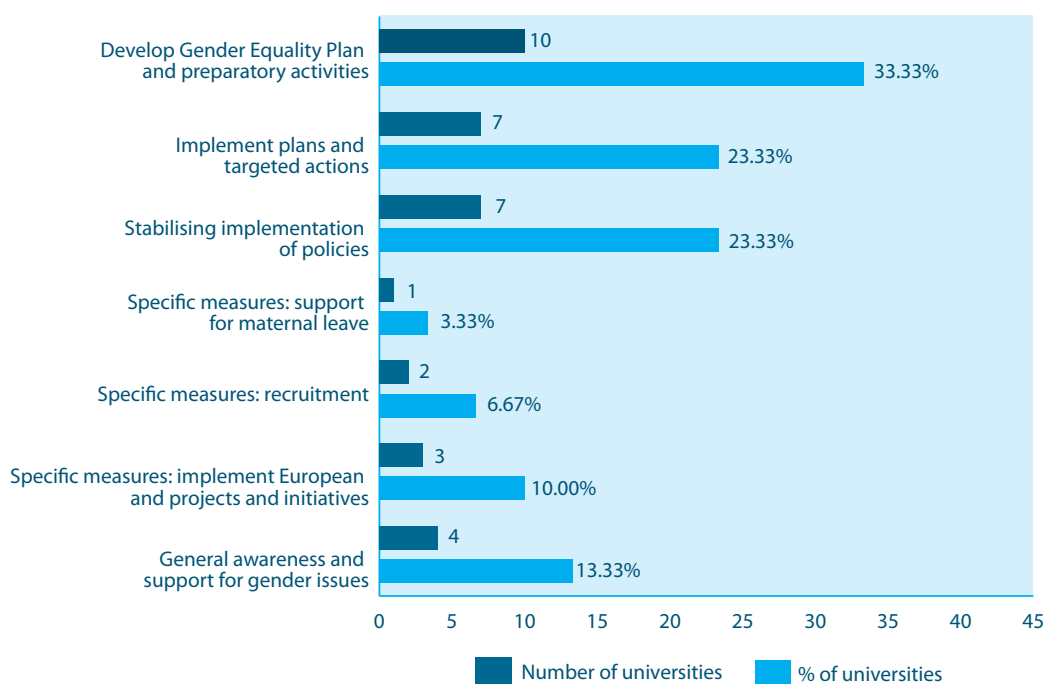
Developing Gender Equality Plans and implementing preparatory activities were reported as next steps by ten universities: UC Louvain, EPF Lausanne, TU Darmstadt,

Technical University of Denmark, INSA Lyon, UP Madrid, UP Valencia, UC Dublin, Bucharest Polytechnic University, and Istanbul Technical University.

Implementing existing plans or targeted actions are priorities for seven institutions: RWTH Aachen University, TU Darmstadt, Aalto University, TU Eindhoven, University Twente, and KTH Royal Institute of Technology.

For seven universities stabilising the implementation of gender equality policies is a main aspect of their plans for the future: TU Wien, Czech Technical University in Prague, TU Berlin, TU Braunschweig, TU Dresden, Leibniz University Hannover, and TU Ilmenau.

Diagram: Universities' plans for next steps



(32) This chapter summarises the results of Question 12: What are the next steps about "Gender Equality" in your universit

Several universities plan very specific measures as major next steps:

- Budapest University of Technology and Economics will focus on measures supporting maternal leave;
- Aalborg University and Technion Israel Institute of Technology will concentrate on measures for promoting women in recruitment measures;
- UP Catalunya, UP Madrid and TU Delft plan to implement European

and other projects and initiatives supporting gender equality;

- At Ghent University, TU Munich, UP Madrid and Politecnico di Milano main next steps will be promoting general awareness and support for gender issues.

The results of the survey show that institutions put a priority on systematic implementation of strategies and plans.

## 10. Summary of the survey results

In the first half of 2014, CESAER conducted a gender equality survey amongst its member institutions. 100% - that is forty-eight - of the institutional members of CESAER returned the questionnaire. The survey is one of the activities towards implementing the CESAER commitments made in the CESAER Statement on the European Research Area of June 2013 that was accepted by the European Commission on 17 July 2013<sup>33</sup>.

In the analysis of the survey results, a first focus was put on the state of play with regard to gender equality at CESAER member institutions. For the statistical analysis, only the CESAER members where the full university and not just one faculty or school is member were considered.

For assessing the state of play regarding gender equality at the universities the main starting point is the statistical evidence at the different levels of university management as well regarding students and academic staff.

Only five out of the forty-three considered CESAER member universities are led by women (11,90%); 22,87% of vice-rectors (or equivalent) are women.

At ten universities - that is 26% out of the thirty-eight responding universities - only men are occupying the positions of vice-rectors. At eight universities, one quarter of the vice-rectors is women. At eight universities, the percentage of women at the second level of top university management is between 30% and 40% percent. At five universities, women hold 50% of the vice-rector positions: Grenoble Institute of Technology, Aristotle University of Thessaloniki, Politecnico di Milano, TU Delft, and the Norwegian University of Science and Technology. At no university, more than 50% of vice-rectors are women.

32,50% of the top positions in the university administration are occupied by women.

At eight universities or 20,5% of the thirty-nine universities that responded to that question, there is no female dean. At about half of the universities, the percentage of women in deans' positions is between 5% and 20%. At nine universities, the share of women in deans' positions is between 21% and 40%. The universities with the highest percentages of female deans are the Norwegian University of Science and Technology (43%) and Aalto University (50%)

(33) See: <http://www.cesaer.org/en/publications/>

In about 80% of the reporting thirty-two universities, less than 30% of departments are lead by women. At five universities the proportion of women is above 30% with the highest proportion at Aalto University (35%), and Tomsk Polytechnic University (42%). Summing up, at only 5 universities (19%), the quota between 30% and 40% that in a number of countries is envisaged as adequate proportion of women in management positions has been achieved.

The situation at the second level of non-academic management is quite different from the higher levels discussed before. Twenty out of thirty-six universities have a women's quota between 31% and 60% while at eight universities the percentage of women in those management positions is even higher with the top percentages at TU Braunschweig (70%), KTH Royal Institute of Technology (80%), Instituto Superior Técnico Lisboa (82%), and UP Madrid with even 100%

At students' and PhDs' level, women represent around one third of the entry students and of bachelor and master as well as doctorate graduates. That holds also for the positions of assistant professors or equivalent academic staff. However, the percentage of female academics seriously drops when progressing towards positions of full professors where only some 15% are women; that is above the level of the She Figures 2012 average for science and engineering of 11%<sup>34</sup>. That finding has, however, to be dealt with caution because the She Figures relate strictly to science and engineering whereas quite a few CESAER member institutions comprise also disciplines other than science and

engineering, such as e.g. architecture, social and economic sciences, humanities or medicine. In future surveys or studies this will have to be considered. It is, however, important to note that the percentage of female professors at CESAER universities is lower than the 2010 average in EU-27 academic institutions that is 20%<sup>35</sup>.

The Framework Programme and particularly the European Research Council (ERC) play an important role for academic careers. Therefore, the low percentages of women in that domain of research activity are a matter of concern. About one fifth of FP7 coordinators from responding CESAER universities are women. 22% of incoming and 21% of outgoing Marie Curie fellows are women. The percentages of successful female ERC grantees are even lower: only 17,48% of Starting Grants and 10% of Advanced Grants and Consolidator Grants respectively are awarded to female researchers. That is even remarkably below the percentages of female academic staff which is an aspect that deserves to be analysed in more detail in future investigations.

The statistical data provide critical evidence about the under representation of women at all levels of academic life at CESAER member institutions. These results will have to play a crucial role in the context of plans for improving the situation towards an adequate participation of women in the academic life of CESAER member institutions.

The analysis of the other survey results provides important insights regarding plans, structures as well as measures promoting gender equality at CESAER member institutions.

(34) European Commission: *She Figures 2012. Gender in Research and Innovation. Statistics and Indicators.* Luxembourg, 2013, Figure 3.2 on p. 89

(35) Op. cit. Figure 3.1 on p. 88

Gender Equality Plans at universities of Science and Technology:

- Twenty-six or 54% of responding universities have a specific Gender Equality Plan, eighteen universities or 37% don't. However, ten universities plan to develop a Gender Equality Plan;
- 4% of the respondents address gender equality in the general institutional strategy;
- For five universities, gender equality is not a priority, now.

Gender Equality issues play also a role in the university organisation and structures:

- At fifteen universities, a special unit deals with gender equality.
- At sixteen institutions, gender equality is the responsibility of an organisational unit with a wider remit.
- At one university, there is no special organisational unit but one person is dealing full-time with gender equality;
- Eleven (23%) of the responding universities choose other ways of supporting gender equality.

In some countries such as in Germany, the main research-funding organisation (DFG) defines gender equality measures as eligibility criterion for funding. The "DFG Research-oriented Standards for Gender-Equality" are a strong incentive for universities towards putting a priority on plans, strategies, structures and related measures towards gender equality. In addition, and possibly similarly important, the fact that implementing gender equality measures is a requirement and evaluation criterion in the German Excellence Initiative. These are certainly examples of successful practices that might inspire other stakeholders in other countries.

Promoting gender equality has to cope with different barriers whereby internal resistance and lack of resources are the main issues. In addition, several universities reported that employment and labour

laws or national or regional policies and regulations are not supportive or do not allow to take targeted action.

When implementing Gender Equality Plans and measures, universities are applying different approaches for the follow-up such as internal and external reporting, monitoring and evaluation as well as benchmarking of their respective measures. In that context, collecting relevant data on a regular basis is important.

There is a high level of awareness regarding the key role of appointment committees and their composition. From forty-three responding universities, twenty-seven (62,79%) reported specific requirements such as minimum numbers of female members or quota from 33% to 50%.

All universities reported about the broad spectrum of activities they are applying towards promoting gender equality. On top are activities supporting work-life balance of researchers that are important for thirty-five universities (73%). Twenty-nine universities implement specific approaches for attracting female students and twenty universities apply specific recruitment and promotion policies for female researchers. In addition, providing networking opportunities for women is high on the gender equality agenda.

A specific feature of university measures is the focus on activities for developing gender competence within their institutions. Gender equality training for university leadership and middle management is considered important, followed by mentoring and coaching schemes. A number of universities are implementing specific programmes, grants or awards promoting gender equality.

Universities were asked to identify examples of activities that they would define as most successful and, therefore, their best practice. Programmes supporting female PhDs and young researchers, support for maternity leave and return to work as well as family friendly services rank high on the list of reported measures followed by institutional strategies on gender



equality supported by the top university management. Also in that context, targeted programmes for attracting female students to STEM studies are ranking high.

From the thirty-two universities reporting about impacts of implementing gender equality measures eleven universities, which is 38%, reported quantitative changes towards more women in the gender balance. The majority of universities indicate qualitative changes regarding cultural change in their institutions such as increased gender awareness and more visibility of women. Ownership and responsibility for gender equality measures by the top university management is extremely important as well as dedicated support structures either as stand-alone units or integrated into other university structures.

Thirty universities provided information about their future plans and next steps towards promoting gender equality. Most importantly, ten universities plan to prepare and implement Gender Equality Plans whereas other universities will focus on stabilising the implementation of policies, plans and targeted measures. Raising awareness for gender issues will play a prominent role. Three universities underline the importance of European projects and initiatives.

The results of the survey provide convincing evidence of the broad range of strategies, plans and activities as well as the substantial investments of CESAER member institutions in the area of gender equality. The survey results show that the CESAER community forms an excellent basis and provides ample room for mutual learning and exchange of experience supporting further progress

towards developing inclusive institutions utilizing the full human resource potential for science and technology.

The CESAER Gender Equality Survey 2014 is a main contribution to the implementation of the commitments made in the CESAER Statement on the European Research Area of June 2013<sup>36</sup>. Furthermore, it is a proactive measure towards the actions in the ERA Roadmap<sup>37</sup> under Priority ERA Priority Four “Gender Equality and Gender Mainstreaming in Research” stating “*At National level Member States and Associated Countries should develop policies on gender equality in RPOs<sup>38</sup>, and regularly monitoring their effectiveness and adjusting measures as necessary. RPOs should in turn review and enhance their policies for gender equality in research and ensure their implementation. Special attention should be paid to areas where women are underrepresented (for instance in senior positions and in research management) and to the funding schemes and disciplines where the imbalances are greatest.*” The ERA Roadmap was adopted by the Council of the European Union on 19 May 2015.

As the survey shows, CESAER and the association’s member universities are advanced in implementing gender equality policies, strategies, plans and activities and are committed towards cooperation and mutual learning for further improving the situation in their institutions in order to provide conducive working environments supporting gender equality and diversity and making optimal use of the human resources for higher education, research and innovation.

(36) CESAER Statement on the European Research Area. 20 June 2013, p. 3. See: <http://www.cesaer.org/en/publications/>

(37) European Union, European Research Area and Innovation Committee, ERAC Secretariat: ERAC Opinion on the European Research Area Roadmap. ERAC 1208/15. 12 February 2015, p. 13

(38) Research Performing Organisations



## 11. Conclusions: Ten elements of institutional strategies supporting gender equality

Based on the analysis of the survey results of the CESAER member universities, one can identify ten elements of institutional strategies and measures towards promoting gender equality.

### 1. Institutional leadership

It is important that gender equality is a credible priority of the top university management. Institutional goals, strategies, structures and resources as well as long-term plans and activities for the support of gender equality are prerequisites for achieving institutional change. Setting specific goals and targets is an issue deserving special consideration. It is a major challenge for the university leadership to overcome internal resistance and achieve ownership of gender related goals and initiatives across the whole institution. For that purpose, it is important to apply participatory approaches for preparing and implementing initiatives addressing gender equality. Women in leadership positions at different levels will act as role models supporting the development of gender equality.

### 2. Gender competence

Developing gender competence at universities paves the way for overcoming internal resistance including unconscious biases and developing an institutional culture conducive to progress towards gender equality. Measures comprise guidance and training for the university leadership and middle management and at all other levels of university staff and, possibly, also for target groups outside the university. Professional gender competent staff has a key role to play in that area.

### 3. Gender sensitive recruitment and promotion

Paying attention to gender issues in recruitment, appointment, appraisal and salary matters is a key aspect of gender equality strategies. Therefore, in university boards and committees, especially appointment committees, approaches including minimum standards and quotas

should be considered to ensure a balanced composition of female and male members. In addition, support by professional staff is essential for ensuring appropriate procedures.

### 4. Attracting and retaining women at universities of science and technology

Universities apply specific measures and programmes for attracting female students to science, technology, engineering and mathematics - STEM – studies. This holds also for specific measures addressing female researchers and promotion measures for PhD and young researchers. Many universities have targeted programmes in place for attracting female professors and implementing specific tenure track schemes for women.

### 5. Mentoring, coaching, mutual learning and empowerment

Universities provide gender related mentoring and coaching schemes for researchers at all levels. Networking opportunities for female researchers offer opportunities for mutual learning and empowerment.

### 6. Family-friendly universities supporting work-life balance

Examples of best practice show universities' approaches supporting maternity leave and return to work as well as the high priority they give to these measures. Universities provide family friendly services and measures establishing an institutional environment enabling work-life-balance. Flexible career trajectories, adequate arrangement for breaks and gender aware mobility conditions support the opportunities for women in science and technology.

## **7. Internal guidelines, manuals and special provisions**

Internal - formal and informal - guidelines and manuals help developing the understanding for gender issues at universities. Special provisions and support services for gender equality should be foreseen especially regarding measures against sexual harassment and discrimination.

## **8. Programmes, grants and awards as well as standards promoting gender equality**

It is important that universities, ministries and also regional authorities offer specific programmes, grants, and awards for the promotion of gender equality. As examples of inspiring practices show, standards for gender equality defined by research funding organisations are supporting institutional change. European schemes, projects and initiatives addressing gender equality issues provide opportunities for mutual learning and developing common standards and guidelines. The CESAER gender community should in particular use the opportunities offered by Horizon 2020 calls for proposals.

## **9. Communication supporting cultural change**

Communicating institutional strategies and plans as well as internal and external public relations regarding examples of best practices help promoting gender awareness and supporting gender equality issues. Internal communication is crucial for supporting changes of institutional

cultures. That must not be the task of a Public Relations department and its staff only but needs the active and visible involvement of the top management of the university. Participatory measures such as internal reporting, discussions at the management level, in committees as well as in various forms of feedback processes are adequate approaches towards achieving ownership of gender equality strategies and measures across the institution. In addition, interaction with regional and/or national government authorities and funding agencies play a role in the implementation and review of related programmes and schemes or contractual relations of the universities.

## **10. Following-up on the implementation and impact of gender equality plans and activities**

Universities that gradually implement gender equality plans need to support institutional learning by appropriate mechanisms to control, monitor, evaluate and benchmark. In that context, the definition of appropriate indicators and the regular collection of the related necessary data are key tasks. Alignment with the indicators that will be used for the monitoring of the implementation of the ERA Roadmap at national and European will be advantageous. In that context also analysing what has not worked and developing actions to ameliorate the situation should be considered.

## 12. Recommendations for CESAER

The survey results and feedback from the Vienna workshop in November 2014 as well as the events in spring 2015 provided the basis for developing the following recommendations for possible next steps within the CESAER community.

In the course of the preparation and implementation of the survey, contact persons for gender equality were identified at all CESAER member universities. Based on expressions of interest received it is recommended to form a community of these practitioners for initiating and implementing future joint activities in the CESAER network in accordance with the needs and demands of the practitioners.

The CESAER Gender Equality Survey should be repeated on a regular basis, probably every two years. That would enable the universities to monitor their activities and to benchmark their progress as well as to assess the effectiveness and efficiency, benefits and impacts of their plans and activities over time. Also learning from failed initiatives was identified as important and exchange of information and experiences will be useful.

The results of the present work, the experiences and lessons learned should be used for fine-tuning and improving the methodology of such survey exercises. Participants in the Vienna workshop identified a spectrum of topics which they find most valuable to further explore in appropriate arrangements.

In the following, such issues are presented and grouped without claiming that the list is comprehensive or complete; it should rather inspire discussions within the CESAER network and beyond, particularly with the partner associations CLUSTER, EuroTech Universities, IDEA League, and Nordic Five Tech:

- Leadership engagement and involvement
  - Monitoring and evaluation, benchmarking, performance indicators
  - International benchmarking on gender equality and sharing of good practice
  - Comparisons of gender equality plans and implementing activities (*work in progress already*)
  - Different ways of organising and structuring the implementation of gender equality plans and activities at universities
  - Developing guidelines and standards for gender equality
  - Open, transparent and merit based recruitment ensuring equal opportunities
  - Attracting more women to science and technology studies
  - Attracting and retaining female PhDs, post docs, senior researchers and professors
  - Developing European academic career paths for researchers including European mobility schemes and tenure track provisions
  - Assessing the role of national laws and regulations and the views of different cultures
  - Identifying and analysing barriers and resistance towards implementing gender equality and developing measures towards overcoming the barriers
  - Gender issues in education, research and innovation.
- Developing a common understanding of gender equality and diversity at universities of science and technology

Workshops and seminars were recommended as possible forms of mutual learning and exchange of information and for developing joint activities. In addition, staff exchange and visiting programmes providing first-hand insights in different institutional practices should be considered.

A specific point of interest is the preparation of collaborative proposals for cooperation and support actions following gender oriented calls for proposals under Horizon 2020.

Finally, and as a consequence of the above considerations and requests it is recommended to establish a CESAER Gender Equality Working Group based on a core group of practitioners who are committed to developing the topic further and who can ensure regular interaction and

cooperation with the CESAER community of gender equality contact persons and “doers”. At the meeting of the Board of Directors at the University of Aalborg, the above recommendations were supported already.

The cooperation with CLUSTER, EuroTech Universities, IDEA League, and Nordic Five Tech has the potential to play an important role in the future development of that matter among the community of universities of science and technology. In addition, the discussion and collaborations with the other ERA Stakeholders should be high on the future agenda.

## ANNEX 1

# Gender Equality Plans and some other gender related documents of CESAER member institutions

Gender Equality Plans and other policy documents and reports provided by respondents to the CESAER Gender Equality Survey 2014:

### Austria:

- Technische Universität Wien: Frauenförderungsplan der Technischen Universität Wien, <http://www.tuwien.ac.at/akgleich/frauenfoerederungsplan/> [as Nov. 04, 2013] (26.03.2012); also available in English.

### Belgium

- Ghent University: Een leidraad voor genderneutrale aanstellingen, benoemingen en evorderingen in het ZAP-kader aan de Universiteit Gent. Hanneke Pyck, Beleidscel Diversiteit en Gender, April 2012. <https://www.ugent.be/diversiteitengender/nl/gender/leidraadgenderneutrale.html> (as of Jan. 10, 2015)
- KU Leuven: Lancering Genderactieplan KU Leuven 2014 – 2017. <http://nieuws.kuleuven.be/node/12784> (as of Jan. 10, 2015)

### Switzerland:

- ETH Zurich: Strategie und Entwicklungsplan 2012-2016, <https://www.ethz.ch/de/die-eth-zuerich/portraet/strategie.html> [as at Nov. 13, 2013] English version available via this web page.
- EPF Lausanne: Bureau de l'Égalité des Chances de l'EPFL. Rapport d'activités 2012. 20 Mars 2013. <http://egalite.epfl.ch/page-104381-en.html> (as of Jan. 10, 2015)

### Denmark:

- Aalborg University: Strategi for ligestilling 2012-2015. Ligestillingsudvalget (Equality Commission). Sagsnr.: 2013-021-00295. [http://www.aauhaandbog.aau.dk/file/5352/Strategi\\_for\\_ligestilling\\_-\\_final.pdf](http://www.aauhaandbog.aau.dk/file/5352/Strategi_for_ligestilling_-_final.pdf) (as of Jan. 10, 2015)

### Finland:

- Aalto University: Aalto University Equality Plan 2012-2014 [http://www.aalto.fi/en/midcom-serveattachmentguid-1e40c1fbe7ebd1c0c1f11e4a5b7914a17b855595559/aalto\\_equality\\_plan\\_2012-2014.pdf](http://www.aalto.fi/en/midcom-serveattachmentguid-1e40c1fbe7ebd1c0c1f11e4a5b7914a17b855595559/aalto_equality_plan_2012-2014.pdf)

### France:

- INSA Lyon: Human Resources Policy. <http://www.insa-lyon.fr/en/content/politique-de-ressources-humaines/>

### Germany:

- RWTH Aachen: Gender and Diversity Management. Gleichstellungskonzept RWTH Aachen, [http://www.rwth-aachen.de/global/show\\_document.asp?id=aaaaaaaaaagszj&download=1](http://www.rwth-aachen.de/global/show_document.asp?id=aaaaaaaaaagszj&download=1). [as at Nov 20, 2013]

- TU Berlin (1): Präsidium der TU Berlin und Zentrale Frauenbeauftragte Technische Universität Berlin (ed.): GEMEINSAM AUF DEM WEG. Geschlechtergerechtigkeit und Chancengleichheit an der TU Berlin, [http://www.tu-berlin.de/fileadmin/i31/Publikationen/TUB\\_Imagebroschuere\\_Gleichstellung.pdf](http://www.tu-berlin.de/fileadmin/i31/Publikationen/TUB_Imagebroschuere_Gleichstellung.pdf) [as at Feb. 14, 2014] (October 2013)
- TU Berlin (2): Technische Universität Berlin: Zukunftskonzept für die Jahre 2013-2020, [https://www.tu-berlin.de/menue/ueber\\_die\\_tu\\_berlin/profil\\_geschichte/zukunftskonzept/](https://www.tu-berlin.de/menue/ueber_die_tu_berlin/profil_geschichte/zukunftskonzept/) [as at 14.02.2014] (11.06.2012)
- TU Berlin (3): Technische Universität Berlin, Zentrale Frauenbeauftragte: Gleichstellung gestalten, [http://www.tu-berlin.de/zentrale\\_frauenbeauftragte/menue/gleichstellung\\_gestalten](http://www.tu-berlin.de/zentrale_frauenbeauftragte/menue/gleichstellung_gestalten) [as at 11.01.2014]
- TU Braunschweig: Technische Universität Braunschweig: Grundordnung der Technischen Universität Braunschweig, <https://www.tu-braunschweig.de/Medien-DB/gb1/hob/hob-822-grundordnung.pdf> [Feb. 22, 2014] Accessible only to members of TU Braunschweig
- TU Darmstadt: Technische Universität Darmstadt: Frauenförderungsplan der Technischen Universität Darmstadt. Ziele und Maßnahmen zur Geschlechtergleichstellung, [http://www.intern.tu-darmstadt.de/media/dez\\_vii/infosaz/frauenfoerderplan.pdf](http://www.intern.tu-darmstadt.de/media/dez_vii/infosaz/frauenfoerderplan.pdf) [as at Jan 13 2014], (March 8, 2010)
- TU Dresden: Technische Universität Dresden: Gleichstellungskonzept der Technischen Universität Dresden. Professorinnen-Programm des Bundes und der Länder zur Förderung der Gleichstellung von Frauen und Männern in Wissenschaft und Forschung an deutschen Hochschulen, March 02, 2009 [http://tu-dresden.de/die\\_tu\\_dresden/gremien\\_und\\_beauftragte/beauftragte/gleichstellung/chancengleichheit/grundlagen/gleichstellungskonzept](http://tu-dresden.de/die_tu_dresden/gremien_und_beauftragte/beauftragte/gleichstellung/chancengleichheit/grundlagen/gleichstellungskonzept) [as at Nov. 11, 2013]
- TU Hamburg-Harburg: Technische Universität Hamburg-Harburg: Endbericht der Technischen Universität Hamburg-Harburg zur Umsetzung der Forschungsorientierten Gleichstellungsstandards der DFG, [http://83.143.5.70/download/pdf/foerderung/grundlagen\\_dfg\\_foerderung/chancengleichheit/abschlussberichte/gleichstellungsstandards\\_hamburg\\_tu\\_2013.pdf](http://83.143.5.70/download/pdf/foerderung/grundlagen_dfg_foerderung/chancengleichheit/abschlussberichte/gleichstellungsstandards_hamburg_tu_2013.pdf) [as at Jan 11, 2014] (March 2013)
- Karlsruhe Institute of Technology: Kurzfassung des Chancengleichheitsplans des Karlsruher Instituts für Technologie (KIT) 01. Januar 2014 – 31. Dezember 2018. KIT, 2014. [www.chg.kit.edu/downloads/Chancengleichheitsplan\\_kurz.pdf](http://www.chg.kit.edu/downloads/Chancengleichheitsplan_kurz.pdf) (as of Dec 16, 2014)
- Leibniz Universität Hannover: Leibniz Universität Hannover: Senatsrichtlinien zur Gleichstellung von Frauen und Männern an der Universität Hannover (May 3, 1995) <http://www.gleichstellungsbuero.uni-hannover.de/1955.html>
- Leibniz Universität Hannover: Gotzmann Helga: Bericht zum Gleichstellungsplan der Leibniz Universität Hannover 2011. Chancengleichheit in der Wissenschaft, <http://www.uni-hannover.de/de/universitaet/veroeffentlichungen/gleichstellungsplan/> [as at 23.03.2014]
- TU Ilmenau: Technische Universität Ilmenau: Frauenförderungsplan der Technischen Universität Ilmenau, [https://www.tu-ilmenau.de/fileadmin/media/gleichstellungsrat/pdf/frauenfoerderplan\\_TU.pdf](https://www.tu-ilmenau.de/fileadmin/media/gleichstellungsrat/pdf/frauenfoerderplan_TU.pdf) [as at Jan 11, 2014] (Jan 8, 2007)

- TU Ilmenau: Technische Universität Ilmenau: Gleichstellungskonzept der Technischen Universität Ilmenau 2008, <http://www.tu-ilmenau.de/gleichstellungsrat/gleichstellungskonzept/> [as at Jan 11, 2014] (May 6, 2008)
- TU Munich (1): Technische Universität München: Diversity-Leitbild. <http://www.diversity.tum.de/print/diversity-leitbild/> [as at Nov. 13, 2013]
- TU Munich (2): Technische Universität München: TUM Diversity Code of Conduct, <http://www.diversity.tum.de/print/tum-diversity-code-of-conduct/> [as at Nov. 13, 2013]
- TU Munich (3): Technische Universität München: Gleichstellungs- und diversitätsorientierte Zielvereinbarung an der Technischen Universität München – Fakultät Wissenschaftszentrum Weihenstephan für Ernährung, Landnutzung und Umwelt, [http://www.wzw.tum.de/fileadmin/pdf/Gender/WZW\\_Zielvereinbarung\\_Homepage\\_2\\_.pdf](http://www.wzw.tum.de/fileadmin/pdf/Gender/WZW_Zielvereinbarung_Homepage_2_.pdf) [as at Nov. 13, 2013] (Sept. 27, 2012)

### Norway:

- NTNU: Norwegian University of Science and Technology: Action plan for a better gender balance 2014 – 2016 (June 15, 2014) <http://www.ntnu.edu/strategy> (Nov. 10, 2014)

### Sweden:

- Chalmers (1): Chalmers University of Technology: Policy and Action Plan for Work Environment and Equal Opportunity 2012-2015
- Chalmers (2): Chalmers University of Technology: Priority Operational Development 2014-2018
- KTH: Royal Institute of Technology: Equal opportunities policy 2012, <http://intra.kth.se/en/regelverk/policyer/personalpolicyer/jamstalldhetspolicy-1.29570> [as at 14.02.2014] (Nov. 07, 2013)
- KTH: Action Plan for Equality, Diversity and Equal Treatment at KTH 2014-2016. 1 September 2014. <http://intra.kth.se/en/regelverk/policyer/personalpolicyer/handlingsplan-for-jamstalldhets-mangfald-och-lika-villkor-vid-kth-2014-2016-1.496320/> (as of Jan. 10, 2015)

### The Netherlands:

- TU Delft: Diversiteitsplan TU Delft 2013. HR Talent februari 2013
- TU Eindhoven: Where innovation starts. Strategic Plan TU 2020, [http://www.tue.nl/uploads/media/TUE\\_2020\\_Strategisch\\_Plan\\_EN\\_01.pdf](http://www.tue.nl/uploads/media/TUE_2020_Strategisch_Plan_EN_01.pdf) [as at Jan. 11, 2014]
- TU Eindhoven: Women in Science Eindhoven Network. WISE-Network Annual Report 2012. [http://w3.tue.nl/fileadmin/de\\_universiteit/netwerken/wise/PDF-bestanden/Annual\\_Report\\_2012.pdf/](http://w3.tue.nl/fileadmin/de_universiteit/netwerken/wise/PDF-bestanden/Annual_Report_2012.pdf/) (as of Jan. 10, 2015)
- University of Twente: In- en doorstroom van vrouwen aan de UT 2009. Evaluatie van het huidige beleid en aanbevelingen voor aanvullende maatregelen („Fixing the women“ is belangrijk en succesvol, nu de organisatie nog ...). 2010

# Human Resources Strategies for Researchers



## Human Resources Strategies for Researchers

In 2012, CESAER joined the 4th Cohort of the Institutional Human Resources Strategy Group with the aim to support mutual learning between member institutions about the HRS4R scheme and to encourage them to embark on the five step process towards HR excellence in research. The CESAER activities in that area are coordinated by Manfred Horvat, CESAER Senior Advisor, and Lieve Coninx, CESAER Liaison Officer.

A total of 38 CESAER member institutions endorsed the Charter and Code, 13 signed up for one of the four cohorts and so far 8 CESAER member universities have been awarded the “H R Excellence in Research” logo. One member university was awarded the Logo without participating in a cohort. There are still 13 member institutions not involved in the HRS4R process at any level. Since the start of the CESAER wide initiative, the Commission has awarded the Logo to two CESAER member universities.

From 2013 to 2014, we continued to promote HRS4R among our membership with the aim of increasing the number

of universities actively working towards obtaining the Logo. Following a workshop and a seminar organised in September and October 2013, a parallel session devoted to HRS4R was held in the framework of the CESAER conference “Human Resources in Academia” on 21 May 2014. This session attracted some 30 participants. All events are shaped to stimulate mutual learning between universities that have the Logo already and others that are in the five step process or are interested in entering into the process.

CESAER universities that have been awarded the Logo emphasize the benefits of the internal process when performing the gap analysis and developing the HR action plan. The Logo has been found to increase the attractiveness of institutions and the self-assessment is most valuable for continuous improvement in institutional human resource management.

On the basis of the feedback from universities in step 5 of the process, which is the external peer review, CESAER will evaluate the HRS4R process and make note of the lessons learned.

# **Results and conclusions from the first phase**

## Results and conclusions from the first phase

A lot has been achieved in the last two years. The members of the HR task force have been very active in generating, exchanging and analysing information and building together a new community around best practices. All of the members put in a lot of time and effort. The most important conclusion for all members is that the more they invested, the more benefits they got from their participation in this task force. The first phase of the HR task force was primarily exploratory, with a broad focus on the main HR challenges facing academic staff in universities of Technology and Science. It was striking to see that, although there were major differences between the members of the task force, they faced similar challenges that were, in some respects, quite different from the challenges for comprehensive universities. We have identified the following HR themes in universities of technology and science.

- In all countries, there is a need for advanced engineers in a broad spectrum of various fields, ranging from health, environment, infrastructures, to food and transport. Society faces a shortage of graduates from engineering departments and universities of technology and science. One of the most urgent HR questions is therefore how to attract (and retain) high quality staff. The exploratory phase has shown that a focus on mobility and internationalization and providing attractive career paths for young scientists is crucial in this respect.
- The *raison d'être* of all engineering departments and most universities of technology and science is to (contribute to) solve societal problems. In order to know what the problems are and which solutions are feasible – not only in technical

terms but also in terms of societal support - engineering departments have to work closely together with societal partners and industry. The resulting HR challenge is twofold. The first task is to form the student, PhD candidate, postdoc and professor in such a way that these specialists can think and collaborate in a multidisciplinary team.

- Traditionally, technology and science have attracted more men than women both as students and academic staff. Research has shown overwhelmingly that universities, like any other organizations, benefit from diversity in all respects. The task force has investigated in a detailed way which measures and plans are in place, and which of these practices actually help to promote gender equality.
- Changing demands and expectations for universities of technology and science have led to the demand for a new type of leader in academia. Gradually, ministries and society have asked for more emphasis on education. Moreover, the leader should be able to work internationally and in an interdisciplinary context. Since universities compete for the very best people around the globe, leaders should be able to attract and to retain excellent academic staff. In two working groups (Career and leadership development and Performance Management) we have explored HR policies, practices and tools that can contribute to the new demands for academic leadership.

The reports recognized best practices and pinpointed areas in which there is a common need for further development.

The activities of the various working groups have provided the following insights:

## 1. Attraction, Recruitment and Hiring

Today research institutions face the challenge to compete for talents in a more and more globalized academic market. They have to ensure that through open, transparent and merit-based recruitment procedures they can offer fair and attractive working conditions to talented researchers. At the same time they should be able to select those researchers whose track record and potential meet the institutions' strategic goals and quality level, if need be by being allowed to actively search the best. The EU's initiative HRS4R offer an excellent basis in this respect, but additional efforts should be made by the institutions to present themselves as an attractive working environment offering academically excellent work conditions as well as family friendly and work-life balance conscious employers. In view of the EU's goal to create a European academic workforce in the context of Horizon 2020 special attention should be paid to the needs and aspirations of mobile researchers and their partners and families by offering dual career and integrations services. By establishing such services as well as by offering clearly structured career development paths institutions will be able to attract and retain highly talented researchers at the peak of their research output. To this goal assistant professor positions with tenure track proved to be an excellent instrument. Further hiring procedures to a growing extent will not only have to take into account established track records, but should also include soft elements like potential and management or teaching skills in the decision process.

## 2. Leadership and Leadership Development in Academia

Leadership in academia is sometimes a matter of leading independent researchers who do not want to be lead. There is scepticism towards leadership as a competency and why money is being spent

on leadership development rather than on research.

Leadership roles are sometimes perceived as a burden which needs to be carried by someone, and can be perceived as a threat of ruining a research career if too much of the individual's time is spent on leadership rather than on research.

There is a common perception that a period as department head or dean is like doing compulsory military service, someone has to do it and senior members of the faculty should take turns. This attitude may have negative consequences regarding the ability to take necessary but unpopular decisions.

Traditionally leaders, such as department heads and deans, are appointed mainly on academic merits, whereas leadership capabilities are less considered. However, there seems to be a slight change in mind-set towards taking leadership skills into account to a higher degree and that managers may also come from leadership backgrounds outside academia.

There is consensus on the need to begin leadership development efforts at an early stage of the academic career, i.e. at post-doc or assistant professor level. Although they may not be in a formal management position, most faculty members are leaders in one aspect or another.

On behalf of the CESAER network universities, the Taskforce HR recommends the management teams/executive boards at all European universities to strive towards providing good conditions and support for management and leadership in academia. In practice this involves areas such as allocating time for leadership, limiting the number of team members reporting to the manager, clearly defining roles and expectations on leaders, and utilising HR competence and tools as a strategic resource in this work.

### 3. Career Development

#### a. The most remarkable results and findings

Competing with profit-oriented organisations and other research institutions in the war for talent, universities are facing significant challenges in terms of redesigning career paths and in providing attractive development opportunities in addition to the traditional academic track.

Especially given the increasing international mobility of academics, the need for more transparency and flexibility in scientific career paths is widely acknowledged. Existing career paths need to be clearly defined and alternative career models need to be developed. Especially intersectoral mobility models (e.g. joint doctorates with industry) and the implementation of alternative academic career paths, e.g. in science management, are clearly regarded as an added value. Furthermore, the benefits of supporting academic staff in choosing appropriate career paths as well as in acquiring appropriate skill sets are recognized within universities.

Best practice examples with respect to transparent (alternative) career paths, career advancement and career support were presented and shared with the CESAER members.

#### b. Policy recommendations and best practices

Well-designed career paths with attractive development opportunities are an important source of international competitive advantage and may help to recruit high potentials from inside but also from outside Europe as well as to retain skilled employees in academia.

To attract international scientists and also to increase mobility among scientists, transparency in national career trajectories is an indispensable condition. Promoting the differentiation of R1 (first stage

researcher) to R4 (leading researcher) will help researchers from non-European countries to orientate themselves in the European academic systems. To guarantee open, transparent and merit-based selection and promotion processes, universities should be autonomous in this process and not bound to any legal barriers.

Fostering mobility for scientists on all career levels through additional funding is regarded as very beneficial. However, whereas mobility and diversity among scientists is increasing, support staff is still mainly from the home country. Therefore, increasing mobility of support and administrative staff by initiatives like Erasmus + STT and also the Marie Skłodowska-Curie IRSES scheme is very welcomed.

#### c. Future outlook

Despite the broad acknowledgement of the need for more transparent and flexible career paths models as well as career development opportunities, so far only few universities have developed and implemented appropriate structures. However, we expect further universities to follow, as these new career opportunities will be a competitive advantage in the global war for talent. Equally important to the implementation of structures is however a change in mindsets. To avoid that these alternative career path models are perceived as a second choice to the traditional paths, universities as well as funding organization could take additional merits and skills with regards to e.g. teaching, leadership or science management into account instead of solely focusing on scientific output. Finally the current developments shouldn't be perceived as a threat but rather as an opportunity to increase overall attractiveness to high potentials.

## 4. Performance Management and Appraisals

The working group is proud of at least two results. First is the organization of a bilateral visit from TU Delft to Chalmers University. This 2-day visit of a small delegation resulted in an in-depth insight in policies, procedures and systems on both sides. Both institutions were inspired. As a result of this visit, TU Delft has added a topic in its appraisal interview. TU Delft asks more explicitly how the plans and results of an individual contribute to the overall strategy. Chalmers has revised its appraisal form, making use of the format and topics that are used at the TU Delft. It was mutually beneficial. Another result is the workshop at the HR conference, in which best practices on appraisals and performance management were shared with all members of CESAER.

The survey of the working group showed that not every member institution organizes appraisal talks. In cases where they do, sometimes the professors are excluded from this cycle. The working group advises:

- Organize annual appraisal talks for everyone, both academic staff and support staff
- Make the form as short as possible and the administration as light as possible
- Explicit attention for the added value of an individual for the institution: how do their achievements and plans fit in the broader strategy?
- Explicit attention not only for academic achievements, but also for leadership, organization and management, i.e. 'good citizenship' of the academic institute.
- Balanced attention for both research and education.

The working group has completed the survey and best practices are available to the academic community. We have decided to stop this working group. An alternative may be to organize a one day event about best practices with regard to the digitalization of the appraisal cycle.

## 5. Gender Equality

### Main results

All forty-eight individual CESAER institutions responded to the survey which showed that for the majority of universities Gender Equality (GE) is an important issue that they actively address with different measures. In view of mere statistics, the proportion of women at universities of science and technology decreases along the academic career track from about one third from first year's students till doctorate and early career to about 15 to 20% at the level of full professors. Only five out of forty-eight universities are led by female rectors or presidents.

Twenty-six universities have a Gender Equality Plan (GEP) and eight universities intend to develop a GEP in the near future. At fifteen universities, a separate organisational unit deals with GE, whereas at sixteen institutions, GE is the responsibility of a unit with a wider remit.

All respondents reported a broad spectrum of measures, initiatives and programmes addressing GE and identified also three activities each that they found most successful as well as their plans for next steps in the near future. Regarding the impact of GE measures, universities highlighted the importance of cultural change in their organisations but also changes in quantitative terms.

## 6. Human Resources Strategies for Researchers

A total of 38 CESAER member institutions endorsed the Charter and Code, 13 signed up for

one of the four cohorts and so far 8 CESAER member universities have been awarded the “H R Excellence in Research” logo. One member university was awarded the Logo without participating in a cohort. There are still 13 member institutions not involved in the HRS4R process at any level. Since the start of the CESAER wide initiative, the Commission has awarded the Logo to two CESAER member universities.

CESAER universities that have been awarded the Logo emphasize the benefits of the internal process when performing the gap analysis and developing the HR action plan. The Logo has been found to increase the attractiveness of institutions and the self-assessment is most valuable for continuous improvement in institutional human resource management.

On the basis of the feedback from universities in step 5 of the process, which is the external peer review, CESAER will evaluate the HRS4R process and take note of the lessons learned.

### Next phase

In the first stage of the HR task force, we have focused on leadership, gender issues, appraisals and performance management and the HRS4R Excellence logo. In all these topics, implicitly, academic staff has been the main focus. The task force has been very productive and produced reports on all of above topics as well as successfully organizing a HR conference and numerous bi-lateral visits. All goals set out in the previous Terms of Reference have been achieved, in less than the three year time scale. The task force acknowledges the stimulus proved by ERA. This enabled the task force to forge ahead with all of its tasks. It is now time to engage in new areas within the domain of HR.

The experiences of the past 2 years have shown that task forces can build on the potential of CESAER’s member institutions and create added value of CESAER membership by:

- serving as consultative platforms for exchange of information and mutual learning between experts from member institutions;
- developing an overview of members’ activities in the topical area of HR;

- developing mutually beneficial initiatives in partnerships that can address common challenges and make a real difference;
- creating and disseminating best practices and critical knowledge;
- consulting with the European Commission as well as with other engineering networks, industrial associations, national authorities and societal organizations on the contribution that CESAER can deliver in a larger context. As appropriate, we are linking universities, public research organisations, industry and governments in the discussion.
- providing information to interested parties (universities, research organisations, governmental bodies, societal organisations).

At the October 2014 meeting in Tallinn it was decided that the HR task force would continue its work, building on the good working relationships formed among the task force members, but with a new focus.



## From exploration to implementation; from assembly to bilateral working visits

The exploratory phase has been very productive. We have identified differences, similarities and common challenges. We have got to know each other, not only in the twice-yearly meetings, but also through bilateral visits and specialized workshops. We have picked low hanging fruit and implemented good ideas and best practices in the policies of our institutions. We focused primarily on the careers and leadership of academic staff.

Now that the low hanging fruit is picked, it is time to go one step further. We have jointly reached the conclusion that three areas in HR are underdeveloped. The topics we would like to explore are:

### 1. How to improve the quality of support staff and to minimize the gap between support staff and academic staff

This issue is relevant to all CESAER members. All universities face contradictory trends for academic staff on the one hand, and for support staff on the other.

quality of the support staff in such a way that the primary process is supported more effectively? The hypothesis is that a more balanced representation of the two groups can help this process.

This gap is perceived as a problem for support staff functions that fulfill the role of linking pin between the back office and the academic staff, for example HR advisors, ICT and finance professionals, project managers and advisors with expertise in R&D funding applications. How can we improve the

In this project, we want to learn from the best practices within the CESAER network through bi-lateral visits set up an exchange program for support staff to improve their skills and to contribute to international outlook and mobility.

Academic staff	Support staff
International composition of workforce	Mostly Local/regional composition of workforce
Growing share (as % of employees) with temporary contracts (especially PhDs and Postdocs)	Fixed contracts, low mobility
Predominantly male, especially in higher positions	Predominantly female
Growing share of young academics (PhDs/ Postdocs)	Increasingly older (50+) workforce



## **2. How to contribute to the mobility of talent, i.e. by improving dual career facilities**

All members of CESAER are (becoming) truly international institutions. In order to attract and to retain talented professionals, it is absolutely vital that the foreign newcomers are supported not only in finding their way at the university, but also in the new country in the broadest sense: school, tax, work for the spouse, health care etcetera. Providing an infrastructure that provides these services and information is critical for further internationalization of our institutions.

In this project, we want to:

- Learn from the best practices within the CESAER network on international talent mobility through bi-lateral visits

- Submit a project proposal within the Horizon 2020 Program or other relevant program in which the members of the HR task force will also invite more CESAER members (explicitly from the East and the South of Europe) to be partners in this project.
- Include local/ regional employers. These stakeholders seek for staff mobility and dual career possibilities as universities do.

## **3. Career paths of PhD students and Postdocs**

As indicated above, the close connection between Academia and society is crucial in the case of engineering departments. Universities of technology have long been devoted to prepare their PhD students and Postdocs for an academic career. Less attention has been paid to training these PhD students and Postdocs for a career in Industry. HR can be instrumental in improving the connection between

industry and these two groups. In the following phase, the task force will widen the scope of its activities to include CESAER members from more divergent geographic and economic backgrounds. The focus will also slowly progress from taking stock of the current situation to formulating an action plan for collaboration in joint projects, for the benefit of all CESAER members

## Ambitions for the future

We are fully aware that the HR taskforce has been ambitious and is even more ambitious for the coming period. We have adopted three new HR themes. Moreover, we have agreed to a new way of working. Instead of large scale meetings, we will work together in targeted groups around focused themes in staff exchange, bilateral visits, and working visits.

Given the fruitful cooperation in the first phase, we are very confident about the

resources the members are willing invest in the coming period. With the emphasis on three new HR themes and a new way of working, we are certain to take HR policy and policy implementation in the members' institutions one step further which will of benefit to the primary process of the technical universities.



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